

FORM  
2A

Rev  
04/01

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:

400440861

Date Received:

07/12/2013

Oil and Gas Location Assessment

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

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

Location ID:

**435070**

Expiration Date:

**11/17/2016**

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

1. CONSULTATION

- ☐ This location is included in a Comprehensive Drilling Plan. CDP # \_\_\_\_\_
- ☐ This location is in a sensitive wildlife habitat area.
- ☐ This location is in a wildlife restricted surface occupancy area.
- ☐ This location includes a Rule 306.d.(1)A.ii. variance request.

2. Operator

Operator Number: 100185

Name: ENCANA OIL & GAS (USA) INC

Address: 370 17TH ST STE 1700

City: DENVER State: CO Zip: 80202-5632

3. Contact Information

Name: Chris McRickard

Phone: (720) 876-5586

Fax: (720) 876-6584

email: chris.mcrickard@encana.com

4. Location Identification:

Name: Bohrer Number: 19H-0368

County: WELD

QuarterQuarter: SWNW Section: 19 Township: 3N Range: 68W Meridian: 6 Ground Elevation: 5060

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

Footage at surface: 1402 feet FNL, from North or South section line, and 762 feet FWL, from East or West section line.

Latitude: 40.214370 Longitude: -105.052450 PDOP Reading: 1.9 Date of Measurement: 06/12/2013

Instrument Operator's Name: John Rice

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

Special Purpose Pits: <input type="text"/>	Drilling Pits: <input type="text"/>	Wells: <input type="text" value="9"/>	Production Pits: <input type="text"/>	Dehydrator Units: <input type="text"/>
Condensate Tanks: <input type="text"/>	Water Tanks: <input type="text" value="5"/>	Separators: <input type="text" value="9"/>	Electric Motors: <input type="text"/>	Multi-Well Pits: <input type="text"/>
Gas or Diesel Motors: <input type="text"/>	Cavity Pumps: <input type="text"/>	LACT Unit: <input type="text"/>	Pump Jacks: <input type="text"/>	Pigging Station: <input type="text"/>
Electric Generators: <input type="text"/>	Gas Pipeline: <input type="text"/>	Oil Pipeline: <input type="text"/>	Water Pipeline: <input type="text"/>	Flare: <input type="text"/>
Gas Compressors: <input type="text"/>	VOC Combustor: <input type="text" value="13"/>	Oil Tanks: <input type="text" value="15"/>	Fuel Tanks: <input type="text"/>	

Other: 5-Buffer, 6-VRU, 1-VRU Discharge Scrubber, 3-VRT, 9- Meter Runs

6. Construction:

Date planned to commence construction: 10/01/2014 Size of disturbed area during construction in acres: 7.00  
Estimated date that interim reclamation will begin: 10/01/2015 Size of location after interim reclamation in acres: 4.00  
Estimated post-construction ground elevation: 5060 Will a closed loop system be used for drilling fluids: Yes ☒  
Will salt sections be encountered during drilling: Yes ☐ No ☒ Is H2S anticipated? Yes ☐ No ☒  
Will salt (>15,000 ppm TDS Cl) or oil based muds be used: Yes ☐ No ☒  
Mud disposal: Offsite ☒ Onsite ☐ Method: Land Farming ☐ Land Spreading ☒ Disposal Facility ☐  
Other: \_\_\_\_\_

## 7. Surface Owner:

Name: \_\_\_\_\_ Phone: \_\_\_\_\_  
Address: \_\_\_\_\_ Fax: \_\_\_\_\_  
Address: \_\_\_\_\_ Email: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_ Date of Rule 306 surface owner consultation: 11/26/2012  
Surface Owner: ☒ Fee ☐ State ☐ Federal ☐ Indian  
Mineral Owner: ☒ Fee ☐ State ☐ Federal ☐ Indian  
The surface owner is: ☒ the mineral owner ☒ committed to an oil and gas lease  
☒ is the executer of the oil and gas lease ☐ the applicant  
The right to construct the location is granted by: ☒ oil and gas lease ☐ Surface Use Agreement ☐ Right of Way  
☐ applicant is owner  
Surface damage assurance if no agreement is in place: ☐ \$2000 ☐ \$5000 ☐ Blanket Surety ID \_\_\_\_\_

