

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:

400502011

Date Received:

Oil and Gas Location Assessment

☐ New Location ☐ Refile ☒ Amend Existing Location Location#: 331358

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:

331358

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: 47120
Name: KERR-MCGEE OIL & GAS ONSHORE LP
Address: P O BOX 173779
City: DENVER State: CO Zip: 80217-3779

Contact Information

Name: Cheryl Light
Phone: (720) 929-6461
Fax: (720) 929-7461
email: cheryl.light@anadarko.com

RECLAMATION FINANCIAL ASSURANCE

☒ Plugging and Abandonment Bond Surety ID: 20010124 ☐ Gas Facility Surety ID: _____
☐ Waste Management Surety ID: _____

LOCATION IDENTIFICATION

Name: VOGEL STATE Number: 39N-36HZ
County: WELD
QuarterQuarter: SWSW Section: 36 Township: 3N Range: 68W Meridian: 6 Ground Elevation: 4818
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: 645 feet FSL from North or South section line
721 feet FWL from East or West section line
Latitude: 40.176928 Longitude: -104.958091
PDOP Reading: 1.5 Date of Measurement: 08/21/2013
Instrument Operator's Name: BEN HARDENBERGH

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

400502188

FACILITIES

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

Wells	8	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	3	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

Flow lines	9
Temporary 500 bbl tanks	2

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

Two 500 barrel skid mounted frac tanks will be temporarily placed on-site for use of the pre-spud rig only. One tank will store water and the other will store water based mud.

Please see comments section for flow line description.

CONSTRUCTION

Date planned to commence construction: 04/01/2014 Size of disturbed area during construction in acres: 10.00

Estimated date that interim reclamation will begin: 07/21/2014 Size of location after interim reclamation in acres: 5.00

Estimated post-construction ground elevation: 4818

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: Recycle/reuse

Cutting Disposal: OFFSITE

Cuttings Disposal Method: Other

Other Disposal Description:

Please see Comments section. Disposal description will not fit in space provided.

Beneficial reuse or land application plan submitted? Yes

Reuse Facility ID: or Document Number:

Centralized E&P Waste Management Facility ID, if applicable: 149021

SURFACE & MINERALS & RIGHT TO CONSTRUCT

Name: Richard & Margaret Vogel

Phone: 303-915-4965

Address: Living Trust

Fax: _____

Address: 11995 CR 11.25

Email: _____

City: Longmont State: CO Zip: 80504

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: 20010125

Date of Rule 306 surface owner consultation 08/05/2013

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: 716 Feet
Building Unit: 716 Feet
High Occupancy Building Unit: 5280 Feet
Designated Outside Activity Area: 5280 Feet
Public Road: 864 Feet
Above Ground Utility: 858 Feet
Railroad: 5280 Feet
Property Line: 925 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: 09/25/2013

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: 3 AQUOLLS AND AQUENTS, GRAVELLY SUBSTRATUM

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: _____

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: 235 Feet

water well: 815 Feet

Estimated depth to ground water at Oil and Gas Location 1 Feet

Basis for depth to groundwater and sensitive area determination:

Sensitive area determination: Surface water feature less than 1000' from location and nearest water well has a depth to groundwater less than 20'.

Basis for depth to groundwater: Identified water well (Permit # 103101A) located approximately 815' SE of the proposed oil and gas location. Depth to groundwater at water well is 6' and the water well is at an elevation of approximately 4818'.

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 318A

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

Other Disposal Description:

Drilling fluids disposal: KMG will reuse water-based drilling fluids to the maximum extent at which point they will either be land applied or taken to a licensed, commercial disposal site; decided upon based off of laboratory analysis of fluids. Cuttings disposal: If the surface owner authorizes, and if it is feasible for this location at the time of drilling, water-based cuttings will be disposed of onsite using bioremediation/solidification product. If the surface owner does not authorize onsite disposal and/or it is not feasible for this location at the time of drilling, water-based cuttings will be disposed of using a Centralized E&P Waste Management facility or a private spread field.

Flow line description:

Three additional flow lines will flow to the production facility location from the new wells. During production, flow direction in the flow lines is from the well head to the production facility. The size of flow lines is typically 2". Flow lines are constructed from steel pipe, are buried, and vary in length generally equaling the distance between the well heads and the tank battery (typically ranging from 75' to 3500" feet).

Three additional fuel gas supply lines will also be installed from the new well heads to the production facility. During operation flow direction in the supply lines will be from the production facility to the well head. The size of the supply lines is typically 1". Supply lines are constructed from poly or steel pipe, buried, and vary in length generally equaling the distance between the well heads and the tank battery (typically ranging from 75' to 3500" feet).

Gas lift lines are also occasionally installed (one per well) from the well head to the production facility. During operation flow direction in the gas lift lines will be from the production facility to the well head. The size of the gas lift lines is typically 2". Gas lift lines are constructed from steel pipe, buried, and vary in length generally equaling the distance between the well heads and the tank battery (typically ranging from 75' to 3500" feet).

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

Signed: _____ Date: _____ Email: DJRegulatory@anadarko.com

Print Name: Lauren Kucera Title: Regulatory Analyst II

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.

