

FORM  
2A

Rev  
06/19

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:

401928845

Date Received:

03/20/2019

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:

**466172**

Expiration Date:

**07/19/2022**

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: 8960

Name: BONANZA CREEK ENERGY OPERATING COMPANY LLC

Address: 410 17TH STREET SUITE #1400

City: DENVER    State: CO    Zip: 80202

Contact Information

Name: Kate Miller

Phone: (720) 440-6133

Fax: ( )

email: regulatory@bonanzacr.com

FINANCIAL ASSURANCE

- Plugging and Abandonment Bond Surety ID (Rule 706): 20120018     Gas Facility Surety ID (Rule 711): \_\_\_\_\_
- Waste Management Surety ID (Rule 704): \_\_\_\_\_

LOCATION IDENTIFICATION

Name: State Antelope    Number: 43-13 Pad

County: WELD

Quarter: SENE    Section: 13    Township: 5N    Range: 62W    Meridian: 6    Ground Elevation: 4575

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: 2587 feet FNL from North or South section line

510 feet FEL from East or West section line

Latitude: 40.401336    Longitude: -104.263672

PDOP Reading: 1.4    Date of Measurement: 09/14/2018

Instrument Operator's Name: Jared Christopher, M.M.

LOCAL GOVERNMENT INFORMATION

County: WELD    Municipality: N/A

Per § 34-60-106 (1)(f)(I)(A), the following questions pertain to the "local government with jurisdiction to approve the siting of the proposed oil and gas location."

The local government with jurisdiction is: County \_\_\_\_\_

Does the local government with jurisdiction regulate the siting of Oil and Gas Locations, with respect to this COGCC application? If the local government has waived its right to precede the COGCC in siting determination, indicate by selecting "NO" here and selecting "Waived" below.  Yes  No

If yes, in checking this box, I hereby certify that an application has been filed with the local government with jurisdiction to approve the siting of the proposed oil and gas location.

The local government siting permit type is: \_\_\_\_\_

The local government siting permit was filed on: \_\_\_\_\_

The disposition of the application filed with the local government is: Waived

Additional explanation of local process:

WOGLA submitted 5/30/2019

**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:** Well Site is served by Production Facilities      **LOCATION ID #** \_\_\_\_\_      **FORM 2A DOC #** 401883718

**FACILITIES**

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

Wells	<u>7</u>	Oil Tanks*	_____	Condensate Tanks*	<u>1</u>	Water Tanks*	_____	Buried Produced Water Vaults*	_____
Drilling Pits	_____	Production Pits*	_____	Special Purpose Pits	_____	Multi-Well Pits*	_____	Modular Large Volume Tanks	_____
Pump Jacks	<u>7</u>	Separators*	<u>11</u>	Injection Pumps*	_____	Cavity Pumps*	_____	Gas Compressors*	_____
Gas or Diesel Motors*	<u>11</u>	Electric Motors	<u>11</u>	Electric Generators*	<u>2</u>	Fuel Tanks*	_____	LACT Unit*	_____
Dehydrator Units*	_____	Vapor Recovery Unit*	_____	VOC Combustor*	_____	Flare*	_____	Pigging Station*	<u>4</u>

**OTHER FACILITIES\***

<u>Other Facility Type</u>	<u>Number</u>
Fuel Gas Heater	<u>1</u>
Gas Lift Meter Building	<u>2</u>

\*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:

One (1) 8" coated steel gas sales line connection  
 One (1) 6" composite plastic oil gathering line connection  
 One (1) 4" composite plastic water gathering line connection  
 One (1) 4" coated steel gas lift line connection  
 Seven (7) 3" coated steel flowlines from wellheads to separators  
 Seven (7) 2" coated steel gas lift lines from gas lift skids to wellheads

## CONSTRUCTION

Date planned to commence construction: 11/01/2019 Size of disturbed area during construction in acres: 7.58  
Estimated date that interim reclamation will begin: 05/01/2020 Size of location after interim reclamation in acres: 3.03  
Estimated post-construction ground elevation: 4573