## 8. Reclamation Financial Assurance:

☒ Well Surety ID: 20100017 ☐ Gas Facility Surety ID: \_\_\_\_\_ ☐ Waste Mgnt. Surety ID: \_\_\_\_\_

## 9. Cultural:

Is the location in a high density area (Rule 603.b.): Yes ☐ No ☒  
Distance, in feet, to nearest building: 603, public road: 428, above ground utility: 792,  
railroad: 11354, property line: 83

## 10. 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

## 11. 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

## 12. Soils:

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

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

NRCS Map Unit Name: 28 - Heldt silty clay, 3 to 5 percent slopes

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

### 13. Plant Community:

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

Are noxious weeds present: Yes ☐ No ☒

Plant species from: ☒ NRCS or, ☐ field observation Date of observation: \_\_\_\_\_

List individual species: Western wheatgrass, Fourwing saltbrush, winterfat  
\_\_\_\_\_

Check all plant communities that exist in the disturbed area.

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

### 14. Water Resources:

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

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

Distance (in feet) to nearest surface water: 775, water well: 1000, depth to ground water: 6

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

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

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

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

### 15. Comments:

1) Closest Water Well Permit#300-G is  $\pm 615'$  and has no static water level. The next closest Permit # 59196 which is  $\pm 1000'$  from the proposed well head has a static water level of 6'. 2) Closed Surface water  $\pm 775'$ . 3) The disturbed area for the Bohrer Trust 19H-E368 drill pad straddles two parcels which are both owned by the Kermit O. Bohrer Trust.

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

Signed: \_\_\_\_\_ Date: 07/12/2013 Email: chris.mcrickard@encana.com

Print Name: Chris McRickard Title: Permitting 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: Matthew Lee Director of COGCC Date: 11/18/2013

**CONDITIONS OF  
APPROVAL, IF ANY:**  
\_\_\_\_\_

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

**Description**

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**Attachment Check List**

<u>Att Doc Num</u>	<u>Name</u>
400440861	FORM 2A SUBMITTED
400440870	NRCS MAP UNIT DESC
400441580	WASTE MANAGEMENT PLAN
400446626	ACCESS ROAD MAP
400446627	MULTI-WELL PLAN
400446739	LOCATION PICTURES
400446744	LOCATION DRAWING
400446850	HYDROLOGY MAP

Total Attach: 8 Files

**General Comments**

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Permit	Per operator: "The disturbed area for the Bohrer Trust 19H-E368 drill pad straddles two parcels which are both owned by the Kermit O. Bohrer Trust."	11/18/2013 11:22:55 AM
Final Review	ON HOLD - to clarify 603 exception waiver	11/16/2013 10:12:39 AM
Permit	Final Review Completed. Public comment addressed (see comments); no LGD comment received.	11/15/2013 1:02:27 PM
OGLA	Uploaded Encana's response to the public comment. Review completed 11/14/2013.	11/14/2013 10:31:11 AM
OGLA	<p>Encana's Response to Public Comments for the Proposed Bohrer Location:</p> <p>1.Dust</p> <p>The access road to the Bohrer location will be maintained at regular intervals with water and/or mag chloride to minimize dust during the construction and drilling/completions phases and as necessary during routine visits from pumper trucks or other maintenance vehicles. We utilize closed-loop dust control protocols to manage and minimize dust associated with the use of sand during the completions phase. We encourage residents to contact Encana immediately with any concerns at 866-896-6371.</p> <p>2.Noise</p> <p>We will perform a baseline noise survey prior to construction and will install temporary sound walls to minimize noise and light impacts during drilling and completions and permanent noise mitigation at the facility location as necessary to meet all COGCC regulations. We encourage residents to contact Encana immediately with any concerns at 866-896-6371.</p> <p>3.Site selection</p> <p>We consider multiple factors when selecting a surface location. Important among these factors is our surface use agreement with the landowner and mineral ownership. In addition, we make every effort to limit our surface disturbance. The Boyd site and the Bohrer site each contain the number of wells that are anticipated to fully access the oil and gas rights of Encana and each mineral owner from these</p>	11/14/2013 10:21:12 AM

