

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:

401290161

Date Received:

05/30/2017

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:

453934

Expiration Date:

02/03/2021

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: 10359

Name: WARD PETROLEUM CORPORATION

Address: 215 WEST OAK STREET #1000

City: FORT COLLINS State: CO Zip: 80521

Contact Information

Name: Andrea Gross

Phone: (303) 942-0506

Fax: ()

email: agross@upstreampm.com

RECLAMATION FINANCIAL ASSURANCE

Plugging and Abandonment Bond Surety ID: 20100221

Gas Facility Surety ID: _____

Waste Management Surety ID: _____

LOCATION IDENTIFICATION

Name: Edmundson Number: 30

County: ADAMS

Quarter: SESE Section: 30 Township: 1S Range: 66W Meridian: 6 Ground Elevation: 5059

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: 365 feet FSL from North or South section line

389 feet FEL from East or West section line

Latitude: 39.929872 Longitude: -104.810314

PDOP Reading: 1.3 Date of Measurement: 03/28/2017

Instrument Operator's Name: Greg Weimer, J.C.

Name: Edmundson Land, LLC

Phone: 303-654-1682

Address: c/o Matt Edmundson

Fax: _____

Address: 18539 WCR 4

Email: _____

City: Brighton State: CO Zip: 80603-9414

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 03/22/2017

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:	1248 Feet	1419 Feet
Building Unit:	1248 Feet	1419 Feet
High Occupancy Building Unit:	5280 Feet	5280 Feet
Designated Outside Activity Area:	5280 Feet	5280 Feet
Public Road:	799 Feet	518 Feet
Above Ground Utility:	340 Feet	106 Feet
Railroad:	2671 Feet	2456 Feet
Property Line:	224 Feet	153 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

- 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 (onl 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: NuA-Nunn clay loam, 0 to 1 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: 94 Feet

water well: 201 Feet

Estimated depth to ground water at Oil and Gas Location 570 Feet

Basis for depth to groundwater and sensitive area determination:

The area was marked sensitive due to the promimity of the side-ditch. The closest water well, Permit #: 12474-AD, is 201 feet from the location with no depth to groundwater information. Closest water well with depth to groundwater information is Permit #: 130556. A portion of the wellpad falls within a floodplain.

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

A portion of the location falls within a floodplain. A floodplain permit will be submitted to Adams County along with fulfilling all county requests prior to the construction and drilling of this pad and associated wells.

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

Signed: _____ Date: 05/30/2017 Email: agross@upstreampm.com

Print Name: Andrea Gross Title: Permit Agent

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: 2/4/2018

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
	<p>Location lies within the Buffer Zone of the Brighton Public Water System. The Operator shall comply with the following:</p> <p>(1) Pitless drilling systems;</p> <p>(2) Flowback and stimulation fluids shall be contained within tanks that are placed on a well pad or in an area with downgradient perimeter berming;</p> <p>(3) Berms or other containment devices shall be constructed around crude oil, condensate, and produced water storage tanks as follows:</p> <p>a. Secondary containment shall be sized to contain a minimum of 150% of the volume of the largest primary containment vessel within the secondary containment area.</p> <p>b. Containment berms shall be constructed of steel rings, designed and installed to prevent leakage and resist degradation from erosion or routine operation.</p> <p>c. Secondary containment areas for tanks shall be constructed with a synthetic or engineered liner that contains all primary containment vessels and flowlines and is mechanically connected to the steel ring to prevent leakage.</p> <p>d. Tertiary containment, such as an earthen site berm, is required around the downgradient and side-gradient portions of Production Facilities, including process vessels.</p> <p>(4) Production Facilities will be installed with automated fluid level monitoring, capable of alerting the Operator if a sudden change in fluid level or upset condition occurs. Additionally, wells will be equipped with remote shut-in capability.</p> <p>(5) All loadlines shall be bullplugged or capped.</p> <p>(6) Notification to the Brighton Public Works Department prior to commencement of new surface disturbing activities at the site; and</p> <p>(7) An emergency spill response program that includes employee training, safety, and maintenance provisions and current contact information for Brighton. The emergency response plan shall specify when notifications to Brighton shall be made and must be prepared in consultation with Brighton.</p> <p>In the event of a spill or release, the Operator shall immediately implement the emergency response procedures in the above-described emergency response program.</p> <p>If a spill or release results in significant adverse impacts or threatens such impacts to a portion of the Brighton PWS, the Operator shall notify Brighton immediately following discovery of the release in addition to reporting in accordance with Rule 906.b.</p>

Best Management Practices

No	BMP/COA Type	Description
1	Planning	Multi-Well Pad: Ward is constructing this multi-well pad which is located in a manner allowing for resource development and extraction while maintaining the highest distances possible from the offsetting residential area(s).
2	Planning	Ward will hold a Neighborhood Meeting per Adams County regulations.
3	Planning	Pursuant to Rule 804, the tank battery shall be painted in uniform, non-contrasting, non-reflective color tones with the colors matched to but slightly darker than the surrounding landscape.
4	Traffic control	Ward will construct all leasehold road to accommodate local emergency vehicle access requirements and will be maintained in a reasonable condition. A Traffic Plan will be submitted if requested by Adams County.

