

**FORM
2A**Rev
08/19**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:

401985062

Date Received:

03/27/2019

Oil and Gas Location Assessment☐ New Location ☐ Refile ☒ Amend Existing Location Location#: 434712

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:

434712

Expiration Date:

08/15/2022☒ 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) 440-6116

Fax: ()

email: regulatory@bonanzacrk.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: 34-24 Pad

County: WELD

QuarterQuarter: SWSE Section: 24 Township: 5N Range: 62W Meridian: 6 Ground Elevation: 4531

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: 1100 feet FSL from North or South section line

2300 feet FEL from East or West section line

Latitude: 40.381820 Longitude: -104.269950

PDOP Reading: 1.2 Date of Measurement: 09/06/2018

Instrument Operator's Name: James Freshwater, G.W.

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 has been submitted 5/28/2019

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:	<u>LOCATION ID #</u>	<u>FORM 2A DOC #</u>
Well Site is served by Production Facilities	_____	440823

FACILITIES

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

Wells	8	Oil Tanks*		Condensate Tanks*		Water Tanks*		Buried Produced Water Vaults*	
Drilling Pits		Production Pits*		Special Purpose Pits		Multi-Well Pits*		Modular Large Volume Tanks	
Pump Jacks	7	Separators*	20	Injection Pumps*		Cavity Pumps*	6	Gas Compressors*	
Gas or Diesel Motors*		Electric Motors	4	Electric Generators*		Fuel Tanks*		LACT Unit*	
Dehydrator Units*		Vapor Recovery Unit*		VOC Combustor*		Flare*		Pigging Station*	3

OTHER FACILITIES*

<u>Other Facility Type</u>	<u>Number</u>
Gas Lift Line Heater	1
Transformer	1
Maintenance Tank	1
Oil & Water Pump Building	1
IA Building	1
Gas Lift Meter Building	2

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 Carbon Steel Gas gathering pipelines
Two (2) 6" composite plastic oil pipelines
One (1) 4" Coated Steel Gas Lift Pipelines
Seven (7) 2" Coated Steel Gas Lift Pipelines
Two (2) 4" composite plastic water pipelines
Seven (7) 3" Coated coated steel well flowlines

This well Location will produce to the centralized production facility. Bonanza has designed the centralized production facility in a manner that allows for both consolidation of production facilities and minimal use of pipelines between the Locations. Bonanza Creek generally utilizes four pipelines (oil, water, gas, gas lift) running from the well Location to the centralized production facility. This both optimizes the area necessary for pipelines within the Right-of-Way and reduces the potential for a release along the pipelines.

CONSTRUCTION

Date planned to commence construction: 02/01/2020 Size of disturbed area during construction in acres: 7.99
Estimated date that interim reclamation will begin: 08/01/2020 Size of location after interim reclamation in acres: 3.81
Estimated post-construction ground elevation: 4535

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? 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 of Colorado

Phone: _____

Address: 1127 Sherman Street

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 02/26/2019

If this Form 2A is associated with Drilling and Spacing Unit applications, list docket number(s): _____

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:	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:	5280 Feet	5280 Feet
Above Ground Utility:	5280 Feet	5280 Feet
Railroad:	5280 Feet	5280 Feet
Property Line:	959 Feet	726 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

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: 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: _____ .

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: 3602 Feet

water well: 2900 Feet

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

Basis for depth to groundwater and sensitive area determination:

Nearest surface water feature is the Sanburn Gulch located east of the location. The COGCC GIS list a un-named water feature approximately 568' SE of this location. This was not visible during surveying and was not accounted for as the nearest downgradient surface water feature measurement.

Nearest water well is permit 19396, located NE of proposed disturbance. Depth to groundwater based on DWR 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 SHL of the State Antelope 34-24 (05-123-38290) 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.

This Form 2A is being submitted to Amend this pad by adding (7) oil and gas wells, additional surface disturbance, as well as updating the planned equipment on location. This location was chosen for minimization of surface disturbance to reoccupy an existing pad with new well locations.

No observed surface water features are present within 1,000' of the proposed disturbance.

