

FORM 2A

Rev 04/01

State of Colorado Oil and Gas Conservation Commission

1120 Lincoln Street, Suite 801, Denver, Colorado 80205 Phone: (303) 894-2100 Fax: (303) 894-2109



Table with columns DE, ET, OE, ES

Document Number: 400213636

Oil and Gas Location Assessment

[X] New Location [] Amend Existing Location Location#: _____

Submit original plus one copy. This form is to be submitted to the COGCC prior to any ground disturbance activity associated with oil and gas development operations...

Location ID: 426930 Expiration Date: 12/15/2014

[X] This location assessment is included as part of a permit application.

1. CONSULTATION

- [] This location is included in a Comprehensive Drilling Plan. CDP # _____
[X] 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.

2. Operator

Operator Number: 10255
Name: QUICKSILVER RESOURCES INC
Address: 801 CHERRY ST - #3700 UNIT 19
City: FT WORTH State: TX Zip: 76102

3. Contact Information

Name: Pamela Osburn
Phone: (817) 665-4918
Fax: (817) 665-5009
email: posburn@qrinc.com

4. Location Identification:

Name: K-DIAMOND RANCH Number: 44-17
County: MOFFAT
Quarter: SESE Section: 17 Township: 6N Range: 92W Meridian: 6 Ground Elevation: 6482

Define a single point as a location reference for the facility location. This point should be used as the point of measurement in the drawings to be submitted with this application.

Footage at surface: 824 feet FSL, from North or South section line, and 843 feet FEL, from East or West section line.
Latitude: 40.465833 Longitude: -107.737450 PDOP Reading: 1.1 Date of Measurement: 05/04/2011
Instrument Operator's Name: G. M.

5. Facilities (Indicate the number of each type of oil and gas facility planned on location):

Special Purpose Pits: [] Drilling Pits: [0] Wells: [1] Production Pits: [] Dehydrator Units: []
Condensate Tanks: [2] Water Tanks: [1] Separators: [2] Electric Motors: [] Multi-Well Pits: []
Gas or Diesel Motors: [1] Cavity Pumps: [] LACT Unit: [] Pump Jacks: [1] Pigging Station: []
Electric Generators: [] Gas Pipeline: [] Oil Pipeline: [] Water Pipeline: [] Flare: []
Gas Compressors: [] VOC Combustor: [] Oil Tanks: [2] Fuel Tanks: []
Other: 1 HEATER TREATER

6. Construction:

Date planned to commence construction: 02/15/2012 Size of disturbed area during construction in acres: 2.27
Estimated date that interim reclamation will begin: 02/15/2013 Size of location after interim reclamation in acres: 1.00
Estimated post-construction ground elevation: 6480 Will a closed loop system be used for drilling fluids: Yes
Will salt sections be encountered during drilling: Yes No Is H2S anticipated? Yes No
Will salt (>15,000 ppm TDS Cl) or oil based muds be used: Yes No
Mud disposal: Offsite Onsite Method: Land Farming Land Spreading Disposal Facility
Other: _____

7. Surface Owner:

Name: _____ Phone: _____
Address: _____ Fax: _____
Address: _____ Email: _____
City: _____ State: _____ Zip: _____ Date of Rule 306 surface owner consultation: 02/23/2011
Surface Owner: Fee State Federal Indian
Mineral Owner: Fee State Federal Indian
The surface owner is: the mineral owner committed to an oil and gas lease
 is the executer of the oil and gas lease the applicant
The right to construct the location is granted by: oil and gas lease Surface Use Agreement Right of Way
 applicant is owner
Surface damage assurance if no agreement is in place: \$2000 \$5000 Blanket Surety ID _____

8. Reclamation Financial Assurance:

Well Surety ID: 20080107 Gas Facility Surety ID: _____ Waste Mgmt. Surety ID: _____

9. Cultural:

Is the location in a high density area (Rule 603.b.): Yes No
Distance, in feet, to nearest building: 5280, public road: 8760, above ground utilit: 5280
, railroad: 20275, property line: 842

10. 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

11. 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

12. Soils:

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.gov/> 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: 22: BULKLEY SILTY CLAY: 3% TO 12% SLOPE

NRCS Map Unit Name: _____
NRCS Map Unit Name: _____

13. 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: 05/04/2011
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): _____

14. Water Resources:

Rule 901.e. may require a sensitive area determination be performed. If this determination is performed the data is to be submitted with the Form 2A.

