

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:

400394003

Date Received:

03/21/2013

Oil and Gas Location Assessment

☐ New Location

☒ Amend Existing Location Location#: 149011

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:

149011

Expiration Date:

07/14/2016

☐ 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: Heather Mitchell

Phone: (720) 876-3070

Fax: (720) 876-4070

email: heather.mitchell@encana.com

4. Location Identification:

Name: Hunter Mesa Water Facility

Number: 1

County: GARFIELD

QuarterQuarter: NESE Section: 1 Township: 7S Range: 93W Meridian: 6 Ground Elevation: 6070

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: 1603 feet FSL, from North or South section line, and 900 feet FEL, from East or West section line.

Latitude: 39.472219 Longitude: -107.717734 PDOP Reading: 3.2 Date of Measurement: 06/10/2011

Instrument Operator's Name: Jason Hergert

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"/>	Production Pits: <input type="text"/>	Dehydrator Units: <input type="text"/>
Condensate Tanks: <input type="text" value="2"/>	Water Tanks: <input type="text" value="5"/>	Separators: <input type="text"/>	Electric Motors: <input type="text" value="22"/>	Multi-Well Pits: <input type="text" value="5"/>
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" value="6"/>	Flare: <input type="text"/>
Gas Compressors: <input type="text"/>	VOC Combustor: <input type="text"/>	Oil Tanks: <input type="text"/>	Fuel Tanks: <input type="text"/>	

Other: 3 sludge tanks

6. Construction:

Date planned to commence construction: 05/15/2013 Size of disturbed area during construction in acres: 23.50
Estimated date that interim reclamation will begin: 05/16/2030 Size of location after interim reclamation in acres: 23.50
Estimated post-construction ground elevation: 23 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: 11/19/2002
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: _____ ☐ Gas Facility Surety ID: _____ ☐ Waste Mgnt. Surety ID: 20090006

9. Cultural:

Is the location in a high density area (Rule 603.b.): Yes ☐ No ☒
Distance, in feet, to nearest building: 950, public road: 920, above ground utility: 900,
railroad: 25000, property line: 900

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: #55 Potts Loam, 3 to 6 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: _____

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: 575, water well: 2800, depth to ground water: 60
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:

The reference area is adjacent to the pad in the Northern direction. Construction drawings and facilities indicate the construction of 2 additional pits, which is the long term plan however, Encana intends to build only one additional pit at this time. Questions related to Interim reclamation are not applicable to this type of facility.

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

Signed: _____ Date: 03/21/2013 Email: heather.mitchell@encana.com

Print Name: Heather Mitchell 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: 7/15/2013

**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.

GENERAL FORM 28 PERMIT COAs:

Conditions of Approval (COAs) attached to the Revised Form 28 Permit and Form 4 Sundry will also apply to this Form 2A permit for this location.

Adequate financial assurance per Rules 704 and 908.11.g.(1)B. are required.

TEMPORARY SURFACE PIPELINE COAs:

Operator shall pressure test pipelines in accordance with Rule 1101.e.(1) prior to putting into initial service any temporary surface pipelines and following any reconfiguration of the pipeline network. Operator shall notify the COGCC Oil and Gas Location Assessment (OGLA) Specialist for Western Colorado (Dave Kubeczko; email dave.kubeczko@state.co.us), the COGCC Field Inspection Supervisor for Northwest Colorado (Shaun Kellerby; email shaun.kellerby@state.co.us), and the COGCC Field Inspector for Northwest Colorado (Chuck Browning email chuck.browning@state.co.us) 48 hours prior to testing surface poly pipeline.

Operator must implement best management practices to contain any unintentional release of fluids along all portions of the surface pipeline route where temporary pumps and other necessary equipment are located.

Operator must routinely inspect the entire length of the surface pipeline to ensure integrity. Operator shall conduct daily inspections of surface poly pipeline routes for leaks during active transfer of fluids. Inspections shall be conducted by viewing the length of the pipeline; operator will endeavor to minimize surface disturbance during pipeline monitoring. The operator shall maintain records of inspections, findings and repairs, if necessary, for the life of the pits.

