

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:

401313191

Date Received:

06/30/2017

Oil and Gas Location Assessment

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

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:

453711

Expiration Date:

01/10/2021

☒ 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: CRAIG RICHARDSON

Phone: (720) 929.6092

Fax: (720) 929.7092

email: CRAIG.RICHARDSON@ANADAR
KO.COM

RECLAMATION FINANCIAL ASSURANCE

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

☐ Waste Management Surety ID: _____

LOCATION IDENTIFICATION

Name: QUARTER CIRCLE Number: 24-8HZ

County: WELD

QuarterQuarter: SESW Section: 24 Township: 1N Range: 67W Meridian: 6 Ground Elevation: 4940

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: 344 feet FSL from North or South section line

1819 feet FWL from East or West section line

Latitude: 40.030335 Longitude: -104.841879

PDOP Reading: 1.5 Date of Measurement: 12/08/2016

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)

401291753

FACILITIES

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

Wells	11	Oil Tanks*		Condensate Tanks*	2	Water Tanks*	5	Buried Produced Water Vaults*	
Drilling Pits		Production Pits*		Special Purpose Pits		Multi-Well Pits*		Modular Large Volume Tanks	
Pump Jacks	11	Separators*	23	Injection Pumps*		Cavity Pumps*		Gas Compressors*	
Gas or Diesel Motors*		Electric Motors		Electric Generators*		Fuel Tanks*		LACT Unit*	4
Dehydrator Units*		Vapor Recovery Unit*		VOC Combustor*	2	Flare*		Pigging Station*	

OTHER FACILITIES*

Other Facility Type

Number

Flow Lines	33
Temp 500 bbl tanks w/optional EC	2
Oil Pipeline	1
Gas Pipelines	3

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 onsite 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.

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

36 temporary tanks with 4 ECDs.

CONSTRUCTION

Date planned to commence construction: 01/22/2018

Size of disturbed area during construction in acres: 15.00

Estimated date that interim reclamation will begin: 09/01/2018

Size of location after interim reclamation in acres: 4.23

Estimated post-construction ground elevation: 4940

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? Yes

DRILLING WASTE MANAGEMENT PROGRAM

Drilling Fluids Disposal: OFFSITE

Drilling Fluids Disposal Method: Commercial Disposal

Cutting Disposal: OFFSITE

Cuttings Disposal Method: Commercial Disposal

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: QUARTER CIRCLE LAND LLC

Phone: 303-659-7805

Address: 11553 WELD COUNTY RD 6

Fax: _____

Address: _____

Email: _____

City: FT 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 02/10/2017

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:	<u>826</u> Feet	<u>629</u> Feet
Building Unit:	<u>826</u> Feet	<u>629</u> 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.

High Occupancy Building Unit:	<u>5280</u> Feet	<u>5280</u> Feet
Designated Outside Activity Area:	<u>5280</u> Feet	<u>5280</u> Feet
Public Road:	<u>354</u> Feet	<u>137</u> Feet
Above Ground Utility:	<u>339</u> Feet	<u>122</u> Feet
Railroad:	<u>5280</u> Feet	<u>5280</u> Feet
Property Line:	<u>343</u> Feet	<u>125</u> Feet

- 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

Does the UMA Facility meet the definition of a Large UMA Facility ☒ Yes ☐ No

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: 05/12/2017

Date of Rule 305.a.(2) Buffer Zone Notification to Building Unit Owners: 05/12/2017

Pre-application Notifications (required if location is a Large UMA Facility)

Date of Rule 305A.a.(1)A Notice of intent to construct a Large UMA Facility to Local Government: 12/06/2016

Date of Rule 305A.a.(1)B Notice of intent to construct a Large UMA Facility to Surface Owner: 12/06/2016

Date of Rule 305.a.(3) Large UMA Facility Notice to Proximate Local Governments: 12/06/2016

Large UMA Facility Form 2A Process Initiation (check all that apply)

☐ Rule 305A.f.(1)A. Local Government and Operator have reached agreement regarding the siting of the Large UMA Facility (attach certification of Rule 305A compliance)

☐ Rule 305A.f.(1)B. Rule 305A.e exception claimed (if checked then a 305A exception must be checked on the Exceptions Tab)

