

**FORM
2A**Rev
08/19**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:

401905163

Date Received:

02/15/2019

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:

466612

Expiration Date:

08/08/2022☒ 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: Jayson VanShura

Phone: (720) 929-6814

Fax: (720) 929-7814

email: jayson.vanshura@anadarko.com

FINANCIAL ASSURANCE

- ☐ Plugging and Abandonment Bond Surety ID (Rule 706): 20010124 ☐ Gas Facility Surety ID (Rule 711): _____
- ☐ Waste Management Surety ID (Rule 704): _____

LOCATION IDENTIFICATION

Name: MAE J

Number: 14-8HZ PAD

County: WELD

QuarterQuarter: SESW Section: 8 Township: 1N Range: 68W Meridian: 6 Ground Elevation: 5081

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: 896 feet FSL from North or South section line

2420 feet FWL from East or West section line

Latitude: 40.060711 Longitude: -105.028600

PDOP Reading: 1.4 Date of Measurement: 10/26/2018

Instrument Operator's Name: ROB WILSON

LOCAL GOVERNMENT INFORMATION

County: WELD

Municipality: N/A

Per § 34-60-106 (1)(f)(I)(A), the following questions pertain to the "local government with jurisdiction to approve the siting of the proposed oil and gas location."

The local government with jurisdiction is: County

Does the local government with jurisdiction regulate the siting of Oil and Gas Locations, with respect to this COGCC application? If the local government has waived its right to precede the COGCC in siting determination, indicate by selecting "NO" here and selecting "Waived" below.

☒ Yes ☐ No

If yes, in checking this box, I hereby certify that an application has been filed with the local government with jurisdiction to approve the siting of the proposed oil and gas location. ☒

The local government siting permit type is: WOGLA

The local government siting permit was filed on: 03/04/2019

The disposition of the application filed with the local government is: Approved

Additional explanation of local process:

WOGLA was approved on 6/6/2019.

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 #



FACILITIES

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

Wells	<u>12</u>	Oil Tanks*	<u> </u>	Condensate Tanks*	<u>1</u>	Water Tanks*	<u>2</u>	Buried Produced Water Vaults*	<u> </u>
Drilling Pits	<u> </u>	Production Pits*	<u> </u>	Special Purpose Pits	<u> </u>	Multi-Well Pits*	<u> </u>	Modular Large Volume Tanks	<u> </u>
Pump Jacks	<u>12</u>	Separators*	<u>14</u>	Injection Pumps*	<u> </u>	Cavity Pumps*	<u> </u>	Gas Compressors*	<u> </u>
Gas or Diesel Motors*	<u> </u>	Electric Motors	<u> </u>	Electric Generators*	<u> </u>	Fuel Tanks*	<u> </u>	LACT Unit*	<u>2</u>
Dehydrator Units*	<u> </u>	Vapor Recovery Unit*	<u> </u>	VOC Combustor*	<u>1</u>	Flare*	<u> </u>	Pigging Station*	<u> </u>

OTHER FACILITIES*

Other Facility Type	Number
COMPRESSED AIR SUPPLY LINES	12
FLOW LINES	12
GAS PIPELINES	3
TEMPORARY 500 BBL TANKS	14
OIL PIPELINES	1
GAS LIFT LINES	12
TEMPORARY ECDs	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. A temporary ECD may be utilized during drilling.

Twelve temporary 500 barrel tanks and two temporary ECDs will be utilized during flowback and initially for produced water. It is estimated the temporary tanks will be on location for 6 - 9 months, and will be removed incrementally as water production declines. The ECDs will be on location for the duration the temporary tanks are utilized.

Please see Comments section for flow line and pipeline description.

