

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:

400584462

Date Received:

05/15/2014

Oil and Gas Location Assessment

New Location Refile Amend Existing Location Location#: _____

Submit signed original form. 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:

438277

Expiration Date:

07/24/2017

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: 46685
Name: KINDER MORGAN CO2 CO LP
Address: 17801 HWY 491
City: CORTEZ State: CO Zip: 81321

Contact Information

Name: Laura Getts
Phone: (970) 564-9100
Fax: (970) 565-8874
email: lgetts@ecosphere-services.com

RECLAMATION FINANCIAL ASSURANCE

Plugging and Abandonment Bond Surety ID: 20110027 Gas Facility Surety ID: _____

Waste Management Surety ID: _____

LOCATION IDENTIFICATION

Name: DOE CANYON Number: 17

County: DOLOROS

Quarter: TRT 68 Section: 4 Township: 40N Range: 18W Meridian: N Ground Elevation: 7153

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: 1029 feet FSL from North or South section line

1760 feet FEL from East or West section line

Latitude: 37.757850 Longitude: -108.849400

PDOP Reading: 5.9 Date of Measurement: 03/31/2014

Instrument Operator's Name: R.J. Caffey

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

400449562

FACILITIES

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

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

OTHER FACILITIES

Other Facility Type

Number

Glycol Injection Skid

1

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

Detailed information associated with this pipeline are still in the planning stages. The pipeline will have the following characteristics:

Diameter: 10"
Material: Carbon Steel with HDPE Liner
Fluids: CO2 and Water

CONSTRUCTION

Date planned to commence construction: 07/14/2014 Size of disturbed area during construction in acres: 5.50

Estimated date that interim reclamation will begin: 01/14/2015 Size of location after interim reclamation in acres: 1.00

Estimated post-construction ground elevation: 7150

DRILLING PROGRAM

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

Is H₂S anticipated? Yes

Will salt sections be encountered during drilling: Yes

Will salt based mud (>15,000 ppm Cl) be used? Yes

Will oil based drilling fluids be used? No

DRILLING WASTE MANAGEMENT PROGRAM

Drilling Fluids Disposal: OFFSITE Drilling Fluids Disposal Method: Recycle/reuse

Cutting Disposal: OFFSITE Cuttings Disposal Method: Commercial Disposal

Other Disposal Description:

Fluids: Recycle as much as possible; any excess will go to licensed UIC disposal facility. Cuttings are dewatered in a closed loop system and disposed of at a permitted commercial solid waste facility.

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: HUDGEONS KENNETH L. Phone: 970-677-2469

Address: P.O. BOX 891 Fax: _____

Address: _____ Email: _____

City: DOVE CREEK State: CO Zip: 81324

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: Bond

Surface damage assurance if no agreement is in place: Blanket Surface Surety ID: 20080051

Date of Rule 306 surface owner consultation 02/24/2014

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

Distance to nearest:

Building: 765 Feet
Building Unit: 796 Feet
High Occupancy Building Unit: 5280 Feet
Designated Outside Activity Area: 5280 Feet
Public Road: 298 Feet
Above Ground Utility: 280 Feet
Railroad: 5280 Feet
Property Line: 262 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.

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.

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: 04/04/2014

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: Map Unit 21 - Cahona-Sharps-Wetherill complex, 2 to 6 percent slopes

NRCS Map Unit Name: Map Unit 42 - Gladel-Pulpit complex, 3 to 9 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: _____

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, Chokeycherry)
 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: 361 Feet

water well: 1050 Feet

Estimated depth to ground water at Oil and Gas Location 46 Feet

Basis for depth to groundwater and sensitive area determination:

Depth to groundwater is determined by using depth recordings from nearby well permit applications on file with the Colorado Division of Water Resources.

Sensitive Area Determination:

The DC-17 CO2 well is not within a local wellhead protection area, is greater than 1/8 mile from a domestic water well, and is greater than 1/4 mile from a public water supply well, ground water basin, or surface water supply area.

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: _____

GROUNDWATER BASELINE SAMPLING AND MONITORING AND WATER WELL SAMPLING

Water well sampling required per Rule 609

DESIGNATED SETBACK LOCATION EXCEPTIONS

Check all that apply:

- Rule 604.a.(1)A. Exception Zone (within 500' of Building Unit)
- 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

Kinder Morgan CO2 Company may install glycol injection equipment on the well location, to address hydrate formation/line obstruction due to freezing. The tanks would be filled by a supply truck every 7 to 10 days, and would be operated between mid-October and June as weather conditions dictate. When not in operation, the skids would either remain installed on location, or be removed from the well location and stored during the off-season to protect them from potential vandalism as determined necessary by Kinder Morgan. The pumps are fairly quiet and should not be audible outside of the well pad area. A plot plan of the glycol skid equipment is attached.