☐ Rule 305A.f.(1)C. Local Government waived 305A procedures for this proposed location (attach waiver as evidence of Rule 305A compliance)

☒ Rule 305A.f.(1)D. The Local Government did not respond in writing within 30 days of receiving the notice of intent to construct (attach certification of Rule 305A compliance)

☐ Rule 305A.f.(1)E. The Local Government and Operator have engaged in consultation pursuant to Rule 305A.c. but have not reached agreement within 90 days of the 305A.a.(1)A. notice of intent to construct

☐ Rule 303.c.(1). Form 2A submittal is consistent with a Rule 216.f.(3) Comprehensive Drilling Plan or a Local Government comprehensive plan that specifies locations for oil and gas facilities. (attach Rule 303.c.(1) supporting documentation)

- 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.
- Large UMA Facility – as defined in 100-Series Rules.

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 subject parcel is an active agricultural operation, the surface owner was worked with closely to reduce impacts to the ongoing ag operations on-site and the community of Wattenberg (community). The proposed facility is situated on the western side of the subject parcel to avoid being adjacent to a cluster of homes in the community. The original development plan for this location included an additional pad that would have encroached closer to the community. The final configuration was designed to add additional separation from the proposed location and community. As demonstrated in the BMPs, sound and visual mitigation will be implemented on-site during drilling and completion activities along a portion of the western and eastern sides of the location. As well as, the entire southern boundary of the location. Please see BMP for site specifics.

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: 1—Altvan loam, 0 to 1 percent slopes

NRCS Map Unit Name: 21—Dacono clay loam, 0 to 1 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: 33 Feet

water well: 215 Feet

Estimated depth to ground water at Oil and Gas Location 9 Feet

Basis for depth to groundwater and sensitive area determination:

QUARTER CIRCLE 24-8HZ

Ditch: 33' W Elev: 4950'

Pond: 745' SSE Elev: 4930'

Loc Elev: 4940'

Nearest water wells:

215' S, Permit 259499-, depth unknown, Static Water Level unknown, Elev 4941'

640' ESE, Permit 159832--A, depth 40', Static Water Level 10', Elev 4941'

Sensitive Area Determination: SENSITIVE AREA, downgradient surface water feature within 1,000' AND depth to groundwater less than 20'.

Location is NOT in floodplain according to Weld County and FEMA

Depth to groundwater calc

(SWL calc: (4940 - 4941) + 10 = 9)

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: _____

Is the Location within a Floodplain? ☒ No ☐ Yes Floodplain Data Sources Reviewed (check all that apply)

☒ Federal (FEMA)

☐ State

☒ County

☐ Local

☐ Other

GROUNDWATER BASELINE SAMPLING AND MONITORING AND WATER WELL SAMPLING

Water well sampling required per Rule 318A

WILDLIFE

☐ This location is included in a Wildlife Mitigation Plan

☐ This location was subject to a pre-consultation meeting with CPW held on _____

DESIGNATED SETBACK LOCATION EXCEPTIONS

Check all that apply:

☐ Rule 604.a.(1)A. Exception Zone (within 500' of a Building Unit) and is in an Urban Mitigation Area

☐ 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)

LARGE UMA FACILITY EXCEPTIONS

- ☐ 305A.e.(1)A. Local Government has currently opted out of Rule 305A notification and consultation processes
- ☐ 305A.e.(1)B. Pre-existing agreement with Local Government (attach copy of relevant provisions to 2A per Rule 303.b.(3)K).
- ☐ 305A.e.(1)C. Approved site specific development plan (attach copy of relevant portions of the plan and approval by the Local Government to Form 2A per Rule 303.b.(3)K)
- ☐ 305A.e.(1)D. Large UMA Facility is within an oil and gas operations area (attach copy of relevant portions of the plan and approval by the Local Government to Form 2A per Rule 303.b.(3)K).

