

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:

401049022

Date Received:

05/25/2016

Oil and Gas Location Assessment

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

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:

**447859**

Expiration Date:

**09/23/2019**

☒ 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: Venessa Langmacher

Phone: (303) 318-6102

Fax: (303) 860-5838

email: venessa.langmacher@pdce.com

RECLAMATION FINANCIAL ASSURANCE

☒ Plugging and Abandonment Bond Surety ID: 20160047

☐ Gas Facility Surety ID: \_\_\_\_\_

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

LOCATION IDENTIFICATION

Name: Ottenhoff

Number: 5N64W29CR

County: WELD

QuarterQuarter: NENE Section: 29 Township: 5N Range: 64W Meridian: 6 Ground Elevation: 4663

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: 556 feet FNL from North or South section line

1080 feet FEL from East or West section line

Latitude: 40.375960 Longitude: -104.568160

PDOP Reading: 2.2 Date of Measurement: 02/25/2016

Instrument Operator's Name: Jason Dahlman

## 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>11</u>	Oil Tanks*	<u>22</u>	Condensate Tanks*	<u>      </u>	Water Tanks*	<u>      </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>	Modular Large Volume Tanks	<u>      </u>
Pump Jacks	<u>      </u>	Separators*	<u>11</u>	Injection Pumps*	<u>      </u>	Cavity Pumps*	<u>      </u>	Gas Compressors*	<u>      </u>
Gas or Diesel Motors*	<u>      </u>	Electric Motors	<u>      </u>	Electric Generators*	<u>      </u>	Fuel Tanks*	<u>      </u>	LACT Unit*	<u>      </u>
Dehydrator Units*	<u>      </u>	Vapor Recovery Unit*	<u>2</u>	VOC Combustor*	<u>11</u>	Flare*	<u>      </u>	Pigging Station*	<u>      </u>

## OTHER FACILITIES\*

Other Facility Type

Number

Meters	<u>2</u>
Temporary Water Tanks	<u>8</u>

\*Those facilities indicated by an asterisk (\*) shall be used to determine the distance from the Production Facility to the nearest cultural feature on the Cultural Setbacks Tab.

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: 01/01/2018 Size of disturbed area during construction in acres: 11.20  
Estimated date that interim reclamation will begin: 06/01/2018 Size of location after interim reclamation in acres: 7.40  
Estimated post-construction ground elevation: 4663

## 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: Land application

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 444255, 159534, 436033, or 434889.

Beneficial reuse or land application plan submitted? Yes

Reuse Facility ID: 444255 or Document Number:       

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

## SURFACE & MINERALS & RIGHT TO CONSTRUCT

Name: George Ottenhoff

Phone: 970-674-9888

Address: 2113 51st Ave

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

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

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

City: Greeley State: CO Zip: 80634

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: Yes

The right to construct this Oil and Gas Location is granted by: Surface Use Agreement

Surface damage assurance if no agreement is in place: \_\_\_\_\_ Surface Surety ID: \_\_\_\_\_

Date of Rule 306 surface owner consultation 07/02/2015

## 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

Provide the distance to the nearest cultural feature as measured from Wells or Production Facilities onsite.

	From WELL	From PRODUCTION FACILITY
Building:	<u>875</u> Feet	<u>650</u> Feet
Building Unit:	<u>1108</u> Feet	<u>1072</u> Feet
High Occupancy Building Unit:	<u>4875</u> Feet	<u>4500</u> Feet
Designated Outside Activity Area:	<u>5280</u> Feet	<u>5280</u> Feet
Public Road:	<u>917</u> Feet	<u>748</u> Feet
Above Ground Utility:	<u>574</u> Feet	<u>205</u> Feet
Railroad:	<u>3221</u> Feet	<u>2854</u> Feet
Property Line:	<u>556</u> Feet	<u>188</u> 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.
- For measurement purposes only, Production Facilities should only include those items with an asterisk(\*) on the Facilities Tab.

## 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.  
- Large UMA Facility - 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: \_\_\_\_\_

## FOR MULTI-WELL PADS AND PRODUCTION FACILITIES WITHIN DESIGNATED SETBACK LOCATIONS ONLY:

☐ Check this box if this Oil and Gas Location has or will have Production Facilities that serve multiple wells (onl or offsite) and the Production Facilities are proposed to be located less than 1,000 feet from a Building Unit. *(Pursuant to Rule 604.c.(2)E.i., the operator must evaluate alternative locations for the Production Facilities that are farther from the Building Unit, and determine whether those alternative locations were technically feasible and economically practicable for the same proposed development.)*

☐ By checking this box, I certify that no alternative placements for the Production Facilities, farther from the nearest Building Unit, were available based on the analysis conducted pursuant to Rule 604.c.(2)E.i.

In the space below, explain rationale for siting the multi-well Production Facility(ies) that supports your Rule 604.c.(2)E.i determination. Attach documentation that supports your determination to this Form 2A.

