

FORM

2

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:

400526548

APPLICATION FOR PERMIT TO:

☒ Drill
 ☐ Deepen
 ☐ Re-enter
 ☐ Recomplete and Operate

Date Received:

12/13/2013

TYPE OF WELL OIL ☐ GAS ☒ COALBED ☐ OTHER _____Refiling ☒ZONE TYPE SINGLE ZONE ☒ MULTIPLE ZONES ☐ COMMINGLE ZONES ☐Sidetrack ☐

Well Name: 596-20C

Well Number: 16

Name of Operator: MARATHON OIL COMPANY

COGCC Operator Number: 53650

Address: 1501 STAMPEDE AVENUE

City: CODY State: WY Zip: 82414

Contact Name: Brittany Smith

Phone: (405)728-5228

Fax: (405)720-5562

Email: brsmith@marathonoil.com

RECLAMATION FINANCIAL ASSURANCE

Plugging and Abandonment Bond Surety ID: 19880020

WELL LOCATION INFORMATION

QtrQtr: NWSW Sec: 20 Twp: 5S Rng: 96W Meridian: 6

Latitude: 39.599040

Longitude: -108.200600

Footage at Surface: 2071 feet FNL/FSL FSL 442 feet FEL/FWL FWL

Field Name: GRAND VALLEY

Field Number: 31290

Ground Elevation: 8271.7

County: GARFIELD

GPS Data:

Date of Measurement: 06/23/2008 PDOP Reading: 2.9 Instrument Operator's Name: William H. Dolinar

If well is ☒ Directional ☐ Horizontal (highly deviated) **submit deviated drilling plan.**

Footage at Top of Prod Zone: FNL/FSL FEL/FWL Bottom Hole: FNL/FSL FEL/FWL

 840 FSL 660 FWL 840 FSL 660 FWL
 Sec: 20 Twp: 5S Rng: 96W Sec: 20 Twp: 5S Rng: 96W

LOCATION SURFACE & MINERALS & RIGHT TO CONSTRUCT

Surface Ownership: ☒ Fee ☐ State ☐ Federal ☐ IndianThe Surface Owner is: ☐ is the mineral owner beneath the location.

(check all that apply)

☒ 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 by this Well: Yes

The right to construct the Oil and Gas Location is granted by: oil and gas lease

Surface damage assurance if no agreement is in place:

Surface Surety ID:

LEASE INFORMATION

Using standard QtrQtr, Sec, Twp, Rng format, describe one entire mineral lease that will be produced by this well (Describe lease beneath surface location if produced. Attach separate description page or map if necessary.)

Please see map submitted with previous filing.

Total Acres in Described Lease: 4541 Described Mineral Lease is: ☒ Fee ☐ State ☐ Federal ☐ Indian

Federal or State Lease # _____

Distance from Completed Portion of Wellbore to Nearest Lease Line of described lease: 4440 Feet

CULTURAL DISTANCE INFORMATION

Distance to nearest:

Building: 5280 Feet

Building Unit: 5280 Feet

High Occupancy Building Unit: 5280 Feet

Designated Outside Activity Area: 5280 Feet

Public Road: 5280 Feet

Above Ground Utility: 5280 Feet

Railroad: 5280 Feet

Property Line: 442 Feet

INSTRUCTIONS:

- All measurements shall be provided from center of the Proposed Well to nearest of each cultural feature as described in Rule 303.a.(5).
- 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.

DESIGNATED SETBACK LOCATION INFORMATION

Check all that apply. This location is within a: ☐ Buffer Zone
☐ Exception Zone
☐ Urban Mitigation Area

- Buffer Zone – as described in Rule 604.a.(2), within 1,000' of a Building Unit
- Exception Zone - as described in Rule 604.a.(1), within 500' of a Building Unit.
- Urban Mitigation Area - as defined in 100-Series Rules.

Pre-application Notifications (required if location is within 1,000 feet of a building unit):

Date of Rule 305.a.(1) Urban Mitigation Area Notification to Local Government: _____

Date of Rule 305.a.(2) Buffer Zone Notification to Building Unit Owners: _____

SPACING and UNIT INFORMATION

Distance from Completed Portion of Wellbore to Nearest Wellbore Permitted or Completed in the same formation: 640 Feet

Distance from Completed Portion of Wellbore to Nearest Unit Boundary _____ Feet (Enter 5280 for distance greater than 1 mile.)

