

State of Colorado  
Oil and Gas Conservation Commission

1120 Lincoln Street, Suite 801, Denver, Colorado 80205 Phone: (303) 894-2100 Fax: (303) 894-2109



DE ET OE ES

Document Number:

400103653

## 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 stand alone 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:

**421017**

Expiration Date:

**12/30/2013**
☐ 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: Julia Carter  
 Phone: (720) 876.5240  
 Fax: (720) 876.6240  
 email: Julia.Carter@encana.com

## 4. Location Identification:

Name: N. Parachute Number: EMF H17 595County: GARFIELDQuarter: SENE Section: 17 Township: 5S Range: 95W Meridian: 6 Ground Elevation: 6449

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: 1563 feet FNL, from North or South section line, and 447 feet FEL, from East or West section line.Latitude: 39.616786 Longitude: -108.070286 PDOP Reading: 2.7 Date of Measurement: 09/21/2010Instrument Operator's Name: Robert Kay

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

Special Purpose Pits: <input type="text" value="0"/>	Drilling Pits: <input type="text" value="0"/>	Wells: <input type="text" value="22"/>	Production Pits: <input type="text" value="0"/>	Dehydrator Units: <input type="text" value="0"/>
Condensate Tanks: <input type="text" value="0"/>	Water Tanks: <input type="text" value="4"/>	Separators: <input type="text" value="22"/>	Electric Motors: <input type="text" value="4"/>	Multi-Well Pits: <input type="text" value="0"/>
Gas or Diesel Motors: <input type="text" value="3"/>	Cavity Pumps: <input type="text" value="0"/>	LACT Unit: <input type="text" value="0"/>	Pump Jacks: <input type="text" value="0"/>	Pigging Station: <input type="text" value="0"/>
Electric Generators: <input type="text" value="3"/>	Gas Pipeline: <input type="text" value="1"/>	Oil Pipeline: <input type="text" value="0"/>	Water Pipeline: <input type="text" value="1"/>	Flare: <input type="text" value="1"/>
Gas Compressors: <input type="text" value="0"/>	VOC Combustor: <input type="text" value="0"/>	Oil Tanks: <input type="text" value="0"/>	Fuel Tanks: <input type="text" value="1"/>	

Other: Please see attached Facilities List

## 6. Construction:

Date planned to commence construction: 12/01/2010 Size of disturbed area during construction in acres: 7.73  
Estimated date that interim reclamation will begin: 04/01/2012 Size of location after interim reclamation in acres: 2.70  
Estimated post-construction ground elevation: 6444 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: Recycle & Bury

## 7. Surface Owner:

Name: \_\_\_\_\_ Phone: \_\_\_\_\_  
Address: \_\_\_\_\_ Fax: \_\_\_\_\_  
Address: \_\_\_\_\_ Email: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_ Date of Rule 306 surface owner consultation: 07/01/2010  
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: 18500, public road: 17760, above ground utilit: 10050  
, railroad: 52410, property line: 1428

## 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: Nihill Channery Loam : 46

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: 08/05/2010

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

Check all plant communities that exist in the disturbed area.

- ☐ Disturbed Grassland (Cactus, Yucca, Cheatgrass, Rye)  
☐ Native Grassland (Bluestern, 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: 31, water well: 4318, depth to ground water: 120

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:

Exxon Mobil Surface, Encana minerals. Please note this location is sized to accommodate future Exxon Mobil wells. Encana has a Surface Use and Drilling agreement in place with Exxon Mobil Corporation. All distances in #9 (section VI) Cultural are taken from the EMF07C-16 H17 595 well. Please reference the attached Facilities List for a more detailed account of what will be on the location.

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

Signed: \_\_\_\_\_ Date: 10/26/2010 Email: Julia.Carter@encana.com

Print Name: Julia M. Carter 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.

