

**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:

400535218

Date Received:

01/08/2014

**Oil and Gas Location Assessment**☐ New Location ☐ Refile ☒ Amend Existing Location Location#: 413458

Submit signed original form. 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:

**413458**

Expiration Date:

**02/26/2017**☒ 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: Keith Caplan

Phone: (720) 440-6100

Fax: (720) 279-2331

email: KCaplan@BonanzaCrk.com

**RECLAMATION FINANCIAL ASSURANCE**

☒ Plugging and Abandonment Bond Surety ID: 20120018 ☐ Gas Facility Surety ID: \_\_\_\_\_

☐ Waste Management Surety ID: \_\_\_\_\_

**LOCATION IDENTIFICATION**

Name: Antelope Number: 14-19 Pad

County: WELD

QuarterQuarter: LOT 4 Section: 19 Township: 5N Range: 62W Meridian: 6 Ground Elevation: 4609

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: 668 feet FSL from North or South section line

659 feet FWL from East or West section line

Latitude: 40.379310 Longitude: -104.372440

PDOP Reading: 2.8 Date of Measurement: 12/11/2013

Instrument Operator's Name: Wyatt Hall

## 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>10</u>	Condensate Tanks	<u>3</u>	Water Tanks	<u>3</u>	Buried Produced Water Vaults	<u>3</u>
Drilling Pits	<u>      </u>	Production Pits	<u>      </u>	Special Purpose Pits	<u>      </u>	Multi-Well Pits	<u>      </u>	Temporary Large Volume Above Ground Tanks	<u>2</u>
Pump Jacks	<u>3</u>	Separators	<u>3</u>	Injection Pumps	<u>      </u>	Cavity Pumps	<u>      </u>		
Gas or Diesel Motors	<u>3</u>	Electric Motors	<u>9</u>	Electric Generators	<u>4</u>	Fuel Tanks	<u>      </u>	Gas Compressors	<u>6</u>
Dehydrator Units	<u>1</u>	Vapor Recovery Unit	<u>4</u>	VOC Combustor	<u>4</u>	Flare	<u>1</u>	LACT Unit	<u>2</u>
								Pigging Station	<u>1</u>

## OTHER FACILITIES

Other Facility Type

Number

Vapor Recovery Towers

4

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

Seven (3) 3-phase flowlines: 3" coated steel  
One (1) gas sales line connection: 6" coated steel  
Two (2) oil gathering lines: 4" coated steel  
Two (2) produced water gather lines: 4" coated steel  
Vent/VRU lines: 4@10", 4@6", 2@12" steel

Temporary Large Volume Above Ground Tanks are steel sided with new liner.

1) 40,000 bbl - 157' dia

1) 20,000 bbl - 105' dia

Tanks will be onsite approximately 4/1/2014 – 12/31/2014.

## CONSTRUCTION

Date planned to commence construction: 02/10/2014 Size of disturbed area during construction in acres: 3.00

Estimated date that interim reclamation will begin: 08/29/2014 Size of location after interim reclamation in acres: 1.80

Estimated post-construction ground elevation: 4609

## 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? No

## DRILLING WASTE MANAGEMENT PROGRAM

Drilling Fluids Disposal: OFFSITE

Drilling Fluids Disposal Method: Recycle/reuse

Cutting Disposal: OFFSITE

Cuttings Disposal Method: Beneficial reuse

Other Disposal Description:

Beneficial reuse or land application plan submitted? Yes

Reuse Facility ID: 427606 or Document Number: \_\_\_\_\_

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

## SURFACE & MINERALS & RIGHT TO CONSTRUCT

Name: 70 Ranch, LLC

Phone: 303.773.1005

Address: 8301 E. Prentice Ave.

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

Address: Ste 100

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

City: Greenwood Village State: CO Zip: 80111

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

Distance to nearest:

Building: 500 Feet  
Building Unit: 5280 Feet  
High Occupancy Building Unit: 5280 Feet  
Designated Outside Activity Area: 5280 Feet  
Public Road: 5280 Feet  
Above Ground Utility: 423 Feet  
Railroad: 5280 Feet  
Property Line: 668 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.

## 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.

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: \_\_\_\_\_

## 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: 3-9 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: 829 Feet

water well: 1380 Feet

Estimated depth to ground water at Oil and Gas Location 64 Feet

Basis for depth to groundwater and sensitive area determination:

Closest water well with a reported static water level is Water Well Permit 36912.

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: \_\_\_\_\_

## GROUNDWATER BASELINE SAMPLING AND MONITORING AND WATER WELL SAMPLING

Water well sampling required per Rule 318A

## DESIGNATED SETBACK LOCATION EXCEPTIONS

Check all that apply:

- ☐ Rule 604.a.(1)A. Exception Zone (within 500' of Building Unit)
- ☐ 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 Evidence of SUA attached to the associated APDs.