	<p>two locations (the mineral owners are also the surface location owners of these locations). The surface of Bohrer 21-19 was not chosen for additional horizontal wells due to its proximity to a buildings and preference of the surface owner. The Bohrer site is located on the west side of section 19 due to surface owner preference. The site will be 7 acres during drilling operations but will be reduced to 4 acres total disturbance after reclamation.</p> <p>4.Access road</p> <p>Encana believes the proposed access road as chosen to be the least impactful choice for the surface location, surrounding community and future residential development of the parcel. The north access road is not extended to the east or south as this would interfere with the existing center pivot and force the surface owner to abandon his irrigated field.</p> <p>The access road was also not routed to the south due to traffic impacts and increasing the number of households impacted.</p> <p>Access to the proposed Bohrer location has been granted by Weld County in accordance with their safety and traffics standards. Weld County regulations only grant one access per parcel.</p> <p>5.Safety concerns</p> <p>We are committed to protecting the health and safety of all individuals affected by our activities, as well as the communities in which we live and operate. Encana's Emergency Response Plans (ERP) ensure that the USA Division is prepared to respond to emergencies having the potential to compromise the safety of employees and the public, the environment or company property damage. The ERP is based on industry recognized incident command structure and describes the functional roles and accountabilities for life safety, property damage, and environmental impacts. The ERP also describes the communication and notification protocols to engage local emergency responder support, based on the nature and complexity of the emergency. Some of the ERP details include making the facility and immediate surrounding area safe (people first, then property), isolating the area, establishing and maintaining adequate communication with appropriate governmental agencies (fire, police, and public officials) and to clarify our collective responsibilities.</p> <p>We have actively engaged local emergency responders, including Mountain View Fire District (MVFD), in an effort to share our ERP and to gain knowledge from MVFD regarding their existing emergency response resources. We are confident in our abilities to maintain safe operating conditions and if needed, to coordinate effectively and efficiently with MVFD in the event of an emergency. We routinely conduct preparedness exercises with local emergency responders, including MVFD. In the event of a tank fire, we look to area or regional emergency responders to provide foam suppression support. MVFD possesses foam suppression capabilities.</p> <p>6.Facility operation</p> <p>The site will have onsite and remote monitoring for all safety systems and process equipment including the ability to remotely shut-in the location, if needed. In the event an upset condition occurs, remote monitoring systems immediately notify Encana Operations via an electronic messaging system. This system allows team members to immediately shut-in production via the remote system. Team members can access this system from a mobile device. The location will have sophisticated monitoring and safety systems put in place to minimize the potential for incidents. Production facilities are not manned 24 hrs./day; the site will have minimal nighttime lighting.</p>	
Permit	ON HOLD: Requesting Operator response to public comment.	10/18/2013 11:16:50 AM
OGLA	Requesting Operator response to public comment.	8/15/2013 11:14:31 AM

