

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:

401488307

Date Received:

03/02/2018

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

Location ID:

454808

Expiration Date:

04/18/2021

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: 26580

Name: BURLINGTON RESOURCES OIL & GAS LP

Address: 600 N DAIRY ASHFORD RD

City: HOUSTON State: TX Zip: 77079

Contact Information

Name: Jennifer Dixon

Phone: (832) 486-3345

Fax: ()

email: jennifer.a.dixon@cop.com

RECLAMATION FINANCIAL ASSURANCE

- Plugging and Abandonment Bond Surety ID: 19920030 Gas Facility Surety ID: _____
- Waste Management Surety ID: _____

LOCATION IDENTIFICATION

Name: Arkansas 4-64 3-2 Number: _____

County: ARAPAHOE

Quarter: NWSW Section: 3 Township: 4S Range: 64W Meridian: 6 Ground Elevation: 5613

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: 2064 feet FSL from North or South section line

495 feet FWL from East or West section line

Latitude: 39.730092 Longitude: -104.544072

PDOP Reading: 1.2 Date of Measurement: 10/20/2017

Instrument Operator's Name: Chad Meiers

DRILLING WASTE MANAGEMENT PROGRAM

Drilling Fluids Disposal: OFFSITE Drilling Fluids Disposal Method: Recycle/reuse

Cutting Disposal: OFFSITE Cuttings Disposal Method: Commercial Disposal

Other Disposal Description:

Beneficial reuse or land application plan submitted?

Reuse Facility ID: or Document Number:

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

SURFACE & MINERALS & RIGHT TO CONSTRUCT

Name: B&D Land Company 600 LLC Phone:

Address: 11 Cavanaugh Rd Fax:

Address: Email:

City: Bennett State: CO Zip: 80102

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

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:	882 Feet	547 Feet
Building Unit:	1265 Feet	929 Feet
High Occupancy Building Unit:	5280 Feet	5280 Feet
Designated Outside Activity Area:	5280 Feet	5280 Feet
Public Road:	1801 Feet	1521 Feet
Above Ground Utility:	520 Feet	180 Feet
Railroad:	5280 Feet	5280 Feet
Property Line:	495 Feet	155 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

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: 10/20/2017

- 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.

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.

See attached siting rationale.

The closest production equipment to the building unit are the gas sales meters (929'). The gas sales meters are owned and maintained by the gas gathering company and must remain in their secured right of way. All Burlington Resources owned equipment has been relocated 1010' from the building unit. The closest Burlington Resources owned equipment is the secondary containment for the tank battery.

With the exception of the gas sales meters, production equipment will be 1010' or more from the building unit.

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: Nunn-Bresser-Ascalon complex, 0 to 3 percent slopes
NRCS Map Unit Name: Bresser-Truckton sandy loams, 3 to 5 percent slopes
NRCS Map Unit Name: Truckton loamy sand, 5 to 20 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: 990 Feet

water well: 990 Feet

Estimated depth to ground water at Oil and Gas Location 50 Feet

Basis for depth to groundwater and sensitive area determination:

The nearest water well as established by Colorado Division of Water Resources is well number #233284 located approximately 990 feet to the West. The nearest water with associated depth to groundwater information is USGS monitoring well number #249347 located approximately 4800 feet to the east. Depth to groundwater in the permitted water well is 50 feet below ground surface, respectively.

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 609

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 Storm Water Management Plan (SWMP) will be in place to address construction, drilling and operations associated with oil and gas development through the state of Colorado in accordance with CDPHE General Permit Rules.

Spill prevention control and countermeasure plan is in place to address construction, drilling and operations associated with oil and gas development throughout the state of Colorado in accordance with CFR 112.

Tank diameters are 15.5' and will be at least 25' from any easement.

The construction disturbance area, will be completed on a historic wetland site. However, after reviewing historic images and the U.S. Fish and Wildlife National Wetlands Inventory this site qualifies as Prior Converted Cropland. This is due to agricultural activities conducted prior to December 23, 1985 with an agricultural commodity; The land was cleared, drained or otherwise manipulated to make it possible to plant a crop; The land has continued to be used for agricultural purposes; The land does not flood or pond for more than 14 days during the growing season.

Operator certifies it has complied with Rule 305.a., 305.c., and 306.e (See attached)

The closest piece of production equipment owned by Burlington Resources is the tank battery. The berm of the tank battery is 1010' from the building unit.

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

Signed: _____ Date: 03/02/2018 Email: jennifer.a.dixon@cop.com

Print Name: Jennifer Dixon Title: Regulatory Coordinator

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: 4/19/2018

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>
	Operator shall comply with 1000-Series Rules for Interim Reclamation. All areas not in use for production activities shall be reclaimed in accordance with the 1000-Series Rules within 6 months of the spud date for the approved well. In the event additional operations are to occur within 12 months of the spud date, Operator shall submit a Rig Schedule showing a scheduled timeline of additional drilling operations via Form 4 Sundry. If additional drilling operations have not commenced at 12 months, Operator shall submit a Variance Request via Form 4 Sundry for compliance with additional bonding requirements as identified in the NTO for Interim Reclamation prior to the 12 month deadline.
	Operator shall comply with all requirements as set forth in the COGCC Notice to Operators for Interim Reclamation.

