

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:

400662720

(SUBMITTED)

Date Received:

12/09/2014

Oil and Gas Location Assessment

☐ New Location ☐ Refile ☒ Amend Existing Location Location#: 322976

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:

322976

Expiration Date:

☒ 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: 100185
Name: ENCANA OIL & GAS (USA) INC
Address: 370 17TH ST STE 1700
City: DENVER State: CO Zip: 80202-5632

Contact Information

Name: Toby Sachen
Phone: (720) 876-5845
Fax: (720) 876-6584
email: toby.sachen@encana.com

RECLAMATION FINANCIAL ASSURANCE

- ☒ Plugging and Abandonment Bond Surety ID: 20100017 ☐ Gas Facility Surety ID: _____
- ☐ Waste Management Surety ID: _____

LOCATION IDENTIFICATION

Name: Rasmussen Facilities Pad Number: 19H-M268
County: WELD
Quarter: SWSW Section: 19 Township: 2N Range: 68W Meridian: 6 Ground Elevation: 4996
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: 952 feet FSL from North or South section line
1309 feet FWL from East or West section line
Latitude: 40.119235 Longitude: -105.050730
PDOP Reading: 2.4 Date of Measurement: 07/16/2014
Instrument Operator's Name: Ryan Christi

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 #

Production Facilities Location serves Well(s)

400750429

FACILITIES

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

| | | | | | | |
|-----------------------|----------------------|----|----------------------|------------------|--------|-------------------------------|
| Wells | Oil Tanks* | 28 | Condensate Tanks* | Water Tanks* | 6 | Buried Produced Water Vaults* |
| Drilling Pits | Production Pits* | | Special Purpose Pits | Multi-Well Pits* | | Modular Large Volume Tanks |
| Pump Jacks | Separators* | 12 | Injection Pumps* | Cavity Pumps* | | Gas Compressors* |
| Gas or Diesel Motors* | Electric Motors | | Electric Generators* | Fuel Tanks* | | LACT Unit* |
| Dehydrator Units* | Vapor Recovery Unit* | 8 | VOC Combustor* | 13 | Flare* | Pigging Station* |

OTHER FACILITIES*

Other Facility Type

Number

| | |
|----------------------------|---|
| 40 ft VRT | 1 |
| Buffer Vessel | 1 |
| Drip pot blowcase | 1 |
| Electrical/Automation skid | 1 |

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:

Oil, water and gas will flow combined to the facilities pad from the well pad to the south The flowline is 3" FCA3 steel, epoxy coated, welded and pressure tested. It will be buried 4' deep.
Gas pipeline will be determined by KMG at a later date.

If the oil and water are sent to the Hub, DOT 195 pipeline will be used. (Please see comments on Submit tab for explanation)

CONSTRUCTION

Date planned to commence construction: 12/01/2015

Size of disturbed area during construction in acres: 5.00

Estimated date that interim reclamation will begin: 02/01/2017

Size of location after interim reclamation in acres: 5.00

Estimated post-construction ground elevation: 4996

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? No

DRILLING WASTE MANAGEMENT PROGRAM

Drilling Fluids Disposal: _____

Drilling Fluids Disposal Method: _____

Cutting Disposal: _____

Cuttings Disposal Method: _____

Other Disposal Description:

Beneficial reuse or land application plan submitted? No

Reuse Facility ID: _____ or Document Number: _____

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

SURFACE & MINERALS & RIGHT TO CONSTRUCT

Name: Rasmussen Family Farms

Phone: _____

Address: 8120 County Road 1

Fax: _____

Address: _____

Email: _____

City: Longmont State: CO Zip: 80504

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: oil and gas lease

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

Date of Rule 306 surface owner consultation _____

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: | Feet | 433 Feet |
| Building Unit: | Feet | 797 Feet |
| High Occupancy Building Unit: | Feet | 5280 Feet |
| Designated Outside Activity Area: | Feet | 5280 Feet |
| Public Road: | Feet | 716 Feet |
| Above Ground Utility: | Feet | 601 Feet |
| Railroad: | Feet | 5280 Feet |
| Property Line: | Feet | 736 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.