Is this a sensitive area: No Yes Was a Rule 901.e. Sensitive Areas Determination performed: No Yes
Distance (in feet) to nearest surface water: 1023, water well: 5280, depth to ground water: 50
Is the location in a riparian area: No Yes Was an Army Corps of Engineers Section 404 permit filed No Yes
Is the location within a Rule 317B Surface Water Suppl Area buffer zone:
 No 0-300 ft. zone 301-500 ft. zone 501-2640 ft. 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: No Yes

15. Comments:

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

Signed: _____ Date: 10/11/2011 Email: posburn@qrinc.com
Print Name: PAMELA S. OSBURN Title: Sr. REGULATORY ANALYST

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: David S. Neslin Director of COGCC Date: 12/16/2011

CONDITIONS OF APPROVAL, IF ANY:

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.

SITE SPECIFIC COAs:

The drilling pit, if constructed, must be lined, or a closed loop system (which operator has indicated on the Form 2A) must be implemented during drilling. All cuttings generated during drilling with OBM/high chloride mud must be kept in the lined drilling pit, or placed either 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 pit, trench, or pile shall be as low as practicable to prevent accumulation of liquids greater than de minimis amounts.

Operator must implement best management practices to contain any unintentional release of fluids, including any fluids conveyed via temporary surface or buried pipelines.

Operator must ensure secondary containment for any volume of fluids contained at well site during drilling and completion operations; including, but not limited to, construction of a berm or diversion dike, diversion/collection trenches within and/or outside of berms/dikes, site grading, or other comparable measures (i.e., best management practices (BMPs) associated with stormwater management) sufficiently protective of nearby surface water. Any berm constructed at the well pad location will be stabilized, inspected at regular intervals (at least every 14 days), and maintained in good condition.

Flowback and stimulation fluids must be sent to tanks, separators, or other containment/filtering equipment before the fluids can be placed into any pipeline or pit located on the well pad or into tanker trucks for offsite disposal. The flowback and stimulation fluid tanks, separators, or other containment/filtering equipment must be placed on the well pad in an area with additional downgradient perimeter berming. The area where flowback fluids will be stored/reused must be constructed to be sufficiently impervious to contain any spilled or released material.

Attachment Check List

Att Doc Num	Name
2034070	CORRESPONDENCE
2034071	PROPOSED BMPs
400213636	FORM 2A SUBMITTED
400213689	ACCESS ROAD MAP
400213690	CONST. LAYOUT DRAWINGS
400213691	HYDROLOGY MAP
400213692	LOCATION DRAWING
400213694	LOCATION PICTURES
400213695	WELL LOCATION PLAT
400213698	NRCS MAP UNIT DESC
400213700	REFERENCE AREA MAP
400213702	REFERENCE AREA PICTURES
400213704	SURFACE AGRMT/SURETY

