

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:

400718347

0

Date Received:

12/05/2014

Oil and Gas Location Assessment

☐ New Location ☐ Refile ☒ Amend Existing Location Location#: 418028

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:

418028

Expiration Date:

01/08/2018

☒ 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: CREAM TANK BATTERY Number: 15N-B28HZ
County: WELD
QuarterQuarter: NENE Section: 28 Township: 3N Range: 65W Meridian: 6 Ground Elevation: 4815
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: 570 feet FNL from North or South section line
181 feet FEL from East or West section line
Latitude: 40.202125 Longitude: -104.659908
PDOP Reading: 6.0 Date of Measurement: 07/23/2014
Instrument Operator's Name: ROB WILSON

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

Production Facilities Location serves Well(s)

400675663

318965

302872

306747

FACILITIES

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

Wells	Oil Tanks*	Condensate Tanks*	2	Water Tanks*	4	Buried Produced Water Vaults*	
Drilling Pits	Production Pits*	Special Purpose Pits		Multi-Well Pits*		Modular Large Volume Tanks	
Pump Jacks	Separators*	26	Injection Pumps*	Cavity Pumps*		Gas Compressors*	
Gas or Diesel Motors*	Electric Motors		Electric Generators*	Fuel Tanks*		LACT Unit*	2
Dehydrator Units*	Vapor Recovery Unit*	8	VOC Combustor*	2	Flare*	Pigging Station*	

OTHER FACILITIES*

Other Facility Type

Number

GAS PIPELINE	3
OIL PIPELINE	1
FLOW LINES	57

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:

Please see Comments section. Description of pipelines and flow lines does not fit in space provided.

CONSTRUCTION

Date planned to commence construction: 01/10/2015 Size of disturbed area during construction in acres: 4.00
Estimated date that interim reclamation will begin: 04/10/2015 Size of location after interim reclamation in acres: 4.00
Estimated post-construction ground elevation: 4815

DRILLING PROGRAM

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

Is H₂S anticipated? _____

Will salt sections be encountered during drilling: _____

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

Will oil based drilling fluids be used? _____

DRILLING WASTE MANAGEMENT PROGRAM

Drilling Fluids Disposal: _____

Drilling Fluids Disposal Method: _____

Cutting Disposal: _____

Cuttings Disposal Method: _____

Other Disposal Description:

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: MORWAI DAIRY LLC

Phone: _____

Address: PO BOX 205

Fax: _____

Address: _____

Email: _____

City: FORT LUPTON State: CO Zip: 80621

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 07/11/2014

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

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

	From WELL	From PRODUCTION FACILITY
Building:	Feet	256 Feet
Building Unit:	Feet	261 Feet
High Occupancy Building Unit:	Feet	5280 Feet
Designated Outside Activity Area:	Feet	5280 Feet
Public Road:	Feet	46 Feet
Above Ground Utility:	Feet	72 Feet
Railroad:	Feet	5280 Feet
Property Line:	Feet	50 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.

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: 09/12/2014

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 (onll 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.

The surface owner specifically requested that we expand the existing production facility in order to reduce truck traffic through his property, consolidate our activity and allow him the flexibility to install an irrigation pivot at some point in the future. The surface owner owns the building unit to the north and has no concerns with the proposed facility placement.

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: 49 OSGOOD SAND, 0 TO 3 PERCENT SLOPES

NRCS Map Unit Name: 69 VALENT SAND, 0 TO 3 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, 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: 715 Feet

water well: 239 Feet

Estimated depth to ground water at Oil and Gas Location 31 Feet

Basis for depth to groundwater and sensitive area determination:

Basis for depth to groundwater: Identified water well (permit # 64845) located approximately 239' NW of the proposed oil and gas location. Depth to groundwater at water well is 31' and the water well is at an elevation of approximately 4,815'.