## DRILLING PROGRAM

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

Is H<sub>2</sub>S anticipated? No

Will salt sections be encountered during drilling: No

Will salt based mud (>15,000 ppm Cl) be used? No

Will oil based drilling fluids be used? Yes

## 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? No

Reuse Facility ID: \_\_\_\_\_ or Document Number: \_\_\_\_\_

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

## SURFACE & MINERALS & RIGHT TO CONSTRUCT

Name: State Land Board

Phone: 303-886-3454

Address: 1127 N Sherman St, Suite 300

Fax: \_\_\_\_\_

Address: \_\_\_\_\_

Email: \_\_\_\_\_

City: Denver State: CO Zip: 80203

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 06/29/2004

## 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.

	<b>From WELL</b>	<b>From PRODUCTION FACILITY</b>
Building:	5280 Feet	5280 Feet
Building Unit:	5280 Feet	5280 Feet
High Occupancy Building Unit:	5280 Feet	5280 Feet
Designated Outside Activity Area:	5280 Feet	5280 Feet
Public Road:	2656 Feet	2424 Feet
Above Ground Utility:	510 Feet	200 Feet
Railroad:	5280 Feet	5280 Feet
Property Line:	510 Feet	200 Feet
School Facility::	5280 Feet	5280 Feet
School Property Line:	5280 Feet	5280 Feet
Child Care Center:	5280 Feet	5280 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, Designated Outside Activity Area, School Facility, and Child Care Center – as defined in 100 Series Rules.
- For measurement purposes only, Production Facilities should only include those items with an asterisk(\*) on the Facilities Tab.

**SCHOOL SETBACK INFORMATION**

Was Notice required under Rule 305.a.(4)?  Yes  No

**DESIGNATED SETBACK LOCATION INFORMATION**

Check all that apply. This location is within a:

- Buffer Zone
- Exception Zone
- Urban Mitigation Area

- 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.

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: \_\_\_\_\_

**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** 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 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: 70—Valent sand, 3 to 9 percent slopes

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

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: 09/14/2018

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: 906 Feet

water well: 4246 Feet

Estimated depth to ground water at Oil and Gas Location 11 Feet

Basis for depth to groundwater and sensitive area determination:

Nearest downgradient water feature is the Sanborn river to the East.

Nearest water well measured to Permit #19396-MH.

Depth to ground water estimated from near by water well Permit # 165930.

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 318A

## 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 The Qtr/Qtr for this pad is reported as SENE. The pad enters into the NESE QQ as well. See attached Multi-Well Plan.  
The SHL of the State Antelope V41-B11-13HNB was used as the Lat/Long for this pad.  
Oil based drilling fluids will be used at this location. An updated waste management plan is attached.

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

Signed: \_\_\_\_\_ Date: 03/20/2019 Email: ANoonan2@bonanzack.com

Print Name: Aubrey Noonan Title: Regulatory Analyst

Based on the information provided herein, this Oil and Gas Location Assessment complies with COGCC Rules, applicable orders, and SB 19-181 and is hereby approved.

COGCC Approved:  \_\_\_\_\_ Director of COGCC Date: 7/20/2019

**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**

COA Type	Description

## Best Management Practices

<b>No</b>	<b>BMP/COA Type</b>	<b>Description</b>
1	Material Handling and Spill Prevention	Leak Detection Plan:  Bonanza Creek utilizes SCADA information systems that have the ability to remotely monitor well production onsite and activate specific valves, which can shut-in production wells and stop a release on location.
2	Material Handling and Spill Prevention	Separation Equipment Containment - All produced fluids will be routed to separation equipment. To protect shallow groundwater, Bonanza Creek uses separators with built-in containment.
3	Material Handling and Spill Prevention	Well Pad Construction – Bonanza Creek constructs its locations with a compacted road base surface. This surface is at least 4 inches thick and compacted to prevent surface degradation from drilling and production activity and traffic. This layer of road base protects shallow groundwater by containing liquids and preventing vertical migration of a potential spill.
4	Material Handling and Spill Prevention	Drilling Activity Containment – Bonanza Creek utilizes a portable containment liner under the drilling rig during drilling activities. This protects shallow groundwater from any potential spills surrounding the rig during drilling. A liquid release would simply be vacuumed up from the liner. When drilling activity is completed, the liner is removed and transferred to the next drilling location.
5	Material Handling and Spill Prevention	The proposed Location will be producing to the Antelope Centralized Production Facility (CPF) O-1. Bonanza has designed centralized production facilities in a manner that allows for both consolidation of production facilities and minimal use of flowlines between the Locations. Bonanza Creek uses a maximum of four flowlines running from the well Location to the Centralized Production Facilities. This both optimizes the area necessary for flowlines within the Right-of-Way and reduces the potential for a release along the flowlines. In addition, Bonanza Creek installs anchoring equipment around all 90 degree joints to limit movement along the flowline joint and further reduce the potential for a release from the flowlines.
6	Drilling/Completion Operations	Green Completions (Rule 604.c.(2)C. Test separators and associated flow lines, sand traps and emission control systems shall be installed on-site to accommodate green completions techniques. When commercial quantities of salable quality gas are achieved at each well, the gas shall be immediately directed to a sales line or shut in and conserved. If a sales line is unavailable or other conditions prevent placing the gas into a sales line, Bonanza Creek shall not produce the wells without an approved variance per Rule 805.b.(3)C.

