

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:

401299221

Date Received:

07/05/2017

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:

451799

Expiration Date:

08/19/2020

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: 10459
 Name: EXTRACTION OIL & GAS INC
 Address: 370 17TH STREET SUITE 5300
 City: DENVER State: CO Zip: 80202

Contact Information

Name: Alyssa Andrews
 Phone: (720) 481-2379
 Fax: ()
 email: aandrews@extractionog.com

RECLAMATION FINANCIAL ASSURANCE

- Plugging and Abandonment Bond Surety ID: 20130028 Gas Facility Surety ID: _____
- Waste Management Surety ID: _____

LOCATION IDENTIFICATION

Name: Walt Number: 17-E
 County: WELD
 Quarter: SENE Section: 17 Township: 7N Range: 67W Meridian: 6 Ground Elevation: 5105

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: 2101 feet FNL from North or South section line
353 feet FEL from East or West section line

Latitude: 40.575772 Longitude: -104.909050

PDOP Reading: 1.2 Date of Measurement: 05/17/2017

Instrument Operator's Name: C. Guffey

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: Cactus Hill Ranch

Phone:

Address: P.O. Box 691

Fax:

Address:

Email:

City: Windsor State: CO Zip: 80550

Surface Owner: Fee State Federal Indian

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

is committed to an oil and Gas Lease

has signed the Oil and Gas Lease

is the applicant

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

The Minerals beneath this Oil and Gas Location will be developed from or produced to this Oil and Gas Location: No

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

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

Date of Rule 306 surface owner consultation

CURRENT AND FUTURE LAND USE

Current Land Use (Check all that apply):

Crop Land: Irrigated Dry land Improved Pasture Hay Meadow CRP

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

Subdivided: Industrial Commercial Residential

Future Land Use (Check all that apply):

Crop Land: Irrigated Dry land Improved Pasture Hay Meadow CRP

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

Subdivided: Industrial Commercial Residential

CULTURAL DISTANCE INFORMATION

Provide the distance to the nearest cultural feature as measured from Wells or Production Facilities onsite.

| | From WELL | From PRODUCTION FACILITY |
|-----------------------------------|-----------|--------------------------|
| Building: | 1331 Feet | 1120 Feet |
| Building Unit: | 1331 Feet | 1120 Feet |
| High Occupancy Building Unit: | 5280 Feet | 5280 Feet |
| Designated Outside Activity Area: | 5280 Feet | 5280 Feet |
| Public Road: | 340 Feet | 149 Feet |
| Above Ground Utility: | 352 Feet | 172 Feet |
| Railroad: | 5280 Feet | 5280 Feet |
| Property Line: | 353 Feet | 163 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 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: 32—Kim loam, 1 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: _____

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, Chokeycherry)
- 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: 11 Feet

water well: 2333 Feet

Estimated depth to ground water at Oil and Gas Location 30 Feet

Basis for depth to groundwater and sensitive area determination:

Nearest downgradient surface water feature: Ditch 11' E
Nearest water well: Permit #43275 - 2333' SW
Depth to water well: Permit #219455 - 5100' NW

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

MLVT Information:
Manufacturer: Hydrologistics
Time: 3 months
Size/volume - 157' diameter/42,000 bbl

Only 6 of the 13 APDs will be submitted at this time. The remaining will be submitted later.

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

Signed: _____ Date: 07/05/2017 Email: aandrews@extractionog.com

Print Name: Alyssa Andrews 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: 8/20/2017

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

| | |
|--|---|
| | Operator must implement site-specific best management practices in accordance with good engineering practices, including, but not limited to, construction of a berm or diversion dike, site grading, or other comparable measures, sufficient to protect the Larimer County Canal located 179 feet southwest of the oil and gas location from a release of drilling, completion, produced fluids, and chemical products. |
|--|---|