5	General Housekeeping	Guy Line Anchors: All guy line anchors left buried for future use will be identified by a marker of bright color not less than four feet in height and not greater than one foot east of the guy line anchor.
6	General Housekeeping	Removal of Surface Trash: Ward agrees that all trash, refuse pipe, equipment, liquids, chemicals or other materials that are not necessary for the continued operations of the wells will be removed and disposed of no later than 30 days after completion. No such items will be burned or buried on location.
7	Storm Water/Erosion Control	Ward will maintain a Stormwater Management Plan with site specific measures to assess erosion control. Ward will make thorough inspections, in accordance with the requirements set forth by CDPHE Water Quality Division (WQD). The inspection schedule is as follows: While site is under construction, an inspection is required at least every 14 calendar days; Post storm event inspections must be conducted within 24 hours after the end of any precipitation or snowmelt event that causes surface erosion. Inspection records will be kept on file for a minimum of three (3) years from expiration or inactivation of permit coverage. These records will be made available to the regulatory agencies upon request
8	Material Handling and Spill Prevention	To ensure protection for the surface during fracturing treatment, the location will be specifically constructed to contain any releases or spills. Secondary containment from any chemical spills or leaks will surround any trucks that carry, mix, or add chemicals to the flow stream as well as connections that could possibly leak fluid. Should any spill or release occur, every reasonable step will be taken to quickly remediate the area disturbed. One to seven audio, visual, olfactory inspections per week will be recorded and kept in the district office and available to regulatory agencies. Records will be kept electronically indefinitely. Ward will also abide by EPA mandated SPCC rules to ensure proper fluid containment.
9	Material Handling and Spill Prevention	For any spills and releases reportable to COGCC, Ward will also notify Adams County verbally or in writing to the County's LGD, Local Planning and Development Department, Sheriff's Office, and the local fire district immediately, but no more than 24 hours after discovery of the spill or release by Ward. This includes spills/releases: 1) of any size that impacts or threatens to impacts any waters of the state, a residence or occupied structure, livestock, or public byway; 2) in which one (1) or more barrels or more of Exploration and Production Waste or produced fluids is spilled or released outside of berms or other secondary confinement; and 3) of five (5) or more barrels regardless of whether the spill/release is completely contained within berms or other secondary confinement. In addition, Ward will notify the surface owners or the surface owner's tenant of spills and releases in compliance with COGCC rules.
10	Material Handling and Spill Prevention	Control of Fire Hazards: Ward and its contractor's employ best management practices during the drilling and production of its wells and facilities. They will comply with appropriate COGCC and any county rules concerning fire and safety. Ward will ensure that any flammable material will remain no less than 25 feet from the wellhead (s), tanks and separator(s). Any electrical equipment installations inside the bermed area will comply with API RP 500 classifications and comply with the current electrical code as adopted by Colorado.
11	Material Handling and Spill Prevention	Berm Construction: A steel containment berm or structure will be erected around the oil and water storage tanks. The berm will enclose an area sufficient to contain and provide secondary containment for 150% of the largest single tank. The berm will be inspected at least every 14 calendar days while the site is under construction and within 24 hours of a precipitation event. Inspection records will be kept on file for a minimum of three (3) years from expiration or inactivation of permit coverage. These records will be made available to the regulatory agencies upon request.
12	Material Handling and Spill Prevention	Leak Detection Plan: To ensure protection for the surface during construction, drilling and completions, and production the location will be specifically constructed to contain any releases or spills. Secondary containment from any chemical spills or leaks will surround any trucks that carry, mix, or add chemicals to the flow stream as well as connections that could possibly leak fluid. Should any spill or release occur, every reasonable step will be taken to quickly remediate the area disturbed. One to seven inspections per week will be recorded and kept in the district office and available to regulatory agencies. Records will be kept electronically indefinitely.
13	Material Handling and Spill Prevention	Tank specifications: Tanks shall be constructed and maintained in accordance with the National Fire Protection Association Code 30 (2008 version). All tanks will be visually inspected once a day for issues. Recorded inspections will be conducted once a month pursuant to 40 CFR §112.