*David S. Neslin*

COGCC Approved: \_\_\_\_\_

Director of COGCC

Date: 12/31/2010

**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.**

**General:**

**Construction:**

Operator will collect baseline and follow-up surface water samples as follows: Prior to drilling and when sufficient water is present in the stream, operator will collect baseline surface water data from immediately down gradient of the oil and gas location. Sampling will occur quarterly at low elevations and biannually at higher elevations. Follow-up surface water data will be collected by sampling the same location beginning in the 2011 calendar year, and to continue for 5 years. COGCC recommends that the water samples be analyzed for the following parameters: pH; alkalinity; specific conductance; major cations/anions (chloride, fluoride, sulfate, sodium); total dissolved solids (TDS); BTEX/DRO; TPH; PAH's (including benzo[a]pyrene); and metals (arsenic, barium, calcium, chromium, iron, magnesium, selenium).

No portion of any pit that will be used to hold liquids shall be constructed on fill material, unless the pit and fill slope are designed and certified by a professional engineer, subject to review and approval by the Director prior to construction of the pit. The construction and lining of the pit shall be supervised by a professional engineer or their agent. The entire base of the pit must be in cut.

The access road will be constructed to prevent sediment migration from the access road to nearby surface water or any drainages leading to other nearby surface waters. Strategically apply fugitive dust control measures, including enforcing established speed limits on ExxonMobil private roads, to reduce fugitive dust and coating of vegetation and deposition in water sources.

Well pad and access road to the well pad will be gravel surfaced. Operator must install adequately sized culverts that cross any drainages leading to the RSO stream. Operator must ensure secondary containment for any potential volume of fluids that may be released from the pad/access road in the vicinity of all stream, intermittent stream, ditch, and drainage crossings within the mapped RSO boundaries.

The location is in an area of high runoff/run-on potential from the proposed pad area to the north; therefore the pad shall be constructed as quickly as possible and appropriate BMPs need to be in place both during and after well pad construction, as well as during all drilling and well completion operations. Standard stormwater BMPs must be implemented at this location to insure compliance with CDPHE and COGCC requirements and to prevent any stormwater run-on and /or stormwater runoff. Slopes with potential for runoff should be stabilized immediately following pad construction.

Because of proximity of the well pad to both nearby surface water (stream mapped as a cutthroat trout restricted surface occupancy (RSO) approximately 100 feet to the south) and steep slopes to the north, operator will grade the well pad surface to slope away from the stream towards a central collection point on the well pad.

**Drilling:**

The moisture content of any drill cuttings in a cuttings pit, trench, or pile shall be as low as practicable to prevent accumulation of liquids greater than de minimis amounts. At the time of closure, the drill cuttings must meet the applicable standards of Table 910-1.

The nearby downgradient hillside must be monitored for any day-lighting of drilling fluids throughout the drilling of the surface casing interval.

A spill response trailer will be on location 24 hours a day, 7 days a week during construction, drilling, and completion operations to facilitate a timely response to any spills that may occur.

Appropriate heavy equipment (e.g., a backhoe) will be staged at the location during all drilling and completion operations so that any emergency diversions or pits to contain spills can be built immediately upon discovery.

An emergency spill response program that includes employee training, safety and maintenance provisions and current contact information for EnCana, ExxonMobil, COGCC, and CDOW personnel will be implemented during construction, drilling, and completion activities.

In the event of a spill or release, the operator shall immediately implement the emergency response procedures in the above described emergency response program.

All personnel working at the location during all drilling and completion operations will receive training on spill response and reporting.

Documentation of this training will be maintained in Encana's office.

At a minimum, weekly spill prevention meetings will be held identifying staff responsibilities in order to provide a quick and effective response to a spill.

Appropriate documentation will be maintained in Encana's office.

Encana will conduct daily inspections of equipment for leaks and equipment problems with appropriate documentation retained in Encana's office. All equipment deficiencies shall be corrected.

Daily monitoring should end approximately 30 days after well completion and/or after production has been stabilized; however, timely inspections should continue during the production phase.

