

FORM  
2A

Rev  
08/13

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:

400562103

Date Received:

04/25/2014

Oil and Gas Location Assessment

☒ New Location    ☐ Refile    ☐ Amend Existing Location    Location#: \_\_\_\_\_

Submit signed original form. This Oil and Gas Location Assessment is to be submitted to the COGCC for approval prior to any ground disturbance activity associated with oil and gas operations. Approval of this Oil and Gas Location 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. Please see the COGCC website at <http://cogcc.state.co.us/> for all accompanying information pertinent this Oil and Gas Location Assessment.

Location ID:

**437428**

Expiration Date:

**05/30/2017**

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

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.

Operator

Operator Number: 69175

Name: PDC ENERGY INC

Address: 1775 SHERMAN STREET - STE 3000

City: DENVER    State: CO    Zip: 80203

Contact Information

Name: Julie Webb

Phone: (303) 831-3933

Fax: ( )

email: julie.webb@pdce.com

RECLAMATION FINANCIAL ASSURANCE

☒ Plugging and Abandonment Bond Surety ID: 20090078

☐ Gas Facility Surety ID: \_\_\_\_\_

☐ Waste Management Surety ID: \_\_\_\_\_

LOCATION IDENTIFICATION

Name: Schneider

Number: 19Q-HZ Pad

County: WELD

QuarterQuarter: SWSE    Section: 19    Township: 5N    Range: 64W    Meridian: 6    Ground Elevation: 4652

Define a single point as a location reference for the facility location. When the location is to be used as a well site then the point shall be a well location.

Footage at surface: 409 feet FSL from North or South section line

1637 feet FEL from East or West section line

Latitude: 40.378440    Longitude: -104.589110

PDOP Reading: 3.5    Date of Measurement: 01/16/2014

Instrument Operator's Name: Brian Rottinghaus

## RELATED REMOTE LOCATIONS

(Enter as many Related Locations as necessary. Enter the Form 2A document # only if there is no established COGCC Location ID#)

This proposed Oil and Gas Location is:

LOCATION ID # FORM 2A DOC #

## FACILITIES

Indicate the number of each type of oil and gas facility planned on location

Wells	<u>4</u>	Oil Tanks	<u>12</u>	Condensate Tanks	<u>      </u>	Water Tanks	<u>4</u>	Buried Produced Water Vaults	<u>2</u>
Drilling Pits	<u>      </u>	Production Pits	<u>      </u>	Special Purpose Pits	<u>      </u>	Multi-Well Pits	<u>      </u>	Temporary Large Volume Above Ground Tanks	<u>      </u>
Pump Jacks	<u>      </u>	Separators	<u>4</u>	Injection Pumps	<u>      </u>	Cavity Pumps	<u>      </u>		
Gas or Diesel Motors	<u>      </u>	Electric Motors	<u>      </u>	Electric Generators	<u>      </u>	Fuel Tanks	<u>      </u>	Gas Compressors	<u>      </u>
Dehydrator Units	<u>      </u>	Vapor Recovery Unit	<u>1</u>	VOC Combustor	<u>2</u>	Flare	<u>      </u>	LACT Unit	<u>      </u>
								Pigging Station	<u>      </u>

## OTHER FACILITIES

Other Facility Type

Number

Meter	<u>1</u>
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Per Rule 303.b.(3)C, description of all oil, gas, and/or water pipelines:

Each well will have a flow line, oil production line, water production line and a backpressure line, each battery will have a gas sales line. Oil production line and flow lines are 3 inch steel SCH 80FB PE DRL. Water production line and low pressure gas vent lines are 2 inch SDR7 poly. Gas sales lines installed and maintained by Gas Purchaser, normally 6 inch steel .256 FBE

## CONSTRUCTION

Date planned to commence construction: 08/01/2015 Size of disturbed area during construction in acres: 4.00  
Estimated date that interim reclamation will begin: 12/01/2015 Size of location after interim reclamation in acres: 1.01  
Estimated post-construction ground elevation: 4652

## DRILLING PROGRAM

Will a closed loop system be used for drilling fluids: Yes

Is H<sub>2</sub>S anticipated? No

Will salt sections be encountered during drilling: No

Will salt based mud (>15,000 ppm Cl) be used? No

Will oil based drilling fluids be used? No

## DRILLING WASTE MANAGEMENT PROGRAM

Drilling Fluids Disposal: OFFSITE Drilling Fluids Disposal Method: Recycle/reuse

Cutting Disposal: OFFSITE Cuttings Disposal Method: Beneficial reuse

Other Disposal Description:

Drill cuttings will be land applied at PDC spread fields with COGCC Facility ID 425112, 429629, 430649, 431183, or 434889.