The proposed well location currently falls within a potential Gunnison Sage Grouse Production Area. Kinder Morgan is currently consulting with the Colorado Division of Parks and Wildlife. Ecosphere Environmental Services was hired to conduct Gunnison Sage Grouse surveys in the vicinity of the proposed DC-17 well pad. The results of this survey were negative for Gunnison Sage Grouse. Please see the attached document for additional details.

There one water well located within a .5 mile radius of the DC-17 wellhead. If deemed suitable, testing will be conducted on this well per COGCC regulations. A Form 4 will be filed accordingly.

Oil & Gas leases are attached to the Form 2.

Pre-Application notifications were mailed to three landowners within the buffer zone on April 4th, 2014 (see attached). It has since been determined that there is only one active residence within the buffer zone.

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

Signed: _____ Date: 05/15/2014 Email: lgetts@ecosphere-services.com

Print Name: Laura Getts Title: Permitting 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: 7/25/2014

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

	<p>Notify the COGCC 48 hours prior to start of pad construction, rig mobilization, spud, start of hydraulic stimulation operations (if applicable), start of flowback operations (if applicable), and pipeline testing using Form 42 (the appropriate COGCC individuals will automatically be email notified, including the LGD for hydraulic stimulation operations).</p> <p>All personnel must be H2S trained and proper air monitoring for H2S must be implemented during drilling, completion, and production operations. Emergency response plan for H2S must be onsite at all times.</p>
	<p>A closed loop system (which operator has indicated on the Form 2A) must be implemented during drilling. All cuttings generated during drilling with high chloride mud must be kept in containers or on a lined/bermed portion of the well pad; prior to analysis and/or offsite disposal. The moisture content of any drill cuttings in a cuttings area or pile shall be as low as practicable to prevent accumulation of liquids greater than de minimis amounts.</p>
	<p>Operator shall pressure test pipelines 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.</p>

Best Management Practices

No	BMP/COA Type	Description
1	Planning	<p>Any material not in use that might constitute a fire hazard will be removed a minimum of 25 feet from the wellhead, tanks and separator.</p> <p>Any electrical installations inside the bermed area will comply with API RP 500 classifications and comply with the current national electrical code as adopted by the State of Colorado.</p>
2	Traffic control	<p>All access roads are fully compliant with local county road standards. Access roads are composed of compacted gravel. In an effort to mitigate dust, magnesium-chloride applications to the road surface are performed per an agreement with Dolores County.</p>
3	General Housekeeping	<p>Erosion control barriers, namely fiber wattles, will be placed at the edge of disturbance where necessary. Care will be taken to avoid disturbance outside of the project area unless it is deemed necessary for equipment stability and fire safety.</p> <p>During the construction, drilling, and completion phases, on-site trash dumpsters are emptied regularly by the local waste management company.</p> <p>The proposed well location will be drilled using a closed loop system and will therefore not use open pits.</p> <p>During drilling and completion operations, safety officers are present on location to ensure that livestock, wildlife, and unauthorized personnel do not enter the location.</p>
4	Storm Water/Erosion Control	<p>Diversion ditches will be implemented to divert run-on and run-off around the well pad. Compacted earthen berms will also be utilized to control stormwater run-on and runoff.</p> <p>Tackifier will be added to the stored topsoil piles and all slopes to prevent erosion.</p> <p>Stockpiled soils will have slopes not greater than 3:1.</p> <p>Stormwater BMPs will be maintained/amended by Kinder Morgan as site conditions change throughout the construction and reclamation process.</p>
5	Material Handling and Spill Prevention	<p>The use of a closed-loop drilling system will reduce the amount of waste produced and water used during drilling operations. Solid cuttings will be disposed of at a solid waste facility.</p> <p>Water that can no longer be reused or recycled will be disposed of in a Class I disposal well.</p> <p>Sufficiently impervious containment devices will be constructed around any condensate and produced water tanks. The containment devices will be sufficiently impervious to contain any spilled or released material. All containment devices will be inspected at regular intervals and maintained in good condition.</p> <p>Tanks are designed to meet all API 650 guidelines.</p>
6	Dust control	<p>In an effort to mitigate dust, magnesium-chloride applications to the road surface are performed per an agreement with Dolores County.</p>
7	Construction	<p>All equipment will be stored within the right-of-way (ROW) area of disturbance. Top soil will be removed to create a level pad for drilling and access road.</p> <p>Vegetation that does not need to be removed will be avoided during construction and removed vegetation will be cut near ground level, leaving the root system intact except where permanent facilities, roads, or ROWs, and wellpads require the complete removal of vegetation.</p>
8	Noise mitigation	<p>During normal operations, the well will remain within COGCC regulations for noise. However, during the construction phase of the project, this standard may be exceeded occasionally.</p>
9	Emissions mitigation	<p>Non-flammable CO₂ will be produced from the Leadville formation and thus green completion per rule 805 (3) does not apply.</p> <p>All CO₂ wells are equipped with a CO₂ leak detection monitor during drilling.</p>

