

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:

401033255

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Date Received:

04/26/2016

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:

**446174**

Expiration Date:

**06/14/2019**

☐ 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: 10598

Name: SANDRIDGE EXPLORATION & PRODUCTION LLC

Address: 123 ROBERT S KERR AVE

City: OKLAHOMA CITY State: OK Zip: 73102

Contact Information

Name: Laci Bevans

Phone: (405) 429-5610

Fax: ( )

email: lbevans@sandridgeenergy.com

RECLAMATION FINANCIAL ASSURANCE

☒ Plugging and Abandonment Bond Surety ID: 20160010 ☐ Gas Facility Surety ID: \_\_\_\_\_

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

LOCATION IDENTIFICATION

Name: Bighorn 0780 Number: 17

County: JACKSON

QuarterQuarter: NENW Section: 17 Township: 7N Range: 80W Meridian: 6 Ground Elevation: 8144

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: 598 feet FNL from North or South section line

1687 feet FWL from East or West section line

Latitude: 40.583103 Longitude: -106.400892

PDOP Reading: 1.2 Date of Measurement: 04/22/2016

Instrument Operator's Name: RRM

## 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 #**

Production Facilities Location serves Well(s)

324757

400958753

439603

400654565

## FACILITIES

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

Wells	Oil Tanks*	13	Condensate Tanks*	Water Tanks*	6	Buried Produced Water Vaults*
Drilling Pits	Production Pits*		Special Purpose Pits	Multi-Well Pits*		Modular Large Volume Tanks
Pump Jacks	Separators*		Injection Pumps*	Cavity Pumps*		Gas Compressors*
Gas or Diesel Motors*	Electric Motors		Electric Generators*	Fuel Tanks*		LACT Unit*
Dehydrator Units*	Vapor Recovery Unit*		VOC Combustor*	1	Flare*	Pigging Station*

## OTHER FACILITIES\*

**Other Facility Type**

**Number**

VAPOR SCRUBBER W/BLOWCASE	1
EMERGENCY TANK	1
HORIZONTAL HEATER TREATER	2
OIL LOADOUT TRUCK LACT	2
WATER LOADOUT SKID	1
FUEL SCRIBBER SKID	1

\*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:

THIS LOCATION WILL SERVE AS A CENTRAL TANK BATTERY FOR WELLS IN THIS AREA. Buried pipelines between any wellhead and separator and from any separator and tank or other onsite production or storage equipment will be of an appropriate size and will be 2-inch to 4-inch schedule 40 steel. Any pipelines entering or exiting the tank battery location will be on an appropriate size and safety rating and will be 4-inch to 6-inch schedule 40 steel.

## CONSTRUCTION

Date planned to commence construction: 06/24/2016 Size of disturbed area during construction in acres: 8.57

Estimated date that interim reclamation will begin: 08/31/2017 Size of location after interim reclamation in acres: 8.57

Estimated post-construction ground elevation: 8148

## DRILLING PROGRAM

Will a closed loop system be used for drilling fluids: No

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: \_\_\_\_\_

Drilling Fluids Disposal Method: \_\_\_\_\_

Cutting Disposal: \_\_\_\_\_

Cuttings Disposal Method: \_\_\_\_\_

Other Disposal Description:

DUE TO THIS BEING A CENTRAL TANK BATTERY, THERE WILL BE NO DRILLING WASTE.

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: Kohlman's O.K. LP

Phone: \_\_\_\_\_

Address: 910 County Road 34

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

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

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

City: Coalmont State: CO Zip: 80430

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: No

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:	_____ Feet	668 Feet
Building Unit:	_____ Feet	2130 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

High Occupancy Building Unit:	_____	Feet	5280	Feet
Designated Outside Activity Area:	_____	Feet	5280	Feet
Public Road:	_____	Feet	1723	Feet
Above Ground Utility:	_____	Feet	60	Feet
Railroad:	_____	Feet	5280	Feet
Property Line:	_____	Feet	1247	Feet

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

- 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: Ca-Cabin sandy loam

NRCS Map Unit Name: GeD-Gelkie sandy loam

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: big sagebrush, muttongrass, pine needlegrass, sheep fescue, streambank wheatgrass, yellow rabbitbrush, prairie junegrass, buckwheat, bottlebrush squirreltail, spiny phlox, Idaho fescue, Sandberg bluegrass, sedge, western wheatgrass, nodding brome.

