

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:

401151995

Date Received:

12/02/2016

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:

**449137**

Expiration Date:

**02/05/2020**

☒ 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: 4

County: WELD

QuarterQuarter: NESE Section: 18 Township: 2N Range: 63W Meridian: 6 Ground Elevation: 4877

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: 2157 feet FSL from North or South section line

498 feet FEL from East or West section line

Latitude: 40.137050 Longitude: -104.472640

PDOP Reading: 1.4 Date of Measurement: 11/21/2016

Instrument Operator's Name: Doug Berling

## 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 #

Well Site is served by Production Facilities

401126279

## FACILITIES

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

Wells	1	Oil Tanks*		Condensate Tanks*		Water Tanks*		Buried Produced Water Vaults*	
Drilling Pits		Production Pits*		Special Purpose Pits		Multi-Well Pits*		Modular Large Volume Tanks	
Pump Jacks		Separators*		Injection Pumps*		Cavity Pumps*		Gas Compressors*	
Gas or Diesel Motors*		Electric Motors		Electric Generators*		Fuel Tanks*		LACT Unit*	
Dehydrator Units*		Vapor Recovery Unit*		VOC Combustor*		Flare*		Pigging Station*	

## OTHER FACILITIES\*

Other Facility Type

Number

\*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 EWS 4 well will be joined to the EWS Facility #4 with a buried 4" heavy duty pipeline.

## CONSTRUCTION

Date planned to commence construction: 01/30/2017 Size of disturbed area during construction in acres: 3.67

Estimated date that interim reclamation will begin: 02/27/2017 Size of location after interim reclamation in acres: 1.70

Estimated post-construction ground elevation: \_\_\_\_\_

## DRILLING PROGRAM

Will a closed loop system be used for drilling fluids: Yes

Is H<sub>2</sub>S 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:

Beneficial reuse or land application plan submitted? Yes

Reuse Facility ID: 448951 or Document Number: \_\_\_\_\_

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

## SURFACE & MINERALS & RIGHT TO CONSTRUCT

Name: Expedition Water Solution

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

Address: 1023 39th Ave

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

Address: St. E

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

City: Greely 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:	2120 Feet	Feet
Building Unit:	5280 Feet	Feet
High Occupancy Building Unit:	5280 Feet	Feet
Designated Outside Activity Area:	5280 Feet	Feet
Public Road:	1768 Feet	Feet
Above Ground Utility:	2203 Feet	Feet
Railroad:	2367 Feet	Feet
Property Line:	171 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.  
- 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 (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: 44—Olney loamy sand, 1 to 3 percent slopes

NRCS Map Unit Name: 45—Olney loamy sand, 3 to 5 percent slopes

NRCS Map Unit Name: 49—Osgood 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: 11/21/2016

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: 5280 Feet

water well: 794 Feet

Estimated depth to ground water at Oil and Gas Location 12 Feet

Basis for depth to groundwater and sensitive area determination:

The nearest lake or stream is over a mile away from the EWS 4 location. Within 1,000 feet of the well pad there are no water features, including ditches or swales. There are only three water wells in the section that have been drilled. Of those wells one has a static water level of 12 feet (36519- -), and one has a static water level of 363 feet (55594- -A). Within the surrounding sections the static water level in water wells is generally more than 100 feet. There is a water well permitted (Permit=0297713--) at 794 feet away from the EWS 4 well, but records from the State Engineer's office indicate it has not yet been drilled. The nearest water well that can be confirmed to have been drilled is 2,528 feet away.

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

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

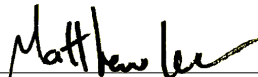
Comments Expedition is under contract to purchase the property that this locaiton will be constructed on. Per the surface use agreement, no construction will occur before the purchase is complete. As such, no Rule 306.a consultation is neccessary or has occured. There are no surface water features within 1,000 feet of the EWS 4 well pad and disturbed area. As such, no Hydrology Map has been included.