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

Signed: \_\_\_\_\_ Date: 01/08/2014 Email: KCaplan@BonanzaCrk.com

Print Name: Keith Caplan Title: Sr. Regulatory Specialist

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: 2/27/2014

### **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.**

<b><u>COA Type</u></b>	<b><u>Description</u></b>
	Tanks will not be sited on Non-Engineered Fill. Site preparation will be conducted under the supervision of a competent person. TLVT installation will be conducted by workers trained by the construction company, contracted by the tank owner, in accordance with the design specifications.
	Access to the TLVT shall be limited to operational personnel.
	Temporary Large Volume Tanks (TLVTs) may only be utilized for the storage of freshwater. E&P wastes, including produced water, treated E&P wastes, and flowback from hydraulic fracturing operations, are not allowed.
	COGCC Rules 604.a. and 605.a.(2,3,5,6,7, and 8), as applicable to tank setbacks at the time of installation shall apply to the siting of TLVTs.
	Operator shall develop a contingency plan for any TLVT leak or catastrophic failure of the tank integrity and resulting loss of fluid. The plan should include a notification process to the COGCC and local emergency authority (municipal, county or both) for any failure and resulting loss of fluid.
	Operator shall be onsite and inspect for leaks during the initial filling of the TLVT. If leaks are observed, filling shall cease and the leaks be repaired and the integrity of the tank evaluated.
	Once in operation, the TLVT shall be inspected daily and any deficiencies repaired as soon as practicable.
	Should a failure of TLVT integrity occur, operator shall notify COGCC upon discovery, report the incident to COGCC on a Form 22-Accident Report within 10 days, and shall conduct a root cause analysis and provide it to the COGCC on a Form 4-Sundry Notice within 30 days of the failure.
	TLVTs shall be constructed and operated in accordance with a design certified and sealed by a Colorado Licensed Professional Engineer.
	TLVTs shall be operated with a minimum of 1 foot freeboard.
	Operators employing TLVTs on their Oil & Gas Locations shall develop and comply with a written standard operating procedure.
	Signs shall be posted on the TLVT to indicate contents are freshwater and that no E&P waste fluids are allowed. Location and additional signage shall conform to Rule 210.
	All TLVT liner seams shall be welded at the liner manufacturers facility; field welded liners shall not be used. Liners shall not be reused.

## Best Management Practices

<u>No</u>	<u>BMP/COA Type</u>	<u>Description</u>
1	Construction	<p>The following procedure describes BCEI standard construction practices for setting a partially buried pre-cast cement water vault and new tank battery construction.</p> <p>1) The excavation will first be lined with 4" of clay or other low permeability soil.  2) A 30 mil liner will be installed on top of the low permeability soil. The 30 mil liner will be a contiguous liner which will underlay the entire tank battery.  3) The tank battery / water vault liner will be keyed into a galvanized steel containment ring installed surrounding the tank battery.  4) Sand bedding will be installed to protect the synthetic liner prior to placing equipment in the containment area.</p>

Total: 1 comment(s)

## Attachment Check List

<u>Att Doc Num</u>	<u>Name</u>
1668144	FACILITY LAYOUT DRAWING
1668145	CORRESPONDENCE
400535218	FORM 2A SUBMITTED
400535346	WASTE MANAGEMENT PLAN
400535348	NRCS MAP UNIT DESC
400535367	ACCESS ROAD MAP
400535368	HYDROLOGY MAP
400535369	LOCATION PICTURES
400535370	LOCATION DRAWING
400535371	MULTI-WELL PLAN
400535372	REFERENCE AREA MAP
400535376	REFERENCE AREA PICTURES

Total Attach: 12 Files

## General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Permit	No LGD or public comments. Final Review--passed.	2/27/2014 3:18:28 PM
OGLA	IN PROCESS - Operator indicated they will use a closed loop system, distance to nearest water well will remain as reported, and estimated depth to groundwater changed. Operator provided a Facility Layout Drawing showing the temporary large volume tanks and their anticipated timeframe onsite. No Public Comments. OGLA task passed.	2/26/2014 1:43:36 PM
OGLA	ON HOLD - Requested clarification on why no Drilling Pit when closed loop drilling will not be used. Requested change in distance to nearest water well and estimated depth to groundwater. Requested scaled Facility Layout Drawing showing the temporary large volume tanks, COAs for their construction and operation, and their anticipated timeframe onsite. Due by 3/12/14.	2/12/2014 2:25:02 PM
Permit	Passed completeness.	1/9/2014 7:40:43 AM

Total: 4 comment(s)