Location Elevation: 4,815'

Nearest surface water features:

Wetland: 715' SE, Elevation: 4,814'

Pond: 1,425' E, Elevation: 4,813'

Wetland: 1,506' NE, Elevation: 4,808'

Nearest water wells:

239' NW, Permit 64845, depth 380', Static Water Level 31', Elev 4,815'

540' WSW, Permit 25722, depth 25', Static Water Level 13', Elev 4,817'

SENSITIVE AREA: Surface water feature within 1,000'

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	<p>The proposed facility included in this disturbance area will collect the Cream 15N-B28HZ pad and the Cheese 16N-28HZ pad (17 HZ wells in total). It will also collect the Moser H 28-1 (#306747), Moser H 28-27 (#302872) and Moser 41-28 (#318965).</p> <p>EXISTING FACILITY COMMENTS: The existing facilities 51' E and 88' SE, listed as #9 on the Location Drawing, will be rebuilt and expanded. The existing facility 837' N is a pipeline pig launcher (aboveground appurtenance) owned by another company. The existing facilities 253' E and 265' E are separate from the facilities listed at 51' E and 88' SE and will be left as is.</p> <p>PIPELINE DESCRIPTION: Pipelines: Buried pipelines will be utilized to gather the gas and oil product from the location (3 gas pipelines, 1 oil pipeline). Both gas and oil pipelines will be constructed from steel of suitable wall thickness and material grade to meet the respective gathering systems design pressure. Gas pipelines will range in diameter from 4" to 20"; oil pipelines from 4" to 12". Capacity of pipelines will vary based on diameter. Pipelines will begin at the location and terminate at larger trunk lines in the area.</p> <p>Temporary above ground polyethylene water pipelines (diameter 10" – 12" with a 60 BPM capacity) will deliver water to location operations from larger trunk lines.</p> <p>FLOWLINE DESCRIPTION: Flow Lines: 20 flow lines will flow to the production facility location. 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 will be constructed from steel pipe, buried, and will equal the distance between the well heads and the tank battery, approximately 1,300' for each well on the Cream pad (9 wells on 2A doc # 400675663), 700' for each well on the Cheese pad (8 wells on 2A doc # 400675663), 1,200' for existing location #302872, 400' for existing location #306747 and 1,000' for existing location #318965.</p> <p>20 fuel gas supply lines will also be installed from the well head 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 will be constructed from poly or steel pipe, buried, and will equal the distance between the well heads and the tank battery, approximately 1,300' for each well on the Cream pad (9 wells on 2A doc # 400675663), 700' for each well on the Cheese pad (8 wells on 2A doc # 400675663), 1,200' for existing location #302872, 400' for existing location #306747 and 1,000' for existing location #318965.</p> <p>Gas lift lines are also occasionally installed (one per new HZ 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 will be constructed from steel pipe, buried, and will equal the distance between the well heads and the tank battery, approximately 1,300' for each well on the Cream pad (9 wells on 2A doc # 400675663) and 700' for each well on the Cheese pad (8 wells on 2A doc # 400675663).</p>
----------	---

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

Signed: _____ Date: 12/05/2014 Email: DJRegulatory@anadarko.com

Print Name: Mike McConaughy 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:  Director of COGCC Date: 1/9/2015

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

	Operator shall provide notice to COGCC 48 hours prior to commencing construction of this Oil and Gas Location via Form 42.
--	--