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

Signed: _____ Date: 03/27/2019 Email: regulatory@bonanazcrk.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: 8/16/2019

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

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Best Management Practices

No	BMP/COA Type	Description
1	Material Handling and Spill Prevention	<p>Leak Detection Plan:</p> <p>Bonanza Creek personnel will be on location daily conducting operations and maintenance activity at the well location and the related remote production facility to identify potential leaks in a timely manner. In addition, Bonanza Creek utilizes SCADA information systems that have the ability to remotely monitor well production and activate specific valves, which can shut in production wells and stop a release at the related production location.</p>
2	Material Handling and Spill Prevention	<p>Drilling Activity Containment:</p> <p>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>
3	Material Handling and Spill Prevention	<p>Separation Equipment Containment:</p> <p>All produced fluids will be routed to new separation equipment. To protect shallow groundwater, Bonanza Creek use separators with built-in containment. Following separation, the produced fluids will then be routed via flowline to an off-site central production facility with existing tank containment.</p>
4	Material Handling and Spill Prevention	<p>Bonanza Creek constructs thrust blocks around all 90 degree riser joints to limit movement along the pipeline and further reduce the potential for a release from the pipeline.</p>
5	Drilling/Completion Operations	<p>Green Completions (Rule 604.c.(2)C.</p> <p>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.</p>

Total: 5 comment(s)

Attachment Check List

Att Doc Num	Name
1010706	ACCESS ROAD MAP
1010707	OBJECTIVE CRITERIA REVIEW MEMO
401985062	FORM 2A SUBMITTED
401985126	HYDROLOGY MAP
401985129	LOCATION DRAWING
401985130	LOCATION PICTURES
401985132	MULTI-WELL PLAN
401985134	REFERENCE AREA MAP
401985138	REFERENCE AREA PICTURES
401985157	WASTE MANAGEMENT PLAN
401985161	NRCS MAP UNIT DESC

Total Attach: 11 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Permit	Surface Restoration Bond on file with SLB. Final Review Completed.	07/31/2019
OGLA	In response to the LGD comment: Per Operator, the WOGLA was submitted to Weld County on 05/28/2019, after the comment period for the Weld County LGD.	07/31/2019
OGLA-181	The Objective Criteria Review Memo (Doc# 1010707) 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.	07/30/2019
OGLA-181	OGCC 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.	07/30/2019
Permit	Emailed the State Land Board (SLB) for verification of Surface Restoration Bond.	07/22/2019
Permit	Entered the Local Government Information provided by the operator.	07/19/2019
OGLA	<p>Reference Well Surface Footage referenced the incorrect direction. Changed the surface footage to state FSL based on the COGIS Map and the previously submitted Surface Footages.</p> <p>Changed the estimated depth to groundwater to 11 feet based on the static water level reported for DWR Permit #165930. Changed the Basis Statement to reflect DWR Permit #165930, Changed Sensitive Area to YES. Checked the Additional Director Review box for Sensitive Area for Water Resources.</p> <p>Unchecked the State Box for Floodplains as the COGIS Floodplain Layer utilizes the FEMA Floodplain Maps.</p> <p>Access Road Map is missing the map. - Awaiting the Access Road Map - Received 07/30/2019</p> <p>Per Operator request, added the BMPs for the protection of groundwater resources.</p> <p>Missing Remote Location. - This Well Location will produce to the Antelope O-1 Central Production Facility.</p> <p>Per Operator, added the following to the pipeline information: This well Location will produce to the centralized production facility. Bonanza has designed the centralized production facility in a manner that allows for both consolidation of production facilities and minimal use of pipelines between the Locations. Bonanza Creek generally utilizes four pipelines (oil, water, gas, gas lift) running from the well Location to the centralized production facility. This both optimizes the area necessary for pipelines within the Right-of-Way and reduces the potential for a release along the pipelines</p>	06/28/2019

LGD	<p>This proposed oil and gas location is situated in the Agricultural Zone District of unincorporated Weld County. A Weld Oil and Gas Location Assessment (WOGLA) is required prior to constructing any improvements related to oil and gas exploration and production.</p> <p>The operator HAS notified the Weld County LGD of their intent to apply for a WOGLA, but has not submitted an application as of this comment.</p> <p>A building permit is required for the production facilities (tank battery, separators, pump jacks, compressors, generators, etc.) from the Department of Planning Services. Access points from County roads require an Access Permit from the Department of Public Works, which includes any necessary traffic control plans and Improvement Agreements. The use of County right-of-way requires a permit from the Department of Public Works.</p> <p>Jason Maxey, Weld Oil/Gas Specialist and LGD 970-400-3579</p>	04/15/2019
Permit	Passed completeness.	03/28/2019

Total: 9 comment(s)