## 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 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: 69: Valent Sand, 0-3% slopes

NRCS Map Unit Name: 70: Valent Sand, 3-9% slopes

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: 02/25/2016

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: 673 Feet

water well: 2789 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: ground water is more than 20'. Depth to ground water determination: Land Owner experience. the nearest surveyed water well is Permit # 5-GX / Receipt #3609856H.

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: \_\_\_\_\_

Is the Location within a Floodplain? ☒ No ☐ Yes Floodplain Data Sources Reviewed (check all that apply)

☒ Federal (FEMA)

☒ State

☒ County

☒ Local

☐ Other \_\_\_\_\_

## 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 a Building Unit) and is in an Urban Mitigation Area
- ☐ 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: Ottenhoff 29M-203, 29M-323, 29M-423, 29R-143, 29R-203, 29R-243, 29R-303, 29R-323, 29R-423, 29U-243, 29U-343.

Eight - 500 bbl temporary water tanks will be onsite during the initial production phase of the well, estimated time 6-9 months.

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

Signed: \_\_\_\_\_ Date: 05/25/2016 Email: venessa.langmacher@pdce.com

Print Name: Venessa Langmacher Title: Sr Regulatory Tech

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: 9/24/2016

## 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**

<b>No</b>	<b>BMP/COA Type</b>	<b>Description</b>
1	Storm Water/Erosion Control	Stormwater Management Plan contains required elements associated with PDC's construction activities for Areas 1, 2, 3, and 5, 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.
2	Material Handling and Spill Prevention	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.
3	Construction	04c.(2).G. Berm Construction: Containment berms for Permanent and Temporary Equipment shall be constructed of steel rings with a geosynthetic liner, designed and installed to prevent leakage and resist degradation from erosion or routine operation. All berms will be visually checked periodically to ensure proper working condition. Secondary containment devices shall be sufficiently impervious to contain any spilled or released material. Due to a downgradient surface water body within 500', tertiary containment (such as an earthen berm or the like), will be installed around Production Facilities.
4	Odor mitigation	05.b(1)-(c) Odors and Dust: Oil and gas facilities and equipment (PERMANENT AND TEMPORARY) 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.

Total: 4 comment(s)

## **Attachment Check List**

<b>Att Doc Num</b>	<b>Name</b>
2477931	OTHER
2477943	REFERENCE AREA PICTURES
2477944	REFERENCE AREA MAP
2477945	CORRESPONDENCE
401049022	FORM 2A SUBMITTED
401049060	SURFACE AGRMT/SURETY
401049061	WASTE MANAGEMENT PLAN
401049066	OTHER
401049067	NRCS MAP UNIT DESC
401049068	ACCESS ROAD MAP
401049069	HYDROLOGY MAP
401049070	LOCATION DRAWING
401049071	MULTI-WELL PLAN
401049072	OTHER
401049073	LOCATION PICTURES
401049076	FACILITY LAYOUT DRAWING

Total Attach: 16 Files

## General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Permit	Final Review Completed.	9/22/2016 3:31:41 PM
Permit	Permitting Review Complete.	9/21/2016 9:20:21 AM
OGLA	IN PROCESS - Operator revised the cultural distances to the nearest Building and High Occupancy Building Unit, clarified the distance to the nearest water well, provide Berming and Emissions Controls BMPs for the temporary water tanks, and updated the Reference Area Map & Pictures.  OGLA review complete and task passed.	7/13/2016 2:21:17 PM
OGLA	ON HOLD - Requested operator revise the cultural distance to the nearest Building and High Occupancy Building Unit, clarify and possibly revise the distance to the nearest water well, provide additional info concerning the berming and emissions controls for the temporary water tanks, and update the Reference Area Map & Pictures as it is placed on currently disturbed ground. Due by 8/6/16.	7/6/2016 2:17:13 PM
OGLA	Contacted operator to inquire about the placement of the production facility/tank battery where the Surface Owner's access road to his home is currently located. Operator indicated they will build them a new permanent access/driveway that avoids going through the production facility area and included an attachment showing where it will be located.	7/6/2016 1:25:22 PM
LGD	This proposed oil and gas facility is located in unincorporated Weld County. As of today's date June 22, 2016, the Weld County Oil and Gas Liaison/LGD has not been contacted by any nearby resident(s) or governmental jurisdiction(s) regarding this proposed location. The County will respond to legitimate concerns or issues regarding a proposed location and attempt to facilitate a solution with the operator. Oil and Gas Exploration and Production activities are currently considered a Use by Right in the Agricultural Zoned District and no land use permitting is required by the County. A building permit is required for the production facilities (tank battery, separators, pump jacks, etc.) from the Department of Planning Services. Access points from a County road require an Access Permits from the Department of Public Works, which include any necessary traffic control plans. The use of a right-of-way requires a Right-Of-Way Permit from the Department of Public Works. Troy Swain, Weld Oil Gas Liaison (970) 400-3579.	6/22/2016 9:45:15 AM
Permit	Passed completeness.	6/3/2016 10:39:34 AM

Total: 7 comment(s)