

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:

400996252

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Date Received:

04/04/2016

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:

**446474**

Expiration Date:

**07/04/2019**

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: Sack Number: 21-4-12HC

County: WELD

Quarter: SWSW Section: 21 Township: 1N Range: 66W Meridian: 6 Ground Elevation: 4958

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: 742 feet FSL from North or South section line

359 feet FWL from East or West section line

Latitude: 40.031470 Longitude: -104.790180

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

Instrument Operator's Name: Scott Estabrooks



## 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: George A. & Marie Sack

Phone: \_\_\_\_\_

Address: 14323 Weld County Road 6

Fax: \_\_\_\_\_

Address: \_\_\_\_\_

Email: \_\_\_\_\_

City: Fort Lupton State: CO Zip: 80621

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: oil and gas lease

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

Date of Rule 306 surface owner consultation 01/30/2016

## 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:	<u>637</u> Feet	<u>646</u> Feet
Building Unit:	<u>528</u> Feet	<u>619</u> 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

High Occupancy Building Unit:	<u>5280</u> Feet	<u>5280</u> Feet
Designated Outside Activity Area:	<u>5280</u> Feet	<u>5280</u> Feet
Public Road:	<u>350</u> Feet	<u>501</u> Feet
Above Ground Utility:	<u>339</u> Feet	<u>489</u> Feet
Railroad:	<u>5280</u> Feet	<u>5280</u> Feet
Property Line:	<u>359</u> Feet	<u>509</u> Feet

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: 01/21/2016

**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.

The production facilities were placed in the proposed location per surface owner request. The surface owner requested the location to preserve crop land. Any possible locations that would put the facilities outside the 1000' buffer would eliminate significant cropland and income for the surface owner. If other locations were used, a new irrigation system would be required and be extremely costly. Please see the Siting Rationale irrigation map attached.  
Moving the production facilities outside of the 1000' buffer zone would increase the access road length (requiring more surface disturbance) and cause more dust pollution.

Ward was unable to place the production facilities outside of any buffer zone without placing financial burden on the surface owner nor can they place them on land owned by a different surface owner as Ward does not have a relationship with adjacent surface owners.

Please see Submit Tab for additional Siting Rationale.

**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: 76 - Vona Sandy 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, 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: 585 Feet

water well: 672 Feet

Estimated depth to ground water at Oil and Gas Location 14 Feet

Basis for depth to groundwater and sensitive area determination:

Depth to groundwater was determined from Water Well Permit #47913 in Sec. 21 T1N R66W.

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 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 Ward Petroleum provided the following information regarding the Siting Rationale:

- Goal was to minimize impacted building units/homes
- Looked into a parcel of land on the West side of the county road, but the parcel for sale was not the correct shape to set up a drilling operation and long term production (Was not wide enough).
- Discussed moving the pad to the SE side of Section 21, but this would infringe upon the more homes than final location.
- Discussed moving pad farther East into Sack's property, but would infringe upon the Sack's ability to pivot farm.
  - o Ward will be paying for a new, smaller pivot for the Sack's so they can continue to pivot farm. A sticking point on our surface use agreement
- Discussed moving the pad farther north, but this would put the production facilities too close to a home and put the wells closer to more homes.
- Ultimately decided on the current location to minimize impact to the Sack's pivot irrigation, and minimize the number of affected homes.

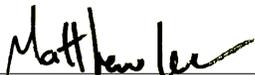
Ward will be utilizing sound walls on that end of location and we have notified the home with no response as to the development.

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

Signed: \_\_\_\_\_ Date: 04/04/2016 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: 7/5/2016

**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.

<u>COA Type</u>	<u>Description</u>

**Best Management Practices**

<u>No</u>	<u>BMP/COA Type</u>	<u>Description</u>
1	Planning	In order to reduce surface disturbance and require multiple well pads, Ward is permitting a multiwell pad.

2	Traffic control	Traffic: 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. Most traffic will utilize Highway 85 from Greely or Brighton onto County Road 6. An 8" x 30" culvert will be installed. Ward will utilize truckers with larger hauling capacity to minimize traffic impacts.
3	General Housekeeping	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.
4	General Housekeeping	All guy line anchors left buried for future use will be identified by a marker of bright color not less than four (4) feet in height and not greater than one (1) foot east of the guy line anchor.
5	Storm Water/Erosion Control	Erosion Control Measures: Ward will maintain a Stormwater Management Plan with site specific measurements 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 COGCC upon request.
6	Material Handling and Spill Prevention	Leak Detection Plan: Leak Detection Plan is attached ad Document #1010072.
7	Material Handling and Spill Prevention	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 county rules concerning fire and safety. Ward will ensure that any material not in use that might constitute a fire hazard will remain no less than 25 feet from the wellhead (s), tanks and separator(s).
8	Material Handling and Spill Prevention	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. Recorded inspections will be conducted once a month pursuant to 40 CFR §112.
9	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.
10	Dust control	Ward 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.
11	Construction	Fencing: The wellsite will be fenced unless otherwise requested by the Surface Owner.