Best Management Practices

No BMP/COA Type

Description

1	Planning	604c.(2).R. Tank Specifications: A geosynthetic liner will be laid under the tanks on this location and a metal containment will be constructed. Storage tanks will be designed, constructed and maintained in accordance with National Fire Protection Association (NFPA) Code 30 (2008 version). KMG will maintain written records to verify proper design, construction and maintenance. All records will be available for inspection by the Director.
2	Planning	604c.(2).S. Access Roads: KMG will utilize a lease access road from Weld County Road 30 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 as needed. If feasible, magnesium chloride will also be used as needed on access roads to further abate dust.
3	Planning	604c.(2).V. Development From Existing Well Pads: KMG will locate the proposed production facilities on an area with existing equipment to reduce the amount of surface disturbance associated with this project. KMG will be rebuilding the existing facility with equipment specified in the Facilities section of this Form 2A.
4	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.
5	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.
6	General Housekeeping	604c.(2).M. Fencing Requirements: The completed facility will be surrounded with a fence to restrict access to the facility. KMG personnel will monitor the facility regularly upon completion of the facility.
7	Storm Water/Erosion Control	604c.(2).W. Site-Specific Measures: KMG maintains a Storm Water Management Plan that assesses erosion control for every KMG operated location. This location will be added to this plan once construction begins. This site will be inspected every fourteen (14) days during construction activities, every thirty (30) days after construction is completed, and after any major weather event.
8	Material Handling and Spill Prevention	604c.(2).F. Leak Detection Plan: Automation technology will be utilized at this facility. This technology includes the use of fluid level monitoring for the tanks and produced water sumps, high-level shut offs, and electronic sensors to monitor the interstitial space of double-walled produced water sumps. All automation is monitored by Kerr-McGee's Integrated Operations Center (IOC), which is manned 24 hours per day, 7 days per week.

9	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).
10	Construction	604c.(2).G. Berm Construction: A geosynthetic liner will be laid under the tanks on this location and a metal containment will be constructed. Berms or other secondary containment devices will be constructed around crude oil, condensate, and produced water storage tanks and shall enclose an area sufficient to contain and provide secondary containment for 150% of the largest single tank.
11	Construction	604c.(2).G. Berm Construction: Kerr-McGee will create tertiary containment by construction of a berm or diversion dike, site grading, or other comparable measures sufficient to further protect the wetland located 715' SE of the proposed oil and gas location.
12	Drilling/Completion Operations	604c.(2).C. Green Completions: KMG will install Vapor Recovery Unit(s) (VRU) to prevent uncontrolled venting of flash gas. Environmental Control Devices or Volatile Organic Compound Combustors (VOC) will be used to control working and breathing vapor losses for oil and water tanks. Temporary above ground polyethylene water pipelines will deliver water to location operations from larger trunk lines to reduce truck traffic and minimize air pollution.
13	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 gauges are used on tanks utilized for the surface rig.

Total: 13 comment(s)

Attachment Check List

<u>Att Doc Num</u>	<u>Name</u>
2451179	RULE 306.E. CERTIFICATION
400718347	FORM 2A SUBMITTED
400718388	LOCATION DRAWING
400718389	ACCESS ROAD MAP
400718390	LOCATION PICTURES
400718392	NRCS MAP UNIT DESC
400718393	SURFACE AGRMT/SURETY
400718398	OTHER
400718401	WASTE MANAGEMENT PLAN
400718402	HYDROLOGY MAP
400746499	FACILITY LAYOUT DRAWING

Total Attach: 11 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
#Error	Final Review Completed. No LGD or public comment received.	1/8/2015 4:20:46 PM
#Error	Requested BMP for fencing on 12/30/2014. Added information to BMPs per email from operator.	1/2/2015 10:31:35 AM
#Error	OGLA review is complete. No public comments received. OGLA task passed.	1/2/2015 10:30:44 AM
#Error	Attached Rule 306.e Cert at operator's request. Cultural distances are to facilities only. No wellheads planned at this location.	1/2/2015 10:00:07 AM
#Error	The Certification of Compliance with Rule 305.a Pre-Application Notice is under other.	12/23/2014 10:00:33 AM
#Error	BMP 1 and 3 also address 604.c.(3)i and ii. BMP #2 addresses 604.c.(2)S and 805.c.	12/22/2014 5:10:05 PM
#Error	Passed completeness.	12/11/2014 9:29:37 AM
#Error	Passed Buffer Zone completeness check	12/11/2014 8:36:11 AM
#Error	within buffer zone, sent to OGLA for further review.	12/8/2014 7:30:12 AM

Total: 9 comment(s)