

State of Colorado  
Oil and Gas Conservation Commission1120 Lincoln Street, Suite 801, Denver, Colorado 80203  
Phone: (303) 894-2100 Fax: (303) 894-2109

Document Number:

402026015

Date Received:

06/04/2019

## 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:

**472549**

Expiration Date:

**02/27/2023**☒ 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: Big Mountain Viper 8-59 Number: 16

County: WELD

QuarterQuarter: NWSW Section: 16 Township: 8N Range: 59W Meridian: 6 Ground Elevation: 4876

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: 2270 feet FSL from North or South section line

560 feet FWL from East or West section line

Latitude: 40.661041 Longitude: -103.989100

GPS Quality Value: 1.3 Type of GPS Quality Value: PDOP Date of Measurement: 03/15/2019

Instrument Operator's Name: CHAD MEIERS

## 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 location? If the local government does regulate the siting, but has waived its right to precede the COGCC in siting determination, indicate by selecting "YES" here and selecting "Waived" for the disposition 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: WOGLA

The local government siting permit was filed on: 08/01/2019

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

Additional explanation of local process:

WELD COUNTY HAS WAIVED THE RIGHT TO PRECEDE COGCC IN SITING.  
WOGLA 19-0187 was approved on 12/09/2019.

## 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: LOCATION ID # FORM 2A DOC #



## FACILITIES

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

Wells <u>11</u>	Oil Tanks* <u>22</u>	Condensate Tanks* <u>      </u>	Water Tanks* <u>11</u>	Buried Produced Water Vaults* <u>      </u>
Drilling Pits <u>      </u>	Production Pits* <u>      </u>	Special Purpose Pits <u>      </u>	Multi-Well Pits* <u>      </u>	Modular Large Volume Tanks <u>2</u>
Pump Jacks <u>11</u>	Separators* <u>11</u>	Injection Pumps* <u>      </u>	Cavity Pumps* <u>      </u>	Gas Compressors* <u>6</u>
Gas or Diesel Motors* <u>      </u>	Electric Motors <u>11</u>	Electric Generators* <u>2</u>	Fuel Tanks* <u>      </u>	LACT Unit* <u>2</u>
Dehydrator Units* <u>      </u>	Vapor Recovery Unit* <u>6</u>	VOC Combustor* <u>11</u>	Flare* <u>      </u>	Pigging Station* <u>      </u>

## OTHER FACILITIES\*

Other Facility Type	Number
INSTRUMENT AIR COMPRESSOR	2
VAPOR RECOVERY TOWER	11

\*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:

2" Schedule 80 line steel pipe welded from the wellhead to the separator, one line per well.  
6" Schedule 80 line steel pipe for combined Gas sales.  
2" Schedule 40 line steel pipe will be set downstream of the separator for gas, oil and water.

## CONSTRUCTION

Date planned to commence construction: 12/01/2020 Size of disturbed area during construction in acres: 11.10  
Estimated date that interim reclamation will begin: 07/01/2021 Size of location after interim reclamation in acres: 6.30  
Estimated post-construction ground elevation: 4876

## 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: Commercial Disposal

Cutting Disposal: OFFSITE Cuttings Disposal Method: Commercial Disposal

Other Disposal Description:

Beneficial reuse or land application plan submitted?

Reuse Facility ID:  or Document Number:

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

## SURFACE & MINERALS & RIGHT TO CONSTRUCT

Name: COLORADO STATE LAND BOARD Phone:

Address: 1127 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: 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 04/01/2019

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:	4519 Feet	4444 Feet
Above Ground Utility:	4509 Feet	4434 Feet
Railroad:	5280 Feet	5280 Feet
Property Line:	560 Feet	365 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: 44: Olney fine sandy loam, 0 to 6 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: 03/15/2019

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: 3740 Feet

water well: 4158 Feet

Estimated depth to ground water at Oil and Gas Location 150 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 #16117

