

FORM
2A

Rev
02/20

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:

401949727

Date Received:

03/01/2019

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 <https://cogcc.state.co.us/> for all accompanying information pertinent this Oil and Gas Location Assessment.

Location ID:

476593

Expiration Date:

05/26/2023

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: 10661

Name: BISON OIL & GAS II LLC

Address: 518 17TH STREET #1800

City: DENVER State: CO Zip: 80202

Contact Information

Name: Abigail Wenk

Phone: (720) 6446997

Fax: ()

email: awenk@bisonog.com

FINANCIAL ASSURANCE

Plugging and Abandonment Bond Surety ID (Rule 706): 20190035 Gas Facility Surety ID (Rule 711): _____

Waste Management Surety ID (Rule 704): _____

LOCATION IDENTIFICATION

Name: Grotheer 5-61 Number: 11B

County: WELD

Quarter: SESE Section: 11 Township: 5N Range: 61W Meridian: 6 Ground Elevation: 4693

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: 460 feet FSL from North or South section line

1266 feet FEL from East or West section line

Latitude: 40.409842 Longitude: -104.170528

GPS Quality Value: 1.4 Type of GPS Quality Value: PDOP Date of Measurement: 02/18/2019

Instrument Operator's Name: RYAN WILLIAMS

LOCAL GOVERNMENT INFORMATION

County: WELD Municipality: N/A

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:	2638 Feet	2860 Feet
Railroad:	5280 Feet	5280 Feet
Property Line:	460 Feet	339 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: 74: Vona loamy sand- 5 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: 02/18/2019

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: 3320 Feet

water well: 5280 Feet

Estimated depth to ground water at Oil and Gas Location 24 Feet

Basis for depth to groundwater and sensitive area determination:

Basis for depth to ground water and sensitive area determination is State of Colorado Division of Water Resources Permit #84928 (approx. 2.26 miles east).

This location is within the DJ Basin Fox Hill Protection Area.

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 Grotheer 5-61 11B-14-23-1 (Doc # 401950082) was used as the lat/long for this pad.

There are no surface water features within 1000' of this Location, a Hydrology Map is not required.

There are no building units within 1000' of this location, a Facility Layout drawing and Waste Management Plan are not required.

Reference Area Photos taken during the growing season will be submitted via Sundry Notice, Form 4 within 12 months of approval.

Operator certifies that the MLVTs will be designed and implemented consistent with the COGCC Policy on the Use of Modular Large Volume Tanks in Colorado. MLVT Design Package, certified and sealed by a licensed professional engineer, is available upon request.

MLVT Information:
Vendor - Complete Energy Services
Manufacturer - MWS Tanks
Number and Size - 2 160' diameter tank
Timeframe on location - approximately 30 days

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

Signed: _____ Date: 03/01/2019 Email: asolis@bisonog.com

Print Name: Ariana Solis 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: 5/27/2020

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.

<u>COA Type</u>	<u>Description</u>
Pre-Construction	COA: Operator shall submit Reference Area Pictures, to be taken during the 2020 growing season, via a Form 4 Sundry on or before November 1, 2020.

Best Management Practices

<u>No</u>	<u>BMP/COA Type</u>	<u>Description</u>
1	General Housekeeping	Operator will maintain appearance with garbage clean-up; a trash bin will be located on site to accumulate waste by the personnel drilling the wells. Site will have unused equipment, trash and junk removed immediately.
2	Storm Water/Erosion Control	Storm water controls will be constructed around the perimeter of the site prior to construction. Typically, Operator utilizes a ditch and berm system of storm water control at its sites. BMPs used are determined prior to construction and may vary according to the location. Storm water controls will remain in place until the pad is stabilized or reaches final reclamation.

3	Material Handling and Spill Prevention	Tank berms shall be constructed of steel walls with an engineered synthetic liner and designed to contain 100% of the capacity of the largest tank (or manifolded tanks) with the addition of rain water and additional freeboard to account for any small piping or equipment that may be in containment. Operator will place separators within secondary containment composed of steel berms with a minimum containment capacity of 100% of the single largest storage vessel inside the containment. The engineered secondary containment system will be constructed of a perimeter of walls around a flexible geotextile base. All components will then be sprayed with a polyurea liner technology or covered with an equivalent synthetic or engineered liner. This liner technology maintains impermeability and puncture resistance under exposure to UV rays, weather extremes, and chemicals commonly encountered in oil and natural gas production and provides protection of the liner seams. All berms will be visually checked weekly to ensure proper working condition.
4	Material Handling and Spill Prevention	Operator shall install a 30mil reinforced polyethylene liner, or liner of comparable material, under the drilling rig and associated equipment for use during drilling operations.
5	Material Handling and Spill Prevention	Operator shall use a Supervisory Control and Data Acquisition (SCADA) system in conjunction with tank level indicators which have the ability to automatically shut in wells during an upset condition.
6	Dust control	Practices for control of fugitive dust caused by operations may include but are not limited to treating- roads and location with water, the use of speed restrictions, regular road maintenance, and silica dust controls when handling sand used in hydraulic fracturing operations.
7	Construction	Any permanent lighting installed on location shall be directed downward to illuminate key areas within the facility, while minimizing the amount of light projected outside the facility.
8	Emissions mitigation	Green Completions -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, the operator shall not produce the wells without an approved variance per Rule 805.b. (3)C.
9	Emissions mitigation	Tanks and all visible pipelines and valves etc. are inspected daily by company lease operators or contract operators, when possible. In addition, Operator conducts formal annual spill prevention inspections, and formal site-specific audits by third-party consultants to inspect for general site conditions as well as visible inspections for the condition of tanks, pipelines, and containment structures. Company lease operators and Production staff review production records, including volumes and pressures, looking for irregularities that may indicate a problem with a tank or pipeline. If an irregularity is detected that may indicate a potential release the suspect tank and/or pipeline(s) are removed from service, isolated, and either pressure tested or visibly inspected for indications of a potential leak.
10	Emissions mitigation	AVO inspections will occur weekly, and LDAR inspections are performed quarterly, or at the required frequency of County or State regulations. All records will be kept readily available.
11	Odor mitigation	Drilling rig and completion equipment engine exhaust will be directed away from occupied buildings to assist in mitigating potential odors. Sealed tanks with pressure relief valves and emissions controls will be utilized for the production phase. Bison Oil & Gas II will use an invert-based drilling fluid with diesel or a similar fluid for the base oil. If odor complaints are received and it is determined that they are caused by the invert drilling fluid, then an odor neutralizing agent or similar product will be added to the mud system to eliminate the odor. Cuttings are removed daily, with the exception being conductor hole cuttings which remain on location to be used as dry mix for the wet cuttings.

