

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:

401501538

Date Received:

04/26/2018

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:

456060

Expiration Date:

07/13/2021

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: 10575
 Name: 8 NORTH LLC
 Address: 370 17TH STREET SUITE 5300
 City: DENVER State: CO Zip: 80202

Contact Information

Name: Jeff Annable
 Phone: (720) 354-4590
 Fax: ()
 email: jannable@extractionog.com

RECLAMATION FINANCIAL ASSURANCE

- Plugging and Abandonment Bond Surety ID: 20150048 Gas Facility Surety ID: _____
- Waste Management Surety ID: _____

LOCATION IDENTIFICATION

Name: Gardner (Fed) Number: 23-D Pad
 County: WELD
 Quarter: NENE Section: 23 Township: 10N Range: 60W Meridian: 6 Ground Elevation: 5505

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: 734 feet FNL from North or South section line
1150 feet FEL from East or West section line

Latitude: 40.826154 Longitude: -104.053640

PDOP Reading: 1.3 Date of Measurement: 11/20/2017

Instrument Operator's Name: Dominick Davis

SURFACE & MINERALS & RIGHT TO CONSTRUCT

Name: Darrel Knuppel

Phone: _____

Address: 2318 CR 118

Fax: _____

Address: _____

Email: _____

City: Grover State: CO Zip: 80729

Surface Owner: Fee State Federal Indian

Check all that apply. The Surface Owner: is the mineral owner

is committed to an oil and Gas Lease

has signed the Oil and Gas Lease

is the applicant

The Mineral Owner beneath this Oil and Gas Location is: Fee State Federal Indian

The Minerals beneath this Oil and Gas Location will be developed from or produced to this Oil and Gas Location: Yes

The right to construct this Oil and Gas Location is granted by: Surface Use Agreement

Surface damage assurance if no agreement is in place: _____ Surface Surety ID: _____

Date of Rule 306 surface owner consultation _____

CURRENT AND FUTURE LAND USE

Current Land Use (Check all that apply):

Crop Land: Irrigated Dry land Improved Pasture Hay Meadow CRP

Non-Crop Land: Rangeland Timber Recreational Other (describe): _____

Subdivided: Industrial Commercial Residential

Future Land Use (Check all that apply):

Crop Land: Irrigated Dry land Improved Pasture Hay Meadow CRP

Non-Crop Land: Rangeland Timber Recreational Other (describe): _____

Subdivided: Industrial Commercial Residential

CULTURAL DISTANCE INFORMATION

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:	1008 Feet	584 Feet
Above Ground Utility:	1052 Feet	628 Feet
Railroad:	5280 Feet	5280 Feet
Property Line:	734 Feet	567 Feet

INSTRUCTIONS:

- All measurements shall be provided from center of nearest Well or edge of nearest Production Facility to nearest of each cultural feature as described in Rule 303.b.(3)A.
- Enter 5280 for distance greater than 1 mile.
- Building - nearest building of any type. If nearest Building is a Building Unit, enter same distance for both.
- Building Unit, High Occupancy Building Unit, and Designated Outside Activity Area - as defined in 100-Series Rules.
- 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

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: _____

- 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.

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: 4 - Ascalon fine sandy loam, 0 to 6 percent slopes

NRCS Map Unit Name: 5 - Ascalon fine sandy loam, 6 to 9 percent slopes

NRCS Map Unit Name: 40 - Nunn loam, 0 to 6 percent slopes

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: 11/23/2017

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: 285 Feet

water well: 2911 Feet

Estimated depth to ground water at Oil and Gas Location 177 Feet

Basis for depth to groundwater and sensitive area determination:

Nearest downgradient surface water feature is a intermittent stream.
Nearest water well is CDWR Permit 144967-A.

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

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

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.

Manufacturer of MLVT: Hydrologistics
Size and Volume Up to four (4) 157' diameter/ 42,000 BBLs
Anticipated time frame 60 days

Since this location is not in a buffer zone, a Waste Management Plan and Facility Layout Drawing are not included.

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

Signed: _____ Date: 04/26/2018 Email: jannable@extractionog.com

Print Name: Jeff Annable 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: 7/14/2018

Surface Owner Information

Owner Name	Address	Phone	Fax	Email
Darrel Knuppel	2318 CR 118 Grover, CO 80729			
Janice Sorensen	2318 CR 118 Grover, CO 80729			
Kathleen Kracht	2318 CR 118 Grover, CO 80729			
Margaret Geyer	2318 CR 118 Grover, CO 80729			

4 Surface Owner(s)

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>
	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.
	Unnecessary or excessive flaring is prohibited. Operator shall direct all salable quality gas to a sales line as soon as practicable or be shut in and conserved per Rule 805.b.(3)B.v. and 912.