Total: 6 comment(s)

## Attachment Check List

<b>Att Doc Num</b>	<b>Name</b>
1010675	DIRECTOR OBJECTIVE CRITERIA REVIEW MEMO
401928845	FORM 2A SUBMITTED
401937431	HYDROLOGY MAP
401937432	LOCATION PICTURES
401937437	MULTI-WELL PLAN
401937442	REFERENCE AREA MAP
401937443	REFERENCE AREA PICTURES
401937446	NRCS MAP UNIT DESC
401937501	WASTE MANAGEMENT PLAN
401946102	LOCATION DRAWING
401970501	ACCESS ROAD MAP

Total Attach: 11 Files

## General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Final Review	Corrected operator comment on submit tab. Original comment indicated pad entered SESE quarter-quarter section; corrected to "pad enters into the NESE QQ" consistent with the multiwell plan referenced in comment.	07/20/2019
Permit	Final Review Completed.	07/18/2019
OGLA	COGCC staff conducted its technical review of this Form 2A Oil and Gas Location Assessment within the context of SB 19-181 and the required Objective Criteria. This Form 2A met Objective Criteria #5.c.	06/28/2019
OGLA	The Objective Criteria Review Memo (Doc# 1010675) is attached to this Form 2A. Following additional analysis arising out of the Objective Criteria, the Director determined that this application meets the standard for the protection of public health, safety, welfare, the environment and wildlife resources set by SB 19-181.	06/25/2019
OGLA	Pre Operator request, added the Remote Facilities.	06/21/2019
OGLA	<p>Per Operator request, added the following BMPs:</p> <p>Separation Equipment Containment - All produced fluids will be routed to separation equipment. To protect shallow groundwater, Bonanza Creek uses separators with built-in containment.</p> <p>Well Pad Construction – Bonanza Creek constructs its locations with a compacted road base surface. This surface is at least 4 inches thick and compacted to prevent surface degradation from drilling and production activity and traffic. This layer of road base protects shallow groundwater by containing liquids and preventing vertical migration of a potential spill.</p> <p>Drilling Activity Containment – Bonanza Creek utilizes a portable containment liner under the drilling rig during drilling activities. This protects shallow groundwater from any potential spills surrounding the rig during drilling. A liquid release would simply be vacuumed up from the liner. When drilling activity is completed, the liner is removed and transferred to the next drilling location.</p> <p>Leak Detection Plan: Bonanza Creek utilizes SCADA information systems that have the ability to remotely monitor well production onsite and activate specific valves, which can shut-in production wells and stop a release on location.</p> <p>The proposed Location will be producing to the Antelope O-1 Centralized Production Facility (CPF). Bonanza has designed centralized production facilities in a manner that allows for both consolidation of production facilities and minimal use of flowlines between the Locations. Bonanza Creek uses a maximum of four flowlines running from the well Location to the Centralized Production Facilities. This both optimizes the area necessary for flowlines within the Right-of-Way and reduces the potential for a release along the flowlines. In addition, Bonanza Creek installs anchoring equipment around all 90 degree joints to limit movement along the flowline joint and further reduce the potential for a release from the flowlines.</p> <p>Changed the distance to the nearest surface water body to 906 feet based on the Hydrology Map submitted by the Operator.</p>	06/21/2019
Permit	COGCC Staff has added the Local Government siting permit information and the School and Childcare Center distances provided by the operator.	06/20/2019
Permit	Permitting Review Complete.	05/23/2019
OGLA	LGD task reopened for one day on 4/19/19 to allow the LGD to enter a comment. The 20 day comment period ended on 4/14/19 however, information on the form indicated the LGD task was not waived until 4/15/19.	04/19/2019
Permit	Passed completeness.	03/25/2019

Total: 10 comment(s)