CONSTRUCTION

Date planned to commence construction: 09/03/2019 Size of disturbed area during construction in acres: 16.54
Estimated date that interim reclamation will begin: 03/03/2020 Size of location after interim reclamation in acres: 3.26
Estimated post-construction ground elevation: 5083

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 FOR DISPOSAL DESCRIPTION

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: UPLAND INDUSTRIES CORP

Phone: _____

Address: PO BOX 1330

Fax: _____

Address: _____

Email: _____

City: HOUSTON State: TX Zip: 77251

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: applicant is owner

Surface damage assurance if no agreement is in place: _____ Surface Surety ID: _____

Date of Rule 306 surface owner consultation 01/30/2019

If this Form 2A is associated with Drilling and Spacing Unit applications, list docket number(s): _____

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:	1957 Feet	2182 Feet
Building Unit:	1998 Feet	2186 Feet
High Occupancy Building Unit:	4045 Feet	3778 Feet
Designated Outside Activity Area:	5280 Feet	5280 Feet
Public Road:	715 Feet	202 Feet
Above Ground Utility:	826 Feet	310 Feet
Railroad:	445 Feet	826 Feet
Property Line:	275 Feet	220 Feet
School Facility::	4721 Feet	3997 Feet
School Property Line:	4244 Feet	4493 Feet
Child Care Center:	4045 Feet	3778 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, Designated Outside Activity Area, School Facility, and Child Care Center – as defined in 100 Series Rules.
 - For measurement purposes only, Production Facilities should only include those items with an asterisk(*) on the Facilities Tab.

SCHOOL SETBACK INFORMATION

Was Notice required under Rule 305.a.(4)? ☐ Yes ☒ No

DESIGNATED SETBACK LOCATION INFORMATION

Check all that apply. This location is within a:

- ☐ Buffer Zone
☐ Exception Zone
☐ Urban Mitigation Area

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: _____

- 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.

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: 79 - WELD LOAM, 1 TO 3 PERCENT SLOPES

NRCS Map Unit Name: 83 - WILEY-COLBY COMPLEX, 3 TO 5 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: 02/01/2019

List individual species: Disturbed Grassland (intermediate wheatgrass, cheatgrass, yellow tansy mustard, yellow sweet clover, kochia, musk thistle, common mullein, Russian thistle, horseweed, prickly lettuce, flaxweed, curly dock, sticky gumweed, annual sunflower, Canada thistle,

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: 60 Feet

water well: 1660 Feet

Estimated depth to ground water at Oil and Gas Location 10 Feet

Basis for depth to groundwater and sensitive area determination:

**Ephemeral Stream: 60' NW Elev: 5067'

**Ditch: 292' W Elev: 5065'

Pond: 378' SSW Elev: 5079'

Loc Elev: 5081'

**Distances are measured to present alignment of surface water features.

Nearest water wells:

1660' N, Permit 17523-F, depth unknown, Static Water Level unknown, Elev 5081'

1909' W, Permit 53218-, depth 36', Static Water Level 20', Elev 5098'

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

*(SWL calc: $(5081 - 5098) + 20 = 3$)

Although the calculation for depth to groundwater results in an estimation of 3' it is estimated depth to groundwater to be between 10' – 20'. Groundwater monitoring wells were installed to a depth of 8' without the presence of groundwater and proximity to surface water features supports the estimate.

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)

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>PLEASE ENSURE ALL CORRESPONDENCE ASSOCIATED WITH THIS PERMIT GOES TO ANALYST EMAIL AND DJREGULATORY EMAIL AS LISTED ON THIS PERMIT.</p> <p>SUBJECT LOCATION (PAD EDGE) IS GREATER THAN 1,320' FROM A SCHOOL PROPERTY BOUNDARY OR DAY CARE FACILITY BOUNDARY, AS CONFIRMED VIA GIS SURVEILLANCE. Upland Industries Corp. is owned by Anadarko Petroleum Corporation. Applicant is the landowner therefore no surface use agreement is submitted. 318A waiver attached.</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 offsite or taken offsite 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 offsite at a licensed, commercial disposal site.</p> <p>Cuttings disposal: Water-based cuttings will be disposed of offsite using a Centralized E&P Waste Management facility or a private spread field (offsite), 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>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>12 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 production facility, approximately 460' to 700'.</p> <p>12 compressed air 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 steel pipe, buried, and will equal the distance between the well heads and the production facility, approximately 460' to 700'.</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 production facility, approximately 460' to 700'.</p> <p>Cultural distances for temporary tank area as follows: Distance to Building is 2129', Building Unit is 2130', Public Road is 391', Above Ground Utility is 500', Railroad is 676', Property Line is 408', HOBUS is 3673' and DOAA is 5280'.</p> <p>CUSTODY TRANSFER: 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>See COGCC comment for additional operator comment that COGCC removed from BMP #7</p>
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I hereby certify that the statements made in this form are, to the best of my knowledge, true, correct and complete.