14	Dust control	Dust mitigation measures shall include but are not limited to the use of speed restrictions, regular road maintenance, restrictions of construction activities during high wind days, and silica dust controls when handling sand used in hydraulic fracturing operations. The access road will be constructed with road base aggregate material. Additional management practices such as road surfacing, wind breaks and barriers may be used.
15	Construction	Fencing: The well site will be adequately fenced to restrict access by unauthorized persons.
16	Noise mitigation	Baseline noise monitoring and testing will be conducted prior to the commencement of construction. Sound mitigation will be designed based on the results of the study to meet or exceed COGCC noise requirements. During completion activities, onsite equipment shall be positioned to take full advantage of the sound mitigation measures provided by the sound walls, well pad grading, and surrounding topography. Sound wall(s) will remain in place through the end of completions operations.
17	Odor mitigation	Ward will comply with Rule 805 and Department of Public Health and Environment, Air Quality Control Commission, Regulation No. 2 Odor Emission, 5 C.C.R. 1001-4, Regulation No. 3 (5 C.C.R. 1001-5), and Regulation No. 7 Section XVII.B.1 (a-c) and Section XII. They will utilize an Emission Control Devices to reduce odor emissions during production.
18	Odor mitigation	Ward will comply with Rule 805 and Department of Public Health and Environment, Air Quality Control Commission, Regulation No. 2 Odor Emission, 5 C.C.R. 1001-4, Regulation No. 3 (5 C.C.R. 1001-5), and Regulation No. 7 Section XVII.B.1 (a-c) and Section XII. Ward will utilize Emission Control Devices to reduce odor emissions during production.
19	Interim Reclamation	Rehabilitation of unneeded, previously disturbed areas will consist of back sloping, and contouring all cut/fill slopes. These areas will be reseeded. The portions of the cleared well site not needed for operational and safety purposes will be recontoured to the original contour if feasible, or if not feasible, to an interim contour that blends with the surrounding topography as much as possible. Sufficient level area will remain for setup of a workover rig and to park equipment. In some cases, rig anchors may need to be pulled and reset after recontouring to allow for maximum interim reclamation.
20	Final Reclamation	Identification of Plugged and Abandoned Wells: Pursuant to Rule 319.a.(5)., once the well has been plugged and abandoned, Ward will identify the location of the wellbore with a permanent monument that will detail the well name and date of plugging.
21	Final Reclamation	Well site cleared. Within 90 days subsequent to the time of plugging and abandonment of the entire site, superfluous debris and equipment shall be removed from the site.

Total: 21 comment(s)

Attachment Check List

Att Doc Num	Name
1010255	ACCESS ROAD MAP
401290161	FORM 2A SUBMITTED
401294983	CONST. LAYOUT DRAWINGS
401294985	HYDROLOGY MAP
401294994	LOCATION DRAWING
401294995	LOCATION PICTURES
401294996	MULTI-WELL PLAN
401294998	NRCS MAP UNIT DESC
401294999	FACILITY LAYOUT DRAWING
401295006	WASTE MANAGEMENT PLAN
401295008	SURFACE AGRMT/SURETY

Total Attach: 11 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Permit	Final Review Completed.	02/01/2018
Permit	Permitting Review Complete. ON HOLD: requesting corrected construction date. With operator's concurrence corrected the Construction and Interim rec date.	01/08/2018
OGLA	Access Road Map topo needs to be updated to include the latest topographic map. - Second request 07/12/2017 - Third request 08/15/2017 - Received revised and updated Access Road Map - 08/15/2017 Per Operator request, Land Use changed to Crop Land. Removed references to native plant communities under the Plant Section. Removed Reference Area Map and Reference Area Pictures.	06/23/2017
LGD	In response to the application submitted by Ward for the development of oil gas minerals at the Edmundson pad, Adams County has the following comments: 1)Residents reside in close proximity to the north of the proposed pad location. We ask that the COGCC require the operator to implement visual mitigation techniques. 2) Residents reside in close proximity to the north of the proposed pad location. We ask that the COGCC require a sound impact study and require the operator to implement mitigation based on those studies. We ask that this study include potential impacts to residents located parallel to the access road on the south side of 132nd Ave. 3)The proposed access road is parallel to a residential building which may become impacted by dust from the equipment accessing the pad location. We ask that dust mitigation be required as part of the operator's permit.	06/15/2017
Permit	Passed completeness.	06/06/2017

Total: 5 comment(s)