

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:

401553478

Date Received:

04/04/2018

Oil and Gas Location Assessment

New Location     Refile     Amend Existing Location    Location#: 334745

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:

**334745**

Expiration Date:

**05/09/2021**

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: 96850  
 Name: TEP ROCKY MOUNTAIN LLC  
 Address: PO BOX 370  
 City: PARACHUTE    State: CO    Zip: 81635

Contact Information

Name: Vicki Schoeber  
 Phone: (970) 263-2721  
 Fax: ( )  
 email: vschoeber@terraep.com

RECLAMATION FINANCIAL ASSURANCE

- Plugging and Abandonment Bond Surety ID: 20160057     Gas Facility Surety ID: \_\_\_\_\_
- Waste Management Surety ID: \_\_\_\_\_

LOCATION IDENTIFICATION

Name: 5-Mile Ranch    Number: SG 32-26  
 County: GARFIELD  
 Quarter: LOT 6    Section: 26    Township: 7S    Range: 96W    Meridian: 6    Ground Elevation: 5076

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: 1822 feet FNL from North or South section line  
 2374 feet FEL from East or West section line

Latitude: 39.410693    Longitude: -108.075764

PDOP Reading: 2.3    Date of Measurement: 02/16/2018

Instrument Operator's Name: J. KIRKPATRICK

## 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>23</u>	Oil Tanks*	<u>    </u>	Condensate Tanks*	<u>3</u>	Water Tanks*	<u>3</u>	Buried Produced Water Vaults*	<u>    </u>
Drilling Pits	<u>    </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>24</u>	Injection Pumps*	<u>    </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>1</u>	Flare*	<u>    </u>	Pigging Station*	<u>    </u>

## 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:

1-10" temporary surface poly water supply line (approx. 1161') will be installed for completion operations.

23-2" steel well head flowlines will be installed between the wells and the separators. Four flexpipe dump lines (3-2" condensate/1-2" water) will be installed between the separators and the proposed tank battery. 1-4" ECD steel surface line will be installed between the tank battery and the ECD.

## CONSTRUCTION

Date planned to commence construction: 05/15/2018 Size of disturbed area during construction in acres: 5.20  
Estimated date that interim reclamation will begin: 05/15/2019 Size of location after interim reclamation in acres: 1.26  
Estimated post-construction ground elevation: 5076

## 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: Recycle/reuse

Cutting Disposal: ONSITE Cuttings Disposal Method: Cuttings trench

Other Disposal Description:

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: 5 Mile Ranch, LLC

Phone: 970-379-5001

Address: P.O. Box 88

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

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

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

City: New Castle State: CO Zip: 81647

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: Surface Use Agreement

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): Existing well pad

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): well pad

Subdivided:  Industrial  Commercial  Residential

**CULTURAL DISTANCE INFORMATION**

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

	<b>From WELL</b>	<b>From PRODUCTION FACILITY</b>
Building:	1266 Feet	1325 Feet
Building Unit:	1266 Feet	1328 Feet
High Occupancy Building Unit:	5280 Feet	5280 Feet
Designated Outside Activity Area:	5280 Feet	5280 Feet
Public Road:	436 Feet	239 Feet
Above Ground Utility:	283 Feet	125 Feet
Railroad:	3160 Feet	3338 Feet
Property Line:	411 Feet	239 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 (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.

**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: 4-Arvada loam, 6 to 20 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: 07/28/2017

List individual species: Bull Thistle

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: 1231 Feet

water well: 43 Feet

Estimated depth to ground water at Oil and Gas Location 80 Feet

Basis for depth to groundwater and sensitive area determination:

Sensitive area determination map

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: 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 609

**WILDLIFE**

This location is included in a Wildlife Mitigation Plan

This location was subject to a pre-consultation meeting with CPW held on 02/05/2018

**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 This is an existing location with 16 producing and 7 proposed wells. TEP will take references area photos of this location when the growing season starts and submit via Form 4 sundry notice.

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

Signed: \_\_\_\_\_ Date: 04/04/2018 Email: vschoeber@terraep.com  
 Print Name: Vicki Schoeber Title: Regulatory Specialist

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: 5/10/2018

**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.**

<b>COA Type</b>	<b>Description</b>
	In addition to the notifications required by COGCC listed in the Northwest Notification Policy (Notice of Intent to Construct a New Location, Notice of Intent to Spud Surface Casing, and Notice of Intent to Commence Hydraulic Fracturing Operations) and Rule 316C. COGCC Form 42. FIELD OPERATIONS NOTICE (a. Notice of Intent to Conduct Hydraulic Fracturing Treatment and c. Notice of Construction or Major Change); operator shall notify the COGCC 48 hours prior to onsite flowline/pipeline testing (flowlines from wellheads to separators to onsite blowdown tank; and/or any temporary surface lines used for hydraulic stimulation and/or flowback operations) using the Form 42 (as described in Rule 316C.m. Notice of Completion of Form 2/2A Permit Conditions). The appropriate COGCC individuals will automatically be email notified.

