

FORM
2A

Rev
02/20

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:

402170112

Date Received:

09/10/2019

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 <https://cogcc.state.co.us/> for all accompanying information pertinent this Oil and Gas Location Assessment.

Location ID:

472461

Expiration Date:

02/26/2023

☒ 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: Ally Ota

Phone: (303) 860-5800

Fax: ()

email: alexandria.ota@pdce.com

FINANCIAL ASSURANCE

- ☒ Plugging and Abandonment Bond Surety ID (Rule 706): 20160047 ☐ Gas Facility Surety ID (Rule 711): _____
- ☐ Waste Management Surety ID (Rule 704): _____

LOCATION IDENTIFICATION

Name: Lawrence

Number: 7N66W33 1-8

County: WELD

QuarterQuarter: NWNW Section: 33 Township: 7N Range: 66W Meridian: 6 Ground Elevation: 4886

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: 1234 feet FNL from North or South section line

440 feet FWL from East or West section line

Latitude: 40.535060 Longitude: -104.791880

GPS Quality Value: 2.5 Type of GPS Quality Value: PDOP

Date of Measurement: 02/25/2019

Instrument Operator's Name: Scott Sherard

LOCAL GOVERNMENT INFORMATION

County: WELD

Municipality: N/A

Per § 34-60-106 (1)(f)(I)(A), the following questions pertain to the "local government with jurisdiction to approve the siting of the proposed oil and gas location."

The local government with jurisdiction is: County

Does the local government with jurisdiction regulate the siting of Oil and Gas Locations, with respect to this location? If the local government does regulate the siting, but has waived its right to precede the COGCC in siting determination, indicate by selecting "YES" here and selecting "Waived" for the disposition below. ☒ Yes ☐ No

If yes, in checking this box, I hereby certify that an application has been filed with the local government with jurisdiction to approve the siting of the proposed oil and gas location. ☒

The local government siting permit type is: WOGLA

The local government siting permit was filed on: 05/06/2019

The disposition of the application filed with the local government is: Approved

Additional explanation of local process:

WOGLA was approved 8/9/2019.

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>8</u>	Oil Tanks* <u>10</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>1</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>1</u>	Fuel Tanks* <u> </u>	LACT Unit* <u>1</u>
Dehydrator Units* <u> </u>	Vapor Recovery Unit* <u>4</u>	VOC Combustor* <u>10</u>	Flare* <u> </u>	Pigging Station* <u> </u>

OTHER FACILITIES*

Other Facility Type	Number
Meters	2
Surge Vessel	1
Blow Case	1
Temporary Water Tanks	6

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: 05/01/2020 Size of disturbed area during construction in acres: 20.30
Estimated date that interim reclamation will begin: 10/01/2020 Size of location after interim reclamation in acres: 4.70
Estimated post-construction ground elevation: 4886

DRILLING PROGRAM

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

Is H₂S 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? Yes

DRILLING WASTE MANAGEMENT PROGRAM

Drilling Fluids Disposal: OFFSITE Drilling Fluids Disposal Method: Commercial Disposal

Cutting Disposal: OFFSITE Cuttings Disposal Method: Commercial Disposal

Other Disposal Description:

See Comments

Beneficial reuse or land application plan submitted? Yes

Reuse Facility ID: 461014 or Document Number: _____

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

SURFACE & MINERALS & RIGHT TO CONSTRUCT

Name: Donald & Joan Rotharmel

Phone: 970-576-2033

Address: 13459 County Road 76

Fax: _____

Address: _____

Email: _____

City: Eaton State: CO Zip: 80615

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 09/27/2017

If this Form 2A is associated with Drilling and Spacing Unit applications, list docket number(s): _____

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:	833 Feet	658 Feet
Building Unit:	852 Feet	718 Feet
High Occupancy Building Unit:	5280 Feet	5280 Feet
Designated Outside Activity Area:	5280 Feet	5280 Feet
Public Road:	427 Feet	107 Feet
Above Ground Utility:	459 Feet	140 Feet
Railroad:	5280 Feet	5280 Feet
Property Line:	439 Feet	119 Feet
School Facility::	5280 Feet	5280 Feet
School Property Line:	5280 Feet	5280 Feet
Child Care Center:	5280 Feet	5280 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, Designated Outside Activity Area, School Facility, and Child Care Center – as defined in 100 Series Rules.
- For measurement purposes only, Production Facilities should only include those items with an asterisk(*) on the Facilities Tab.

SCHOOL SETBACK INFORMATION

Was Notice required under Rule 305.a.(4)? ☐ Yes ☒ No

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: 03/17/2019

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 (on- 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.

