

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:

401906116

Date Received:

01/23/2019

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

Location ID:

471039

Expiration Date:

01/28/2023

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: 10656

Name: MORNING GUN EXPLORATION LLC

Address: 1601 ARAPAHOE ST

City: DENVER State: CO Zip: 80202

Contact Information

Name: Justin Dunn

Phone: (303) 8471110

Fax: ()

email: jdunn@morninggun.com

FINANCIAL ASSURANCE

Plugging and Abandonment Bond Surety ID (Rule 706): 20170040

Gas Facility Surety ID (Rule 711): _____

Waste Management Surety ID (Rule 704): _____

LOCATION IDENTIFICATION

Name: Castor 7-59 Number: 10

County: WELD

Quarter: SWSE Section: 10 Township: 7N Range: 59W Meridian: 6 Ground Elevation: 4962

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: 509 feet FSL from North or South section line

2501 feet FEL from East or West section line

Latitude: 40.583600 Longitude: -103.963208

PDOP Reading: 1.3 Date of Measurement: 12/12/2018

Instrument Operator's Name: JAMES FRESHWATER

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: _____

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:

The WOGLA has not been submitted at this time.

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>12</u>	Oil Tanks*	<u>24</u>	Condensate Tanks*	_____	Water Tanks*	<u>12</u>	Buried Produced Water Vaults*	_____
Drilling Pits	_____	Production Pits*	_____	Special Purpose Pits	_____	Multi-Well Pits*	_____	Modular Large Volume Tanks	<u>2</u>
Pump Jacks	<u>12</u>	Separators*	<u>12</u>	Injection Pumps*	_____	Cavity Pumps*	_____	Gas Compressors*	<u>6</u>
Gas or Diesel Motors*	_____	Electric Motors	<u>12</u>	Electric Generators*	<u>1</u>	Fuel Tanks*	_____	LACT Unit*	<u>1</u>
Dehydrator Units*	_____	Vapor Recovery Unit*	<u>6</u>	VOC Combustor*	<u>12</u>	Flare*	_____	Pigging Station*	_____

OTHER FACILITIES*

Other Facility Type	Number
Vapor Recovery Towers	12
Instrument Air Compressors	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:

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: 08/01/2020 Size of disturbed area during construction in acres: 11.20
Estimated date that interim reclamation will begin: 09/01/2020 Size of location after interim reclamation in acres: 6.30
Estimated post-construction ground elevation: 4961

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? No

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: Castor Lands LLC

Phone:

Address: 22791 Highway 39

Fax:

Address:

Email:

City: Weldona State: CO Zip: 80653

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 08/24/2018

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

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:	3942 Feet	4059 Feet
Building Unit:	4079 Feet	4210 Feet
High Occupancy Building Unit:	5280 Feet	5280 Feet
Designated Outside Activity Area:	5280 Feet	5280 Feet
Public Road:	2876 Feet	3036 Feet
Above Ground Utility:	2923 Feet	3088 Feet
Railroad:	5280 Feet	5280 Feet
Property Line:	201 Feet	230 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: 54—Platner loam, 0 to 3 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: 12/12/2018

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: 3000 Feet

water well: 2140 Feet

Estimated depth to ground water at Oil and Gas Location 84 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 #14418

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 11/30/2018

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

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.

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.

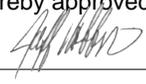
MLVT Information:
 Vendor - Complete Energy Services
 Manufacturer - MWS Tanks
 Number and Size - 2 160' diameter tank
 Timeframe on location - approximately 30 days

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

Signed: _____ Date: 01/23/2019 Email: awenk@bisonog.com

Print Name: Abigail Wenk Title: Regulatory Analyst Consul

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: 1/29/2020

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>
Final Reclamation	Operator shall submit a Form 4 Sundry with updated Reference Area Pictures to be taken during the 2020 growing season.
Planning	Operator shall post a copy of the approved Form 2A on the location during all construction, drilling, and well completion activities.
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.

Best Management Practices

<u>No</u>	<u>BMP/COA Type</u>	<u>Description</u>
1	General Housekeeping	Visual Impacts: All long term facility structures will be painted a color that enables the facilities to blend in with the natural background color of the landscape, as seen from a viewing distance and location typically used by the public. 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	Dust control	Operator shall employ practices for control of fugitive dust caused by their operations. Such practices shall include but are not limited to the use of speed restrictions, regular road maintenance, restriction of construction activity during high- wind days, and silica dust controls when handling sand used in hydraulic fracturing operations. Additional management practices such as road surfacing, wind breaks and barriers may be used.

