

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:

400995109

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Date Received:

02/29/2016

Oil and Gas Location Assessment

New Location Refile Amend Existing Location Location#: _____

Submit signed original form. 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:

446251

Expiration Date:

06/19/2019

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: PO BOX 1187
City: ENID State: OK Zip: 73702

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: Rael Number: 34-4-2HC
County: WELD
Quarter: SWSW Section: 27 Township: 1N Range: 66W Meridian: 6 Ground Elevation: 5058

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: 320 feet FSL from North or South section line
432 feet FWL from East or West section line

Latitude: 40.015840 Longitude: -104.771160

PDOP Reading: 1.1 Date of Measurement: 02/08/2016

Instrument Operator's Name: Trevor Daley

Address: 15147 County Road 4

Fax: _____

Address: _____

Email: _____

City: Brighton State: CO Zip: 80603

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 04/21/2014

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:	595 Feet	_____ Feet
Building Unit:	595 Feet	_____ Feet
High Occupancy Building Unit:	5280 Feet	_____ Feet
Designated Outside Activity Area:	5280 Feet	_____ Feet
Public Road:	306 Feet	_____ Feet
Above Ground Utility:	291 Feet	_____ Feet
Railroad:	5280 Feet	_____ Feet
Property Line:	320 Feet	_____ 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.

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: 01/30/2016

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: 70 Valent Sand; 3 to 9 percent slopes
 NRCS Map Unit Name: 73 Vona Loamy Sand; 3 to 5 percent slopes
 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: Prairie sandreed, Switchgrass, Sand bluestem, Sand sagebrush, Sideoats grama, Little bluestem, Needleandthread, Western wheatgrass, Blue grama, Sand dropseed, Yucca, Sedge, Plains prickly pear

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: 2850 Feet

water well: 421 Feet

Estimated depth to ground water at Oil and Gas Location 42 Feet

Basis for depth to groundwater and sensitive area determination:

Nearest Water Well Permit 78258 in Section 33 T1N R66W. Depth to water was determined by water well permit 16024F approx 3086 feet west.

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

DESIGNATED SETBACK LOCATION EXCEPTIONS

Check all that apply:

- Rule 604.a.(1)A. Exception Zone (within 500' of Building Unit)
- 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: This is a mutli well pad. However, only one well is being permitted at this time. Reference Area photos will be taken during the growing season and submitted at a later date.

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

Signed: _____ Date: 02/29/2016 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: 6/20/2016

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

	Gas sales line access will be re-evaluated prior to the time of subsequent APDs submittals for this location. If a gas line cannot be tied into within 90 days of the first well, all future wells will be shut in until a sales line is available.
	Once drilling and construction are complete, the Operator will submit a survey drawing via Form 4 Sundry with distances from the nearest production equipment to the nearest building unit to show production equipment is no less than the distances on the Form 2A.

Best Management Practices

No BMP/COA Type

Description

1	Planning	Development from existing well pads: In order to reduce surface disturbance, Ward is permitting this 2A for eight (8) wells.
2	Planning	Visual Mitigation: 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.

3	Planning	No permanent lighting will be onsite. During drilling and completions, lighting will be cast downward and will not impede traffic on County Road 4 and 31. Sound walls will help mitigate lighting on the street and to the nearby residents.
4	Traffic control	Traffic Plan: Weld County does not require a traffic plan. If Weld County requests, a Traffic Plan will be prepared and submitted to Weld County. Weld County requires an Access Permit. Per Weld County, a Traffic Control Plan is provided by the county. Per Weld County regulations, vehicles or construction equipment will not be parked in the travel way and should be moved to the shoulder. No traffic obstructions will be done at night. The access permit is being prepared and will be obtained prior to any construction. Ward will comply with all Weld County conditions of approval. An 8" x 30" culvert will be installed. Ward will utilize truckers with larger hauling capacity to minimize traffic impacts.
5	Traffic control	Ward will construct all leasehold road to accommodate local emergency vehicle access requirements and will be maintained in a reasonable condition.
6	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.
7	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.
8	General Housekeeping	Fencing: The wellsite will be fenced if requested by the Surface Owner.
9	Storm Water/Erosion Control	Site Specific Measures: Ward will maintain a Stormwater Management Plan with site specific measurements to assess erosion control.
10	Material Handling and Spill Prevention	<p>Leak Detection Plan: To ensure protection for the surface during fracturing treatment, the location will be specifically constructed to contain any releases or spills. A steel containment berm or structure will be used for secondary containment. They will have a capacity of 110% or greater of the largest tank plus largest annual rainfall. 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. Ward will utilize tank level indicators with an alarming system, and remote shut in capability. Tanks will alarm if the float reads above set threshold. Well can be shut in remotely or tank can be sold or moved to another tank.</p> <p>One to seven audio, visual, olfactory inspections per week will be recorded and kept in the district office and available to COGCC upon request. Ward has implemented a Leak Detection and Repair (LDAR) program in accordance with the schedule set forth in Regulation 7 Section XVII.F.4. for all facilities. Records will be kept electronically indefinitely. Ward will also abide by EPA mandated SPCC rules to ensure proper fluid containment.</p> <p>During transfers Oil and water load lines will have drip pots.</p> <p>Ward has a Flowline Integrity Program in place. Lines are either to be welded or threaded, some lines may be non-metallic. Welded Flowlines will be installed with welded or flanged connections. All threaded metallic pipe will be joined with appropriate lubricant/sealant. All non-metallic pipes that require welded joints will be installed with appropriate equipment to meet manufacturer recommendations and welded with qualified welders. All buried non-metal Flowline installation will contain a continuous metallic tracer line attached to the pipeline with surface access or other means of surface location. All flowlines will be pressure tested to their maximum manufactured value (at minimum 80%) prior to hydrocarbon production use. 10% of welds will be x-rayed for integrity. Chemical inspection program begins as soon as well begins flowback. Ward will perform yearly flowline inspections to ensure flowline integrity and prevent leaks/spills. Records of inspections will be available to COGCC upon request.</p>
11	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).