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: 08/15/2014

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 (onll 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.

The new planned production facilities are being incorporated into an existing facilities location that is already encumbering the irrigated farm land. The closest home (to the SW of the location) is the surface owners home and he would prefer to keep the facilities for all wells in one location to accommodate his farming operations. Additionally, the access for the facilities is already in place and allows for direct access off of County Line road (paved) versus the alternate of having our truck traffic on a residential dirt road which would affect the nearby neighbors.

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: 15 - Colby_loam_1_to_3_percent_slopes

NRCS Map Unit Name: 64 - Thedalund_loam_1_to_3_percent_slopes

NRCS Map Unit Name: 79 - Weld_loam_1_to_3_percent_slopes

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: 2255 Feet

water well: 1987 Feet

Estimated depth to ground water at Oil and Gas Location 4 Feet

Basis for depth to groundwater and sensitive area determination:

Sensitive area based on depth to groundwater.
Water well permit # 146570 with a static water level of 4'.

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 zone: No

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 Encana is planning this location with two gathering options: Option 1. All the equipment listed on the Facilities tab will be on this location and there will be no centralized gathering; Option 2. Centralized gathering. If Option 2 is employed, the following equipment will be needed on the location: 12 separators, 2 oil surge drums, 2 oil pump skids, 1 water surge drum, 1 water pump skid, 1 instrument air skid, 1 electrical rack/electrical equipment. Location 435499, the Liquids Handling Hub in Erie would be receiving the product in this second option.

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

Signed: _____ Date: 12/09/2014 Email: toby.sachen@encana.com

Print Name: Toby Sachen 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: _____

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.

Best Management Practices

No BMP/COA Type

Description

| | | |
|---|----------------------|--|
| 1 | Traffic control | Under Rule 604.c.(2).D, if required by the local government, a traffic plan shall be coordinated with the local jurisdiction prior to commencement of move in and rig up. Any subsequent modification to the traffic plan must be coordinated with the local jurisdiction. |
| 2 | General Housekeeping | Per Rule 604.c.(2)P. All surface trash, debris, scrap or discarded material connected with the operations of the property shall be removed from the premises or disposed of in a legal manner. |
| 3 | General Housekeeping | Per Rule Rule 604.c(2)T. The well site will be cleared of all non-essential equipment, trash and debris after ninety days of a well P&A. |
| 4 | General Housekeeping | Per Rule 604.c(2)U. and Rule 319.a(5), Encana will identify plugged and abandoned wellbores according to Rule 319.a.(5). including the location of the wellbore with a permanent monument as specified in Rule 319.a.(5). Encana will also inscribe or imbed the well number and date of plugging upon the permanent monument. |