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

Signed: \_\_\_\_\_ Date: 12/02/2016 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: 2/6/2017

## 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

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## **Best Management Practices**

<b>No</b>	<b><u>BMP/COA Type</u></b>	<b><u>Description</u></b>
1	Planning	The EWS 4 is a single well pad that will be linked to the EWS Facility #4 by a buried 4-inch pipeline.
2	Traffic control	Access road. The access road will be constructed to accommodate local emergency vehicles. This road will be maintained for access until drilling and completion operations are complete. Emergency access will be at the EWS Facility #4 once drilling and completion operations are complete.
3	General Housekeeping	Fencing requirements. A permanent fencing plan will be created for the site by Expedition during the final construction of the location. Expedition is under contract to purchase the property and will be the surface owner at the time of construction.
4	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.
5	Material Handling and Spill Prevention	Leak Detection Plan. Staff will visit the location daily and visually inspect all fittings for leaks. Additionally, monthly documented SPCCP inspections are conducted pursuant to 40 CFR §112. There will be no produced water or hydrocarbon storage tanks at this location.
6	Material Handling and Spill Prevention	Berm construction. No permanent berms shall be constructed at this site. The drill pad will be bermed during drilling operations.
7	Material Handling and Spill Prevention	Load-lines. All load-lines shall be bull-plugged or capped.
8	Material Handling and Spill Prevention	Tank specifications No tanks for produced water or hydrocarbons will be constructed on this site.
9	Noise mitigation	Lighting abatement measures shall be implemented, including the installation lighting shield devices on all of the more conspicuous lights and low density sodium lighting where practicable. Rig shrouding is not believed necessary as this is a remote area. Permanent equipment on location shall be muffled to reduce noise, or shall be appropriately buffered.
10	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.
11	Drilling/Completion Operations	Closed Loop Drilling Systems – Pit Restrictions. Not applicable; a closed-loop system will be used for drilling.
12	Drilling/Completion Operations	Green Completions – No hydrocarbons are anticipated to be produced from this well. Producing zones will be cased off and cemented.
13	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.
14	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.
15	Drilling/Completion Operations	Pit level indicators. Not applicable; a closed-loop system will be used and no pits shall be dug.
16	Drilling/Completion Operations	Drill stem tests. Not applicable; no Drill Stem tests are planned.
17	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 shall be generated for this site.
18	Drilling/Completion Operations	Guy line anchors. All guy line anchors shall be brightly marked pursuant to Rule 604.c (2)Q.
19	Final Reclamation	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.
20	Final Reclamation	P&A'd wells shall be identified pursuant to 319.a.(5).

Total: 20 comment(s)

### Attachment Check List

<u>Att Doc Num</u>	<u>Name</u>
1010162	WASTE MANAGEMENT PLAN
1010163	CORRESPONDENCE
401151995	FORM 2A SUBMITTED
401152284	NRCS MAP UNIT DESC
401155649	LOCATION PICTURES
401157430	ACCESS ROAD MAP
401159068	SURFACE AGRMT/SURETY
401160033	LOCATION DRAWING

Total Attach: 8 Files

### General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Permit	Final Review Completed.	02/02/2017
OGLA	Per Operator email (Attachment Document #1010163), changed the Drilling Waste Management Program to Land Application and Beneficial Reuse.  Land Application Facility #448951 has been approved with a Land Application Plan.	01/27/2017
OGLA	Per Operator, Surface location is now under the ownership of Expedition Water Services. Surface Owner information and Right to Construct has been changed to reflect the change in ownership.	01/27/2017
OGLA	The Location lies within the Lost Creek Designated Groundwater Management Area and Basin and has an estimated reported depth to groundwater of 12 feet. Sensitive Area has been changed to YES. Activities at this Location will not involve the use of drilling pits. No additional Conditions of Approval are warranted at this time.  Plant Community has been unchecked as the Location lies within Dry Land Crop Land.	01/26/2017
Permit	Permitting Review Complete.	12/15/2016
Permit	Passes completeness.	12/04/2016

Total: 6 comment(s)