

FORM
2A

Rev
04/18

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:

401634938

Date Received:

05/16/2018

Oil and Gas Location Assessment

New Location Refile Amend Existing Location Location#: _____

This Oil and Gas Location Assessment is to be submitted to the COGCC for approval prior to any ground disturbance activity associated with oil and gas operations. Approval of this Oil and Gas Location Assessment will allow for the construction of the below specified Location; however, it does not supersede any land use rules applied by the local land use authority. Please see the COGCC website at <http://cogcc.state.co.us/> for all accompanying information pertinent this Oil and Gas Location Assessment.

Location ID:

456966

Expiration Date:

08/28/2021

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: 10580

Name: EXPEDITION WATER SOLUTIONS COLORADO LLC

Address: 2015 CLUBHOUSE DR SUITE 201

City: GREELEY State: CO Zip: 80634

Contact Information

Name: Jeremiah Demuth

Phone: (303) 290-9414

Fax: ()

email: jdemuth@petrotek.com

FINANCIAL ASSURANCE

- Plugging and Abandonment Bond Surety ID (Rule 706): 20150089 Gas Facility Surety ID (Rule 711): _____
- Waste Management Surety ID (Rule 704): _____

LOCATION IDENTIFICATION

Name: EWS Number: 6

County: WELD

Quarter: SWNW Section: 22 Township: 2N Range: 67W Meridian: 6 Ground Elevation: 5022

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: 2013 feet FNL from North or South section line

211 feet FWL from East or West section line

Latitude: 40.125454 Longitude: -104.885373

PDOP Reading: 2.2 Date of Measurement: 04/24/2018

Instrument Operator's Name: Casey Kohout

Name: Front Range Dairy

Phone: _____

Address: 9743 COUNTY ROAD 16

Fax: _____

Address: _____

Email: daviddehaan4@gmail.com

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: 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 05/14/2018

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:	1245 Feet	873 Feet
Building Unit:	2118 Feet	1852 Feet
High Occupancy Building Unit:	5280 Feet	5280 Feet
Designated Outside Activity Area:	5280 Feet	5280 Feet
Public Road:	209 Feet	92 Feet
Above Ground Utility:	240 Feet	122 Feet
Railroad:	5280 Feet	5280 Feet
Property Line:	197 Feet	95 Feet

INSTRUCTIONS:

- All measurements shall be provided from center of nearest Well or edge of nearest Production Facility to nearest of each cultural feature as described in Rule 303.b.(3)A.
- Enter 5280 for distance greater than 1 mile.
- Building - nearest building of any type. If nearest Building is a Building Unit, enter same distance for both.
- Building Unit, High Occupancy Building Unit, and Designated Outside Activity Area - as defined in 100-Series Rules.
- For measurement purposes only, Production Facilities should only include those items with an asterisk(*) on the Facilities Tab.

DESIGNATED SETBACK LOCATION INFORMATION

Check all that apply. This location is within a:

- Buffer Zone
 Exception Zone
 Urban Mitigation Area

Pre-application Notifications (required if location is within 1,000 feet of a building unit):

Date of Rule 305.a.(1) Urban Mitigation Area Notification to Local Government: _____

Date of Rule 305.a.(2) Buffer Zone Notification to Building Unit Owners: _____

- Buffer Zone - as described in Rule 604.a.(2), within 1,000' of a Building Unit.
- Exception Zone - as described in Rule 604.a.(1), within 500' of a Building Unit.
- Urban Mitigation Area - as defined in 100-Series Rules.
- Large UMA Facility - as defined in 100-Series Rules.

FOR MULTI-WELL PADS AND PRODUCTION FACILITIES WITHIN DESIGNATED SETBACK LOCATIONS ONLY:

- Check this box if this Oil and Gas Location has or will have Production Facilities that serve multiple wells (on or offsite) and the Production Facilities are proposed to be located less than 1,000 feet from a Building Unit. *(Pursuant to Rule 604.c.(2)E.i., the operator must evaluate alternative locations for the Production Facilities that are farther from the Building Unit, and determine whether those alternative locations were technically feasible and economically practicable for the same proposed development.)*
- By checking this box, I certify that no alternative placements for the Production Facilities, farther from the nearest Building Unit, were available based on the analysis conducted pursuant to Rule 604.c.(2)E.i.