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>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. 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>33 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 1000'.</p> <p>33 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 1000'.</p> <p>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 1000'.</p> <p>Gas custody transfer occurs at the custody transfer meter located on the proposed production facility location. Oil custody transfer occurs at the LACT Unit located on the proposed production facility location. Oil is transferred from the LACT Unit into a pipeline owned by Anadarko Wattenberg Oil Complex LLC.</p> <p>The proposed facility complies with Rule 604.c.(2)(G)</p> <p>Drilling fluids disposal: KMG will reuse water-based drilling fluids to the maximum extent possible, at which point they will either be land applied or taken to a licensed, commercial disposal site; the decision will be based upon laboratory analysis of fluids. KMG will reuse oil-based drilling fluids to the maximum extent possible, at which point they will be returned to the fluids manufacturer for reconditioning or disposal at a licensed, commercial disposal site.</p> <p>Cuttings disposal: Water-based cuttings will be disposed of using a Centralized E&P Waste Management facility or a private spread field, depending on what is feasible at the time of drilling. Oil-based cuttings will be disposed of offsite and at a licensed, commercial disposal site.</p> <p>Temporary tanks will be on location for ~6.5 – 7 months. An earthen berm is constructed around the temporary tank locations. Emissions are controlled at the temporary tank locations with the installation of temporary ECDs.</p>
----------	---

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

Signed: _____ Date: 06/30/2017 Email: DJREGULATORY@ANADARKO.COM

Print Name: CRAIG RICHARDSON 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: 1/11/2018

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

	The Approved Form 2A permit will be posted at the location during construction, drilling, and completions operations.
	Flowline Layout Drawing - Operator shall provide a scaled drawing that shows the planned layout of all existing and proposed flowlines between the well pad and production pad and between the production pad to the custody transfer point. Provide the drawing via Form 4 Sundry - due within 30 days of initiating flowline construction.

Best Management Practices

No BMP/COA Type

Description

1	Planning	604c.(2).E. Multi-Well Pads: In order to reduce surface impact, this application is for an 11-well pad.
2	Planning	604c.(2).Q. Guy Line Anchors: Guy line anchors will not be used. Base Beams will be used to stabilize the rig and removed after drilling.
3	Planning	604c.(2).R. Tank Specifications: A geosynthetic liner will be laid under the tanks on this location and a steel 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.
4	Planning	604c.(2).S. Access Roads: KMG will utilize a lease access road from CR 6 for drilling, completions, and production operations, including maintenance equipment. The road will be properly constructed and maintained to accommodate for local emergency vehicle access.
5	Planning	604.c.(4)B.i. Production Facility will be automated and remotely monitored by the Integrated Operations Center (IOC) at all times. In the event of a fire, explosion or lighting strike, wells flowing to the Production Facility would be remotely shut-in and Kerr McGee's Emergency Response Plan would be initiated. This location is bonded and grounded and static is not a concern due to the lack of oil storage tanks.
6	Planning	604.c.(4)B.ii. The piping between pieces of equipment on this Production Facility will be above-ground on racks, expediting any fluid leak detection and associated repair. Oil will be piped off location in a closed system to the sales line, minimizing on-site fluid handling and storage. Water and condensate will be stored on location and Kerr-McGee will adhere to all regulations pertaining to leak detection, repair, reporting and record keeping.