Operator must ensure 110 percent secondary containment for any potential volume of fluids that may be released from the surface pipeline at all sensitive area crossings, including, but not limited to stream, intermittent stream, ditch, and drainage crossings.

Operator will utilize, to the extent practical, all existing access and other public roads, and/or existing pipeline right-of-ways, when placing/routing the surface pipelines. This will reduce surface disturbance and fragmentation of wildlife habitat in the area.

GROUNDWATER SAMPLING COA:

Baseline Water Testing: Prior to pit operations, operator shall sample at a minimum two (2) domestic water wells or springs within a one (1) mile radius of the proposed pit location. Testing preference shall be given to domestic water wells and springs over surface water. If possible, the water wells or springs selected should be on opposite sides of the oil and gas location not exceeding a one (1) mile radius. If water wells or springs on opposite sides of the oil and gas location cannot be identified, then the two (2) closest wells or springs within a one (1) mile radius of the oil and gas location shall be sampled. The following four water wells (two upgradient and three downgradient) have been identified as acceptable locations. Operator shall sample one of the upgradient wells and select one of the three downgradient wells. The initial samples shall be collected prior to pit construction. Follow up sampling shall occur yearly during pit operations and continue for three years after pit closure:

UPGRADIENT WELLS:

- 1) Permit No. 49389-MH-Greenback Produced Water Management; monitoring well; TD - 130' bgs; SWL - 90' bgs; FM - bedrock; located approximately 2067' to the S (upgradient);
- 2) Permit No. 151561-Benzyl Livestock Company; domestic well; TD ~ 120' bgs; SWL ~ 100' bgs; FM - bedrock; located approximately 3927' to the W (upgradient-crossgradient);

DOWNGRADIENT WATER WELLS:

- 3) Permit No. 64198-Shaffer, Jane; domestic/stock well; TD - 140' bgs; SWL - 120' bgs; FM - bedrock; located approximately 2657' to the E-NE (downgradient);
- 4) Permit No. 25471-Barr, Dick; stock well; TD - 41' bgs; SWL - 20' bgs; alluvium/weathered bedrock; located approximately 3728' to the E-NE (downgradient);
- 5) Permit No. 87658-McGown, Frank O & McGown, Dorothy; domestic well; TD - 70' bgs; SWL - 14' bgs; FM - alluvium/weathered bedrock; located approximately 3729' to the E-NE (downgradient);

Documented refusal to grant access by well owner or surface owner (for water well or spring sampling), or if no water wells or springs are located/identified within one mile, shall not constitute a violation of this COA.

GENERAL FORM 2A SITE COAs:

Notify the COGCC 48 hours prior to start of pit pad construction, pit liner installation, start of hydrostatic test, and start of hydraulic stimulation operations using Form 42 (the appropriate COGCC individuals will automatically be email notified, including the LGD for hydraulic stimulation operations).

Operator must implement best management practices to contain any unintentional release of fluids at the pit location, as well as any fluids conveyed via temporary surface or buried permanent pipelines.

Operator must ensure secondary containment for any volume of fluids contained at pit site during operations (as described on the BMP tab); 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 frac pad location will be stabilized, inspected at regular intervals (at least every 14 days), and maintained in good condition.

Strategically apply fugitive dust control measures, including enforcing established speed limits on private roads, to reduce fugitive dust and coating of vegetation and deposition in water sources.

Operator shall stabilize exposed soils and slopes as an interim measure during drilling and completion operations at this well pad.

Flowback and stimulation fluids from the wells/pads being completed using these pits (if applicable) must be sent to tanks, separators, or other containment/filtering equipment before the fluids can be placed into any pipeline, storage vessel, or lined pit (only if an amended Form 2A has been submitted/approved and a Form 15 Earthen Pit Permitted has been submitted/approved) located on the well pad; or into tanker trucks for offsite disposal. The flowback and stimulation fluid tanks, separators, or other containment/filtering equipment 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.

Berms or other containment devices shall be constructed to be sufficiently impervious (preferably corrugated steel with poly liner) to contain any spilled or released material around crude oil, condensate, and produced water storage tanks.

