

FORM  
2A

Rev  
04/18

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:

401618840

(SUBMITTED)

Date Received:

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:

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: LISA SCHINDLER

Phone: (720) 929-3091

Fax: (720) 7267

email: LISA.SCHINDLER@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: PETTINGER PAD Number: 20-18HZ

County: WELD

QuarterQuarter: SWSE Section: 18 Township: 1N Range: 65W Meridian: 6 Ground Elevation: 4999

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: 979 feet FSL from North or South section line

1836 feet FEL from East or West section line

Latitude: 40.046850 Longitude: -104.703631

PDOP Reading: 1.5 Date of Measurement: 01/30/2018

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 #

## FACILITIES

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

Wells	7	Oil Tanks*		Condensate Tanks*	1	Water Tanks*	3	Buried Produced Water Vaults*	
Drilling Pits		Production Pits*		Special Purpose Pits		Multi-Well Pits*		Modular Large Volume Tanks	
Pump Jacks	7	Separators*	9	Injection Pumps*		Cavity Pumps*		Gas Compressors*	
Gas or Diesel Motors*		Electric Motors		Electric Generators*		Fuel Tanks*		LACT Unit*	2
Dehydrator Units*		Vapor Recovery Unit*		VOC Combustor*	1	Flare*		Pigging Station*	

## OTHER FACILITIES\*

### Other Facility Type

### Number

Flow lines	7
Fuel gas supply line	7
Gas lift line	7
Gas pipeline	3
Oil pipeline	1
Temporary ECD's	2
Temporary flowback tanks	12
Temporary mud tanks w/ option ECD	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:

Due to space limitations, please see comments section for flowline and pipeline description.

Two 500 barrel skid-mounted temporary 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. Up to 12 500-barrel skid-mounted temporary tanks will also be used to collect flowback water for 6-9 months after completions.

## CONSTRUCTION

Date planned to commence construction: 09/15/2018

Size of disturbed area during construction in acres: 8.01

Estimated date that interim reclamation will begin: 03/15/2019

Size of location after interim reclamation in acres: 2.31

Estimated post-construction ground elevation: 4996

## 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? 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:

See comments section for drilling waste 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: Len D. Pettinger Living T

Phone: 303-659-0581

Address: 18437 County Road 8

Fax: \_\_\_\_\_

Address: \_\_\_\_\_

Email: \_\_\_\_\_

City: Brighton State: CO Zip: 80603

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 01/24/2018

## 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:	1003 Feet	670 Feet
Building Unit:	1070 Feet	670 Feet
High Occupancy Building Unit:	5280 Feet	5280 Feet
Designated Outside Activity Area:	5280 Feet	5280 Feet
Public Road:	966 Feet	584 Feet
Above Ground Utility:	963 Feet	622 Feet
Railroad:	5280 Feet	5280 Feet
Property Line:	977 Feet	595 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.
- Large UMA Facility - 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: 04/05/2018

## 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 (on 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.

Siting Rationale is also described in BMP To consolidate our disturbance (as required by the landowner), new wells and facilities were sited adjacent to an existing well pad. There is no overlap between the existing pad footprint and the subject new well pad and facility, as described in the attached amended SDA. Placement of the new wells north of the proposed facilities pad allows wells to be drilled with a minimum of backbuild, but required placement of the facilities within 1,000' of building units to the south. However, the view of the proposed production equipment from the building units to the south will be largely impeded by the existing production facilities on the adjacent pad.

## 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: 70 - Valent Sand, 3 to 9 percent slopes

NRCS Map Unit Name: 72 - Vona loamy sand, 0 to 3 percent slopes

NRCS Map Unit Name:

## PLANT COMMUNITY:

Complete this section only if any portion of the disturbed area of the location's current land use is on non-crop land.

Are noxious weeds present: Yes ☒ No ☐

Plant species from: ☐ NRCS or, ☒ field observation Date of observation: 03/15/2018

List individual species: Disturbed Grassland: (cheatgrass, intermediate wheatgrass, cereal rye, Spanish bayonet, Russian thistle, tall tumblemustard, smooth brome) Wetland: (reed canary grass, Canadian horseweed, curly dock, Pennsylvania smartweed) See comments section

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: 4 Feet

water well: 38 Feet

Estimated depth to ground water at Oil and Gas Location 32 Feet

Basis for depth to groundwater and sensitive area determination:

Bowles Seep Canal: 4' E Elev: 4989'  
Loc Elev: 4999'

Nearest water wells:

38' ENE, Permit 279134-, depth 83', Static Water Level unknown, Elev 4991'

881' SSW, Permit 24027--A, depth 84', Static Water Level 30', Elev 4997'

Sensitive Area Determination: SENSITIVE AREA, downgradient surface water feature within 1,000'

Location is NOT in floodplain according to Weld County and FEMA

(Depth to ground water calc:  $(4999 - 4997) + 30 = 32$ )