In the space below, explain rationale for siting the multi-well Production Facility(ies) that supports your Rule 604.c.(2)E.i determination. Attach documentation that supports your determination to this Form 2A.

SOIL

List all soil map units that occur within the proposed location. attach the National Resource Conservation Service (NRCS) report showing the "Map Unit Description" report listing the soil typical vertical profile. This data is to be used when segregating topsoil.

The required information can be obtained from the NRCS web site at <http://soildatamart.nrcs.usda.org/> or from the COGCC web site GIS Online map page found at <http://colorado.gov/cogcc>. Instructions are provided within the COGCC web site help section.

NRCS Map Unit Name: 69—Valent sand, 0 to 3 percent slopes _____

NRCS Map Unit Name: 70—Valent sand, 3 to 9 percent slopes _____

NRCS Map Unit Name: 72—Vona loamy sand, 0 to 3 percent slopes _____

PLANT COMMUNITY:

Complete this section only if any portion of the disturbed area of the location's current land use is on non-crop land.

Are noxious weeds present: Yes No

Plant species from: NRCS or, field observation Date of observation: 05/07/2018

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: Feet

water well: Feet

Estimated depth to ground water at Oil and Gas Location Feet

Basis for depth to groundwater and sensitive area determination:

Most of the wells within 1/2 mile are monitoring wells which do not list a static water level. Wells 0025374 and 0021066 list depths to water of 70 and 148 feet, respectively. Monitoring well to the southwest with perforated casing between 7-23 feet below ground surface - depth to shallow groundwater closer to 20 feet.

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 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

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

Water based drilling fluids will be used in the 12 1/4" and 6 1/8" sections of the hole. Fluids and cuttings generated in these sections will be applied at a land application site. A land application plan will be submitted before drilling begins. No land application will occur before that plan is approved.

Oil-based fluids will be used in the 8 1/2" section of the hole. Oil based fluids will be recycled, and oily cuttings will be disposed of at a suitable commercial facility.

We have talked with Anadarko, and they plan to P&A the Francis 5-22A well sometime in the next few months. It will likely be during the time when we are drilling, and before the time when the detention pond and other surface facilities are installed.

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

Signed: _____ Date: 05/16/2018 Email: jdemuth@petrotek.com

Print Name: Jeremiah Demuth Title: Engineering Technician

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: 8/29/2018

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.

<u>COA Type</u>	<u>Description</u>
	The Approved Form 2A permit will be posted at the location during construction, drilling, and completions operations.
	Operator will submit land application plan or Facility ID via Form 4 Sundry prior to drilling and disposal of water based cuttings.

Best Management Practices

No	BMP/COA Type	Description
1	Traffic control	Existing paved roads will be used to the greatest extent possible. The access road will be constructed to accommodate local emergency vehicles. This road will be maintained for access at all times.
2	General Housekeeping	Removal of surface trash. All trash, debris and material not intrinsic to the operation of the oil and gas facility shall be removed and legally disposed of as is applicable.
3	Storm Water/Erosion Control	<p>The drill pad will be bermed on the west side of location and along at least 50 feet of the north and south edges of location in order to prevent stormwater runoff and erosion from impacting nearby water features.</p> <p>The completed site will have a detention pond to control stormwater runoff. I have attached a surface facility diagram showing the location of the pond and the sloping of the final facility.</p> <p>The ditch that runs along the west side of the location and the east side of WCR 19 will be removed during the construction of the facility.</p>
4	Material Handling and Spill Prevention	Leak Detection Plan. Pumper will visit the location daily and visually inspect all tanks and fittings for leaks. Additionally, monthly documented SPCCP inspections are conducted pursuant to 40 CFR §112.
5	Material Handling and Spill Prevention	Berm construction. The tank battery will be contained within a concrete containment structure designed to contain 150% of the capacity of the largest tank. The containment will be visually checked periodically to ensure proper working condition.
6	Material Handling and Spill Prevention	Load-lines. All load-lines shall be bull-plugged or capped.
7	Material Handling and Spill Prevention	Tank specifications. Tanks will be designed, constructed and maintained in accordance with NFPA Code 30. The tanks are visually inspected once a day for issues, and recorded inspections are conducted once a month.
8	Material Handling and Spill Prevention	<p>During drilling operations mud chemicals will be stored in containment units that will cover the top and at least three sides of the chemicals.</p> <p>At least four monitoring wells will be installed on the EWS 6 site and will be sampled quarterly according to the Ground Water Monitoring Plan (GWMP) that has been generated for the site.</p>
9	Dust control	In order to minimize nuisance dust traffic will be confined, to the extent possible, to already existing roads during the drilling of the wells.
10	Construction	The Francis 5-22A (05-123-21588) will be protected by cement barriers during location construction in order to prevent damage to the wellhead. The barriers may be removed as requested by the operator of the well.
11	Emissions mitigation	Permanent equipment on location shall be muffled to reduce noise, or shall be appropriately buffered.
12	Odor mitigation	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.
13	Drilling/Completion Operations	Closed Loop Drilling Systems – Pit Restrictions. Not applicable; a closed-loop system will be used for drilling.
14	Drilling/Completion Operations	Blowout preventer equipment (“BOPE”). A double ram and annular preventer will be used during drilling. At least the drilling company shall have a valid well blowout prevention certifications.
15	Drilling/Completion Operations	BOPE for well servicing operations. Adequate BOP equipment shall be used. Stabbing valves shall be installed in the event of reverse circulation and shall be prior tested with low and high pressure fluid.
16	Drilling/Completion Operations	Pit level indicators. Not applicable; a closed-loop system will be used and no pits shall be dug.
17	Drilling/Completion Operations	Drill stem tests. Not applicable; no Drill Stem tests are planned.

