

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:

401411667

Date Received:

09/28/2017

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:

453805

Expiration Date:

01/26/2021

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: 10515
 Name: GUNNISON ENERGY LLC
 Address: 1801 BROADWAY #1200
 City: DENVER State: CO Zip: 80202

Contact Information

Name: Heather Lang
 Phone: (303) 296-2752
 Fax: (303) 296-4555
 email: Heather.lang@oxbow.com

RECLAMATION FINANCIAL ASSURANCE

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

LOCATION IDENTIFICATION

Name: Trail Gulch Unit 1090 Number: #30
 County: GUNNISON
 Quarter: SWSE Section: 30 Township: 10S Range: 90W Meridian: 6 Ground Elevation: 8115

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: 946 feet FSL from North or South section line
1942 feet FEL from East or West section line

Latitude: 39.157036 Longitude: -107.477597

PDOP Reading: 1.2 Date of Measurement: 10/16/2017

Instrument Operator's Name: Harold Marshall

RELATED REMOTE LOCATIONS

(Enter as many Related Locations as necessary. Enter the Form 2A document # only if there is no established COGCC Location ID#)

This proposed Oil and Gas Location is:

LOCATION ID # FORM 2A DOC #

FACILITIES

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

Wells	<u>3</u>	Oil Tanks*	<u> </u>	Condensate Tanks*	<u> </u>	Water Tanks*	<u>6</u>	Buried Produced Water Vaults*	<u> </u>
Drilling Pits	<u> </u>	Production Pits*	<u> </u>	Special Purpose Pits	<u> </u>	Multi-Well Pits*	<u> </u>	Modular Large Volume Tanks	<u> </u>
Pump Jacks	<u> </u>	Separators*	<u>3</u>	Injection Pumps*	<u> </u>	Cavity Pumps*	<u> </u>	Gas Compressors*	<u> </u>
Gas or Diesel Motors*	<u> </u>	Electric Motors	<u> </u>	Electric Generators*	<u>1</u>	Fuel Tanks*	<u> </u>	LACT Unit*	<u> </u>
Dehydrator Units*	<u> </u>	Vapor Recovery Unit*	<u> </u>	VOC Combustor*	<u> </u>	Flare*	<u>1</u>	Pigging Station*	<u>1</u>

OTHER FACILITIES*

Other Facility Type

Number

Those facilities indicated by an asterisk () shall be used to determine the distance from the Production Facility to the nearest cultural feature on the Cultural Setbacks Tab.

Per Rule 303.b.(3)C, description of all oil, gas, and/or water pipelines:

A 6" steel water and 12" steel gas pipeline connecting to the Bull Mountain pipeline 100' from the well pad. Flowlines from wellheads to separators and tanks will be 4" steel buried 4' below grade.

CONSTRUCTION

Date planned to commence construction: 05/01/2018 Size of disturbed area during construction in acres: 6.55
Estimated date that interim reclamation will begin: 05/01/2020 Size of location after interim reclamation in acres: 1.43
Estimated post-construction ground elevation: 8109

DRILLING PROGRAM

Will a closed loop system be used for drilling fluids: Yes

Is H₂S anticipated? No

Will salt sections be encountered during drilling: No

Will salt based mud (>15,000 ppm Cl) be used? Yes

Will oil based drilling fluids be used? No

DRILLING WASTE MANAGEMENT PROGRAM

Drilling Fluids Disposal: OFFSITE Drilling Fluids Disposal Method: UIC Disposal

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: BLM

Phone: 3032393600

Address: 2850 Youngfield Street

Fax: _____

Address: _____

Email: _____

City: Denver State: CO Zip: 80215

Surface Owner: Fee State Federal Indian

Check all that apply. The Surface Owner: is the mineral owner
 is committed to an oil and Gas Lease
 has signed the Oil and Gas Lease
 is the applicant

The Mineral Owner beneath this Oil and Gas Location is: Fee State Federal Indian

The Minerals beneath this Oil and Gas Location will be developed from or produced to this Oil and Gas Location: Yes

The right to construct this Oil and Gas Location is granted by: oil and gas lease

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

Date of Rule 306 surface owner consultation _____

CURRENT AND FUTURE LAND USE

Current Land Use (Check all that apply):

Crop Land: Irrigated Dry land Improved Pasture Hay Meadow CRP
Non-Crop Land: Rangeland Timber Recreational Other (describe): _____
Subdivided: Industrial Commercial Residential

Future Land Use (Check all that apply):

Crop Land: Irrigated Dry land Improved Pasture Hay Meadow CRP
Non-Crop Land: Rangeland Timber Recreational Other (describe): _____
Subdivided: Industrial Commercial Residential

CULTURAL DISTANCE INFORMATION

Provide the distance to the nearest cultural feature as measured from Wells or Production Facilities onsite.