12	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.
13	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.
14	Drilling/Completion Operations	Closed Loop System will be used for drilling and fluid management. No reserve pit will be used.
15	Drilling/Completion Operations	BOPE tests will be run upon initial rig-up and at least once every thirty (30) days during drilling operations. Pressure testing of the casing string and each component of the blowout prevention equipment, including flange connections, will be performed to seventy percent (70%) of working pressure or seventy percent (70%) of the internal yield of casing, whichever is less.
16	Drilling/Completion Operations	One of the first wells drilled on the pad will be logged with open-hole Resistivity Log and Gamma Ray Log from the kick-off point into the surface casing. All wells on the pad will have a cement bond log with gamma-ray run on production casing (or on intermediate casing if production liner is run) into the surface casing. The horizontal portion of every well will be logged with a measured-while-drilling gamma-ray log. The Form 5, Completion Report, for each well on the pad will list all logs run and have those logs attached. The Form 5 for a well without open-hole logs shall clearly state "No open-hole logs were run" and shall clearly identify (by API#, well name & number) the well in which open-hole logs were run.
17	Drilling/Completion Operations	Lighting: No permanent lighting will be onsite. During drilling and completions, lighting will be cast downward and will not impede traffic on County Road 29 and 6. Sound walls will help mitigate lighting on the street and to the nearby residents.
18	Drilling/Completion Operations	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.
19	Interim Reclamation	Interim Restoration (Production): Rehabilitation of unneeded, previously disturbed areas will consist of backfilling and contouring the reserve pit area, 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

<b>Att Doc Num</b>	<b>Name</b>
1010070	306.e CERTIFICATION LETTER
1010072	LEAK DETECTION PLAN
400996252	FORM 2A SUBMITTED
400996977	CONST. LAYOUT DRAWINGS
400996978	HYDROLOGY MAP
400996979	LOCATION DRAWING
400996980	LOCATION PICTURES
400996981	NRCS MAP UNIT DESC
400996982	FACILITY LAYOUT DRAWING
400997764	WASTE MANAGEMENT PLAN
400999471	RULE 305A CERTIFICATION OF COMPLIANCE
401020923	ACCESS ROAD MAP
401020927	SITING RATIONALE
401025894	MULTI-WELL PLAN

Total Attach: 14 Files

**General Comments**

<b><u>User Group</u></b>	<b><u>Comment</u></b>	<b><u>Comment Date</u></b>
Permit	Final Review Complete. f	7/5/2016 11:24:58 AM
OGLA	Changed Estimated Depth to Groundwater to 14 feet based on DWR Water Well Permit #47913. Changed Sensitive Area to YES	6/15/2016 5:56:29 PM
OGLA	Added and modified BMPs per Operator request.	6/15/2016 2:11:31 PM
OGLA	Changed Date of Interim Reclamation to 10/15/2016 based on Crop Land.	5/9/2016 4:31:29 PM
OGLA	Per Operator request, added the following to the Sumit Tab regarding the Siting Rationale:  <ul style="list-style-type: none"> <li>· Goal was to minimize impacted building units/homes</li> <li>· Looked into a parcel of land on the West side of the county road, but the parcel for sale was not the correct shape to set up a drilling operation and long term production (Was not wide enough).</li> <li>· Discussed moving the pad to the SE side of Section 21, but this would infringe upon the more homes than final location.</li> <li>· Discussed moving pad farther East into Sack's property, but would infringe upon the Sack's ability to pivot farm. <ul style="list-style-type: none"> <li>o Ward will be paying for a new, smaller pivot for the Sack's so they can continue to pivot farm. A sticking point on our surface use agreement</li> </ul> </li> <li>· Discussed moving the pad farther north, but this would put the production facilities too close to a home and put the wells closer to more homes.</li> <li>· Ultimately decided on the current location to minimize impact to the Sack's pivot irrigation, and minimize the number of affected homes.</li> </ul> Ward will be utilizing sound walls on that end of location and we have notified the home with no response as to the development.	5/9/2016 4:13:29 PM
Permit	Permitting Review Complete.	5/2/2016 3:15:20 PM
Permit	Reassigned OGLA, per OGLA request.	4/22/2016 12:51:36 PM
Permit	Changed right to construct to "O&G Lease."  Passed completeness.	4/22/2016 12:47:30 PM
OGLA	OGLA buffer zone complete. Passed completeness.	4/22/2016 12:32:53 PM
Permit	Returned to draft: Missing MWP. SUA not needed, but right to construct should be "lease".	4/12/2016 8:26:52 AM
Permit	Missing multi-well plan, since there are 6 wells listed on facilities tab - need to list all wells current and proposed. Missing Surface Use Agreement.	4/6/2016 1:50:07 PM
Permit	Requested buffer zone review from OGLA supervisor.	4/4/2016 3:39:49 PM

Total: 12 comment(s)