18	Drilling/Completion Operations	Control of fire hazards. All materials which are considered fire hazards shall be a minimum of 25' from the wellhead tanks or separators. Electrical equipment shall comply with API RP 500 and will comply with the current national electrical code. An emergency response plan will be generated for this site.
19	Drilling/Completion Operations	Guy line anchors. All guy line anchors shall be brightly marked pursuant to Rule 604.c (2)Q.
20	Interim Reclamation	Interim reclamation: i. Following completion of drilling, completion, and construction activities, the EWS 6 location will be cross-ripped and re-seeded where applicable. Areas needed for site operations will be compacted, covered, paved, or stabilized to minimize erosion. The site will be sloped inward to a detention pond that will serve to control stormwater runoff and limit erosion.
21	Final Reclamation	Well site cleared. Within 90-day subsequent to the time of plugging and abandonment of the entire site, superfluous debris and equipment shall be removed from the site.
22	Final Reclamation	Identification of plugged and abandoned wells. P&A'd wells shall be identified pursuant to 319.a.(5).

Total: 22 comment(s)

Attachment Check List

<u>Att Doc Num</u>	<u>Name</u>
2316400	SITE PLAN
401634938	FORM 2A SUBMITTED
401639793	ACCESS ROAD MAP
401639796	LOCATION DRAWING
401639798	LOCATION PICTURES
401639800	NRCS MAP UNIT DESC
401642865	MULTI-WELL PLAN
401642869	SURFACE AGRMT/SURETY
401654843	HYDROLOGY MAP

Total Attach: 9 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Permit	Final Review Completed.	08/26/2018
Permit	Permitting Review Complete.	08/15/2018
OGLA	Operator responded with information for Kerr-McGee abandoning the well - added to comment section. Updated construction date from 8/1/2018 to 8/20/2018. This is not a designated setback location. OGLA review complete and task passed.	08/03/2018
OGLA	Operator responded; updated water information; added BMPs for stormwater, materials handling, protection of Kerr McGee gas well withing the disturbed area, and interim reclamation; provided site plan which notes Kerr McGee well to be removed - request confirmation on that - attach site plan. For interim reclamation, the site will be seeded, but not be dryland cropland - surrounding land will be dryland cropland.	08/03/2018
OGLA	OGLA review: Disturbed area includes a SI Anadarko well – request information regarding status of the well, communication with Anadarko, and protection of well head. Need updated date from August 1, request clarification on future land as commercial, remove plant community as location is on dryland cropland – confirmed through location pictures and aerial images, Water resources should be sensitive area based on distance to surface water – request BMP for protection of nearby surface water ditch, depth to water shallower based on monitoring water well perm it 44221 MH with a perforated casing between 7-23 feet.	07/27/2018
Permit	Passed Completeness.	06/01/2018
Permit	Returned to draft for: Hydrology Map attachement does not open.	05/25/2018

Total: 7 comment(s)