	From WELL	From PRODUCTION FACILITY
Building:	3383 Feet	3400 Feet
Building Unit:	3383 Feet	3400 Feet
High Occupancy Building Unit:	5280 Feet	5280 Feet
Designated Outside Activity Area:	5280 Feet	5280 Feet
Public Road:	5280 Feet	5280 Feet
Above Ground Utility:	5280 Feet	5280 Feet
Railroad:	5280 Feet	5280 Feet
Property Line:	2355 Feet	2372 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: _____

- 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.

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: 158 - Herms-Fughes-Kolob family complex, 25%-40% slopes

NRCS Map Unit Name: 195 - Weed-Herm complex, 0%-25% slopes

NRCS Map Unit Name: _____

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: 1790 Feet

water well: 3290 Feet

Estimated depth to ground water at Oil and Gas Location 125 Feet

Basis for depth to groundwater and sensitive area determination:

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 Gunnison Energy LLC has evaluated whether the existing well pad immediately adjacent to the southwest (Gunnison Energy LLC, Federal-610S90W #30SWSE OGCC Location ID #324464) could be expanded and used to drill the proposed horizontal Mancos wells, but this was not feasible due to the following:

- The existing (producing) well pad has been fully reclaimed and is immediately adjacent to pipeline equipment, including a meter and pig receiver (see attachment - 'Google Earth Map of OGCC Location #324464'). This well was drilled in 1981.
- The existing producing well is only 25 to 50 feet from the gas metering equipment and the edge of the reclaimed location. There's is only enough room to drive a truck around the wellhead; the existing pad area is about 75 feet by 100 feet, with the well near the middle, with no room for a drilling rig.
- The proposed well pad is intended to accommodate up to 8 deep horizontal Mancos shale gas wells, with the potential for more. At least 2.5 acres of pad land is required to enable a drilling rig large enough to drill a 17,500' TMD well, and an equal or larger amount of land is needed to support a fracture stimulation on these wells. For multiple wells on a pad, with simultaneous operations, a larger pad is required.

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

Signed: _____ Date: 09/28/2017 Email: Heather.lang@oxbow.com

Print Name: Heather Lang Title: Office Mgr & Lse 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: 1/27/2018

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.

COA Type	Description
	<p>In addition to the notifications required by COGCC listed in the Northwest Notification Policy (Notice of Intent to construct a new location, Notice of Intent to spud surface casing, and Notice of Intent to commence hydraulic fracturing operations) and Rule 316C. COGCC Form 42. FIELD OPERATIONS NOTICE (a. Notice of Intent to Conduct Hydraulic Fracturing Treatment; b. Notice of Spud; and c. Notice of Construction or Major Change); operator shall notify the COGCC 48 hours prior to pipeline pressure testing of all onsite flowlines from wellheads to separators to tanks; using the Form 42 (as described in Rule 316C.m. Notice of Completion of Form 2/2A Permit Conditions). The appropriate COGCC individuals will automatically be email notified.</p>
	<p>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, and maintained in good condition.</p> <p>Strategically apply fugitive dust control measures to reduce fugitive dust and coating of vegetation and deposition in water sources.</p> <p>Berms or other containment devices around permanent produced water storage tanks shall be constructed to be sufficiently impervious (preferably corrugated steel with poly liner or equivalent protection) to contain any spilled or released material.</p>
	<p>A closed loop system must be implemented during drilling. All cuttings generated during drilling with high chloride (salt based [$>15,000$ ppm Cl]) based mud (SBM) must be kept in tanks/containers, or placed on a lined/bermed portion of the well pad; prior to disposition. The moisture content of any SBM-generated drill cuttings in a cuttings containment area or pile shall be as low as practicable to prevent accumulation of liquids greater than de minimis amounts. All liners associated with salt based drilling mud and cuttings must be disposed of offsite per CDPHE rules and regulations.</p> <p>The moisture content of water/bentonite based mud (WBM) generated drill cuttings managed onsite shall be kept as low as practicable to prevent accumulation of liquids greater than de minimis amounts.</p> <p>Initial Flowback and stimulation fluids must be sent to enclosed tanks, separators, or other containment/filtering equipment before the fluids can be placed into any pipeline or storage vessel; or into tanker trucks for offsite disposal. Open top tanks cannot be used for initial flowback fluids containment unless they are situated downstream from a two or three phase flowback separator. The flowback and stimulation fluid tanks, separators, or other containment/filtering equipment must be placed on the well pad in an area constructed to be sufficiently impervious to contain any spilled or released material.</p>
	<p>Potential odors associated with the completions process and/or with long term production operations must be controlled/mitigated.</p>
	<p>Operator shall pressure test pipelines (flowlines from wellheads to separators to tanks; and any temporary surface lines used for hydraulic stimulation and/or flowback operations) in accordance with Rule 1101.e.(1) prior to putting into initial service any temporary surface or permanent buried pipelines and following any reconfiguration of the pipeline network, and tested annually, unless agreed to by both parties that the flowlines can be managed under an approved COGCC variance.</p>