Best Management Practices

<u>No</u>	<u>BMP/COA Type</u>	<u>Description</u>
1	Planning	All lease roads will be constructed as all-weather roads and will accommodate local emergency vehicle access requirements. Roads will be maintained in a reasonable condition. In addition, Arapahoe County provides site plans to the local fire department and office of emergency management and requires "Will Serve" letters from these emergency services prior to issuing local permits.

2	Planning	BROG has included 4 wells on this Location. BROGP develops multi-well pads wherever technically and economically practical to minimize disturbance.
3	Traffic control	Traffic control measures will be implemented to include posted speed limits for truck traffic during drilling and completions operations. Operator pays Arapahoe County a traffic impact fee based on the number of wells that will be drilled. In addition, Applicant provides Arapahoe County with a Traffic Impact Report and complies with any recommendations provided by Arapahoe County.
4	General Housekeeping	Combustible material will remain a minimum of twenty-five (25) feet from the wellhead, tanks and separator. Electrical equipment inside the bermed area will comply with API RP 500 area classifications and current national electrical code.
5	General Housekeeping	All surface trash, debris, scrap or discarded material connected with the operations of the property will be removed from the premises or disposed of in a legal manner.
6	General Housekeeping	Operator has attached its waste management plan for review.
7	Material Handling and Spill Prevention	Operator has attached its integrity management plan to monitor Production Facilities on a regular schedule to identify fluid leaks. Operator also performs weekly AVO (audio, visual, olfactory) inspections at each site and conducts an in-depth annual lease inspection. The annual inspection is a 126 point inspection that tests all alarms and shutdown systems, inspects electrical equipment, and provides a checklist for relief valves, pressure vessels, piping, tanks, flares, general housekeeping, safety requirements and SPCC.
8	Material Handling and Spill Prevention	Secondary containment for the tank battery will consist of self-contained skirted tank bases, sitting on top of a synthetic liner directly beneath each tank. The berm is located 1010' from the building unit. The berm will be steel and have a bentonite liner. The bermed area will be sufficient to contain one-hundred fifty percent (150%) of the largest single tank. All containment devices will be inspected during weekly AVO and annual lease inspections. Secondary containment will be maintained in good condition. No potential ignition sources will be installed inside the secondary containment area, except for fired vessels. No downgradient surface water feature is located within 500' of this location. This location is not within a UMA.
9	Material Handling and Spill Prevention	Adequate blowout prevention equipment will be used on all well servicing operations. Backup stabbing valves will be present for well servicing operations during reverse circulation. Valves will be pressure tested before each well servicing operation using both low-pressure air and high-pressure fluid.
10	Material Handling and Spill Prevention	No pits will be constructed on this location. All tankage in use will have a level indicator device.
11	Material Handling and Spill Prevention	All loadlines will be bullplugged or capped.
12	Construction	The location will be fenced and the road will be gated to restrict access by unauthorized persons.
13	Construction	No guy line anchors will remain on location after drilling operations.
14	Construction	All crude oil and condensate storage tanks installed on location will be designed, constructed, and maintained in accordance with National Fire Protection Association (NFPA) Code 30 (2008 version).
15	Noise mitigation	<p>Operator will conduct a noise survey prior to construction to ensure that maximum permissible noise levels as measured at the nearest building are not exceeded during normal operations (except for short-term allowable exceedances). If noise exceeds the exterior noise level limits appropriate noise mitigation will be installed. In addition, pursuant to the Memorandum of Understanding between Arapahoe County and Applicant (the "MOU"), Operator will post 24-hour, 7 days per week contact information to deal with all noise complaints arising from Operator's oil and gas operations, and Applicant will address noise concerns from neighbors on a case-by-case basis. Noise will be monitored throughout all aspects of development and addressed.</p> <p>Location lighting will be directed downward and inward and shielded so as to avoid glare on public roads and building units within one thousand (1,000) feet.</p> <p>All noise and light mitigation will be constructed so that it can be installed and removed without disturbing the site or landscaping.</p>
16	Odor mitigation	Operator will use closed top pits to contain all oil based mud and the tank farm will be placed approximately 1100' from the building unit.