Signed: _____ Date: 02/15/2019 Email: DJREGULATORY@ANADARKO.COM

Print Name: Jayson VanShura Title: Regulatory Manager

Based on the information provided herein, this Oil and Gas Location Assessment complies with COGCC Rules, applicable orders, and SB 19-181 and is hereby approved.

COGCC Approved: _____ Director of COGCC Date: 8/9/2019

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

	This Form 2A has been approved prior to approval of the Wellbore Spacing Units. If the final agency action is denial of the WSU then the operator shall abandon this Oil and Gas Location by submitting a Form 4 Sundry within 45 days of the agency denial; however, if location construction has commenced, then the location will be immediately subject to final reclamation.
	The Operator shall submit reference area photos during the 2019 growing season. Photos shall be submitted via a Form 4 Sundry no later than November 1, 2019.

Best Management Practices

No BMP/COA Type

Description

1	Planning	Multi-Well Pads: In order to reduce surface impact, this application is for a 12-well pad.
2	Planning	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	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	Access Roads: KMG will utilize a lease access road from Weld CR 10 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	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	Planning	As a part of planning this proposed location, Kerr-McGee will hold 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
7	Community Outreach and Notification	To mitigate potential impacts to the Collier Hills subdivision, a sound wall would also be constructed along the south end of the pad (full sound wall wrap will be used, with additional sound panels along the southern pad edge). KMG intends to install permanent visual mitigation along the south side of the Mae J 14-8HZ pad, and is in discussions to confirm what the permanent visual mitigation measures would be.

8	Traffic control	KMG currently plans to use the water-on-demand system on this location which is a network of over 140 miles of underground pipeline that stretches the length of the 20-mile by 30-mile field to source and transport water to completions crews. This system eliminates more than 2,000 truck trips per day, also reducing associated concerns of traffic, noise, emissions and dust.
9	Traffic control	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.
10	General Housekeeping	Loadlines: All loadlines shall be bullplugged or capped.
11	General Housekeeping	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.
12	General Housekeeping	803. Lighting: Site lighting shall be shielded and directed downward and inward toward operations to avoid glare on public roads and nearby Building Units.
13	Storm Water/Erosion Control	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 adjacent water features, including the ephemeral stream 60' NW, the ditch 292' W and the pond 378' SSW of this proposed oil and gas location
14	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. During active construction, drilling, and completions, with personnel on location, daily inspections will occur. During non-active, but while under construction, site inspections will occur every 14 days or after major rain events. When construction is completed and the Location is on production, site inspections will occur every 28 days with additional inspections after major rain events. During construction, stormwater features will be checked more frequently (up to daily, depending on the intensity of construction activity). These construction checks will not be formally documented, since they occur as part of construction oversight, and minor issues will be corrected with no further documentation. If and when larger issues are noted in these construction checks, the associated corrective actions would be documented and closed out, as required under our approved area-wide permit. Examples include ditching and berming and installation of sediment catch basins as needed
15	Material Handling and Spill Prevention	Berm Construction: The temporary produced water storage tanks will be staged on a geosynthetic liner and surrounded by an earthen berm. The berms shall enclose an area sufficient to provide secondary containment for 150% of the volume of the largest single tank, and shall be sufficiently impervious to contain spilled or released material. Berms and the liner shall be inspected at regular intervals and maintained in good condition.
16	Material Handling and Spill Prevention	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.
17	Material Handling and Spill Prevention	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.