Best Management Practices

No	BMP/COA Type	Description

Attachment Check List

Att Doc Num	Name
2108380	GOOGLE EARTH MAP OF EXISTING LOCATION NO. 324464
2108381	REVISED SURVEYOR PACKAGE
2108382	WELL LOCATION PLATS
2108383	CONST. LAYOUT DRAWINGS
2108384	LOCATION DRAWING
2108385	MULTI-WELL PLAN
2108386	ACCESS ROAD MAP
2108387	TOPO MAP
2108388	PIPELINE MAP
2108389	HYDROLOGY MAP
2108390	REFERENCE AREA MAP
2108391	PROPOSED STORMWATER-EROSION CONTROL BMPs
2108392	INTERIM RECLAMATION PLAN
2108393	CORRESPONDENCE
401411667	FORM 2A SUBMITTED
401416118	LOCATION PICTURES
401416124	REFERENCE AREA PICTURES
401416144	NRCS MAP UNIT DESC

Total Attach: 18 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Permit	All corrections have been made to this form and the associated form 2. Final review complete.	01/18/2018
Permit	Operator reports that buildings were/are part of a compressor station that has been removed since the aerial photo on our maps was captured. There is still a meter house at that location.	01/16/2018
Permit	Requested clarification on building that is 400+/- to the south of this pad.	01/11/2018
OGLA	01/05/18 - Initiated/Completed OGLA Form 2A review by Dave Kubeczko; placed notification, fluid containment, spill/release BMPs, dust control access road, flowback to tanks, odor control, cuttings low moisture/management, and pipeline testing COAs on Form 2A and indicated to operator that COAs had been placed on Form 2A for their review and comment; no comment received from operator; 01/05/18 - revised the following: Footage at surface from 4358 feet FWL to 1942 feet FEL and from 998 feet FSL to 946 feet FSL based on COGCC's review of the Well Location Plat attachments to this Form 2 #401416174 (made same revision to the Form 2A #401411667); Original (ungraded) ground elevation from 8122' to 8115' and Estimated post-construction ground elevation from 8121' to 8109' based on operator's revised Construction Layout Drawings; Size of disturbed area during construction in acres: from 6.00 to 6.55; and Size of location after interim reclamation in acres: from 4.00 to 1.43; based on survey data on the Construction Layout Drawings attachment (Interim Reclamation Plan, Figure #5); and revised the Distance to nearest downgradient surface water feature from 2000' to 1790' based on COGCC's review of our Online GIS Map, Topo layer (intermittent stream to the east-southeast); 01/05/18 - passed OGLA Form 2A review by Dave Kubeczko; notification, fluid containment, spill/release BMPs, dust control access road, flowback to tanks, odor control, cuttings low moisture/management, and pipeline testing COAs; 01/08/18 - added the operator's explanation why Gunnison Energy needs to build a new well pad location immediately adjacent to an existing (producing) well pad location (OGCC ID #324464, Gunnison Energy LLC, Federal-610S90w #30SWSE) - to the 'Operator Comments and Submittal' section of the Form 2A.	01/08/2018
Permit	Removed plugging bond with operator concurrence. Preliminary review complete.	12/19/2017
Permit	Passed Completeness.	12/06/2017
Permit	Returned to draft for: - since the number of wells listed on the "Facilities" tab is greater than 1, there needs to be a "MULTI-WELL PLAN" attachment	10/05/2017

Total: 7 comment(s)