12	Material Handling and Spill Prevention	Berming: A steel containment berm or structure will be erected around the oil and water storage tanks. 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 five (5) years (per COGCC Rule 205.f) from expiration or inactivation of permit coverage. These records will be made available to the COGCC upon request. One to seven audio, visual, olfactory inspections per week will be recorded and kept in the district office and available to COGCC upon request. During production phase, berm will be inspected at least every 14 calendar days and within 24 hours of a precipitation event..
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	Operator will comply with Rule 805.c and take all practicable measures to control fugitive dust caused by the operation, including but not limited to wetting the soil with fresh water via a truck with a spreader bar if deemed necessary.
15	Noise mitigation	Noise: An ambient sound study will be conducted to determine noise impacts to the nearby residents to the southwest. Based on the results of the noise study, the appropriate sound mitigation design will be implemented. Sound mitigation will include sound walls and will be erected to reduce noise pollution. Results of the noise study will be made available to the COGCC upon request.
16	Emissions mitigation	Flow lines, separators, and sand traps capable of supporting green completions as described in Rule 805 will be installed at this location which Ward anticipates commercial quantities of gas are reasonably expected to be produced based on existing adjacent wells within 1 mile. Test separators and associated flow lines and sand traps will be installed on-site to accommodate Green completion techniques pursuant to COGCC Rules. Test separators and associated flow lines and sand traps will be installed onsite to accommodate Green completions techniques pursuant to COGCC rules. In the anticipated absence of a viable gas sales line, the flow-back gas shall be thermally oxidized in an Emissions Control Device (ECD) which will be installed and kept in operable conditions for at least the first 90-days of production pursuant to Colorado Department of Public Health and Environmental rules. This ECD will have an adequate capacity for 1.5 times the largest flowback within a 10 mile radius, will be flanged to route gas to other or permanent oxidizing equipment and will be provided with the equipment needed to maintain combustion where non-combustible gases are present. There is not a viable gas sales line at this moment and we anticipate the need to flare up to 90 days prior to a gas line being available. We will utilize a natural gas liquid stripping unit if practical to minimize emissions and the gas flare will be enclosed. If a gas sales line is not completed prior to 90 days of flaring, the well will be SI or a variance requested.
17	Odor mitigation	Odor Mitigation: In compliance 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 a VRU to reduce odor emissions during production.
18	Drilling/Completion Operations	Green Completions: Emission Control Systems. Test separators and associated flow lines and sand traps shall be installed on-site to accommodate Green completion techniques pursuant to COGCC Rules.
19	Drilling/Completion Operations	BOPE Testing: Upon initial rig-up and once every 30 days during drilling operations, pressure testing of the casing string and each component of the BOPE will be performed to 70% of working pressure or 70% of the internal yield of the casing, whichever is less.
20	Drilling/Completion Operations	BOPE for well servicing operations: Adequate blowout prevention equipment will be used on any servicing operations associated with this well. Backup staving valves shall be required on well servicing operations during reverse circulation. Valves will be pressure tested before each well servicing operation using both low-pressure and high-pressure fluid.