18	Material Handling and Spill Prevention	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).
19	Material Handling and Spill Prevention	606.A.d Fire Prevention and Protection: KMG and its contractors will employ best management practices during the drilling and production of its wells and and will comply with appropriate COGCC rules concerning fire prevention. Flammable liquids will not be stored within (fifty) 50' of the proposed wellheads. If storage of flammable liquid is to be conducted within (fifty) 50' of the wellhead, sufficient safety measures will be implemented.
20	Material Handling and Spill Prevention	Pit Level Indicators: All storage tanks used for active drilling operations (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.
21	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.
22	Construction	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
23	Construction	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.
24	Noise mitigation	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. A full sound wall wrap will be used on the Mae J 14-8HZ pad. Straw bales and SK8 (portable sound panels) may also be set along the southern edge of the pad. 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.
25	Noise mitigation	Quiet completions fleet will be used for completions operations
26	Emissions mitigation	ECD(s) will be utilized to mitigate releases of emissions from temporary produced water storage tanks for the duration which the tanks are on location and being used.
27	Odor mitigation	805b. Odors: KMG will comply with the provisions of Rule 805b as deemed applicable. Additional BMPs for the 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.
28	Final Reclamation	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.

29	Final Reclamation	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.
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Total: 29 comment(s)

Attachment Check List

<u>Att Doc Num</u>	<u>Name</u>
2316561	OBJECTIVE CRITERIA REVIEW MEMO
2316562	WASTE MANAGEMENT PLAN
401905163	FORM 2A SUBMITTED
401908407	ACCESS ROAD MAP
401908409	MULTI-WELL PLAN
401908420	WELL LOCATION PLAT
401929439	LOCATION PICTURES
401929441	NRCS MAP UNIT DESC
401929451	REFERENCE AREA PICTURES
401929454	REFERENCE AREA MAP
401941663	LOCATION DRAWING
401941719	HYDROLOGY MAP

Total Attach: 12 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
OGLA	<p>The following text was initially in BMP #7 - COGCC removed it from the BMP section because it is more appropriate as an operator comment:</p> <p>The subdivision to the south is the Collier Hills Subdivision, and KMG has an established relationship with this Homeowners Association and has communicated our development plans to this HOA. KMG hosted a community meeting in September 2017 to apprise local communities about the proposed oil and gas operations on the Papa Jo, Yellowhammer and Shumaker well pads in Section 8, T1N-R68W, and has been in communication with the Collier Hills HOA since then. Subsequent discussions with the Town of Erie led to relocation of the Shumaker pad outside the Town of Erie, and the pad was renamed to the Mae J 14-8HZ (Doc ID 401905163).</p> <p>The majority of the lots in the N/2 of Sec 17, T1N-R68W are still owned by the developer according to Weld County property records. No Building Units exist within 1500' of the Mae J 14-8HZ location at this time, since neighborhood construction is currently limited to the S/2 of Sec 17, T1N-R68W.</p> <p>KMG currently plans to drill the Mae J wells in October 2019, with completions following the summer of 2020 (subject to unforeseen schedule changes, permit approval timelines, and other unforeseen circumstances). Provided this scheduling proves to be feasible, KMG is aiming to complete drilling and completion activities before housing development reaches 1500' from the Mae J location, however this would of course be subject to the rate of home construction and other factors, as described above.</p>	08/09/2019
OGLA	With operator concurrence via email - removed all rule 604.c.(2) rule references because location is not in a Buffer Zone and the references are not applicable - preserved the text in the BMPs. Removed the unnecessary portion of Noise BMP #24 that was not definitive because the actual plan for noise mitigation is also in the BMP. Removed a portion of BMP #7 and placed it into a COGCC comment due to lack of space in the operator comment section.	08/09/2019
Permit	<p>Final permitting review complete - ready for final approval</p> <p>Updated contact information and submitter per operator request</p> <p>Updated date of planned construction and estimated date of interim reclamation with operator concurrence</p>	08/02/2019