17	Drilling/Completion Operations	Closed Loop Drilling System will be used during drilling operations. Fresh water storage will be in an MVTL outside of the 1000' buffer zone, managed and operated by a third party.
18	Drilling/Completion Operations	Green Completions will be used on this location. Temporary equipment such as flow lines, separators, and sand traps needed to support green completions will be installed and sized based on expected well productivity as calculated by the highest gas productivity from wells within a 1-mile radius. Flowback combustors will be sized to handle 1.5 times the largest flowback volume of gas experienced in a 10-mile radius. Valves and porting will be installed to divert gas to temporary equipment if needed. Auxiliary fuel will be available to sustain combustion of the gas mixture when the mixture includes non-combustible gases. Siting of the Location was partly based on the location of the gas sales meters. The gas sales meters are located along the western perimeter of the location providing the shortest potential tie-in to gas offtake. Operator shall tie-into the gas sales meter when saleable gas quantity have been met.
19	Drilling/Completion Operations	Blowout preventer equipment will consist of a double ram with blind ram and pipe ram; annular preventer or a rotating head. At least one person on site during drilling operations will have blowout prevention training.
20	Drilling/Completion Operations	BOPE will be tested upon initial rig-up and at least once every thirty (30) days during drilling operations thereafter. Pressure testing of the casing string and each component of the blowout prevention equipment including flange connections will be performed to seventy percent (70%) of working pressure or seventy percent (70%) of the internal yield of casing, whichever is less. The pipe rams will be function tested daily.
21	Drilling/Completion Operations	Drill stems tests will not be conducted.
22	Final Reclamation	Within 90 days after a well is plugged and abandoned, the well site will be cleared of all non-essential equipment, trash, and debris.
23	Final Reclamation	Upon abandonment, the operator will identify the location of the wellbore with a permanent monument, inscribed with the well number and date of plugging.

Total: 23 comment(s)

Attachment Check List

<u>Att Doc Num</u>	<u>Name</u>
1010399	FACILITY LAYOUT DRAWING
401488307	FORM 2A SUBMITTED
401538040	FORM 2A SUBMITTED
401538041	FORM 2A REJECTED
401542821	OTHER
401542823	WASTE MANAGEMENT PLAN
401542828	RULE 306.E. WAIVER
401542834	NRCS MAP UNIT DESC
401542836	CONST. LAYOUT DRAWINGS
401542843	CONST. LAYOUT DRAWINGS
401542856	HYDROLOGY MAP
401542866	MULTI-WELL PLAN
401555274	SITING RATIONALE
401560840	RULE 305.a.(3) EVIDENCE OF COMPLIANCE
401560842	PROPOSED BMPS
401560844	LOCATION DRAWING
401560850	FORM 2A SUBMITTED
401572722	ACCESS ROAD MAP
401572723	SURFACE AGRMT/SURETY
401572728	LOCATION PICTURES

Total Attach: 20 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Permit	Final review complete.	04/11/2018
Permit	Passed permitting.	04/11/2018
OGLA	<p>Location lies within the Lost Creek Designated Groundwater Management Area and Basin. Operator checked YES and designated the Location to be in a Sensitive Area.</p> <p>Missing Multi-Well BMP and Odor BMP.</p> <ul style="list-style-type: none"> - Per Operator request, added "BROG has included 4 wells on this Location. BROGP develops multi-well pads wherever technically and economically practical to minimize disturbance." to the BMP List. - Per Operator request, added "Operator will use closed top pits to contain all oil based mud and the tank farm will be placed approximately 1100' from the building unit." to the BMP List. - Per Operator request, added "Siting of the Location was partly based on the location of the gas sales meters. The gas sales meters are located along the western perimeter of the location providing the shortest potential tie-in to gas offtake. Operator shall tie-into the gas sales meter when saleable gas quantity have been met." to the Green Completions BMP. 	03/27/2018
OGLA	Heaters, as shown on the Facility Layout Drawing, are the Separators.	03/27/2018
OGLA	<p>Missing 1 VRT, as shown on the Facility Layout Drawing, from Facilities List.</p> <ul style="list-style-type: none"> - Per Operator request, added 1 VRT to the Facilities List. <p>Missing the 5 Electric Motors, as shown on the Facilities List, from the Facilities Layout Drawing.</p> <ul style="list-style-type: none"> - Per Operator request, removed the 5 Electric Motors from the Facilities List. 	03/27/2018
Permit	<p>Passed Completeness.</p> <p>Per communication with the Operator, the following corrections were made:</p> <ul style="list-style-type: none"> - added the following attachments after submittal: corrected ACCESS ROAD MAP, SUA, LOCATION PICTURES. 	03/13/2018
OGLA	Passed Buffer Zone completeness review	03/13/2018
Permit	Referred to OGLA Supervisor for buffer zone review.	03/05/2018
OGLA	This Location lies within a Buffer Zone and has not met the minimum requirements for a Buffer Zone Form 2A. Operator has concurred with Rejection per telephone conversation - 02/06/2018	02/06/2018
OGLA	<p>Location lies within a Buffer Zone. Production Facilities should be moved to the eastern portion of the Location or the Form 2A will need to be Withdrawn.</p> <ul style="list-style-type: none"> - Operator working on moving the production facilities. <p>Location needs Interim Reclamation acreage.</p>	02/01/2018
Permit	Passed Completeness.	01/23/2018
Permit	<p>Returned to draft for:</p> <ul style="list-style-type: none"> - attachment "CONST. LAYOUT DRAWINGS" missing cross sectional drawings page - "Related Forms" tab is blank 	12/29/2017

Total: 12 comment(s)