This location was chosen primarily because it is centered as much as possible between the building units to the north and south. The production facility to the north of this location that services the Rotharmel 12-33 and Rotharmel 11-33 will be removed and co-mingled into the proposed production facility should the wells not be P&A'd prior to drilling operations. Due to this, the building unit owners to the north of this location are pleased with the proposed location. This location was not moved further east due to the 100-year flood zone A, creating a higher water table/wet ground. County Road 29 to the west could not be encroached upon further due to the County ROW, as well as property line.

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: 33- Kim loam 3-5% slopes

NRCS Map Unit Name: 32- Kim loam 1-3% 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: _____

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: 48 Feet

water well: 1272 Feet

Estimated depth to ground water at Oil and Gas Location 12 Feet

Basis for depth to groundwater and sensitive area determination:

Sensitive area determination: ground water is less than 20'. Depth to ground water determination: Land Owner experience. Nearest water well shown on COGCC mapper (Registration number 6619) was not located during field surveying.

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

WILDLIFE

☐ This location is included in a Wildlife Mitigation Plan

☐ This location was subject to a pre-consultation meeting with CPW held on _____

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 Lawrence 8N was used as the reference point for footages and lat/long location.

PDC has made contact with all building unit owners within a 1,500' buffer. Detailed documentation of these conversations is attached.

The surface hole will be drilled with water based mud and the production hole will be drilled with oil based mud. Water based drilling fluid and cuttings will be land applied at PDC spread field with COGCC Facility ID 461014. Oil based drilling fluids will be recycled and reused. If the disposal is required, the oil based drilling fluids will be disposed at a commercial solid waste disposal facility. Oil based mud drill cuttings for the production hole will be disposed at a permitted commercial solid waste disposal facility.

Six temporary water tanks will be onsite during the initial production phase of the well, estimated time 6-9 months. The vendor for the MLVTs is PCI Manufacturing. The volume is 48,000 bbls and they are 175' in diameter. The anticipated timeframe onsite is 180 days.

The Lawrence 1N boundary well will be submitted at a later date when PDC has satisfied the requirements of Rule 318A (e).

PDC plans to transport oil from this location via pipeline. Oil storage tanks will remain on location for safety concerns related to an unplanned oil gathering pipeline shut downs and for routine maintenance operations. Weld County has approved the traffic plan, haul route and Emergency Action Plan.

Moving the location North would put the facility closer to BU3, BU4 and BU5
 Moving the location East impacts landowner's pivot and farming operations and puts the location closer to FEMA 100-year flood zone A and there is a higher water table/ wet ground
 Moving the location South puts the location closer to BU1, BU2 and another BU located south of the Production Facility and wells, South property line is dedicated to "Rails for Trails"
 Moving the location West impedes on County Road 29/County ROW and West property line

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

Signed: _____ Date: 09/10/2019 Email: alexandria.ota@pdce.com

Print Name: Ally Ota Title: Regulatory Tech

Based on the information provided herein, this Oil and Gas Location Assessment complies with COGCC Rules, applicable orders, and SB 19-181 and is hereby approved.

COGCC Approved: _____ Director of COGCC Date: 2/27/2020

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.

<u>COA Type</u>	<u>Description</u>
Planning	Operator shall post a copy of the approved Form 2A on the location during all construction, drilling, and well completion activities.
Construction	The location is in a sensitive area due to shallow groundwater, therefore, the operator shall line the secondary containment areas for the tanks and separators with an impervious material.

Best Management Practices

<u>No</u>	<u>BMP/COA Type</u>	<u>Description</u>
1	Planning	604c.(2).E. Multiwell Pads: This 2A application is for an eight-well pad.
2	Planning	604c.(2).V. Development From Existing Well Pads: There is an existing PDC Production facility located North of proposed Lawrence facilities (close to BU3, BU5 and BU4) which will be removed and the existing PDC wells (Rotharmel 11-33 and Rotharmel 12-33) will be co-mingled into the proposed Lawrence production facility unless they are plugged and abandoned prior to Lawrence drilling operations.