7	Planning	604.c.(4)B.iii. This Production Facility will have continuous pressure monitoring by the IOC (Integrated Operations Center) and in the event of an upset condition the entire facility would be shut down to prevent improper venting from occurring. Bulk and production separators have monitors that assist in preventing a release to the atmosphere. ECDs are constantly monitored and any upset conditions would result in all wells served by the ECD being remotely shut-in. At this site, Kerr-McGee will install compressed air (instrument air skids) to drive pneumatically actuated valves; there are no emissions associated with this activity. Wells on this locations will be continuously monitored by a KMG employee remotely in the Integrated Operations Center (IOC). The site can be shut-in remotely should an upset condition occurs.
8	Planning	604.c.(4)B.iv. Zero flaring or venting of gas upon completion of flowback, excepting upset or emergency conditions, or with prior written approval from the director for necessary maintenance operations.
9	Planning	604.c.(4)B.v. Fluid levels at the Production Facility are metered via sensor automation. Maintenance tanks are used only during maintenance and upset conditions, with levels monitored at all times. Oil will not be trucked off location; it will be transported via a closed system that ties into a sales line.
10	Planning	604.c.(4)B.vi. During completions operations, proppant is contained on location in sand silos, which are designed to minimize release and reduce silica dust at ground level and at breathing levels. The associated process has been tested to ensure compliance with OSHA & industry regulations and standards.
11	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.
12	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.
13	Planning	<ul style="list-style-type: none"> - KMG Construction and HSE teams will coordinate a pre-construction meeting with local emergency responders and COGCC OGLA staff prior to construction activates. - KMG Completions and HSE teams will coordinate a pre-flowback site walk through with local emergency responders. - HSE will facilitate fire response discussions with local emergency responders during the pre-construction meeting and help develop a response scenario based on the location of the pad.
14	Planning	<p>The Anadarko Petroleum Corporation (Anadarko) Emergency Preparedness and Response Program establishes the expectations, guidelines, procedures, and responsibilities of personnel who may potentially fill a role on one of the Response Teams.</p> <p>KMG utilizes a 24-hour 2-3 person on-site team equipped with personal gas monitors. KMG requires ALL contactors at flowback locations to utilize personal monitors. Prior to each shift, a site walk through will be conducted to ensure sufficient site monitoring. Monitors are equipped to detect H2S, CO, O2, and %LEL.</p>
15	Planning	The KMG Hot Work Program (Program) establishes the expectations, conditions, and procedures applicable to performing hot work activities. This includes defining hot work, when a hot work permit is required, requesting, completing, and closing a hot work permit. Anyone is authorized to stop hot work activities if there is reason to believe an unsafe condition exists that would adversely affect the hot work. Hot Work is defined as: "An operation that can produce a spark or flame or other source of ignition having sufficient energy to cause ignition, where the potential for flammable vapors, gases, or dusts exist." Employees who conduct hot work activities shall follow this Program. Hot work activities shall be reviewed prior to the initiation of work so that appropriate operational plans or procedures can be developed, reviewed, and operating and safety equipment can be secured, inspected and approved for work. Hot work activities shall not occur until the requirements of this Program are satisfied.

16	Community Outreach and Notification	<p>305.a.(2) A Notice of Intent to Conduct Operations was sent to each building unit owner within the Exception Zone or Buffer Zone Setback. One stakeholder contacted KMG regarding water well quality.</p> <p>As a part of planning this proposed location, Kerr-McGee held multi-disciplinary Surface Impact Planning Meetings regarding the impacts and mitigations associated with this proposed location. The toll-free hotline number and email for the Anadarko Colorado Response Line will be posted at the entrance to the lease access road for stakeholders during drilling and completion operations at this proposed location. Courtesy Notifications will be sent to impacted stakeholders prior to drilling operations and again prior to completions operations, providing contact information for the Anadarko Colorado Response Line and online resources.</p>
17	Traffic control	604c.(2).D. Traffic Plan: Prior to the commencement of operations, the operator will obtain access and ROW permits per Weld County Code and implement COAs or traffic control plans as required.
18	General Housekeeping	604c.(2).O. Loadlines: All loadlines shall be bullplugged or capped.
19	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. Upon completion of operations, the commercial trash bin will be removed from the location and disposed of in an appropriate manner.
20	General Housekeeping	KMG utilizes a 24-hour 2-3 person on-site team for visual monitoring of flowback operations and secondary containment at all times. Secondary containment integrity will be visually inspected at the change of each shift. Prior to flowback operations, a method and schedule to monitor containment for gas buildup will be developed.
21	Storm Water/Erosion Control	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 ditch located 33' W of this proposed oil and gas location.
22	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 twenty-eight (28) days after construction is completed, and after any major weather event.
23	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.
24	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). Any electrical equipment installations inside the bermed area will comply with API RP 500.
25	Material Handling and Spill Prevention	606.A.d. for flammable liquids near the wellhead – Flammable liquids will not be stored within 50' of the proposed wellheads. If storage of flammable liquid is to be conducted within 50' of the wellhead, sufficient safety measure will be implemented.
26	Material Handling and Spill Prevention	An earthen berm is constructed around the temporary tank locations. Emissions are controlled at the temporary tank locations with the installation of temporary ECDs
27	Material Handling and Spill Prevention	All KMG flowback tanks are constructed with secondary containment. Flowback equipment is set within a lined berm on all locations. KMG eliminates all ignition sources within the flowback berm and conduct an ignition source audit to ensure any potential ignition sources are sufficiently stored away from potential hydrocarbon sources.
28	Dust control	805.c. Dust: 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.