Best Management Practices

<u>No</u>	<u>BMP/COA Type</u>	<u>Description</u>
1	General Housekeeping	804. 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	Storm Water/Erosion Control	Implement and maintain BMPs to control stormwater runoff in a manner that minimizes erosion, transport of sediment offsite, and site degradation. Co-locate flowlines and/or gathering lines whenever feasible, and mitigate any erosion problems that arise due to the construction of any pipeline(s). Location will be covered under Extraction Oil & Gas's field wide permit, permit number COR03M013.
3	Dust control	805.c. 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.
4	Construction	803. Light sources during all phases of operations will be directed downwards and away from occupied structures where possible. 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.

5	Construction	<p>Operator will have 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.</p> <p>All liner seams will be welded and tested in accordance with applicable ASTM international standards.</p> <p>Operator will be present during initial filling of the MLVT and the contractor will supervise and inspect the MLVT for leaks during filling.</p> <p>Operator will comply with the testing and re-inspection requirements and associated written standard operating procedures (SOP) listed on the design package.</p> <p>Signs will be posted on the MLVT indicating that the contents are freshwater.</p> <p>The MLVT will be operated with a minimum of 1 foot of freeboard at all times.</p> <p>Access to the MLVT will be limited to operational personnel and authorized regulatory agency personnel.</p> <p>Operator or contractor will conduct daily visual inspections of the exterior wall and surrounding area for integrity deficiencies.</p> <p>Operator will have a contingency plan/emergency response plan associated with the MLVT and it is on file at their office.</p> <p>A fabric reinforced liner will be utilized. In the event that a tank breach were to occur, the fabric reinforced liner will prevent a "zippering" failure from occurring. The liner will meet the specifications per the design package.</p> <p>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.</p>
6	Emissions mitigation	<p>805.b.(3)A. Green completion practices for this well are not feasible as this well is considered an exploratory well to appraise the productivity of the Codell formation. The nearest gas line is approximately 3 miles away in 10 North 60W Sec. 28 NWNW and would traverse the Chalk Bluffs. 8 North plans to drill one appraisal well during 4th quarter 2018 and if it is determined during the 12 month appraisal time that the well will produce in economic quantities, then 8 North will negotiate with nearby midstream operators to connect to their gas sales line. A pipeline with sufficient capacity for all future development on this pad will be connected to the location prior to additional wells being drilled.</p>
7	Odor mitigation	<p>805. Oil & gas facilities and equipment shall be operated in such a manner that odors do not constitute a nuisance or hazard to public welfare. Operator will utilize advanced oil based mud systems which target the reduction of aromatics.</p>
8	Interim Reclamation	<p>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.</p>

Total: 8 comment(s)

Attachment Check List

<u>Att Doc Num</u>	<u>Name</u>
401501538	FORM 2A SUBMITTED
401534528	NRCS MAP UNIT DESC
401534529	NRCS MAP UNIT DESC
401534532	NRCS MAP UNIT DESC
401621429	SURFACE AGRMT/SURETY
401621439	ACCESS ROAD MAP
401621441	LOCATION PICTURES
401621443	REFERENCE AREA PICTURES
401621445	HYDROLOGY MAP
401621447	LOCATION DRAWING
401621450	REFERENCE AREA MAP
401621452	MULTI-WELL PLAN

Total Attach: 12 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Permit	Final review complete.	07/09/2018
Permit	Passed permitting.	07/09/2018
OGLA	IN PROCESS - Operator provided a revised Emissions mitigation BMP. OGLA review completed and task passed.	06/13/2018
OGLA	ON HOLD - Contacted operator and left message asking to discuss the Emissions mitigation BMP.	06/07/2018
OGLA	Operator provided revised dates to commence construction and begin interim reclamation.	05/25/2018
LGD	This proposed oil and gas facility is in the Agricultural Zoned District of unincorporated Weld County. A Weld Oil and Gas Location Assessment, WOGLA18-0043 was approved on May 3, 2018. Copies of all related documentation are available from Weld County Government. 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. Troy Swain, Weld Oil/Gas Liaison and LGD (970) 400-3579.	05/14/2018
Permit	Passed Completeness.	05/02/2018

Total: 7 comment(s)