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 zone: No

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

## 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	<p>Per Weld County Code Sec. 23-2-1020.B., a WOGLA Notice, informing the Weld County Local Government Designee of Bison Oil &amp; Gas II's intentions to submit a WOGLA, was sent to Jason Maxey 5.21.19. The WOGLA application will be submitted in tandem with this APD &amp; corresponding Form 2A.</p> <p>The SHL of the Big Mountain Viper Fed 8-59 16-17-18-6 was used as the lat/long for this pad.</p> <p>There are no surface water features within 1000' of this Location, a Hydrology Map is not required.</p> <p>There are no building units within 1000' of this location, a Facility Layout drawing and Waste Management Plan are not required.</p> <p>An Emergency Response Plan was previously submitted and approved by both the local emergency responders and Weld County's Director of Emergency Management prior to receiving the approved WOGLA. The Emergency Response Plan includes general field wide, site specific safety protocol, and a tactical response plan.</p> <p>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.</p> <p>MLVT Information:  Vendor - Complete Energy Services  Manufacturer - MWS Tanks  Number and Size - 2 160' diameter tank  Timeframe on location - approximately 30 days</p>
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I hereby certify that the statements made in this form are, to the best of my knowledge, true, correct and complete.

Signed: \_\_\_\_\_ Date: 06/04/2019 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: 2/28/2020

### **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.**

#### **COA Type**

#### **Description**

Interim Reclamation	Operator shall submit Reference Area Pictures, to be taken during the 2020 growing season, via a Form 4 Sundry on or before October 1, 2020.
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### **Best Management Practices**

<b><u>No</u></b>	<b><u>BMP/COA Type</u></b>	<b><u>Description</u></b>
1	General Housekeeping	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	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.
3	Material Handling and Spill Prevention	Tanks and all visible pipelines and valves etc. are inspected daily by company lease operators or contract operators, when possible. In addition, Bison Oil & Gas II 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.



4	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.
5	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.
6	Construction	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.
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	Noise mitigation	Bison Oil & Gas II will work with nearby homeowners to determine if sound mitigation will be needed at this location. Hay bales or pre-fabricated sound walls may be utilized during drilling and completions operations. Depending on the situation, Bison will work with tenants of surrounding residences to provide temporary relocation or compensation by another means.
9	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.
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	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. Operator acknowledges and will comply with the Colorado Oil & Gas Conservation Commission Policy on the Use of Modular Large Volume Tanks in Colorado dated June 13, 2014
13	Interim Reclamation	Operator shall be responsible for segregating the topsoil, backfilling, re-compacting, reseeding, and re-contouring the surface of any disturbed area so as not to interfere with Owner's operations and shall reclaim such area to be returned to pre-existing conditions as best as possible with control of all noxious weeds.

Total: 13 comment(s)

## Attachment Check List

<u>Att Doc Num</u>	<u>Name</u>
2479359	CORRESPONDENCE
2479369	OBJECTIVE CRITERIA REVIEW MEMO
402026015	FORM 2A SUBMITTED
402026137	ACCESS ROAD MAP
402026141	LOCATION DRAWING
402026143	LOCATION PICTURES
402026146	REFERENCE AREA MAP
402026157	NRCS MAP UNIT DESC
402052542	SURFACE AGRMT/SURETY
402052543	MULTI-WELL PLAN

Total Attach: 10 Files

## General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
OGLA	Final Review complete.	02/28/2020
OGLA	The Reference Area Pictures have been removed and a COA applied for Reference Area Pictures to be taken during the growing season. The operator provided revised and updated BMPs to better address leak detection and monitoring.	02/28/2020
OGLA	test comment for eforms	02/28/2020
Permit	Checked the surface owner is the mineral owner check box since the State of Colorado owns both the surface and minerals, received operator's concurrence to check box	02/26/2020
Final Review	Remove the Reference Area Pictures as they are not taken during the growing season and are snow covered. Remove the Policy language from the MLVT BMP listed between the first and last sentence. Provide a leak detection or remote monitoring and remote shut-in BMP. Permitting, please verify the boxes under the Surface & Minerals Tab.	02/25/2020
OGLA	The Objective Criteria Review Memo (Doc #2479369) 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.	02/20/2020
Permit	Passed Permit Review	01/31/2020
OGLA	Operator provided a berm construction BMP and indicated an Emergency Response Plan has been approved by the local jurisdiction.  No Public Comments. OGLA technical review completed and task passed.	01/30/2020
OGLA	Requested operator provide a berm construction BMP.	01/30/2020
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 #8.	01/30/2020
Permit	-Confirmed with the operator that the minerals beneath the surface are state -Emailed the State Land Board (SLB) for verification of Surface Restoration Bond. -Surface Restoration Bond on file with SLB. -COGCC Staff has added the Local Government siting permit information	01/28/2020
Permit	-Confirming with the operator that the minerals beneath the surface are state	01/22/2020
Permit	Passed completeness.	06/10/2019

Total: 13 comment(s)