Beneficial reuse or land application plan submitted? Yes

Reuse Facility ID:        or Document Number:       

Centralized E&P Waste Management Facility ID, if applicable:       

## SURFACE & MINERALS & RIGHT TO CONSTRUCT

Name: William & Tammy Schneider

Phone: \_\_\_\_\_

Address: 26233 CR 51

Fax: \_\_\_\_\_

Address: \_\_\_\_\_

Email: \_\_\_\_\_

City: Greeley State: CO Zip: 80631

Surface Owner: ☒ Fee ☐ State ☐ Federal ☐ Indian

Check all that apply. The Surface Owner: ☐ is the mineral owner

☐ is committed to an oil and Gas Lease

☐ has signed the Oil and Gas Lease

☐ is the applicant

The Mineral Owner beneath this Oil and Gas Location is: ☒ Fee ☐ State ☐ Federal ☐ Indian

The Minerals beneath this Oil and Gas Location will be developed from or produced to this Oil and Gas Location: No

The right to construct this Oil and Gas Location is granted by: Bond

Surface damage assurance if no agreement is in place: Blanket Surface Surety ID: 19990086

Date of Rule 306 surface owner consultation 03/24/2014

## CURRENT AND FUTURE LAND USE

Current Land Use (Check all that apply):

Crop Land: ☐ Irrigated ☐ Dry land ☐ Improved Pasture ☐ Hay Meadow ☐ CRP

Non-Crop Land: ☒ Rangeland ☐ Timber ☐ Recreational ☐ Other (describe): \_\_\_\_\_

Subdivided: ☐ Industrial ☐ Commercial ☐ Residential

Future Land Use (Check all that apply):

Crop Land: ☐ Irrigated ☐ Dry land ☐ Improved Pasture ☐ Hay Meadow ☐ CRP

Non-Crop Land: ☒ Rangeland ☐ Timber ☐ Recreational ☐ Other (describe): \_\_\_\_\_

Subdivided: ☐ Industrial ☐ Commercial ☐ Residential

## CULTURAL DISTANCE INFORMATION

Distance to nearest:

Building: 298 Feet  
Building Unit: 298 Feet  
High Occupancy Building Unit: 5280 Feet  
Designated Outside Activity Area: 5280 Feet  
Public Road: 399 Feet  
Above Ground Utility: 356 Feet  
Railroad: 1045 Feet  
Property Line: 409 Feet

### INSTRUCTIONS:

- All measurements shall be provided from center of nearest Well or edge of nearest Production Facility to nearest of each cultural feature as described in Rule 303.b.(3)A.  
- Enter 5280 for distance greater than 1 mile.  
- Building - nearest building of any type. If nearest Building is a Building Unit, enter same distance for both.  
- Building Unit, High Occupancy Building Unit, and Designated Outside Activity Area - as defined in 100-Series Rules.

## DESIGNATED SETBACK LOCATION INFORMATION

Check all that apply. This location is within a: ☒ Buffer Zone  
☒ Exception Zone  
☐ Urban Mitigation Area

- Buffer Zone - as described in Rule 604.a.(2), within 1,000' of a Building Unit.  
- Exception Zone - as described in Rule 604.a.(1), within 500' of a Building Unit.  
- Urban Mitigation Area - as defined in 100-Series Rules.

Pre-application Notifications (required if location is within 1,000 feet of a building unit):

Date of Rule 305.a.(1) Urban Mitigation Area Notification to Local Government: \_\_\_\_\_

Date of Rule 305.a.(2) Buffer Zone Notification to Building Unit Owners: 02/26/2014

## SOIL

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 be used when segregating topsoil.

The required information can be obtained from the NRCS web site at <http://soildatamart.nrcs.usda.org/> 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: 70: Valent Sand

NRCS Map Unit Name: \_\_\_\_\_

NRCS Map Unit Name: \_\_\_\_\_

## 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: \_\_\_\_\_

List individual species: \_\_\_\_\_

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): \_\_\_\_\_

## WATER RESOURCES

Is this a sensitive area: ☐ No ☒ Yes

Distance to nearest

downgradient surface water feature: 378 Feet

water well: 2243 Feet

Estimated depth to ground water at Oil and Gas Location 20 Feet

Basis for depth to groundwater and sensitive area determination:

Sensitive area determination based off depth to ground water 20'. Depth to ground water determined by surface owner information.

