

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:

401096489

(SUBMITTED)

Date Received:

09/20/2016

Oil and Gas Location Assessment

New Location Refile Amend Existing Location Location#: 436533

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:

436533

Expiration Date:

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: 1023 39TH AVENUE SUITE E
 City: GREELEY State: CO Zip: 80634

Contact Information

Name: Jeremiah Demuth
 Phone: (303) 290-9414
 Fax: ()
 email: jdemuth@petrotek.com

RECLAMATION FINANCIAL ASSURANCE

- Plugging and Abandonment Bond Surety ID: 20150089 Gas Facility Surety ID: _____
- Waste Management Surety ID: _____

LOCATION IDENTIFICATION

Name: EWS Number: 3A
 County: WELD
 Quarter: SWNW Section: 23 Township: 4N Range: 66W Meridian: 6 Ground Elevation: 4726

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: 2528 feet FNL from North or South section line
 1045 feet FWL from East or West section line

Latitude: 40.297710 Longitude: -104.750230
 PDOP Reading: 1.3 Date of Measurement: 08/25/2016
 Instrument Operator's Name: Dane Courville

RELATED REMOTE LOCATIONS

(Enter as many Related Locations as necessary. Enter the Form 2A document # only if there is no established COGCC Location ID#)

This proposed Oil and Gas Location is:

LOCATION ID # FORM 2A DOC #

FACILITIES

Indicate the number of each type of oil and gas facility planned on location

Wells	<u>2</u>	Oil Tanks*	<u>5</u>	Condensate Tanks*	<u> </u>	Water Tanks*	<u>25</u>	Buried Produced Water Vaults*	<u> </u>
Drilling Pits	<u>0</u>	Production Pits*	<u> </u>	Special Purpose Pits	<u> </u>	Multi-Well Pits*	<u> </u>	Modular Large Volume Tanks	<u> </u>
Pump Jacks	<u> </u>	Separators*	<u> </u>	Injection Pumps*	<u>2</u>	Cavity Pumps*	<u> </u>	Gas Compressors*	<u> </u>
Gas or Diesel Motors*	<u> </u>	Electric Motors	<u> </u>	Electric Generators*	<u> </u>	Fuel Tanks*	<u> </u>	LACT Unit*	<u> </u>
Dehydrator Units*	<u> </u>	Vapor Recovery Unit*	<u> </u>	VOC Combustor*	<u> </u>	Flare*	<u> </u>	Pigging Station*	<u> </u>

OTHER FACILITIES*

Other Facility Type

Number

<u>Other Facility Type</u>	<u>Number</u>

Those facilities indicated by an asterisk () shall be used to determine the distance from the Production Facility to the nearest cultural feature on the Cultural Setbacks Tab.

Per Rule 303.b.(3)C, description of all oil, gas, and/or water pipelines:

The new EWS 3A well will be connected to the EWS 3 facility by a buried 4 inch extra heavy flow line.

CONSTRUCTION

Date planned to commence construction: 11/30/2016 Size of disturbed area during construction in acres: 3.06
Estimated date that interim reclamation will begin: 01/03/2017 Size of location after interim reclamation in acres: 8.60
Estimated post-construction ground elevation: 4726

DRILLING PROGRAM

Will a closed loop system be used for drilling fluids: Yes
Is H₂S anticipated? No
Will salt sections be encountered during drilling: No
Will salt based mud (>15,000 ppm Cl) be used? No
Will oil based drilling fluids be used? No

DRILLING WASTE MANAGEMENT PROGRAM

Drilling Fluids Disposal: OFFSITE Drilling Fluids Disposal Method: Land application
Cutting Disposal: OFFSITE Cuttings Disposal Method: Beneficial reuse

Other Disposal Description:

Cuttings and drilling fluids will be managed using a COGCC approved mud farm.

Beneficial reuse or land application plan submitted? No

Reuse Facility ID: or Document Number:

Centralized E&P Waste Management Facility ID, if applicable:

SURFACE & MINERALS & RIGHT TO CONSTRUCT

Name: Applicant is owner Phone: 970-515-6950

Address: 1023 39th Avenue

Fax: _____

Address: Suite E

Email: _____

City: Greeley State: CO Zip: 80634

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: applicant is owner

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

Date of Rule 306 surface owner consultation _____

CURRENT AND FUTURE LAND USE

Current Land Use (Check all that apply):

Crop Land: Irrigated Dry land Improved Pasture Hay Meadow CRP
Non-Crop Land: Rangeland Timber Recreational Other (describe): _____
Subdivided: Industrial Commercial Residential

Future Land Use (Check all that apply):

Crop Land: Irrigated Dry land Improved Pasture Hay Meadow CRP
Non-Crop Land: Rangeland Timber Recreational Other (describe): _____
Subdivided: Industrial Commercial Residential

CULTURAL DISTANCE INFORMATION

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

	From WELL	From PRODUCTION FACILITY
Building:	251 Feet	46 Feet
Building Unit:	724 Feet	372 Feet
High Occupancy Building Unit:	5280 Feet	5280 Feet
Designated Outside Activity Area:	5280 Feet	5280 Feet
Public Road:	810 Feet	391 Feet
Above Ground Utility:	1021 Feet	986 Feet
Railroad:	1659 Feet	1343 Feet
Property Line:	157 Feet	94 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: 09/19/2016

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 (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.