Total Attach: 13 Files

General Comments

User Group	Comment	Comment Date
Permit	No public or LGD comments Comprehensive Final Review status -- Passed	12/13/2011 9:59:43 AM
DOW	<p>Quicksilver and CPW have agreed to the following BMPs/COAs</p> <p>Avoid oil and gas activities within mule deer critical winter range, elk winter concentration areas, and antelope winter concentration areas.</p> <p>Where oil and gas activities must occur in mule deer critical winter range, elk winter concentration areas, and antelope winter concentration areas, conduct these activities outside the time period from December 1 through April 15.</p> <p>Restrict post-development well site visitations to between the hours of 10:00 a.m. and 3:00 p.m. and reduce well site visitations between December 1 and April 15 in mule deer critical winter range, elk winter concentration areas, and antelope winter concentration areas.</p> <p>Establish company guidelines to minimize wildlife mortality from vehicle collisions on roads.</p> <p>Gate single purpose roads and restrict general public access to reduce traffic disruptions to wildlife.</p> <p>Close and immediately reclaim all roads that are redundant, not used regularly, or have been abandoned to the maximum extent possible to minimize disturbance and habitat fragmentation.</p> <p>Avoid aggressive, non-native grasses and shrubs in mule deer, elk and antelope habitat restoration.</p> <p>Reclaim mule deer, elk, and antelope habitats with native shrubs, grasses, and forbs appropriate to the ecological site disturbed; or as directed by the landowner.</p> <p>Restore appropriate sagebrush species or subspecies on disturbed sagebrush sites. Use locally collected seed for reseeding where possible.</p> <p>Limit fence construction in pronghorn habitat. Use CPW recommended pronghorn fence designs.</p> <p>Friday, November 18, 2011 at 10:50 a.m.</p>	11/18/2011 10:50:49 AM
Permit	Changed instrument operator from company's name to party foreman's name Added Related Forms information	11/4/2011 3:07:16 PM
OGLA	Initiated/Completed OGLA Form 2A review on 10-27-11 by Dave Kubeczko; requested acknowledgement of fluid containment, spill/release BMPs, lined pits/closed loop, cuttings containment, moisture content cuttings, and flowback to tanks COAs from operator on 10-27-11; received acknowledgement of COAs from operator on 10-28-11; changed distance to SW to 1023'; passed by CDPW on 11-18-11 with operator agreed to BMPs acceptable; passed OGLA Form 2A review on 11-29-11 by Dave Kubeczko; fluid containment, spill/release BMPs, lined pits/closed loop, cuttings containment, moisture content cuttings, and flowback to tanks COAs.	10/27/2011 4:29:31 PM
Permit	Operator corrected errors. Form has passed completeness.	10/12/2011 10:27:50 AM
Permit	Returned to draft. This area is not in a RSO, missing cultural and soil distances, and missing water resources distances.	10/11/2011 4:01:55 PM

Total: 6 comment(s)

BMP

<u>Type</u>	<u>Comment</u>
Wildlife	<p>MULE DEER, ELK & PRONGHORN ANTELOPE</p> <p>? Avoid oil and gas activities within mule deer critical winter range, elk winter concentration areas, and antelope winter concentration areas.</p> <p>? Where oil and gas activities must occur in mule deer critical winter range or elk winter concentration areas, and antelope winter concentration areas, conduct these activities outside the time period from December 1 through April 15.</p> <p>? Restrict post-development well site visitations to between the hours of 10:00 a.m. and 3:00 p.m. and reduce well site visitations between December 1 and April 15 in mule deer, elk winter concentration, and pronghorn antelope winter concentration area.</p> <p>? Establish company guidelines to minimize wildlife mortality from vehicle collisions on roads.</p> <p>? Gate single-purpose roads and restrict general public access to reduce traffic disruptions to wildlife.</p> <p>? Close and immediately reclaim all roads that are redundant, not used regularly, or have been abandoned to the maximum extent possible to minimize disturbance and habitat fragmentation.</p> <p>? Avoid aggressive non-native grasses and shrubs in mule deer, elk, and antelope habitat restoration.</p> <p>? Reclaim mule deer, elk, and antelope habitats with native shrubs, grasses, and forbs appropriate to the ecological site disturbed. Or as directed by landowner.</p> <p>? Restore appropriate sagebrush species or subspecies on disturbed sagebrush sites. Use locally collected seed for reseeding where possible.</p> <p>? Limit fence construction in pronghorn habitat. Use CDOW recommended pronghorn fence designs.</p> <p>? Restore appropriate sagebrush species or subspecies on disturbed sagebrush sites. Use locally collected seed for reseeding where possible. Sagebrush is less important in pronghorn reclamation on the eastern plains than it is in western Colorado (west of I-25).</p>

Total: 1 comment(s)