Is the location in a riparian area: ☒ No ☐ Yes

Was an Army Corps of Engineers Section 404 permit filed ☒ No ☐ Yes If yes attach permit.

Is the location within a Rule 317B Surface Water Supply Area buffer No 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: \_\_\_\_\_

## GROUNDWATER BASELINE SAMPLING AND MONITORING AND WATER WELL SAMPLING

Water well sampling required per Rule 318A

## DESIGNATED SETBACK LOCATION EXCEPTIONS

Check all that apply:

- ☐ Rule 604.a.(1)A. Exception Zone (within 500' of Building Unit)
- ☐ Rule 604.b.(1)A. Exception Location (existing or approved Oil & Gas Location now within a Designated Setback as a result of Rule 604.a.)
- ☐ Rule 604.b.(1)B. Exception Location (existing or approved Oil & Gas Location is within a Designated Setback due to Building Unit construction after Location approval)
- ☐ Rule 604.b.(2) Exception Location (SUA or site-specific development plan executed on or before August 1, 2013)
- ☐ Rule 604.b.(3) Exception Location (Building Units constructed after August 1, 2013 within setback per an SUA or site-specific development plan)

## RULE 502.b VARIANCE REQUEST

- ☐ Rule 502.b. Variance Request from COGCC Rule or Spacing Order Number \_\_\_\_\_

ALL exceptions and variances require attached Request Letter(s). Refer to applicable rule for additional required attachments (e.g. waivers, certifications, SUAs).

## OPERATOR COMMENTS AND SUBMITTAL

Comments

The following wells will be drilled from this pad Schneider 19P-232, Schneider 19P-432, Schneider 19Q-312, Schneider 19Q-402.

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

Signed: \_\_\_\_\_ Date: 04/25/2014 Email: julie.webb@pdce.com

Print Name: Julie Webb Title: Regulatory Analyst

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:  Director of COGCC Date: 5/31/2014

### **Conditions Of Approval**

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.

#### **COA Type**

#### **Description**

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### **Best Management Practices**

#### **No BMP/COA Type**

#### **Description**

1	Planning	604c.(2).E. Multiwell Pads: This 2A application is for a 4-well pad. No suitable existing locations are in the area. Other locations were reviewed, no suitable locations to the East. Location chosen by geology and operations.
2	Planning	604c.(2).V. Development From Existing Well Pads: An existing pad was not available to utilize to develop these wells.
3	Planning	604.c.(2).W. Site Specific Measures: CR 54 is paved and mitigation will not be required. Lights should be turned downward and away from building units within the 1,000 foot buffer area.
4	Planning	604c.(2).I. BOPE Testing for Drilling Operations: PDC's contractors will supply a double ram-5000' PSI rated BOPE (Blinds and pipes) and always function test BOPE's prior to placement on the well head and inspect and replace all seals and ram block rubbers. After installation of the BOPE, PDCE conducts a pressure test on the BOPE at a low pressure of (200-400 psi) and a high pressure test to the maximum amount of the BOPE rating with a third party tester, all tests are digitally recorded.
5	Planning	604c.(2).J. BOPE for Well Servicing Operations: All valves will also be tested to maximum rating by a third party prior to being delivered to location. Whenever snubbing operations are being used the snubbing stack will be pressure tested at the same time the BOPE is being tested which consist of a single pipe ram and a annular bag.
6	Planning	604c.(2).L. Drill Stem Tests: PDC does not conduct drill stem tests, but will seek prior approval from the director if a drill stem test will be preformed.
7	Planning	604c.(2).U. Identification of Plugged and Abandoned Wells: Pursuant to rule 319.a. (5)., once the well has been plugged and abandoned, PDC will identify the location of the wellbore with a permanent monument that will detail the well name and date of plugging.
8	Traffic control	604c.(2).D. Traffic Plan: If required by the local government, a traffic plan will be coordinated with the local jurisdiction prior to commencement of operations.