	<p>Operator must ensure secondary containment for any volume of fluids contained at the well site during drilling and completion operations; including, but not limited to, re-construction of a berm or diversion dike, diversion/collection trenches within and/or outside of berms/dikes, site re-grading, or other comparable measures (i.e., best management practices [BMPs] associated with fluid containment/control as well as stormwater management for the control of run-on and run-off) sufficiently protective of nearby surface water.</p> <p>The access road will be constructed and maintained as to not allow sediment to migrate from the access road to nearby surface water or any drainages leading to surface water.</p> <p>Strategically apply fugitive dust control measures to reduce fugitive dust and coating of vegetation and deposition in water sources. Operator shall employ practices for control of fugitive dust caused by other operations, including, but not limited to the use of speed restrictions, regular road maintenance, restriction of re-construction activity during high wind days, and silica dust controls when handling sand used in hydraulic fracturing operations. Additional management practices such as road surfacing, wind breaks and barriers may be used.</p>
	<p>The moisture content of water/bentonite based mud (WBM) generated drill cuttings managed onsite shall be kept as low as practicable to prevent accumulation of liquids greater than de minimis amounts. After drilling and completion operations have been completed, if any of the WBM drill cuttings will remain on the well pad location (cuttings management area, the cut portion of the pad, cuttings trench, dry cuttings drilling pit), they must be sampled and meet the applicable standards of Table 910-1. No liners (if used) are allowed to be disposed of with the drill cuttings. After the drill cuttings have been amended (if necessary) and placed on the well pad, sampling frequency of the drill cuttings (to be determined by the operator) shall be representative of the material left on location. No offsite disposal of cuttings to another oil and gas location (TEP's permitted Cuttings Trench locations or nearby locations) shall occur without prior approval of a Form 4 Sundry Notice specifying disposal location and waste characterization method. Commercial disposal of drill cuttings will also require notification to COGCC via a Form 4 Sundry Notice.</p> <p>Flowback and stimulation fluids must be sent to enclosed tanks, separators, or other containment/filtering equipment before the fluids can be placed into any pipeline storage vessel, or other open top containment located on the well pad; or into tanker trucks for offsite disposal. No open top tanks can be used for initial flowback fluids containment. The flowback and stimulation fluid tanks, separators, or other containment/filtering equipment must be placed on the well pad in an area constructed to be sufficiently impervious to contain any spilled or released material. No additional downgradient berming is required if operator constructs a sufficiently sized perimeter berm.</p>
	<p>Potential odors associated with the completions process and/or with long term production operations must be controlled/mitigated.</p>

The following COAs will apply to this Form 2A Permit if any temporary surface (COAs 1, 2, 3, and 4) or buried permanent (COA 1) flowlines and/or offsite pipelines (poly or steel) are used during operations at this oil and gas location:

COA 1 - Operator shall pressure test pipelines (flowlines from wellheads to separators to blowdown tank; pipelines from onsite separators to offsite storage tanks, and any temporary surface lines used for hydraulic stimulation and/or flowback operations) in accordance with Rule 1101.e.(1) prior to putting into initial service any temporary surface or permanent buried pipelines and following any reconfiguration of the pipeline network, and tested annually, unless agreed to by both parties that the flowlines can be managed under an approved COGCC variance.

COA 2 - Operator must routinely inspect the entire length of the surface pipeline to ensure integrity. Operator shall conduct daily inspections of surface poly pipeline routes for leaks during active transfer of fluids and implement best management practices to contain any unintentional release of fluids along all portions of the surface pipeline route where temporary pumps and other necessary equipment are located. Inspections shall be conducted by viewing the length of the pipeline; operator will endeavor to minimize surface disturbance during pipeline monitoring. In addition, pump stations along the surface poly or steel pipeline route will be continuously monitored when operating in order to swiftly respond to such a failure.

COA 3 - Operator will implement BMPs necessary to mitigate a potential for a release of fluids to impact streams, intermittent streams, ditches, and drainage crossings. For these crossings: if poly pipe is used on the surface, operator will ensure appropriate containment by either installing over-sized pipe "sleeves" which extend the length of the crossing and beyond to a distance deemed adequate to capture (catchment basins) and/or divert any possible release of fluids and prevent fluids from reaching the stream or drainage; installing over-sized pipe "sleeves" which extend the length of the crossing and installing shut off valves on either side of crossing instead of catchment basins; or develop an alternative means for containment. For all other pipeline materials, operator will implement BMPs necessary to mitigate a potential for E&P fluids not to reach groundwater or flowing surface water.

COA 4 - Operator will utilize, to the extent practical, all existing access and other public roads, and/or existing pipeline right-of-ways, when placing/routing the temporary surface pipelines. This will reduce surface disturbance and fragmentation of wildlife habitat in the area.