3	Construction	Light sources during all phases of operations will be directed downwards and away from occupied structures and public roads. Permanent lighting shall be mounted at compressor stations on a pole or building and directed downward to illuminate key areas within the facility, while minimizing the amount of light projected outside the facility.
4	Emissions mitigation	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.
5	Odor mitigation	Oil & gas facilities and equipment shall be operated in such a manner that odors and dust do not constitute a nuisance or hazard to public welfare.
6	Drilling/Completion Operations	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
7	CPW-Wildlife - Minimization-PLAINS SHARP-TAILED GROUSE	The operator agrees to locate compressor stations no closer than 0.4 mile from plains sharp-tailed grouse leks
8	CPW-Wildlife - Minimization-PLAINS SHARP-TAILED GROUSE	Operator agrees to limit noise to 10 dBA above pre-development background levels at the margin of leks (0.4 mile) during the lekking and nesting seasons (March 1-June 30)
9	CPW-Wildlife - Minimization-PLAINS SHARP-TAILED GROUSE	The operator agrees to install raptor perch deterrents on equipment, fences, cross arms and pole tops in plains sharp-tailed grouse habitat
10	CPW-Wildlife - Minimization-PLAINS SHARP-TAILED GROUSE	The operator agrees to use topographical features as recommended by CPW to provide visual concealment of facilities from lek locations and as a noise suppressant
11	CPW-Wildlife - Minimization-PLAINS SHARP-TAILED GROUSE	Operator shall use a closed-loop system and to have no open pits.
12	CPW-Wildlife - Minimization-PLAINS SHARP-TAILED GROUSE	Operator will conduct a survey for Plains Sharp Tail Grouse presence and active leks in the area of the mapped SWH and RSO during the 2020 nesting season. Results of the survey shall be reported to the COGCC via a Form 4 Sundry and to the CPW prior to commencing any construction, drilling, and well completion activities in 2020. Operator shall have a third party conduct one PSTG survey in the spring of 2020.
13	CPW-Wildlife - Minimization-PLAINS SHARP-TAILED GROUSE	The operator agrees to make use of tanks and other facilities designed such that they do not provide perches or nest substrates for raptors, crows and ravens
14	CPW-Wildlife - Minimization-PLAINS SHARP-TAILED GROUSE	The operator agrees to reclaim production area habitat with a CPW-identified seed mix containing substantially higher percentage of forbs. Desirable native and non-native forbs, and legumes are a vital component of brood-rearing habitat (including dryland adapted varieties of alfalfa and yellow sweet clover
15	CPW-Wildlife - Minimization-PLAINS SHARP-TAILED GROUSE	The operator agrees to preclude the use of aggressive non-native grasses in plains Sharp-tailed Grouse habitat reclamation
16	CPW-Wildlife - Minimization-PLAINS SHARP-TAILED GROUSE	Operator shall limit new noise sources during the breeding season of the PSTG by measuring baseline and development noise levels and save the new noise sources for 9:00 a.m. to 4:00 p.m.
17	CPW-Wildlife - Minimization-PLAINS SHARP-TAILED GROUSE	The operator agrees to reclaim/restore plains sharp-tailed grouse habitats with native grasses and forbs identified by CPW that contribute to optimal plains sharp-tailed grouse habitat and other wildlife appropriate to the ecological site
18	CPW-Wildlife - Minimization-PLAINS SHARP-TAILED GROUSE	While the pad is still within the SWH, operator will aim to locate the pad and any ancillary features (e.g., access roads) as far as possible outside the SWH.

Total: 18 comment(s)

Attachment Check List

<u>Att Doc Num</u>	<u>Name</u>
2479079	PLAINS SHARP TAIL GROUSE SURVEY REPORT
2479080	CORRESPONDENCE
2479281	ACCESS ROAD MAP
2479282	ACCESS ROAD MAP
2479284	CORRESPONDENCE
2479285	OBJECTIVE CRITERIA REVIEW MEMO
2479357	LOCATION DRAWING
401906116	FORM 2A SUBMITTED
401906797	MULTI-WELL PLAN
401906800	REFERENCE AREA MAP
401906801	REFERENCE AREA PICTURES
401913238	LOCATION PICTURES
401915619	NRCS MAP UNIT DESC
401922344	SURFACE AGRMT/SURETY

Total Attach: 14 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Final Review	Pending docket #190400260 was approved at COGCC's November 2019 Hearing; spacing order 535-1260 established a 1280-acre DSU for sections 3 and 10 as proposed for wells related to this Location.	01/29/2020
OGLA	Final Review complete.	01/27/2020
Permit	Permitting Review Complete.	10/17/2019
OGLA	The Objective Criteria Review Memo (Doc #2479285) 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.	10/16/2019
OGLA	IN PROCESS - Operator provided the Local Government Information, updated dates for when construction and interim reclamation will start, provided the cultural distances to the nearest school facility, school property line, & child care center, provided a revised Location Drawing & Access Road Map, and provided missing Wildlife BMPs that were previously agreed upon by all parties during the CPW consultation process. OGLA review completed and task passed.	10/16/2019
OGLA	The Public Comment placed on this Form 2A expresses a general concern with hydraulic fracturing (fracking) across all of northern Colorado. No specific concerns related to the proposed oil and gas activities on this location were indicated. The COGCC regulates all aspects of oil and gas operations, including hydraulic fracturing, to insure that public health, safety, welfare, the environment, and wildlife resources are protected from impacts.	10/02/2019
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 #6 & 8.	10/02/2019
OGLA	Requested operator provide the Local Government Information, updated dates for when construction and interim reclamation will start, cultural distances to the nearest school facility, school property line, & child care center, a revised Location Drawing, and missing Wildlife BMPs that were previously agreed upon by all parties during the CPW consultation process. Due by 11/1/19.	10/02/2019
OGLA	Spoke with operator. They expressed concerns with difficulties in moving this location (obtaining SUAs) & their plans to drill additional wells from this pad to the south, and how moving the location would complicate that. COGCC indicated we wish to see the results of their active lek survey for PSTG before any approval of this location would happen.	03/07/2019

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>At the time of this comment, the operator has not noticed the Weld County LGD of their intent to apply for a WOGLA.</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>	02/20/2019
OGLA	ON HOLD - Following telephone conference between operator, CPW, & COGCC on 2/8/19, operator has agreed to conduct an active lek survey for plains sharp-tailed grouse (PSTG) before pursuing moving this location. Survey to be conducted in late March/early April.	02/11/2019
Permit	Passed completeness.	02/01/2019
Permit	Returned to draft - SUA does not have operators signature on signature page. Corrected by operator.	01/29/2019

Total: 13 comment(s)