Additional containment shall be required where temporary or permanent pumps and other necessary equipment or chemicals are located.

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

Operator will implement measures to ensure that adequate separation of hydrocarbons from the influent occurs to prevent accumulation of oil on the surface of stored completions fluids. Operator shall also employ a method for monitoring buildup of phase-separated hydrocarbons on the surface of stored fluids.

No oil is permitted on the surface of completions fluids.

Pits will be operated in accordance with the operations plan submitted and any revisions with the Form 28 for Facility ID #149011.

Operator must implement all operations detailed in the operating plan, pit liner installation specifications, and all other attachments to the Form 15 and Form 28 in accordance with the 900-Series Rules.

FORM 15 EARTHEN PIT PERMIT COAs:

The multi-well pit must be double-lined. The pit will also require a leak detection system (Rule 904.e).

Delivery and vacuum truck hoses will not be allowed to be placed directly onto the pit liner. Operator will construct a loading/unloading station located next to the pit, to deliver fluids to or remove fluids from the pit by truck. The loading/unloading station shall be designed and utilized to prevent hoses from being dropped into the pits and dragged over the liner, which could lead to liner damage. The loading/unloading station will be the only permitted access for manual fluids transfers to or from the pit. Vehicles will not be allowed to approach the pit any closer than the loading/unloading station. Each station will have a catch basin in case a leak occurs while operations personnel are connecting or disconnecting hoses. Signs clearly marking the truck loading/unloading station shall be provided and maintained by the operator.

Operator must submit a professional engineer (PE) approved/stamped as-built drawing (plan view and cross-sections) of the multi-well pit within 30 calendar days of construction.

After installation of the uppermost liner and prior to operating the pit, the synthetic liner(s) shall be tested by filling the pit with at least 70 percent of operating capacity of water, measured from the base of the pit (not to exceed the 2-foot freeboard requirement). The operator shall monitor the pit for leaks for a period of 72 hours prior to either draining the pit or commencing operations. Operator shall notify the 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 the hydrotest. Hydrotest monitoring results must be maintained by the operator for the life of the pit and provided to COGCC prior to using the pit (via Form 4 Sundry to Dave Kubeczko; email dave.kubeczko@state.co.us) .

In lieu of conducting an initial hydrostatic test of the pit, the operator can monitor fluid levels in the pit continuously using a minimum of two pressure transducers located at the upgradient and downgradient ends of the pit (based on the original topographic profile). These pressure transducers should be linked to the operator's SCADA system such that they can be remotely monitored. In addition, the pit liner will be marked at the two foot freeboard depth line so that operations personnel (as well as COGCC inspectors) can easily verify that the required fluid free board is being maintained. The electronically collected water level measurement data shall be used to confirm changes in pit inflow and outflow during operations based on estimates from truck and/or pipeline delivery or removal activities. Any abnormalities that are noticed during operations will be reported to the operator's field supervisor immediately so that any necessary follow-up can be scheduled.

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 nearby downgradient hillside below the pit location must be periodically monitored for any day-lighting of fluids throughout pit operations.

The multi-well pit must be fenced and netted. The operator must maintain the fencing and netting until the pit is closed.

Surface water samples (one upgradient and one downgradient from the multi-well pit location) from the unnamed intermittent stream located approximately 1250 feet to the northwest of the location (if water is present), shall be collected prior to pit use and every 12 months (until pit closure) to evaluate potential impacts from pit operations. At a minimum, the surface water samples will be analyze for the following parameters: major cations/anions (chloride, fluoride, sulfate, sodium); total dissolved solids (TDS); and BTEX/TPH.

The operator shall submit, and receive approval of, a reuse and recycling plan per Rule 907.a.(3), prior to any offsite reuse/recycling of pit fluids.

The multi-well pit shall be closed in accordance with Rule 905. Closure of Pits, and Buried or Partially Buried Produced Water Vessels; with an approved Site Investigation and Remediation Workplan, Form 27.

