

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:

400675663

(SUBMITTED)

Date Received:

Oil and Gas Location Assessment

☐ New Location ☐ Refile ☒ Amend Existing Location Location#: 302872

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:

**302872**

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: CREAM

Number: 15N-B28HZ

County: WELD

QuarterQuarter: NWNE Section: 28 Township: 3N Range: 65W Meridian: 6 Ground Elevation: 4827

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: 422 feet FNL from North or South section line

1435 feet FEL from East or West section line

Latitude: 40.202528 Longitude: -104.664398

PDOP Reading: 1.2 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 #**

Well Site is served by Production Facilities

400718347

## FACILITIES

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

|                       |       |                      |       |                      |       |                  |       |                               |       |
|-----------------------|-------|----------------------|-------|----------------------|-------|------------------|-------|-------------------------------|-------|
| Wells                 | 19    | Oil Tanks*           | _____ | Condensate Tanks*    | _____ | Water Tanks*     | _____ | Buried Produced Water Vaults* | _____ |
| Drilling Pits         | _____ | Production Pits*     | _____ | Special Purpose Pits | _____ | Multi-Well Pits* | _____ | Modular Large Volume Tanks    | _____ |
| Pump Jacks            | 17    | Separators*          | _____ | Injection Pumps*     | _____ | Cavity Pumps*    | _____ | Gas Compressors*              | _____ |
| Gas or Diesel Motors* | _____ | Electric Motors      | _____ | Electric Generators* | _____ | Fuel Tanks*      | _____ | LACT Unit*                    | _____ |
| Dehydrator Units*     | _____ | Vapor Recovery Unit* | _____ | VOC Combustor*       | _____ | Flare*           | _____ | Pigging Station*              | _____ |

## OTHER FACILITIES\*

**Other Facility Type**

**Number**

|                         |    |
|-------------------------|----|
| FLOW LINES              | 55 |
| TEMPORARY 500 BBL TANKS | 2  |

\*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:

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 one will store water based mud.

Please see Comments for description of flow lines as it does not fit in space provided.

## CONSTRUCTION

Date planned to commence construction: 01/01/2015

Size of disturbed area during construction in acres: 17.50

Estimated date that interim reclamation will begin: 09/01/2015

Size of location after interim reclamation in acres: 2.00

Estimated post-construction ground elevation: 4827

## 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: 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: 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:                         | 394 Feet  | Feet                     |
| Building Unit:                    | 643 Feet  | Feet                     |
| High Occupancy Building Unit:     | 5280 Feet | Feet                     |
| Designated Outside Activity Area: | 5280 Feet | Feet                     |
| Public Road:                      | 765 Feet  | Feet                     |
| Above Ground Utility:             | 552 Feet  | Feet                     |
| Railroad:                         | 5280 Feet | Feet                     |
| Property Line:                    | 421 Feet  | 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 (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 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: 70 VALENT SAND, 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, 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: 773 Feet

water well: 0 Feet

Estimated depth to ground water at Oil and Gas Location 23 Feet

Basis for depth to groundwater and sensitive area determination:

Basis for depth to groundwater: Identified water well (Permit # 25722) located approximately 0' of the proposed oil and gas location (located inside disturbance area). Depth to groundwater at water well is 13' and the water well is at an elevation of approximately 4,817'.

Loc Elevation: 4,827'

Distance to nearest surface water features:

Wetland: 773' SSE, Elevation: 4,818'

Distance to nearest water wells:

0', Permit 25722, depth 25', Static Water Level 13', Elevation 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

### 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: The surface owner has agreed to disposal of water-based cuttings onsite using bioremediation/solidification product.

### FLOWLINE DESCRIPTION:

Flow Lines: 19 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), 700' for each well on the Cheese pad (8), 1,200' for existing location #302872 and 400' for existing location #306747.

19 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), 700' for each well on the Cheese pad (8), 1,200' for existing location #302872 and 400' for existing location #306747.

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 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), 700' for each well on the Cheese pad (8), 1,200' for existing location #302872 and 400' for existing location #306747.

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: 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: \_\_\_\_\_

## 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.

## Best Management Practices

| No | BMP/COA Type                           | Description   |
|----|--|---|
| 1  | Planning                               | 604c.(2).E. Multiwell Pads: In order to reduce surface impact, this application is for a nine-well pad (Cream) and an eight-well pad (Cheese).  |
| 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 County Road 30 for drilling operations and maintenance equipment. The road will be properly constructed and maintained to accommodate for local emergency vehicle access.<br><br>Dust mitigation will be implemented on the access road for this location. 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. |
| 5  | Planning                               | 604c.(2).V. Development From Existing Well Pads: Drilling from an existing well pad was not feasible for the development of the wells on this proposed oil and gas location; however, this well pad will be considered for future well locations.   |
| 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 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.  |
| 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).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.   |
| 12 | Noise mitigation                       | 604c.(2).A. Noise: Pending a safety review after construction of the location, sound mitigation barriers (hay bales) will be placed along the northeastern side of the pad location to damper noise during drilling and completions to the nearby building units.<br><br>Sound surveys that have been conducted on each rig type are utilized to anticipate any additional noise mitigation once a drilling rig is determined.  |
| 13 | 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.   |
| 14 | 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.  |
| 15 | 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.  |
| 16 | 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.  |

|    |                                |  |
|----|--------------------------------|--|
| 17 | 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. |
| 18 | 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.   |
| 19 | 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.  |
| 20 | 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: 20 comment(s)

### **Attachment Check List**

| <b><u>Att Doc Num</u></b> | <b><u>Name</u></b>      |
|---------------------------|-------------------------|
| 400675708                 | LOCATION PICTURES       |
| 400675711                 | NRCS MAP UNIT DESC      |
| 400675713                 | WASTE MANAGEMENT PLAN   |
| 400675714                 | SURFACE AGRMT/SURETY    |
| 400718335                 | ACCESS ROAD MAP         |
| 400718338                 | OTHER                   |
| 400731384                 | HYDROLOGY MAP           |
| 400731393                 | WELL LOCATION PLAT      |
| 400731398                 | MULTI-WELL PLAN         |
| 400733705                 | LOCATION DRAWING        |
| 400733707                 | FACILITY LAYOUT DRAWING |

Total Attach: 11 Files

### **General Comments**

| <b><u>User Group</u></b> | <b><u>Comment</u></b> | <b><u>Comment Date</u></b> |
|--------------------------|-----------------------|----------------------------|
|                          |                       |                            |

Total: 0 comment(s)