3	Planning	604.c.(2).W. Site Specific Measures: Lights shall be turned downward and away from building units within the 1,000 foot buffer area.
4	Community Outreach and Notification	PDC will send Building Unit Notification Letters along with the COGCC and CDPHE Health Study Fact Sheets to all building unit owners and occupants within 2000' of this location, prior to starting construction.
5	Traffic control	604c.(2).D. Access Roads: PDC will utilize an improved lease access road off of County Road 29 (paved) for all heavy truck traffic and rig moves along with drilling operations and maintenance equipment.
6	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.
7	Storm Water/Erosion Control	PDC has a Stormwater Management Plan that meets requirements for 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 to prevent offsite sediment transport, erosion, and storm water degradation will be implemented through a combination of construction techniques, material selection, re-vegetation, and routine site inspections. BMPs used will include, but not limited to, compacted ditch and berms, sediment basins/traps, check dams, EcoGaurd Bags, erosion control blanket, soil roughing, hydro mulching, entrance track pad and other applicable methods. BMPs will be installed following sound engineering practices out lined in the Urban Drainage Dictionary.
8	Material Handling and Spill Prevention	604c.(2).F. Leak Detection Plan: See attached.
9	Material Handling and Spill Prevention	This location will have remote shut-in and remote tank level monitoring capabilities. PDC conducts pressure testing of all flowlines annually.
10	Dust control	805. Dust; PDC will employ practices for control of fugitive dust caused by operations, these include but are 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. During winter operations normal dust abatement is not provided unless requested by surrounding land owners. Fugitive dust control will be incorporated as needed during all other months of drilling and completion operations.
11	Construction	PDC will implement 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 ditch located approximately 48 feet west of the oil and gas location from a release of drilling, completion, produced fluids, and chemical products.
12	Construction	604c.(2).G. Berm Construction: Containment berms for Permanent and Temporary Tanks shall be constructed of steel rings with a geosynthetic liner, designed and installed to prevent leakage and resist degradation from erosion or routine operation. Berms and secondary containment will be designed to enclose an area sufficient to contain a minimum of 150% of the largest single tank. Tank batteries are inspected on an annual basis for Spill Prevention, Control and Countermeasure (SPCC) Plan compliance. Secondary containment devices shall be sufficiently impervious to contain any spilled or released material. Secondary containment at the production facility is typically visually observed by PDC personnel on a daily basis. Any deficiencies are relayed to appropriate PDC staff and a work order is generated to schedule necessary repairs.
13	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.

14	Construction	PDC has opted to use partially buried fiberglass water vaults due to the need for the inlet to the vault being below frost line to keep from creating freezing issues during the cold weather months and prevent environmental releases. As an additional precaution the water vaults are set at 3 to 4 feet below grade keeping 3 to 4 feet of vault above grade with a geo-synthetic liner installed under the vault. The fiberglass vaults that we use are double walled and inspected as part of our integrity testing program. We install our load line at 12 to 18 inches above the bottom of the vault to keep water in the vault at all times as a precaution to keep the vault from floating.
15	Construction	604c.(2).S. The lease access road will be properly constructed and maintained to accommodate for local emergency vehicle access. Dust will be mitigated as necessary on lease access road. PDC will employ practices for control of fugitive dust caused by operations, these include but are not limited to the use of speed restrictions and regular road maintenance.
16	Construction	804. Visual Impact: Production facilities, regardless of construction date, which are observable from any public highway will be painted with uniform, non-contrasting, nonreflective color tones (similar to the Munsell Soil Color Coding System), and with colors matched to but slightly darker than the surrounding landscape.
17	Construction	604c.(2).M. Fencing Requirements: The completed wellsites will be surrounded with a fence and gate. PDC personnel will monitor the wellsites daily upon completion of the wells. Authorized representatives and/or PDC personnel shall be on-site during drilling and completion operations.
18	Construction	604c.(2).N. Control of Fire Hazards: PDC will ensure that any material that might be deemed a fire hazard 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. In compliance with Rule 606A.d., Flammable liquids shall not be stored within fifty (50) feet of the wellbore, except for the fuel in the tanks of operating equipment or liquids used for injection. Where terrain and location configuration do not permit maintaining this distance, equivalent safety measures should be taken.
19	Construction	604c.(2).R. Tank Specifications: Crude Oil and 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.
20	Construction	For protection of the underlying soil and shallow groundwater PDC will employ the following. For drilling operations, 3' retaining walls will be constructed with a 40 mil liner around the storage tanks on all locations. In addition, 6' cellar rings will be placed around the wellheads. For shallow ground water, a 40 mil liner will be placed under the drilling rig. The rig also uses catch pans when draining hoses or mud lines. A 12" dirt berm around the rig will be constructed for protection in an event of an unexpected spill. During completion operations, a HDPE 45 mil chemical resistant non-slip liner will be placed to cover the area that all trucks will be located, the storage tank area and up to the wellheads, with 10' of excess on 3 sides of the working area.
21	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. These baseline surveys are utilized for site specific noise modeling to determine if any mitigation measures are warranted. A review was conducted to identify potential receptors within 1000 feet of the proposed pad site. There are five (5) building units of concern located 718' SW, 929' SW, 830' NW, 852' NE and 904' NE. Light and sound mitigation will be installed to the North, South, East and West of the proposed location. Methods of noise mitigation shall include but not be limited to hay bales, sound 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.