Submit additional disposal facilities (wells, pits, etc.), if necessary (i.e., if original disposal option changes), for pit liquid contents to COGCC via a Form 4 Sundry prior to disposal.

The operator shall submit a Form 27 for COGCC review and approval prior to commencing pit closure activities. The operator shall also submit a Notice of Completion for COGCC review and approval within 30 days of concluding pit closure activities.

Attachment Check List

Att Doc Num	Name
21066900	CORRESPONDENCE
400394003	FORM 2A SUBMITTED
400394038	ACCESS ROAD MAP
400394039	CONST. LAYOUT DRAWINGS
400394040	HYDROLOGY MAP
400394041	LOCATION DRAWING
400394043	LOCATION PICTURES
400394045	NRCS MAP UNIT DESC
400394046	REFERENCE AREA PICTURES
400394048	SURFACE AGRMT/SURETY
400394050	SURFACE AGRMT/SURETY

Total Attach: 11 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
OGLA	Initiated OGLA Form 2A review on 06-26-13 by Dave Kubeczko; Completed OGLA Form 2A review on 07-08-13 by Dave Kubeczko; requested acknowledgement of fluid containment, spill/release BMPs, double-lined pit, fencing and netting, leak dection, as-builts, flowback to tanks, sediment control access road/pad, tank berming, hillside monitoring, dust control, secondary containment, hydrotest, loading station, pit closure, temp pipeline, pipeline testing, and baseline GW and SW sampling COAs from operator on 07-08-13; received operator concurrence of COAs on 07-10-13; passed by CPW with operator submitted BMPs acceptable; passed OGLA Form 2A and Form 15 reviews on 07-11-13 by Dave Kubeczko; fluid containment, spill/release BMPs, double-lined pit, fencing and netting, leak dection, as-builts, flowback to tanks, sediment control access road/pad, tank berming, hillside monitoring, dust control, secondary containment, hydrotest, loading station, pit closure, temp pipeline, pipeline testing, and baseline GW and SW sampling COAs.	7/8/2013 12:12:56 PM
DOW	The BMPs included in the Form 2A application adequately address wildlife concerns. Approved:Jim Komatinsky 3-22-2013	3/22/2013 2:01:09 PM
Permit	Pass completeness.	3/22/2013 1:07:04 PM

Total: 3 comment(s)

BMP

<u>Type</u>	<u>Comment</u>
Wildlife	<ul style="list-style-type: none"> • Install pipeline crossings at right angles to the drainages, wetlands, and perennial water bodies, where appropriate, economically and technically feasible. • Prohibit Encana employees and contractors from carrying projectile weapons on Encana leases. • Prohibit pets on Encana leases. • Strategically apply fugitive dust control measures, including enforcing established speed limits on Encana private roads, to reduce fugitive dust and coating of vegetation and deposition in water sources. • Use enclosed, locking garbage receptacles or implement a strict daily trash removal regime on each temporary or permanent work location. • Install trench plugs (sloped to allow wildlife or livestock to exit the trench should they enter) at known wildlife or livestock trails to allow safe crossing on long spans of open trench, where appropriate, economically and technically feasible.
Construction	(Not all are used all the time) Terminal Containment, Diversions, Run-On Protection, Tracking, Benching, Terracing, ECM (Erosion Control Mulch), ECB (Erosion Control Blanket), Check Dams, Seeding, Mulching, Water Bars, Stabilized Unpaved Surfaces (Gravel), Stormwater & Snow Storage Containment, Scheduling, Phased Construction, Temporary Flumes, Culverts with inlet & outlet protection, Rip Rap, TRM (Turf Reinforcement Mats), Maintenance, Scheduling, Phased Construction, Fueling BMP's, Waste Management BMP's, Materials Handling BMP's
Final Reclamation	Maintenance Revegetation Monitoring BMP maintenance & monitoring Weed Management
Wildlife	Pits will be covered and areas will be fenced to keep out wildlife
Storm Water/Erosion Control	Wattles, Silt Fence, Vegetation Buffers, Slash, Topsoil Windrows (diversions & ROP's), Scheduling, Phased Construction

Total: 5 comment(s)