<u>COA Type</u>	<u>Description</u>
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Best Management Practices

<u>No</u>	<u>BMP/COA Type</u>	<u>Description</u>
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1	Planning	604c.(2).E. Multiwell Pads: In order to reduce surface impact, this 2A application is requesting approval to add three new wells to an existing five-well pad.
2	Planning	604c.(2).Q. Guy Line Anchors: Should guy line anchors be left buried for future use, they shall be identified by a bright marker greater than four (4) feet high and no more than one (1) foot east of the guy line anchor.
3	Planning	604c.(2).R. Tank Specifications: Two 500 barrel skid mounted frac tanks will be temporarily placed on-site for use of the pre-spud rig only. One tank will store water and the other will store water based mud.
4	Planning	604c.(2).S. Access Roads: KMG will utilize a lease access road from Weld County Road 26 for drilling operations and maintenance equipment. The road will be properly constructed and maintained to accommodate for local emergency vehicle access. Water will be placed on dirt access roads to mitigate dust. Magnesium chloride will be used as needed on access roads to further abate dust.
5	Planning	604c.(2).V. Development From Existing Well Pads: KMG will locate the three new horizontal wells on the existing location with Location ID # 331358 to reduce the amount of surface disturbance.
6	Traffic control	604c.(2).D. Traffic Plan: If required by the local government, a traffic plan will be coordinated with the local jurisdiction prior to commencement of operations.

7	General Housekeeping	604c.(2).O. Loadlines: All loadlines shall be bullplugged or capped.
8	General Housekeeping	604c.(2).P. Removal of Surface Trash: A commercial size trash bin for removing debris will be located on site. This bin will be for use by all parties affiliated with the operation.
9	Storm Water/Erosion Control	604c.(2).W. Site-specific Measures: KMG maintains a Stormwater Management Plan that assesses erosion control for every KMG operated location. This well pad will be added to this plan once construction begins. This plan is updated every fourteen (14) days and after any major weather event.
10	Material Handling and Spill Prevention	604c.(2).N. Control of Fire Hazards: KMG and its contractors will employ best management practices during the drilling and production of its wells and facilities and will comply with appropriate COGCC rules concerning safety and fire. KMG will ensure that any material that might be deemed a fire hazard will remain no less than twenty-five (25) feet from the wellhead(s), tanks and separator(s).
11	Construction	604c.(2).G. Berm Construction: Kerr-McGee will create secondary containment by construction of a berm or diversion dike, site grading, or other comparable measures sufficient to further protect the wetlands located 235' northeast and the ditches located 265' east and 781' southwest of the proposed oil and gas location.
12	Construction	604c.(2).M. Fencing Requirements: The completed wellsites will be surrounded with a fence and gate with adequate lock to restrict access to authorized personnel only. KMG personnel will monitor the wellsites regularly upon completion of the wells. Authorized representatives and/or KMG personnel shall be on-site during drilling and completion operations.
13	Noise mitigation	Sound mitigation barriers (hay bales) will be placed along the south-eastern side of the pad location to damper noise during drilling and completions to the nearby residence. Sound surveys that have been conducted on each rig type are utilized to anticipate any additional noise mitigation once a drilling rig is determined.
14	Drilling/Completion Operations	604c.(2).B. Closed Loop Drilling System: KMG will use a closed loop or "pitless" system for drilling and fluid management and will not construct a reserve pit.
15	Drilling/Completion Operations	604c.(2).H. BOPE: Our rigs at a minimum will have a double ram with blind and pipe ram; and annular preventer.
16	Drilling/Completion Operations	604c.(2).I. BOPE Testing for Drilling Operations: Upon initial rig-up, BOPEs will be tested at a minimum of every 30 days.
17	Drilling/Completion Operations	604c.(2).J. BOPE for Well Servicing Operations: Blowout prevention equipment will be used on any servicing operations associated with this well. Backup stabbing valves will be used during any future servicing operations during reverse circulation. Valves shall be pressure tested before each well servicing operation using low-pressure air and high-pressure fluid.
18	Drilling/Completion Operations	604c.(2).K. Pit Level Indicators: All tanks (used in lieu of pits) contain pit level monitors with Electronic Drilling Recorders (EDR). KMG uses EDRs with pit level monitor(s) and alarm(s) for production rigs. Basic level gages are used on tanks utilized for the surface rig.
19	Drilling/Completion Operations	604c.(2).L. Drill Stem Tests: No drill stem tests are planned and none will be performed without prior approval from the director.
20	Final Reclamation	604c.(2).T. Well Site Cleared: The wellsite will be cleared of all non-essential equipment within ninety (90) days after all wells associated with the pad have been plugged and abandoned.
21	Final Reclamation	604c.(2).U. Identification of Plugged and Abandoned Wells: Pursuant to rule 319.a.(5)., once the well has been plugged and abandoned, KMG will identify the location of the wellbore with a permanent monument that will detail the well name and date of plugging.

Total: 21 comment(s)

Attachment Check List

<u>Att Doc Num</u>	<u>Name</u>
400502093	OTHER
400502095	NRCS MAP UNIT DESC
400502096	ACCESS ROAD MAP
400502097	LOCATION PICTURES
400502098	HYDROLOGY MAP
400502102	WELL LOCATION PLAT
400502106	LOCATION DRAWING
400502162	MULTI-WELL PLAN
400502164	WASTE MANAGEMENT PLAN
400502165	FACILITY LAYOUT DRAWING

Total Attach: 10 Files

General Comments

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

Total: 0 comment(s)