Permit	ON HOLD: w/o response to public comments.	8/9/2013 10:49:39 AM
Public	<p>Bohrer 19H-0368 Production Facility and well pad</p> <p>Impact –</p> <p>The proposed site and well pad concentrates the impact of 9 wells to one +7 acre disturbance. This + 7 acre area along with the neighboring residential properties will bear the full surface impact. This concentrated impact increases the likelihood of dust, noise and sound issues along with the anticipated negative property value effects. For most, this negative impact is borne without surface compensation.</p> <p>From a sectional view (Section 19), the applying operator has a proposed pad for the south half of the section (Boyd 19H), has an active drill pad located in the NW/NE (Bohrer Trust 21-19) and is applying for the 9 well (Bohrer 19H-0368) pad being discussed.</p> <p>Using the idea surface impact should be associated with spacings, 5 of the wells should be moved to different drilling pads. The 2A-19H-E368, 2B-19H-E368, and possibly the 2C-19H-E368 would be closer to the heel orientation and thus spacing if drilled from the existing Bohrers Trust 21-19 drill pad. The 2I-19H-E368 and 2H-19H-368 would be closer to the under application Boyd 19H pad. The shorter reach out should be a cost savings to the operator. The Boyd 19H pad being located in an old dairy operation and the Bohrers Trust pad having already been constructed would lessen any new impact. This would lessen the impact of Bohrers drill pad by 4 to 5 wells and help align impact to benefit.</p> <p>A step back and look at a larger view picture. The proposed applications for wells in Section 19 coupled with the 16 wells in Section 18 to the north would impact the 2 mile section of WCR 1 with 31 Horizontal (HZ) wells. Using a very conservative Model that 1 HZ well equals 5 conventional wells in production equivalent; the impact to this 2 mile stretch of County road would be 155 wells. This doesn't even take into consideration that the Section 18 wells are 7000' laterals and could increase production equivalents may be 20% higher for an aggregate impact of 170+ conventional wells. These equivalent statistics are very enlightening to the seriousness of the effects that this concentration will bring.</p> <p>Serious consideration should be given to moving wells pads for all of section 19 to the east side of the section. The Bohrers well pad if moved to the east side would impact less personal residences and due to parcel sizes more align impact to surface compensation (meaning adjacent property owners to the surface disturbance would be less). The Boyd H19 pad would move from an abandon dairy to a field. This realignment would reduce the public impact by at least half. WCR 3 is not a through road and has minimal traffic compared to WCR 1 which is a main artery.</p> <p>Access Road-</p> <p>The proposed application asks for another access to WCR 1. This should be denied. The operator already has an access road to an active drill pad and production facility at the north end of section 19. The 2 well sites are connected by a field. This access is a County Right of way section line. Boulder County Vermillion Road connecting from the west would allow for truck traffic to only cross WCR 1 to enter instead of having to turn. Less desirable, there is also another alternative, the south side of the N ½ of section 19. Henson Drive is a residential road but a lease road could be connected to it.</p> <p>Safety Concerns-</p> <p>What protection, assurances, and considerations are to be given to the three residential houses at +/- 700' from the well pad and connecting production facility. The impact of a fire caused by lightning, grass fire, equipment malfunction, or human error is significantly magnified by the size and capacity of the production</p>	3/3/2013 9:11:13 PM

	<p>facility.What is the emergency response plan the operator has for the facility and their neighbors?The residential housing built in the recent past has sprinkler system requirements (Mtn View Fire District) due the lack of water pressure/supply to the water system in the area.Should this not be a major factor in deciding whether an industrial facility be placed close to residential property.What are the safety control features to be required of this facility?Are the neighbors of this production facility to rely on the public (Mtn View Fire District) to have adequate foam capabilities for a response to an incident or will the operator be responsible?Will it be a requirement or COA for this facility to be manned and lit?Is there enough experience and engineering controls to allow a facility of this size and capacity to be integrated with residential property?</p> <p>Overview-</p> <p>-There are less obtrusive areas for the well pad and production facility to be placed which would better align impact to benefit received.The east side of the section is less populated and thus operations would be less impactful to public and private activities.</p> <p>-There would be a direct effect to Public Safety if Section 19 wells were to be moved to the east side of the section.Traffic impact to WCR 1 would be cut in half, both reducing volume and congestion and reducing liability.</p> <p>-Condition of Approval (COA) regarding the capabilities of either the operator or the public to have sufficient resources to respond to a fire incident at this large of capacity facility should be required.</p> <p>-COA regarding noise levels.Facility should not be allowed to be commissioned until all noise level requirements are tested and verified.</p>	
OGLA	Reviewed 7/24/2013.	7/24/2013 2:20:16 PM
Permit	Per operator Above Ground Utility: 792' west, Property Line: 83' west, Building: 603' southwest, Public Road: 428' southwest, Railroad: 11,354' west. Property line is on pad. ok to pass.	7/24/2013 9:20:04 AM
Permit	ON HOLD: requesting confirmation of distance to building, public road & property line.	7/22/2013 8:43:04 AM
Permit	This form has passed completeness.	7/15/2013 3:51:20 PM

Total: 13 comment(s)

### **Best Management Practices**

<b><u>No</u></b>	<b><u>BMP/COA Type</u></b>	<b><u>Description</u></b>