Permit	Updated the Local Government Information with Final Disposition provided by the operator.	08/01/2019
OGLA	Discussed development plans for the housing development to the south - Operator is not sure of developer's timing, but building unit lots have not been sold to private individuals. Operator has been in contact with HOA and developer regarding oil and gas development plans. Operator provided information on tertiary containment regarding placement on location and with ditch and berm with sediment traps - updated BMP. Waste management plan was 2017 version - attached 2019 version. Reference area photos are not during growing season - add COA for a Sundry to provided photos during the growing season.	07/30/2019
OGLA	The Objective Criteria Review Memo (Doc# 2316561) is attached to this Form 2A. Following additional analysis arising out of the Objective Criteria, the Director determined that this application meets the standard for the protection of public health, safety, welfare, the environment and wildlife resources set by SB 19-181.	07/30/2019
OGLA	COGCC staff reviewed and considered all public comments received for this Form 2A. The Operator has provided information on the 2A and in the waste management plan regarding the management of wastes for the Location. All wastes will be disposed of in an appropriate manner and not left on Location.	07/30/2019
OGLA	Operator provided clarification on stormwater inspections - during construction - may have "down" times without personnel on location and inspections are every 14-days or after a rain event. During active activities on Location - daily inspections occur. When the Location is complete and on line for production - inspections are every 28-days or after a rain event.	07/29/2019
OGLA	OGCC sent email to Operator requesting updated construction and interim reclamation dates, distance to surface water pond to the south is 411 ft from the edge of the location and 1411 ft from the reference area point. Operator provided information regarding community outreach with Erie and planned housing developments - added to BMP section, concurred to delete BMP #7 that was a repeat of BMP #6, provided clarification on lighting BMP and soundwalls for noise BMP - updated as appropriate. Operator also provided dates for WOGLA and distances from production to school, school property, and child care centers.	07/25/2019
OGLA	COGCC staff conducted its technical review of this Form 2A Oil and Gas Location Assessment within the context of SB 19-181 and the required Objective Criteria. This Form 2A met Objective Criteria #3 for 1500 feet from the town of Erie; Criteria #5c. for sensitive water resources as shallow groundwater and close proximity to surface water; and Criteria #10 for Relevant Local Government request additional consultation.	07/25/2019
OGLA	OGLA review: Missing school and childcare information distances from production under the cultural distance section and missing local government information.	07/15/2019
Permit	•Operator provided missing information; added the cultural setback distances to the school facility, school property line, and child care center from the well.	02/27/2019
LGD	<p>This proposed oil and gas location is situated in the Agricultural Zone District of unincorporated Weld County. A Weld Oil and Gas Location Assessment (WOGLA) is required prior to constructing any improvements related to oil and gas exploration and production.</p> <p>The operator has notified the Weld County LGD of their intent to apply for a WOGLA. The operator has also been in contact with the Town of Erie LGD.</p> <p>A building permit is required for the production facilities (tank battery, separators, pump jacks, compressors, generators, etc.) from the Department of Planning Services. Access points from County roads require an Access Permit from the Department of Public Works, which includes any necessary traffic control plans and Improvement Agreements. The use of County right-of-way requires a permit from the Department of Public Works.</p> <p>Jason Maxey, Weld Oil/Gas Specialist and LGD 970-400-3579</p>	02/27/2019
OGLA	Operator contacted COGCC to add BMPs to the permit based on discussions with the local government. BMPs follow COGCC Rule 604.c.(2) for best management practices.	02/25/2019
Permit	Passed completeness.	02/20/2019

Total: 15 comment(s)