Operator will conduct daily inspections of equipment for leaks and equipment problems with appropriate documentation retained in the operator's office. All equipment deficiencies shall be corrected. Daily monitoring should end approximately 30 days after well completion and/or after production has been stabilized; however, timely inspections should continue during the production phase.

Operator will use adequately sized containment devices for all chemicals and/or hazardous materials stored or used on location.

Operator will provide an increased testing frequency (at least every thirty (14) days) of blowout prevention equipment (BOPE) during drilling operations.

Completion:

Encana will implement best management practices to contain any unintentional release of fluids, including any fluids conveyed via temporary surface pipelines.

The completion/flowback fluids pit must be double-lined. The pit will also require a leak detection system (Rule 904.e). The completion/flowback fluids pit must be fenced. If the completion/flowback pit is not closed (either drained and/or backfilled) immediately after well completion, then operator must appropriately net the completion/flowback pit, in a timely manner, and maintain the fencing and netting until the pit is closed in accordance with Rule 905. Closure of Pits, and Buried or Partially Buried Produced Water Vessels.

Flowback and stimulation fluids must be sent to tanks to allow the sand to settle out before the fluids can be placed into the pit located on the EMF F17 595 Pad. The flowback and stimulation fluid tanks must be placed on the well pad in an area with additional downgradient perimeter berming. The area where flowback fluids will be stored/reused must be constructed to be sufficiently impervious to contain any spilled or released material (per Rule 604.a.(4)).

Encana will submit a secondary and tertiary containment plan to be implemented during fracing operations via sundry notice Form 4 to Dave Kubeczko for review. Notify COGCC Oil and Gas Location Assessment (OGLA) Specialist for Western Colorado (Dave Kubeczko; email dave.kubeczko@state.co.us) 48 hours prior to start of fracing operations.

Production:

Use solar panels as an alternative energy source for on-location production equipment, where appropriate, economically and technically feasible.

Use multiple gathering lines placed in a single trench to minimize disturbance and construction, where appropriate, economically and technically feasible.

Interim reclamation shall begin during the first appropriate planting season following completion/testing of the last well, well; unless a determination is made that subsequent wells will be permitted and drilled. Reclamation practices will be subject to approval by the surface owner.

Final reclamation shall begin during the first appropriate planting season following plugging, using practices approved by surface owner.

Reclamation reference areas will be based on the North Parachute Ranch Vegetation Reference Study (October 2009) as approved by surface owner.

Onsite Consultation:

The operator must submit professional engineer (PE) approved/stamped updated/revised Construction Layout Drawings for the well pad and access road (plan view and cross-sections) showing stormwater and secondary containment BMPs via a Form 4 Sundry Notice to Dave Kubeczko. These plans will need to be approved prior to operator starting construction of either the access road and/or well pad. An updated Location Drawing must also be submitted after approval of Construction Drawings by COGCC.

Notify COGCC Oil and Gas Location Assessment (OGLA) Specialist for Western Colorado (Dave Kubeczko; email dave.kubeczko@state.co.us; phone 970-309-2514) 48 hours prior to start of construction.

Water Resources (Section 14):

Location is in a sensitive area because of its proximity to surface water; therefore, operator must ensure 110 percent secondary containment for any volume of fluids contained at well site during drilling and completion operations; including, but not limited to, construction of a berm or diversion dike, diversion/collection trenches within and/or outside of berms/dikes, site grading, or other comparable measures (i.e., best management practices (BMPs) associated with stormwater management) sufficiently protective of nearby surface water. Any berm constructed at the well pad location will be stabilized, inspected at regular intervals (at least every 14 days), and maintained in good condition.

Operator must implement best management practices to contain any unintentional release of fluids, including any fluids conveyed via temporary surface pipelines.

Location is in a sensitive area because of the potential for shallow groundwater; therefore a closed loop system (which EnCana has already indicated on the Form 2A) must be implemented.