## Best Management Practices

<b>No</b>	<b>BMP/COA Type</b>	<b>Description</b>
1	Planning	<ul style="list-style-type: none"> <li>- Use existing roads where possible.</li> <li>- Combine utility infrastructure (gas, electric, and water) planning with roadway planning to avoid separate utility corridors.</li> <li>- Combine and share roads to minimize habitat fragmentation.</li> <li>- Where possible, consolidate pipeline and existing roadways, or roadways that are planned for development.</li> <li>- Maximize the use of directional drilling to minimize habitat loss/fragmentation.</li> <li>- Maximize use of remote telemetry for well monitoring to minimize traffic</li> </ul>
2	Drilling/Completion Operations	<ul style="list-style-type: none"> <li>- Install and maintain adequate measures to exclude all types of wildlife (e.g., big game, birds, and small rodents) from all fluid pits (e.g., fencing, netting, and other appropriate exclusion measures).</li> <li>- Conduct well completions with drilling operations to limit the number of rig moves and traffic.</li> <li>- TEP will ensure 110 percent secondary containment for any volume of fluids contained at the well site during drilling and completions operations.</li> <li>- TEP will implement best management practices to contain any unintentional release of fluids.</li> <li>- A closed loop system will be implemented.</li> </ul>
3	Interim Reclamation	<ul style="list-style-type: none"> <li>- Utilize staked soil retention blankets for erosion control and reclamation of large surface areas with 1.5:1 or steeper slopes. Avoid use of plastic blanket materials.</li> <li>- Use only certified weed-free native seed in seed mixes, except for non-native plants that benefit wildlife.</li> <li>- TEP will use certified, weed free grass hay, straw, hay or other mulch materials used for the reseeding and reclamation of disturbed areas.</li> <li>- Install exclusionary devices to prevent bird and other wildlife access to equipment stacks, vents and openings.</li> <li>- Reduce visits to well-sites through remote monitoring (i.e. SCADA) and the use of multi-function contractors.</li> <li>- Install and use locked gates or other means to prevent unauthorized vehicular travel on roads and facility rights-of-way.</li> <li>- Close and reclaim roads not necessary for development, including removing all bridges and culverts and recontouring/ reclaiming all stream crossings.</li> </ul>
4	CPW-Wildlife - Avoidance-Black Bear	The operator agrees to report bear conflicts immediately to CPW staff.
5	CPW-Wildlife - Minimization-Black Bear	The operator will implement Rule 1204.a.1 (also see General Operating Recommendations).
6	CPW-Wildlife - Minimization-Deer and Elk	The operator agrees to preclude the use of aggressive CPW-identified non-native grasses and shrubs in mule deer and elk habitat restoration.

Total: 6 comment(s)

## Attachment Check List

<u>Att Doc Num</u>	<u>Name</u>
401553478	FORM 2A SUBMITTED
401558676	NRCS MAP UNIT DESC
401558678	SENSITIVE AREA DATA
401558680	LOCATION PICTURES
401558683	ACCESS ROAD MAP
401558685	CONST. LAYOUT DRAWINGS
401558687	HYDROLOGY MAP
401558691	LOCATION DRAWING
401558692	MULTI-WELL PLAN
401558693	REFERENCE AREA MAP
401558695	OTHER
401558697	FACILITY LAYOUT DRAWING
401596197	SURFACE AGRMT/SURETY

Total Attach: 13 Files

### General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Permit	Final review complete.	05/07/2018
OGLA	04/19/2018 - passed by CPW; the site falls within a bald eagle winter roost buffer and elk and mule deer sensitive winter range habitat. Operator has confirmed that all operations will be completed by November 1st, 2018; however, if there are changes in scheduling, the operator will contact CPW regarding the best way to proceed to limit impacts on wintering wildlife; 05/06/2018 - onsite by COGCC; 05/07/2018 - initiated/completed OGLA Form 2A review by Dave Kubeczko; placed the following COAs on the Form 2A - notification, fluid containment and spill/release BMPs, sediment and dust control access road, cuttings containment and management, odor control, flowback to tanks only, temporary pipeline placement/inspection/containment, and pipeline testing; 05/07/2018 - passed OGLA Form 2A review by Dave Kubeczko; notification, fluid containment and spill/release BMPs, sediment and dust control access road, cuttings containment and management, odor control, flowback to tanks only, temporary pipeline placement/inspection/containment, and pipeline testing COAs.	05/07/2018
DOW	This permit application is to add wells to an existing FEE/FEE pad. The site falls within a bald eagle winter roost buffer and elk and mule deer sensitive winter range habitat. CPW has confirmed with the operator that all operations will be completed by November 1st, 2018. If there are changes in scheduling, the operator will contact CPW regarding the best way to proceed to limit impacts on wintering wildlife.  By: Taylor Elm, April 19, 2018, 9:16 a.m.	04/19/2018
Permit	Added comments to submit tab per Vicki Schoeber: "TEP will take references area photos of this location when the growing season starts and submit via Form 4 sundry notice"	04/16/2018

Total: 4 comment(s)