9	General Housekeeping	604c.(2).N. Control of Fire Hazards: PDC will ensure that any material that might be deemed a fire hazard will be will remain no less than twenty-five (25) feet from the wellhead(s), tanks and separator(s). PDC installs automation equipment for tank level and pressure monitoring inside the bermed area that complies with API RP 500 classifications and with the current national electrical code as adopted by the State of Colorado.
10	General Housekeeping	604c.(2).P. Removal of Surface Trash: A commercial size trash bin for removing debris will be located on site. This bin will be for use by all parties affiliated with the operation.
11	General Housekeeping	604c.(2).T. Well Site Cleared: The wellsite will be cleared of all non-essential equipment within ninety (90) days after all wells associated with the pad have been plugged and abandoned.
12	General Housekeeping	804. Visual Impact: Production facilities, regardless of construction date, which are observable from any public highway will be painted with uniform, non-contrasting, non-reflective color tones (similar to the Munsell Soil Color Coding System), and with colors matched to but slightly darker than the surrounding landscape.
13	Storm Water/Erosion Control	This Stormwater Management Plan contains required elements associated with PDC's construction activities, as defined in the CDPS General Permit for Stormwater Discharges Associated with Construction Activity, Authorization to Discharge Under the Colorado Discharge Permit System (Permit No. COR-030000, re-issued and effective July 1, 2007).BMPs for sediment and erosion control will be accomplished through a combination of construction techniques, vegetation and re-vegetation, administrative controls, and structural features.
14	Material Handling and Spill Prevention	604c.(2).F. Leak Detection Plan: See attached.
15	Material Handling and Spill Prevention	604c.(2).K. Pit Level Indicators: PDC uses an Electronic Drilling Recorder (EDR) with pit level monitor(s) and alarm(s) for production rigs. Basic level gages are used on steel pits utilized for the surface rig.
16	Construction	604c.(2).G. Berm Construction: A geosynthetic liner will be laid under the tanks on this location and a metal containment will be constructed. Operator must implement site-specific best management practices in accordance with good engineering practices, including, but not limited to, construction of a berm or diversion dike, site grading, or other comparable measures, sufficient to protect the down gradient water sources located as follows from the nearest well head : low area 378 feet SW
17	Construction	604c.(2).S. Access Roads: PDC will utilize the lease access road from WCR 54 (paved) for drilling operations and maintenance equipment. The road will be properly constructed and maintained to accommodate for local emergency vehicle access.
18	Construction	604c.(2).M. Fencing Requirements: The completed wellsites will be surrounded with a fence and gate. PDC personnel will monitor the wellsites regularly upon completion of the wells. Authorized representatives and/or PDC personnel shall be on-site during drilling and completion operations.
19	Construction	604c.(2).Q. Guy Line Anchors: Rig guy wires are anchored to the rig's base beam that the rig stands on, temporary and permanent anchors will not be set on this location.
20	Construction	604c.(2).R. Tank Specifications: Condensate storage tanks will be designed, constructed and maintained in accordance with National Fire Protection Association (NFPA) Code 30 (2008 version). PDC will maintain written records to verify proper design, construction and maintenance. All records will be available for inspection by the Director.
21	Construction	To prevent adverse impacts to shallow groundwater, buried produced water vault shall be installed above an impermeable synthetic or geosynthetic liner system which shall be tied back into the surface liner.