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 \_\_\_\_\_

### Operator Proposed Wildlife BMPs

No BMP

## 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>Wetland plant species are present due to historic irrigation activities, however no hydric soils exist therefore this is not a true wetland. Man-made irrigation pond shown in location drawing is historic and has since been filled in by the landowner.</p> <p><b>DRILLING FLUID DISPOSAL:</b> 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><b>CUTTINGS DISPOSAL:</b> Water-based cuttings will be disposed of using a Centralized E&amp;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><b>TEMPORARY MUD TANKS:</b> Two 500 barrel skid-mounted frac tanks with optional ECD 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.</p> <p><b>TEMPORARY FLOWBACK TANKS:</b> 12 temporary 500 barrel skid mounted tanks and associated ECDs will be placed onsite for 6-9 months for flowback.</p> <p><b>FLOW LINES:</b> 7 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 325'.</p> <p><b>FUEL GAS SUPPLY LINES:</b> 7 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 325'.</p> <p><b>GAS LIFT LINES:</b> 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 325'.</p> <p><b>PIPELINES:</b> 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><b>CUSTODY TRANSFER:</b> 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>Kerr McGee has proposed an on-site production facility at this location that will support only the 7 new wells included in this application. Gas will flow to trunk lines from this location where it will be compressed and ultimately delivered to a gas processing plant. Oil will flow to trunk lines from this location to a processing facility.</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: \_\_\_\_\_ Email: [DJRegulatory@anadarko.com](mailto:DJRegulatory@anadarko.com)

Print Name: Lisa Schindler 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.**

#### **COA Type**

#### **Description**

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### **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 a 7-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 8 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	<p>Pad is being constructed adjacent to the existing Pettinger 27C-18HZ well pad in order to consolidate disturbance and maximize efficiency of midstream infrastructure (gas and oil pipelines).</p> <p>A pad expansion of the existing Pettinger 27C-18HZ well pad was not the preferred option because it would require placement of additional facilities equipment in close proximity to Building Units to the south. Expansion of the existing Pettinger 27C-18HZ is also not practical or economic as it would also require a teardown and reconstruction of the associated Facility, which also serves the Pettinger 4NE-18HZX well pad.</p> <p>In lieu of consolidating the new (proposed) facility with the existing facility, a new well pad and facility are being permitted in this application. The new facility and well pad will not have any long-term overlap with the existing, historic well pad and facility.</p>



6	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. Recipients did not contact KMG.</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>
7	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.
8	General Housekeeping	604c.(2).O. Loadlines: All loadlines shall be bullplugged or capped.
9	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.
10	Storm Water/Erosion Control	<p>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 irrigation ditch located 4' East of this proposed oil and gas location.</p> <p>The irrigation pond shown in the aerial photograph used in the location drawing is no longer in existence and was filled in before this permit was submitted</p>
11	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.
12	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.
13	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).
14	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.
15	Dust control	<p>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.</p> <p>Weld County Road 8 is paved and maintained by Weld County and will therefore not require dust mitigation.</p>

16	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
17	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 operationsZ
18	Noise mitigation	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.  At a minimum, and pending a safety review after construction of the location, sound mitigation barriers (straw bales) will be placed along the south sides and west sides of the pad location to dampen noise and minimize impact to the nearby residences and to Weld County Road 8 during drilling and completions.  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.
19	Odor mitigation	805b. Odors: KMG will comply with the provisions of 805b as deemed applicable. Additional BMPs for the Pettinger 20-18HZ 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.
20	Drilling/Completion Operations	604c.(2).C. Green Completions: Temporary above ground polyethylene water pipelines will deliver water to location operations from larger trunk lines to reduce truck traffic and minimize air pollution. Pipeline infrastructure is in place prior to completions operations to ensure saleable gas, once hydrocarbons are cut, is sent directly to sales without flaring during flowback  Environmental Control Devices or Volatile Organic Compound (VOC) Combustors will be used to control working and breathing vapor losses for oil and water tanks.
21	Drilling/Completion Operations	604c.(2).K. 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
22	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.
23	Drilling/Completion Operations	803. Lighting: To the extent practicable, site lighting shall be shielded and directed downward and inward toward operations to avoid glare on public roads and nearby Building Units. [Note if straw bales/walls/panels also help with lights or if using LED]
24	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.
25	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: 25 comment(s)

### Attachment Check List

<u>Att Doc Num</u>	<u>Name</u>
401627006	LOCATION DRAWING
401627007	WELL LOCATION PLAT
401627008	LOCATION PICTURES
401627009	MULTI-WELL PLAN
401627017	HYDROLOGY MAP
401627018	ACCESS ROAD MAP
401627020	NRCS MAP UNIT DESC
401627021	SURFACE AGRMT/SURETY
401627325	REFERENCE AREA PICTURES
401627328	REFERENCE AREA MAP
401627331	FACILITY LAYOUT DRAWING
401627402	PRE-APPLICATION NOTIFICATION CERTIFICATION
401627516	WASTE MANAGEMENT PLAN

Total Attach: 13 Files

### General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
		Stamp Upon Approval

Total: 0 comment(s)

## **Public Comments**

No public comments were received on this application during the comment period.