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: 643 Feet

water well: 3984 Feet

Estimated depth to ground water at Oil and Gas Location 40 Feet

Basis for depth to groundwater and sensitive area determination:

The location was checked as sensitive due to potential shallow depth of groundwater. Depth to groundwater was determined from Water Well Permit No. 211370.

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

## 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 This will serve as a central tank battery for wells in the area.

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

Signed: \_\_\_\_\_ Date: 04/26/2016 Email: lbevans@sandridgeenergy.com

Print Name: Laci Bevans Title: Regulatory 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:  Director of COGCC Date: 6/15/2016

## 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

In addition to the notifications required by COGCC listed in the Northwest Notification Policy (Notice of Intent to construct a new location) and Rule 316C. COGCC Form 42. FIELD OPERATIONS NOTICE (c. Notice of Construction or Major Change); operator shall notify the COGCC 48 hours prior to pipeline testing (flowlines from the separators on the two nearby well pads to the storage tanks on this central tank battery location; and/or any lines associated with truck loading operations) 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>Operator must ensure secondary containment for any volume of fluids contained at the tank battery site during truck tank loading and production 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 fluid containment/control as well as stormwater management for the control of run-on and run-off) sufficiently protective of nearby surface water. Any berm constructed at the well pad location will be stabilized, inspected at regular intervals as required by CDPHE (at least every 14 days and after precipitation events), and maintained in good condition. The design/build of any perimeter berm shall be sized, constructed, and compacted sufficiently to contain fluids during truck tank loading and production operations.</p> <p>The access road will be constructed and maintained as to not allow any sediment to migrate from the access road to nearby surface water or any drainages leading to surface water.</p> <p>Strategically apply fugitive dust control measures, including encouraging established speed limits on private roads, to reduce fugitive dust and coating of vegetation and deposition in water sources.</p> <p>Berms or other containment devices shall be constructed to be sufficiently impervious (corrugated steel with poly liner or equivalent protection) to contain any spilled or released material around permanent oil and produced water storage tanks.</p> <p>Operator will construct a loading/unloading station located near the tank battery, to deliver fluids to or remove fluids from the oil and produced water storage tanks by truck. The loading/unloading station shall be designed and utilized to prevent hoses from being dropped and dragged over the ground, which could lead to releases outside of containment. The loading/unloading station will be the only permitted access for manual fluids transfers to or from the storage tanks. Vehicles will not be allowed to approach the storage tanks any closer than the loading/unloading station. Each station will have a catch basin in case a leak occurs while operations personnel are connecting or disconnecting hoses. Signs clearly marking the truck loading/unloading station shall be provided and maintained by the operator.</p> <p>This COA applies to vehicles (oil and water trucks) used for pulling water or oil from the loadout station, not directly from the tanks, unless there is equipment problems at the loadout station, in which case, water and oil trucks could then pull directly from the individual tanks. directly from the tanks then this should only impact. Also, if operator needs to remove/repair/replace a tank, then such equipment necessary to perform the work (water truck, vacuum truck, crane truck) would be allowed as close to the tank battery area and individual tanks as necessary.</p> <p>Operator shall submit a scaled as-built drawing (plan view with distances) of the Bighorn 0780 17 tank battery location (showing oil and produced water storage tanks, onsite flowlines, offsite pipelines, and other production facilities) and the two nearby well pad locations, OGCC ID#324757-Mutual #01-17H Pad and OGCC ID#439603-Gregory #0780 1-9H Pad, (showing wellheads, onsite flowlines, offsite pipelines, pumping jacks, and onsite production facilities) within 30 calendar days of construction of the production equipment on each location.</p>
	<p>Potential odors associated with long term production operations must be controlled/mitigated.</p> <p>Operator shall follow all requirements of COGCC's current policy - NOTICE TO OPERATORS, Rule 912. VENTING OR FLARING PRODUCED NATURAL GAS – STATEWIDE, dated January 12, 2016; and to Rule 912. VENTING OR FLARING NATURAL GAS. a. thru e. in regards to venting and flaring.</p>
	<p>Operator shall pressure test pipelines 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.</p>