22	Odor mitigation	<p>805.b Odors: 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. PDC will be using Group II oil based drilling fluid. Due to the low VOC and BTEX counts of the D822 OBM system, odor neutralizer is not anticipated. Oil based drilling fluid not being used in the active mud system shall be stored in closed, upright tanks. In an effort to keep odor from oil base cuttings as low as possible, PDC continuously hauls cuttings to an approved disposal facility throughout the drilling process. PDC shall not stockpile cuttings or store any large amount of cuttings on location. Trucks run continuously during daylight hours to keep the volume of cuttings on location at a bare minimum.</p>
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23	Drilling/Completion Operations	<p>PDC Energy, Inc. (PDC) has developed Best Management Practices (BMPS) to prevent injuries, property damage or environmental impacts and a Contingency Plan for any Modular Large Volume Tank (MLVT) leak or catastrophic failure of the tank integrity and resulting loss of fluid. These BMPs include, but not limited, by the following:</p> <ol style="list-style-type: none"> 1) PDC determines MLVT locations based on size of location, nearby surface waters, site visibility, surrounding land use, property lines, onsite traffic, site security, tear-away tank fill connections, topography (high, low, slope, direction), nearby building units, roads, access points, and surface owner requests. 2) Signs shall be posted on each MLVT to indicate that the contents are fresh water and that no E&P waste fluids are allowed. Location and additional signage shall conform to Rule 210. 3) MLVTs will be operated with a minimum of 1 foot freeboard at all times. 4) Access to the tanks shall be limited to operational personnel. 5) Construction and installation of the tank structure, liner and sub-grade shall meet or exceed the manufacturer specifications. PDC follows manufacturer's Standard Operating Procedures (SOPs) and will provide these SOPs upon request to the COGCC. 6) PDC will conduct daily, visual inspections of the exterior wall and general area for any integrity deficiencies before, during, and after filling the MLVTs. PDC uses Construction Sign-Off, Site Preparation Sign-Off, Completion Sign-Off, Pre-Fill, and Site Visit checklists to maintain a written record of inspections. However, when the fluid level in the MLVTs is less than two (2) feet and there is no activity going on (i.e. during holidays or a small break between completions), only intermittent inspections will be conducted. Two feet is the safe volume of fluid level that is needed to hold the liner down and keep the MLVT stable. 7) Each location where MLVT's are used will have its own set of unique site-specific characteristics and associated risks (e.g., rural vs. urban setting, grade of the location, etc.) to be considered in a worst case scenario. These characteristics must be identified and addressed prior to the MLVT construction phase and should be documented in the MLVT construction checklist. Ensuring the safety of our employees, contractors, and the public are a top priority. This can be addressed with the implementation of MLVT pre-construction risk assessment measures to address safety concerns, and minimize environmental impacts and property damage in the unlikely event of a MLVT release. 8) In the event of a catastrophic MLVT failure, the Operator shall notify the COGCC as soon as practicable but not more than 24 hours after discovery, submit a Form 22-Accident Report within 10 days after discovery, conduct a "root cause analysis", and provide same to COGCC on a Form 4-Sundry Notice within 30 days of the failure. 9) The MLVT shall be constructed and operated in accordance with a design package certified and sealed by a Licensed Professional Engineer either in Colorado or the state where the MLVT was designed or manufactured. 10) COGCC Rules 605.a.(3,5,6,7, and 8), as applicable to tank setbacks at the time of installation shall apply to the siting of this MLVT. 11) All MLVT liner seams shall be welded and tested in accordance with applicable ASTM international standards. Any repairs to liners shall be made using acceptable practices and applicable standards. 12) PDC Energy Inc. hereby certifies to the Director that the Modular Large Volume Tanks, utilized for the afore mentioned location, will be designed and implemented consistent with the Colorado Oil and Gas Conservation Commission policy dated June 13, 2014. <p>MLVT Certification PDC Energy Inc. hereby certifies to the Director that the Modular Large Volume Tanks, utilized for the afore mentioned location, will be designed and implemented consistent with the Colorado Oil and Gas Conservation Commission policy dated June 13, 2014.</p>	
24	Drilling/Completion Operations	<p>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 reasonably expected to be produced based on existing wells. All green completions flow back equipment will be able to handle more than 1.5 times the amount of any known volumes in the surrounding field. First sign of salable gas will be put into production equipment and turned down line. The wells will remain shut in until a pipeline is available.</p>	