29	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. Berms and other secondary containment devices shall be inspected at scheduled intervals and maintained in good condition
30	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.
31	Noise mitigation	<p>604c.(2).A. Noise: Sound surveys have been conducted on each rig type and are utilized to anticipate any additional effective noise mitigation once a drilling rig is determined.</p> <p>At a minimum, and pending a safety review after construction of the location, sound mitigation barriers (32' sound walls) will be placed along a portion of the east and west sides of the pad and along the entire south side location to dampen noise and minimize impact to the nearby residences and to Weld County Roads 6 during drilling and completions.</p> <p>Should technological advancements allow for better noise mitigation at the time of drilling and completion operations on this location, Kerr-McGee will re-evaluate the most effective method at that time.</p>
32	Noise mitigation	The quiet hydrologic fracturing fleet will be utilized at this location. The sound walls will be erected after the completion of the pad build. The construction of the pad will be conducted during daylight hours.
33	Odor mitigation	805b. Odors: KMG will comply with the provisions of 805b as deemed applicable. Additional BMPs for this location are: 1) the storage of excess drilling fluid (e.g., fluid not being used in the active mud system) in closed, upright tanks; and 2) the use of an odor neutralizer in the active mud system.
34	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.
35	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: 35 comment(s)

Attachment Check List

<u>Att Doc Num</u>	<u>Name</u>
2316150	CDPHE CONSULTATION
2316174	WASTE MANAGEMENT PLAN
2316211	RULE 306.E. CERTIFICATION
2316239	FACILITY LAYOUT DRAWING
2316251	OTHER
2316252	OTHER
2316253	OTHER
2316254	FACILITY LAYOUT DRAWING
401313191	FORM 2A SUBMITTED
401327417	LOCATION DRAWING
401327419	LOCATION PICTURES
401327452	MULTI-WELL PLAN
401327456	ACCESS ROAD MAP
401327457	NRCS MAP UNIT DESC
401327461	HYDROLOGY MAP
401327464	RULE 305A CERTIFICATION OF COMPLIANCE
401327467	WELL LOCATION PLAT
401327471	SURFACE AGRMT/SURETY
401328375	PRE-APPLICATION NOTIFICATION CERTIFICATION

Total Attach: 19 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Permit	Final Review Completed.	01/10/2018
OGLA	<p>OGLA Supervisor and EPS Manager review: Noted the High Occupancy Building Unit referenced in the CDPHE consultation letter is not a High Occupancy Building Unit, but a commercial building. The square footage of the commercial building is equivalent to approximately 4 building units.</p> <p>Based on the information provided by the Operator, COGCC has determined that this proposed Oil and Gas Location meets the requirements for conditional approval based on compliance with COGCC Rules, including, but not limited to; Rule 604 Series Setback and Mitigation Measures. The Operator has presented a siting rationale for the Production Facilities in the Buffer Zone and Best Management Practices that adequately address site specific environmental, health, safety and welfare concerns.</p> <p>Public comments from the County and Town LGDs regarding process. No other public comments. OGLA review complete and task passed.</p>	01/09/2018
OGLA	Supervisor review: added additional facility layout drawing that has the wells and facilities (doc no 2316254) other facility layout has temporary tank area. Operator confirmed via phone regarding personal LEL monitors are in and out of the bermed area.	01/05/2018
OGLA	Operator provided additional BMPs for emergency response and completions operations. Added to BMP section. Attached email correspondence for local process as "Other" (doc no 2316251), example 305 letter sent to BU owners as "Other" (doc no 2316252), and delivery confirmation as "Other" (doc no 2316253).	01/03/2018
Permit	<p>Permitting Review Complete.</p> <p>Requesting updated construction date.</p> <p>With operator's concurrence updated construction date.</p>	01/02/2018