The EWS 3A well cannot be located farther from building units while still remaining on the property owned by Expedition and maintaining compliance with the COGCC property line setback of 150 feet. As shown on the Facility Layout Drawing and the Location drawing, there are building units to the Southwest, West, Northwest, and Northeast of the EWS 3A location. As it is, the only direction that the well could be moved that would move it father away from a Building Unit is to the southeast. the offset to the property line to the southeast is only 157 feet.

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: 11—Bresser sandy loam, 0 to 3 percent slopes

NRCS Map Unit Name: 30—Julesburg sandy loam, 1 to 3 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: 08/25/2016

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: 642 Feet

water well: 638 Feet

Estimated depth to ground water at Oil and Gas Location 17 Feet

Basis for depth to groundwater and sensitive area determination:

Estimated depth to water in well #52784-MH - is 30 feet. This is the nearest water well to the location. Well #64229- - is the next closest well and has a depth to water of 17 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 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

The EWS 3 facility will be amended to include another well, and the flowline to that well. No other surface changes will be made.

The building noted on the Location drawing as being 46 feet away is a part of the EWS 3 location operations.

The "Area detention pond" noted on the Location Drawing is already constructed and is on property owned by the Weld County Industrial Park Association. The pond was observed by the surveying team and is not a part of the operations at the EWS 3 site.

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

Signed: _____ Date: 09/20/2016 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: _____

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

Best Management Practices

No	BMP/COA Type	Description
1	Planning	The EWS 3A well is located on the EWS 3 location in a manner which allows for drilling while maximizing its distance from nearby building units and maintaining COGCC mandated setbacks from property lines.
2	Traffic control	Traffic will be handled through the already existing access to the EWS 3 facility.
3	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.
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 will not be required. The production facilities onsite are already constructed and are situated within concrete secondary containment.
6	Material Handling and Spill Prevention	Load-lines. All load-lines shall be bull-plugged or capped.
7	Dust control	In order to minimize nuisance dust traffic will be confined, to the extent possible, to already existing roads on the EWS 3 location during the drilling of the EWS 3A well.
8	Noise mitigation	It is not anticipated that noise mitigation will be necessary for the drilling and completion of EWS 3A. During drilling and completion operations periodic noise monitoring will be conducted and documented using in-house equipment to ensure compliance with COGCC Series 802 rules. Light pollution will be mitigated by requiring all lights associated with the drilling and completion of the EWS 3A well to face inward to the greatest extent possible. At the discretion of Expedition Water Solutions other noise and light mitigation measures may be enacted.
9	Noise mitigation	The EWS 3A drilling and completion operations will be subject to the permissible noise levels for Light Industrial Zones pursuant to Rule 604.c.(2)A.
10	Drilling/Completion Operations	Closed Loop Drilling Systems – Pit Restrictions. Not applicable; a closed-loop system will be used for drilling.
11	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.
12	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.
13	Drilling/Completion Operations	Pit level indicators. Not applicable; a closed-loop system will be used and no pits shall be dug.
14	Drilling/Completion Operations	Drill stem tests. Not applicable; no Drill Stem tests are planned.
15	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.
16	Drilling/Completion Operations	Guy line anchors. All guy line anchors shall be brightly marked pursuant to Rule 604.c (2)Q.
17	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.
18	Final Reclamation	Identification of plugged and abandoned wells. P&A’d wells shall be identified pursuant to 319.a.(5).

Total: 18 comment(s)

Attachment Check List

<u>Att Doc Num</u>	<u>Name</u>
401096489	FORM 2A SUBMITTED
401106965	ACCESS ROAD MAP
401115344	HYDROLOGY MAP
401115346	LOCATION PICTURES
401115347	FACILITY LAYOUT DRAWING
401115348	LOCATION DRAWING
401115349	WAIVERS
401115480	EXCEPTION LOC REQUEST
401121816	NRCS MAP UNIT DESC
401121825	MULTI-WELL PLAN
401132336	WASTE MANAGEMENT PLAN

Total Attach: 11 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>

Total: 0 comment(s)

Public Comments

No public comments were received on this application during the comment period.