Best Management Practices

No BMP/COA Type

Description

| | | |
|---|----------------------|--|
| 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 |
|---|----------------------|--|

| | | |
|----|--------------------------------|---|
| 2 | 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. |
| 3 | 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. Typical stormwater BMPs installed include a diversion ditch and berm with sediment traps and installation of wattles where necessary. |
| 4 | 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. |
| 5 | Construction | 803. Permanent lighting will be installed around the facility to allow both the operator and haulers to conduct safe operations at night. All lights will be directed down toward the location or shielded so no light pollution leaves the facility. |
| 6 | Odor mitigation | 805. 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. Operator is in the process of implementing a new base fluid for Oil Base Mud systems. The aromatics and BTEX concentrations are much less than that of generic diesel. With these two things being the major contributors to the odor from diesel, this should lead to less odor at the drill site caused by OBM. |
| 7 | 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. 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. |
| 8 | Drilling/Completion Operations | 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. |
| 9 | Drilling/Completion Operations | All liner seams will be welded and tested in accordance with applicable ASTM International standards. |
| 10 | Drilling/Completion Operations | Operator will be present during initial filling of the MLVT and the contractor will supervise and inspect the MLVT for leaks during filling. |
| 11 | Drilling/Completion Operations | Operator will comply with the testing and re-inspection requirements and associated written standard operating procedures (SOP) listed on the design package. |
| 12 | Drilling/Completion Operations | Signs will be posted on the MLVT indicating that the contents are freshwater. |
| 13 | Drilling/Completion Operations | The MLVT will be operated with a minimum of 1 foot of freeboard at all times. |
| 14 | Drilling/Completion Operations | Access to the MLVT will be limited to operational personnel and authorized regulatory agency personnel. |
| 15 | Drilling/Completion Operations | Operator or contractor will conduct daily visual inspections of the exterior wall and surrounding area for integrity deficiencies. |
| 16 | Drilling/Completion Operations | Operator has developed a contingency plan/emergency response plan associated with the MLVT and it is on file at their office. |
| 17 | Drilling/Completion Operations | Tanks will be filled using a local water source through temporary waterlines. No water will be trucked to location. |
| 18 | Drilling/Completion Operations | 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. |

| | | |
|----|--------------------------------|---|
| 19 | Drilling/Completion Operations | 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. |
| 20 | 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: 20 comment(s)

Attachment Check List

| <u>Att Doc Num</u> | <u>Name</u> |
|--------------------|-----------------------|
| 2478319 | CORRESPONDENCE |
| 401299221 | FORM 2A SUBMITTED |
| 401307309 | NRCS MAP UNIT DESC |
| 401331763 | SURFACE AGRMT/SURETY |
| 401348786 | ACCESS ROAD MAP |
| 401348787 | HYDROLOGY MAP |
| 401348789 | LOCATION DRAWING |
| 401348790 | MULTI-WELL PLAN |
| 401348791 | OTHER |
| 401348793 | WASTE MANAGEMENT PLAN |
| 401348801 | LOCATION PICTURES |

Total Attach: 11 Files

General Comments

| <u>User Group</u> | <u>Comment</u> | <u>Comment Date</u> |
|-------------------|--|---------------------|
| Permit | Surface Restoration Bond on file with SLB. Final Review Completed. | 08/14/2017 |
| OGLA | OGLA task passed. | 08/10/2017 |
| LGD | This proposed oil and gas facility is located in the Agricultural Zoned 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 and prior to the issuance of any building permits. The WOGLA has been noticed and applied for and is under review. A building permit is required for the production facilities (tank battery, separators, pump jacks, compressors, generators, etc.) from the Department of Planning Services. Access from State Highway 257. 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. | 08/09/2017 |
| OGLA | IN PROCESS - Operator revised the estimated depth to groundwater, indicated YES this location is in a Sensitive Area due to several nearby surface water features, & concurred to a COA protecting the nearby Larimer County Canal. OGLA review complete. Waiting on Public Comment period. | 08/02/2017 |
| Permit | Permitting Review Complete. | 08/02/2017 |
| OGLA | ON HOLD - Requested operator revise the estimated depth to groundwater, indicate YES this location is in a Sensitive Area due to several nearby surface water features, & concur to a COA protecting the nearby Larimer County Canal. Due by 9/1/17. | 08/01/2017 |
| Permit | Passed Completeness. | 07/20/2017 |
| Permit | Returned to draft at operator's request again. | 07/12/2017 |
| Permit | Returned to draft at operator's request. | 07/05/2017 |

Total: 9 comment(s)