Location is in a sensitive area because of the potential for shallow groundwater; therefore completion/production pits must be lined.

### Attachment Check List

Att Doc Num	Name
2033551	CORRESPONDENCE
2033553	PROPOSED BMPs
400103653	FORM 2A SUBMITTED
400103686	LOCATION PICTURES
400103687	LOCATION DRAWING
400103688	HYDROLOGY MAP
400103690	ACCESS ROAD MAP
400103691	REFERENCE AREA MAP
400103692	REFERENCE AREA PICTURES
400103694	NRCS MAP UNIT DESC
400103695	CONST. LAYOUT DRAWINGS
400103698	MULTI-WELL PLAN
400103699	PROPOSED BMPs
400103700	EQUIPMENT LIST

Total Attach: 14 Files

**General Comments**

<b><u>User Group</u></b>	<b><u>Comment</u></b>	<b><u>Comment Date</u></b>
OGLA	Initiated/Completed OGLA Form 2A review on 12-20-10 by Dave Kubeczko; requested clarifications and acknowledgement of fluid containment, spill/release BMPs, stormwater BMPs, lined pits/closed loop, no pit in fill, flowback to tanks only, noise/visual mitigation, residential, and cuttings low moisture content COAs from operator on 12-20-10; received clarifications and acknowledgement of COAs from operator on 12-30-10; passed by CDOW on 12-02-10 with operator submitted BMPs (with permit application) and mitigation measures acceptable; passed OGLA Form 2A review on 12-30-10 by Dave Kubeczko; fluid containment, spill/release BMPs, stormwater BMPs, lined pits/closed loop, no pit in fill, flowback to tanks only, noise/visual mitigation, residential, and cuttings low moisture content COAs.	12/20/2010 5:15:53 PM
DOW	The CDOW is working with Encana and Exxon (surface owner) to finalize Best Management Practices (BMPs) and Conditions of Approval (COAs) for the EMF-H17 595 well pad located in the East Middle Fork of Parachute Creek, a COGCC designated Cutthroat Trout Restricted Surface Occupancy (RSO) Water. Further, CDOW and Encana are in the process of finalizing mitigation actions to compensate for development activities that will occur within the RSO. Final details will not be worked out before the COGCC consultation deadline of December 6, 2010; therefore, CDOW will forward final details to  COGCC for attachment to the 2A permit as soon as they are finalized and agreed to by all appropriate parties.  by Michael Warren on Thursday, December 2, 2010 at 5:00 P.M.	12/2/2010 5:01:41 PM
Permit	2.) Document #400103653 is for 22 wells. The future wells do not include any of the 22 listed on the Form 2A. The future wells are not planned at this time. If and when this pad is reoccupied a new Form 2A will be filed to accommodate the additional wells. 3.) We are waiting for new legal plats to be finalized for both of these locations. Once they are finished the permits will be submitted. I anticipate Form 2's will be in before the end of the year. from Julia Carter	11/23/2010 10:36:43 AM
Permit	COMMENT MADE THAT THERE WILL BE 22 WELLS DRILLED ON THIS PAD EVENTUALLY, BUT "SIZED FOR FUTURE EXXONMOBIL WELLS". ARE THOSE FUTURE WELLS INCLUDED IN THE STATED 22 WELLS? WILL CONTACT ENCANA FOR MORE SPECIFICS ON TIMING. WITHIN RSO BUT NOT THE SHW AS INDICATED.	11/22/2010 11:51:20 AM
Permit	SHL IS IN NIHILL CHANNERY LOAM # 46 REFERENCE AREA IS IN ROCK OUTCROP - TORRIORTHENTS # 62 STEEP SLOPE.	11/15/2010 7:26:57 AM

Total: 5 comment(s)

**BMP**

<b><u>Type</u></b>	<b><u>Comment</u></b>

Total: 0 comment(s)