25	Drilling/Completion Operations	604c.(2).I. BOPE Testing for Drilling Operations: PDC's contractors will supply a double ram BOPE (Blinds and pipes). BOPE is always function tested and all seals and ram block rubbers are inspected. 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 with a third party tester, all tests are digitally recorded and any failed equipment or seals are replaced and re-tested.
26	Drilling/Completion Operations	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.
27	Drilling/Completion Operations	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.
28	Drilling/Completion Operations	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.
29	Drilling/Completion Operations	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.
30	Final Reclamation	604c.(2).O. Loadlines: All loadlines shall be bullplugged or capped.
31	Final Reclamation	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.
32	Final Reclamation	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.

Total: 32 comment(s)

Attachment Check List

<u>Att Doc Num</u>	<u>Name</u>
2479286	306.e CERTIFICATION LETTER
2479287	CORRESPONDENCE
2479366	OBJECTIVE CRITERIA REVIEW MEMO
402170112	FORM 2A SUBMITTED
402171492	SURFACE AGRMT/SURETY
402171493	PRE-APPLICATION NOTIFICATION CERTIFICATION
402171494	ACCESS ROAD MAP
402171495	HYDROLOGY MAP
402171497	MULTI-WELL PLAN
402171498	OTHER
402171500	LOCATION DRAWING
402171501	LOCATION PICTURES
402171502	NRCS MAP UNIT DESC
402171504	FACILITY LAYOUT DRAWING
402171505	WASTE MANAGEMENT PLAN
402171507	LEAK DETECTION PLAN

Total Attach: 16 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
OGLA	Final Review complete	02/26/2020
OGLA	The Objective Criteria Review Memo (Doc #2479366) is attached to this Form 2A. Following additional analysis arising out of the Objective Criteria, the Director determined that this application meets the standard for the protection of public health, safety, welfare, the environment and wildlife resources set by SB 19-181.	02/14/2020
OGLA	IN PROCESS – received requested information from Operator on 02/11/20; COGCC review will resume and be conducted within 60 days (by 04/11/20).	02/12/2020
OGLA	ON HOLD: This application has been reviewed by COGCC staff and cannot be approved based on the information submitted; therefore, the COGCC is placing this form ON HOLD until additional information is received from the applicant. In compliance with § 24-65.1-108(1), C.R.S., the COGCC is providing this written request for all additional information necessary for the COGCC to respond to this application. The applicant may provide all requested additional information to COGCC via email. Upon receipt of all requested information, the COGCC will have 60 days in which to approve, deny, or request all additional information necessary to complete the regulatory review. If the applicant no longer requires this application be approved, the applicant may request to withdraw the application. In addition to all standard required information and attachments, the COGCC hereby confirms the following information is necessary for review: 1) Confirm the volume of the permanent and temporary storage tanks to be utilized on the location. 2) Confirm if Health Study notices were sent to all Building Unit occupants within 2,000 feet of the location 3) Update the Odor mitigation BMP 4) Provide BMP that discusses how shallow groundwater will be protected from spills/releases during the drilling and well completion operations.	02/11/2020
Permit	Multi-well plan evaluated. Permitting review complete.	01/24/2020
OGLA	Operator provided the drilling fluid and cuttings disposal method, revised the Right to Construct, revised the Access Roads BMP, revised the Stormwater/Erosion Control BMP, revised the Tank Specifications BMP, provided a BMP for remote shutoff of wells and tank level monitoring, provided a BMP for flowline integrity testing, & provided the Rule 306.e. certification letter. No Public Comments. OGLA review completed and task passed.	10/16/2019
OGLA	Requested operator provide the drilling fluid and cuttings disposal method, revise the Right to Construct, revise the Access Roads BMP, revise the Stormwater/Erosion Control BMP, revise the Tank Specifications BMP, provide a BMP for remote shutoff of wells and tank level monitoring, provide a BMP for flowline integrity testing, & provide the Rule 306.e. certification letter. Due by 10/31/19	10/11/2019
OGLA	COGCC staff conducted its technical review of this Form 2A Oil and Gas Location Assessment within the context of SB 19-181 and the required Objective Criteria. This Form 2A met Objective Criteria # 1, 5c, & 8.	10/08/2019

Total: 8 comment(s)