10	Drilling/Completion Operations	<p>Blowout preventer equipment (BOPE) complies with COGCC equipment regulations.</p> <p>Kinder Morgan conducts a BOPE test and files a 24 hour notice (Form 42) at the initial rig-up time, after each casing emplacement, and/or every 30 days.</p> <p>Adequate blowout prevention equipment is used on all well servicing operations.</p> <p>Backup stabbing valves are used on well servicing operations during reverse circulation and are pressure tested before each well servicing operation using both low-pressure air and high-pressure fluid.</p> <p>No pits are present at the well site.</p>
11	Interim Reclamation	Surface roughening, surface contouring, seeding, and weed control will be employed to facilitate vegetation reestablishment. Tackifier will be added to reclaimed areas.
12	Final Reclamation	All disturbed areas that are not necessary for operational procedures will be restored to at least 80 percent of pre-disturbance vegetative cover.

Total: 12 comment(s)

Attachment Check List

<u>Att Doc Num</u>	<u>Name</u>
2107059	CORRESPONDENCE
2519237	OTHER
2519238	OTHER
400584462	FORM 2A SUBMITTED
400588531	HYDROLOGY MAP
400588535	SENSITIVE AREA MAP
400592650	NRCS MAP UNIT DESC
400592655	LOCATION PICTURES
400592656	WELL LOCATION PLAT
400592657	OTHER
400593312	OTHER
400593343	PROPOSED BMPs
400594101	ACCESS ROAD MAP
400603399	30 DAY NOTICE LETTER
400605668	ECOLOGIC RESOURCE SURVEY
400608772	FACILITY LAYOUT DRAWING
400608773	FACILITY LAYOUT DRAWING
400608784	LOCATION DRAWING
400608799	OTHER
400608813	HYDROLOGY MAP B, AERIAL

Total Attach: 20 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Permit	Final review completed; no LGD or public comment received.	7/24/2014 2:32:58 PM
Permit	Requested proof that the building unit owner received pre-app notice. Operator provide the receipts.	7/24/2014 7:57:15 AM
DOW	<p>CPW, COGCC, and the Operator conducted an onsite of the KM DC 17 CO2 well on June 19 2014. The proposal includes construction of a 5.5 acre well pad adjacent to County Road J, and construction of approximately 3.0 miles of gathering pipeline. The pipeline route is primarily adjacent to existing two-track roads and cultivated fields, but crosses six intermittent drainages and woody draws including Cross Canyon. The well will be accessed via existing County Roads 10 and J.</p> <p>Mule deer and elk use this area extensively in the fall and winter months. As SWH included with the permit application. CPW has mapped the well pad and portions of the pipeline route as a winter concentration area for elk. The well pad, access route, and portions of the pipeline route are all within a mapped production area for Gunnison sage-grouse. Significant portions of the pipeline route are adjacent to uncultivated natural areas and woody draws that provide quality wildlife habitat. For pipeline disturbance areas that will be reclaimed to wildlife habitat in these areas, CPW recommends using the a wildlife seed mix if the approved by the surface owners (emailed to COGCC).</p> <p>In order to minimize any potential impacts to Gunnison sage-grouse nesting activities in the project area, CPW recommends that all construction activities associated with the DC-17 well pad, access road and gathering pipeline be constructed outside of the nesting and early brood rearing season for this species (March 1 – June 30).</p> <p>At the onsite the operator agreed to the seasonal timing restriction at the onsite to minimize impacts to gunnison sage grouse.</p>	6/23/2014 1:27:59 PM
OGLA	Initiated/Completed OGLA Form 2A review on 05-20-14 by Dave Kubeczko; requested acknowledgement of notification, H2S training, cuttings containment/low moisture content, and pipeline testing COAs from operator on 05-20-14; received acknowledgement from operator on 05-20-14; corrected distance to nearest SW from 1270' to 865', stream to northwest on aerial photo and topo map; corrected depth to GW from 254' bgs (depth of well) to 60' bgs (water level reported in water well database); passed by CPW on 06-23-14 with recommendations for timing limitations and seed mix, no operator concurrence; passed OGLA Form 2A review on 07-23-14 by Dave Kubeczko; notification, H2S training, cuttings containment/low moisture content, and pipeline testing COAs.	5/20/2014 5:11:21 PM
Permit	Surface use agreement not signed by Kinder Morgan. Operator requests that they bond on. Will change to bond when permit gets close to approval.	5/19/2014 6:47:02 AM
Permit	Passed completeness	5/16/2014 10:39:46 AM

Total: 6 comment(s)