| | | |
|----|--|---|
| 5 | Material Handling and Spill Prevention | <ul style="list-style-type: none"> • Annual hydrostatic test on the oil dump line from the separator to the tank battery. • Annual hydrostatic “static” tests on our oil tanks. • Annual hydrostatic “static” tests on our produced water tank and water dump line from the separator to the produced water tank. • Lease Operator inspections of all equipment not to exceed 48 hours. • Monthly documented inspections (EU). • Annual environmental inspections of all battery and well equipment and pads. • Annual UT inspections of the pressure vessels and input into Encana’s RIPL Predictive Integrity Maintenance Program. (HLP separators and fuel gas separators)” |
| 6 | Material Handling and Spill Prevention | Per Rule 805.b.(3)B.iii. Well effluent containing more than ten (10) barrels per day of condensate or within two (2) hours after first encountering hydrocarbon gas of salable quality will be directed to a combination of sand traps, separators, surge vessels, and tanks as needed to ensure safe separation of sand, hydrocarbon liquids, water, and gas and to ensure salable products are efficiently recovered for sale or conserved and that non-salable products are disposed of in a safe and environmentally responsible manner. |
| 7 | Construction | Per Rule 604.c.(2)A. The pad will be constructed in such a manner that noise mitigation may be installed and removed without disturbing the site or landscaping. |
| 8 | Construction | Per Rule 604.c.(2)S. Subject pad will have all weather access roads to allow for operator and emergency response. |
| 9 | Construction | Encana utilizes 24” tall corrugated galvanized metal berm walls with a capacity in excess of 150% of the largest tank contained within the wall. In addition, Encana best practices mandates the use of impervious liners that extends under each storage tank and up the walls, permanently affixed to the top of the metal berm wall. Protrusions of piping that come through the liner include a fully sealed “boot” to prevent leakage. |
| 10 | Construction | Per Rule 604.c.(2)M. Encana will install fencing to restrict access to wellheads and equipment. (If in a town, "Fencing style will be installed as required by the town".) |
| 11 | Construction | Per Rule 604.c.(2)S. At the time of construction, all leasehold roads will be constructed to accommodate local emergency vehicle access requirements, and will be maintained in a reasonable condition. |
| 12 | Noise mitigation | Per Rules 802.c and 802.d. Encana will perform a baseline noise survey prior to any operational activity measuring dBA at a distance 350 feet from the noise source (unless there is an occupied structure closer than that – then measurement will be taken 25 feet from the structure). If low frequency noise is a concern, measurement of dBC will be taken 25 feet from the occupied structure towards the noise source. As necessary, based on the survey, Encana will install temporary sound walls to minimize noise and light impacts during drilling and completions and will install permanent noise mitigation at the facility location as necessary to meet all COGCC regulations. |
| 13 | Noise mitigation | The subject location will be constructed to allow potential future noise mitigation installation without disturbance. |
| 14 | Emissions mitigation | Per Rule 604.c.(2)C.i. Flow lines, separators, and sand traps capable of supporting green completions as described in Rule 805 will be installed on subject location at which commercial quantities of gas are reasonably expected to be produced based on existing adjacent wells within 1 mile. |
| 15 | Emissions mitigation | Per Rule 604.c.(2)C.iii. Temporary flowback flaring and oxidizing equipment will include: adequately sized equipment to handle 1.5 times the largest flowback volume of gas experienced in a ten mile radius. If there is overrun, Encana will shut in the well versus freely venting |

| | | |
|----|----------------------|--|
| 16 | Emissions mitigation | Per Rule 604.c(2)F Encana will follow and comply with all leak detection and repair and storage tank emission management plan conditions as required by Colorado Air Quality Control Commission Regulation Number 7. This will include at least monthly Audible, Visual and Olfactory (AVO) inspections of the components and tanks at our Production Facilities at most weekly or at least monthly starting on January 1, 2015. In addition, Encana will perform infra-red camera inspections of these components and the storage tanks at most monthly or at least annually. |
|----|----------------------|--|

Total: 16 comment(s)

Attachment Check List

| <u>Att Doc Num</u> | <u>Name</u> |
|---------------------------|-------------------------|
| 400662720 | FORM 2A SUBMITTED |
| 400686769 | NRCS MAP UNIT DESC |
| 400686773 | NRCS MAP UNIT DESC |
| 400686775 | NRCS MAP UNIT DESC |
| 400700001 | WASTE MANAGEMENT PLAN |
| 400734807 | ACCESS ROAD MAP |
| 400734809 | LOCATION PICTURES |
| 400737056 | FACILITY LAYOUT DRAWING |
| 400737057 | OTHER |
| 400745114 | LOCATION DRAWING |
| 400751224 | HYDROLOGY MAP |

Total Attach: 11 Files

General Comments

| <u>User Group</u> | <u>Comment</u> | <u>Comment Date</u> |
|--------------------------|--|----------------------------|
| OGLA | Buffer Zone review - this Form 2A includes physically separated well and production areas - each has a separate planned access road. The planned production area will overlap and be adjacent to an existing Encana Location - ID#322976. Discussed with Operator on 12/12/14 that this should be permitted as two locations with two separate Form 2As. The planned production area should be on an Amended 2A for an Existing Location ID #322976. The planned wells should be permitted as a new Location. Will push to DRAFT to allow the Operator to revise and resubmit. | 12/11/2014 10:44:20 AM |
| Permit | Located within buffer zone; sent to OGLA for further review. | 12/11/2014 7:26:49 AM |

Total: 2 comment(s)