21	Drilling/Completion Operations	BOPE: Ward will utilize drilling rigs with a minimum of a double ram and annular preventer.
22	Drilling/Completion Operations	Drill Stem Tests: Drill Stem Tests are not anticipated for this location.
23	Drilling/Completion Operations	Pit Level Indicators: Pit Level Indicators will not be needed as no pits will be used on location.
24	Drilling/Completion Operations	There is not a viable gas sales line at this moment. Ward anticipates the need to flare up to 90 days prior to a gas line being available. Ward will utilize a natural gas liquid stripping unit if practical to minimize emissions and the gas flare will be enclosed. If a gas sales line is not completed prior to 90 days of flaring, the well will be Shut In or a Variance Request will be submitted for an extended flare.
25	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.
26	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: 26 comment(s)

Attachment Check List

<u>Att Doc Num</u>	<u>Name</u>
1668943	RULE 306.E. CERTIFICATION
400995109	FORM 2A SUBMITTED
400996801	CONST. LAYOUT DRAWINGS
400996804	HYDROLOGY MAP
400996805	LOCATION DRAWING
400996806	LOCATION PICTURES
400996807	MULTI-WELL PLAN
400996808	NRCS MAP UNIT DESC
400996811	REFERENCE AREA MAP
400997287	ACCESS ROAD MAP
400997298	SURFACE AGRMT/SURETY
400998159	OTHER
400998160	WASTE MANAGEMENT PLAN
401002016	FACILITY LAYOUT DRAWING

Total Attach: 14 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Permit	Final Review Completed.	6/17/2016 1:31:23 PM
OGLA	Spoke with Operator via phone and agreed to COA for gas sales line. OGLA task passed	6/17/2016 1:23:28 PM
OGLA	Sales line tie in is not complete - move to HOLD	6/15/2016 10:06:56 AM
OGLA	Operator sent revised BMPs via email. Updated lighting, noise, leak detection plan, gas sales line information, traffic plan, and berming/SPCC/stormwater control.	6/2/2016 3:52:18 PM
Permit	Checked "This location assessment is included as part of a permit application. 8 wells planned on pad. Permitting Review Complete.	5/26/2016 3:01:20 PM
OGLA	Wells are in a buffer zone and the production has been placed just outside of the buffer zone. Public comment from the LGD regarding county requirements.	5/24/2016 10:26:53 AM

OGLA	Production facilities are at 1,009 feet from the nearest building unit, and Operator concurs with COA for survey post construction. LGD commented on county permitting for building production facility and no public comments were brought to the LGD. No public comments to COGCC. OGLA review complete.	4/4/2016 3:44:33 PM
OGLA	Public comment from LGD regarding county requirements. Public did not contact LGD, COGCC, or Operator. Location is wells only and BMPs meet COGCC Rules including the 604 series setback and mitigation measures. OGLA review complete.	4/4/2016 3:38:12 PM
OGLA	Operator is aware of the NTO regarding venting and flaring under Rule 912.	4/4/2016 3:20:37 PM
OGLA	Operator emailed additional information on noise mitigation measures.	4/4/2016 12:01:45 PM
OGLA	Sent email to Operator regarding 306e certification, more information for noise mitigation measures, and Rule 912 acknowledgement.	4/1/2016 4:35:26 PM
LGD	The proposed location is in unincorporated Weld County. As of today's date, March 24, 2016, the Weld County Oil and Gas Liaison/LGD has not been contacted by any nearby resident(s) or governmental jurisdiction(s) regarding this proposed oil and gas location. The County will respond when contacted and attempt to facilitate a solution for any legitimate concerns or issues regarding a proposed location. Oil and Gas Production facilities are currently considered a Use by Right in the Agricultural Zoned District and no land use permitting is required by the County. A building permit is required for the production facilities (tank battery, separators, pump jacks, etc.) from the Department of Planning Services. A new or expanded access from a county road or the use of a right-of-way requires a permit from the Department of Public Works. Troy Swain, Weld Oil and Gas Liaison and LGD (970) 353-6100, ext. 3579.	3/24/2016 8:38:52 AM
OGLA	Email response from the Operator - updated cultural distances to match facility layout drawing. Updated depth to groundwater and added well permit number to comments. Operator confirmed that 305a letter says amended location and it is a new locaton. Added information for BMPs and removed duplicate BMP.	3/14/2016 1:20:21 PM
OGLA	Changed 30-day notice to OTHER as 305 documentation. Contact Operator regarding cultural distances for building and building unit, DTW, and BMPs.	3/11/2016 1:30:18 PM
Permit	Passed completeness.	3/10/2016 11:50:24 AM
OGLA	Facility Layout Drawing, Waste Mgt Plan and 305.a.(2) Certification attached. Buffer Zone Completeness Passed.	3/10/2016 10:35:57 AM
Permit	Draft: Reference area pictures do not conform to guidance- need to be taken during growing season, also east picture is not identified with direction. Missing Facility Layout Dwg, Waste Mgt Plan, and 305.a.(2) certification.	3/1/2016 9:06:40 AM
OGLA	Did not pass Buffer Zone completeness review. Missing Facility Layout Dwg, Waste Mgt Plan, and 305.a.(1) certification. Push to Draft.	2/29/2016 4:54:44 PM
Permit	Referred to OGLA supervisor for buffer zone review.	2/29/2016 12:09:10 PM

Total: 19 comment(s)