OGLA	Operator provided updated facility layout drawing depicting area for temporary tanks. Replaced Facility layout, added 36 temporary tanks with ECDs to information section and under operator comments added information regarding timing and control measures regarding temporary tanks. Temporary tank area did not increase the disturbed area size. Send for supervisor review. Operator provided BMP for timing of noise mitigation and quiet completions.	12/05/2017
OGLA	Operator provided the 306.e. certification. Has the following for completions:"Approximate location of completions operations - The completions equipment will be contained within the approved disturbance area. The area north of the proposed well groups and the open area between the two well groups will be utilized." The noise BMP provided has 32 ft sound walls during drilling and completions. OGLA technical review complete, pass on for supervisor review.	10/17/2017
OGLA	Spoke to Operator via phone to add OBM Odor BMP and going to email BMP for 606A.d.	10/02/2017
OGLA	Operator provided updated waste management plan - replaced.	09/26/2017
OGLA	Requested updated Waste Management Plan, Odor BMP, and information on flammable liquids near the wellbores, and concurrence on the flowline COA.	09/21/2017
OGLA	Operator provided information that location should be 2 condensate tanks and 5 water tanks. Added information on electrical BMPs.	09/15/2017
OGLA	OGLA review: Condensate tanks and water tanks on 2A facilities list does not match Facility Layout drawing. Request additional information on electrical equipment on the location and response to CDPHE comments.	08/22/2017

CDPHE	<p>August 9, 2017</p> <p>Mr. Matthew Lepore, Director</p> <p>Colorado Oil and Gas Conservation Commission</p> <p>1120 Lincoln Street, Suite 801</p> <p>Denver, Colorado 80203</p> <p>Re:Colorado Department of Public Health and Environment (Department) Consultation Recommendations for Kerr-McGee Quarter Circle 24-8HZ located in Weld County</p> <p>Dear Director Lepore:</p> <p>This letter provides the Department's consultation recommendation for the Kerr-McGee Quarter Circle 24-8HZ well site in the SESW of Section 24 Township 1N Range 67W in Weld County. This location is a Large Urban Mitigation Area location due to the high occupancy-building unit to the east of the proposed oil and gas well site. The Department conducted an onsite visit of the well site on July 26 and identified one recommendation due to the flowlines planned for this location.</p> <p>Flowlines</p> <p>Kerr-McGee is planning to install flowlines from another well site to the northeast of this location to the Quarter Circle production facilities that will result in long flowlines/pipelines across an open field. While the Department agrees with the consolidation of production facilities, flowlines installed off the well pad and across an open field need to be documented and mapped for future use. The Department recommends COGCC require as a condition of approval the submission of electronic as-built drawings for all flowlines and/or pipelines not located on the well pad for the permanent well file.</p> <p>Conclusion</p> <p>The Department has provided a recommendation to map flowlines/pipelines not contained on the well pad. Having these records available may reduce the potential for accidents in the future. This mapping will also serve Kerr-McGee if called on to locate facilities in this area due to development.</p> <p>Sincerely,</p> <p>Kent Kuster</p> <p>Oil and Gas Liaison</p> <p>Colorado Department of Public Health and Environment</p>	08/09/2017
LGD	<p>This proposed oil and gas facility is in the Agricultural Zoned District of unincorporated Weld County. A Weld Oil and Gas Location Assessment, WOGLA17-0052 was Administratively Approved on August 1, 2017. Copies of all related documentation are available from Weld County Government. A building permit is required for the production facilities (tank battery, separators, pump jacks, compressors, generators, etc.) from the Department of Planning Services. Troy Swain, Weld Oil/Gas Liaison and LGD (970) 400-3579.</p>	08/02/2017
OGLA	<p>Conducted site – visit with CDPHE. Observed industrial building to the southeast of the location as part of the building units for the LUMA. Residential building unit to the southwest also had other drilling/O&G activities in the area. Irrigation ditch along the west side of the location has main ditch upgradient from the site, but there is a place where the water is diverted for the crop on the location. Related remote location is to the northwest of the LUMA location.</p>	07/26/2017

LGD	The City has no concerns on this project.	07/21/2017
Permit	Passed Completeness.	07/14/2017
Permit	Returned to draft for: Disposal description is not listed on the "Construction, Drilling & Waste" tab, nor is it listed in the Comments Section in the "Submit" tab.	07/12/2017
OGLA	Passed Buffer Zone completeness review	07/10/2017

Total: 19 comment(s)