22	Construction	604c.(3).B. Berm Construction: Containment berms will be constructed using steel rings, designed and installed to prevent leakage and resist degradation from erosion or routine operation. Secondary containment will be constructed with a geosynthetic liner that contains all tanks and flowlines at this location and will be connected to the steel ring to prevent leakage. Operator will implement site-specific best management practices in accordance with good engineering practices, including, but not limited to, construction of a berm or diversion dike, site grading, or other comparable measures, sufficient to protect the down gradient water sources located from the nearest well head.
23	Noise mitigation	604c.(2).A. Noise: WELL PAD: PDC has conducted baseline noise surveys for all drilling rigs that are being contracted and has also conducted a baseline noise survey for hydraulic fracture stimulation operations on a representative horizontal well. A review was conducted to identify potential receptors within 1000 feet of the proposed Schneider 19Q-HZ Pad site. There are five building units of concern. The five building units are located as follows: NW of the proposed pad at a distance of approximately 505 feet, SW of the proposed pad at a distance of approximately 664 feet, 893 feet and 965 feet, and W of the proposed pad at a distance of approximately 838 feet. As a result, sound mitigation will be installed directly west and south of the proposed pad located in the SWSE Section 19 – T5N – R64W prior to drilling and completion operations. Methods of noise mitigation shall include but not be limited to hay bales, noise walls, or customized semi-trailers. PRODUCTION FACILITIES: It is not anticipated that noise mitigation will be necessary at the proposed tank battery location. After construction is completed, equipment installed and production begins, noise levels will be assessed to determine if mitigation measures will be required to be compliant with Rule 802.
24	Emissions mitigation	604c.(2).C. Green Completions: Flowlines, 48" HLPs, sand traps all capable of supporting green completions as described in rule 805 shall be installed at any Oil and Gas location at which commercial quantities of gas and or oil are reasonable expected to be produced based on existing wells. All green flow back equipment will be able to handle more than 1.5 times the amount of any know volumes in the surrounding field. First sign of salable gas will be put into production equipment and turned down line.
25	Odor mitigation	805.b(1)-(c) Odors and Dust: Oil and gas facilities and equipment will operate in a manner that odors and dust do not constitute a nuisance or hazard to public welfare. Odors: Oil and gas operations will be in compliance with the Department of Public Health and Environment, Air Quality Control Commission, Regulation No. 2 Odor Emission, 5 C.C.R. 1001-4, Regulation No. 3 (5 C.C.R. 1001-5), and Regulation No. 7 Section XVII.B.1 (a-c) and Section XII. Dust; PDC will employ practices for control of fugitive dust caused by operations include but not limited to the use of speed restrictions, regular road maintenance, restriction of construction activity during high-wind days, and silica dust controls when handling sand used in hydraulic fracturing operations. When necessary, PDC coordinates dust mitigation with the county on gravel roads, places road base where allowed by surface owner around tanks and wellheads to minimize dust, and will water the roads and locations when dry. In addition, automation is used on all new wells to minimize truck traffic.
26	Drilling/Completion Operations	604c.(2).O. Loadlines: All loadlines shall be bullplugged or capped.

Total: 26 comment(s)



## Attachment Check List

<u>Att Doc Num</u>	<u>Name</u>
1668303	LOCATION DRAWING
1668304	OTHER
1668317	RULE 306.E. CERTIFICATION
1668334	CORRESPONDENCE
2090836	NOTIFICATION ZONE DRAWING
2157675	OTHER
400562103	FORM 2A SUBMITTED
400586578	ACCESS ROAD MAP
400586580	HYDROLOGY MAP
400586583	LOCATION PICTURES
400586584	MULTI-WELL PLAN
400586587	NRCS MAP UNIT DESC
400586588	REFERENCE AREA MAP
400586590	REFERENCE AREA PICTURES
400586610	WASTE MANAGEMENT PLAN
400586613	OTHER
400596557	FACILITY LAYOUT DRAWING

Total Attach: 17 Files

## General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Final Review	checked Buffer Zone Location on Cultural Setbacks Tab, all Exception Zone Locations are by definition Buffer Zone Locations.	5/31/2014 11:25:25 AM
Permit	Distance to BU is from prod. facility on south side of pad. No LGD or public comments. Final Review--passed.	5/28/2014 3:17:37 PM
OGLA	IN PROCESS - Operator provided BMPs on the buried produced water vaults, visual mitigation, odors and dust mitigation, and berm construction. Operator confirmed that construction of site is scheduled for August 2015. Operator provided the Rule 306.e. Certification. No Public Comments. OGLA task passed.	5/28/2014 12:53:20 PM
OGLA	Operator provided revised Location Drawing and Notification Zone Drawing confirming an abandoned mobile home trailer 298 feet south of the proposed production facilities and indicated they notified the property owner where it is located. Location is now an Exception Zone. Requested a BMP on the buried produced water vaults, confirm the construction and interim reclamation start dates and additional mitigation measure BMPs. Due by 6/12/14.	5/12/2014 12:04:56 PM
Permit	Oper. submitted pre-app notice certification ltr.	5/12/2014 6:57:07 AM
Permit	Need pre-app certification ltr.	5/2/2014 1:53:20 PM
OGLA	ON HOLD - Nearest Building at 298 feet south appears to be a Building Unit (mobile home). Would make this location an Exception Zone location. Requested more information from operator on if it still there and who owns it.	5/1/2014 3:14:18 PM
Permit	Passed completeness.	4/28/2014 2:23:54 PM

Total: 8 comment(s)