12	Drilling/Completion Operations	<p>Operator has an MLVT Design Package, certified and sealed by a licensed professional engineer, which is on file in their office and available upon request. The site shall be prepared in accordance with the specifications of the design package prior to tank installation; including ensuring that proper compaction requirements have been met.</p> <p>The MLVT will be at least 75 feet from a wellhead, fired vessel, heater-treater, or a compressor with a rating of 200 horsepower or more. It will be placed at least 50 feet from a separator, well test unit, or other non-fired equipment. All liner seams will be welded and tested in accordance with applicable ASTM International standards. Operator or designated company representative will be present during initial filling of the MLVT and the contractor will supervise and inspect the MLVT for leaks during filling. Operator will comply with the testing and re-inspection requirements and associated written standard operating procedures (SOP) listed on the design package. Signs will be posted on the MLVT indicating that the contents are freshwater.</p>
----	--------------------------------	---

Total: 12 comment(s)

Attachment Check List

<u>Att Doc Num</u>	<u>Name</u>
1347896	LOCATION DRAWING
1347899	OBJECTIVE CRITERIA REVIEW MEMO
1347923	WASTE MANAGEMENT PLAN
1347924	LOCATION PICTURES
2168367	MULTI-WELL PLAN
401949727	FORM 2A SUBMITTED
401953370	NRCS MAP UNIT DESC
401953371	ACCESS ROAD MAP
401953373	REFERENCE AREA MAP
401961981	SURFACE AGRMT/SURETY

Total Attach: 10 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Final Review	All corrections have been made; no additional information needed. Final review complete.	05/27/2020
OGLA	OGLA review complete and task passed. The following changes were made with Operator concurrence: - attached corrected LOCATION PICTURES and the WASTE MANAGEMENT PLAN	05/27/2020
Permit	As of May 21, 2020 the South going ADPs (Sections 14 & 23) are in approved spacing order 407-1302. The North going ADPs (Sections 11 & 2) do not have an approved spacing order but a pending spacing application (Docket Number-190600376) is in process.	05/21/2020
Final Review	Final approval pending - referred to Permitting and OGLA staff for updates.	05/21/2020
OGLA	OGLA review complete and task passed. Based on the below water well permits, while there is a lack of confidence as to the accurate estimated depth to groundwater (between 24'-210'), there is confidence that this location is not in an area of shallow groundwater. State of Colorado Division of Water Resources Permit #84928 (approx. 2.26 miles east) states depth to GW is 24'bgs. State of Colorado Division of Water Resources Permit #292812 (approx. 1.69 miles southwest) states depth to GW is 210'bgs.	04/28/2020
Permit	-Passed Permit Review	04/24/2020
OGLA	The Objective Criteria Review Memo (Doc# 1347899) 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.	04/24/2020
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 #5c & #8.	04/20/2020
OGLA	The following changes were made with Operator concurrence: - corrected P&A bond ID, entered local government information, corrected construction & reclamation dates, attached corrected LOCATION DRAWING (distance to utility OK), added BMPs for remote monitoring/shut-in capabilities & stormwater management/control	04/20/2020
OGLA	The following changes were made with Operator concurrence: - corrected MULTI-WELL PLAN attached and old one removed	04/06/2020
OGLA	Contacted Operator for the following corrections: - "Consultation & Contact Info" tab: the listed P&A bond ID of "20170074" has been released. - "Location Identification" tab: please provide local government information for this location. - "Construction, Drilling & Waste" tab: the listed "Date Planned to commence construction" and "Estimated date that interim reclamation will begin" dates are now in the past. Please provide updated construction and reclamation dates. - "Cultural Setbacks" tab: the listed distance to nearest above ground utility is "2638" form a well, but the LOCATION DRAWING attachment lists the nearest overhead utility as "423 feet" south of the location. What is the correct distance from well and production facility to an above ground utility?	04/03/2020
Permit	Multi-well plan is for a different pad, requested a new one from the operator	03/11/2020
OGLA	The following changes were made with Operator concurrence: - updated all BMP's with new Bison O&G II 2020 BMP language	02/12/2020
OGLA	Changed the estimated depth to water to 24 feet based on the static water level reported for DWR Permit #84928. Changed the Basis Statement to reflect DWR Permit #84928.	05/10/2019
Permit	Past completeness.	03/08/2019
Permit	Added the SUA PDF as per operator	03/06/2019

Total: 16 comment(s)