## Best Management Practices

<u>No</u>	<u>BMP/COA Type</u>	<u>Description</u>
1	Storm Water/Erosion Control	SandRidge Exploration & Production LLC will impletment a storm water and erosion control plan to prevent sedimentation and erosion.

Total: 1 comment(s)

## Attachment Check List

<u>Att Doc Num</u>	<u>Name</u>
2107856	OPERATOR CORRESPONDENCE
401033255	FORM 2A SUBMITTED
401035779	LOCATION PICTURES
401035780	REFERENCE AREA PICTURES
401035784	CONST. LAYOUT DRAWINGS
401035785	FACILITY LAYOUT DRAWING
401035786	HYDROLOGY MAP
401035787	LOCATION DRAWING
401035788	REFERENCE AREA MAP
401035855	SURFACE AGRMT/SURETY
401041079	NRCS MAP UNIT DESC
401041088	NRCS MAP UNIT DESC
401043167	ACCESS ROAD MAP

Total Attach: 13 Files



## General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Permit	Final review complete.	6/15/2016 7:53:36 AM
Permit	Passes permitting.	6/14/2016 12:23:34 PM
OGLA	Initiated/Completed OGLA Form 2A review on 06-10-16 by Dave Kubeczko; requested acknowledgement of notification, fluid containment, spill/release BMPs, sediment control access road, dust control, tank berming, truck loadout construction, tank berming, flaring/venting control, as-built drawing, and pipeline testing COAs from operator on 06-10-16; received concurrence of COAs from operator on 06-15-16; corrected distances from Production Facility to Building Unit from 1586' to 2130' and from Production Facility to Public Road from 1247' to 1723' and from Production Facility to Above Ground Utility Line from 1' to 60' based on COGCC's review of the Location Drawing, Facility Layout Drawing, COGCC's Online GIS Map, and per operator on 06-10-16; corrected estimated post-construction ground elevation from 8122' to 8148' based on COGCC's review of the Construction Layout Drawings, the Facility Layout Drawing, and per operator on 06-10-16; location was onsite by CPW and operator on 06-08-16; passed by CPW on 06-09-16 with no recommendation for any additional wildlife BMPs for this location; passed OGLA Form 2A review on 06-15-16 by Dave Kubeczko; notification, fluid containment, spill/release BMPs, sediment control access road, dust control, tank berming, truck loadout construction, tank berming, flaring/venting control, as-built drawing, and pipeline testing COAs.	6/10/2016 10:18:37 AM
DOW	Colorado Parks and Wildlife attended an onsite of this location with the operator on June 8, 2016. This is a central facility/tank battery that will hold production equipment and storage tanks to serve nearby well pads. The operator is addressing spill/leak related concerns through a series of containment BMPs. Given the close proximity to existing development and Highway 14, CPW did not recommend any additional wildlife BMPs for this location. CPW appreciates the operators commitment to using central facility locations to reduce truck traffic and consolidate disturbance within already disturbed areas.  By: Taylor Elm, June 9, 2016, 11:53 a.m.	6/9/2016 11:52:28 AM
Permit	Passes completeness.	5/16/2016 8:37:10 AM
Permit	Returned to draft: --need related remote locations filled in.	5/13/2016 12:07:16 PM
Permit	Relabeled Access Road Map per operator request.	5/10/2016 1:14:04 PM
Permit	Returned to draft: -- Missing NRCS map unit attachment -- Missing access road attachment -- "right to construct" cannot be N/A -- Missing pipeline description -- Missing "minerals beneath" dropdown	5/2/2016 3:15:48 PM

Total: 8 comment(s)