Federal or State Unit Name (if appl): _____ Unit Number: _____

SPACING & FORMATIONS COMMENTS

OBJECTIVE FORMATIONS

Objective Formation(s)	Formation Code	Spacing Order Number(s)	Unit Acreage Assigned to Well	Unit Configuration (N/2, SE/4, etc.)
WILLIAMS FORK	WMFK	510-18	320	S/2

DRILLING PROGRAM

Proposed Total Measured Depth: 10103 Feet

Distance to nearest permitted or existing wellbore penetrating objective formation: 640 Feet (Including plugged wells)

Will a closed-loop drilling system be used? Yes

Is H₂S gas reasonably expected to be encountered during drilling operations at concentrations greater than or equal to 100 ppm? No (If Yes, attach an H₂S Drilling Operations Plan)

Will salt sections be encountered during drilling? No

Will salt based (>15,000 ppm Cl) drilling fluids be used? No

Will oil based drilling fluids be used? No

BOP Equipment Type: ☒ Annular Preventor ☒ Double Ram ☒ Rotating Head ☐ None

GROUNDWATER BASELINE SAMPLING AND MONITORING AND WATER WELL SAMPLING

Water well sampling required per Rule 609

DRILLING WASTE MANAGEMENT PROGRAM

Drilling Fluids Disposal: ONSITE Drilling Fluids Disposal Methods: Recycle/reuse

Cuttings Disposal: ONSITE Cuttings Disposal Method: Drilling pit

Other Disposal Description:

Beneficial reuse or land application plan submitted? No

Reuse Facility ID: _____ or Document Number: _____

CASING PROGRAM

Casing Type	Size of Hole	Size of Casing	Wt/Ft	Csg/Liner Top	Setting Depth	Sacks Cmt	Cmt Btm	Cmt Top
CONDUCTOR	20	16	53	0	100	100	100	0
SURF	14+3/4	9+5/8	36	0	2000	1000	2000	0
1ST	8+3/4	4+1/2	11.6	0	10103	675	10103	5500

☐ Conductor Casing is NOT planned

DESIGNATED SETBACK LOCATION EXCEPTIONS

Check all that apply:

- ☐ Rule 604.a.(1)A. Exception Zone (within 500' of Building Unit)
- ☐ Rule 604.b.(1)A. Exception Location (existing or approved Oil & Gas Location now within a Designated Setback as a result of Rule 604.a.)
- ☐ Rule 604.b.(1)B. Exception Location (existing or approved Oil & Gas Location is within a Designated Setback due to Building Unit construction after Location approval)
- ☐ Rule 604.b.(2) Exception Location (SUA or site-specific development plan executed on or before August 1, 2013)
- ☐ Rule 604.b.(3) Exception Location (Building Units constructed after August 1, 2013 within setback per an SUA or site-specific development plan)

GREATER WATTENBERG AREA LOCATION EXCEPTIONS

Check all that apply:

- ☐ Rule 318A.a. Exception Location (GWA Windows).
- ☐ Rule 318A.c. Exception Location (GWA Twinning).

RULE 502.b VARIANCE REQUEST

☐ Rule 502.b. Variance Request from COGCC Rule or Spacing Order Number _____

OTHER LOCATION EXCEPTIONS

Check all that apply:

- ☐ Rule 318.c. Exception Location from Rule or Spacing Order Number _____
- ☐ Rule 603.a.(2) Exception Location (Property Line Setback).

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 Surface is owned by Chevron. Minerals are owned by Chevron. No visible improvements within 400' of wellhead. Pad and pits have been constructed. Two (2) wells on pad already drilled and waiting on completions. Location does not require a variance from any of the rules listed in Rule 306.d.(1).(A).(ii). The location is not in a wildlife restricted surface occupancy area. The refiled well will not require any expansion/additional surface disturbance of the pad. No other changes to APD.

This application is in a Comprehensive Drilling Plan _____ CDP #: _____

Location ID: 335960

Is this application being submitted with an Oil and Gas Location Assessment application? No

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

Signed: _____ Print Name: Brittny Smith

Title: Regulatory Compliance Rep Date: 12/13/2013 Email: brsmith@marathonoil.com

Operator must have a valid water right or permit allowing for industrial use or purchased water from a seller that has a valid water right or permit allowing for industrial use, otherwise an application for a change in type of use is required under Colorado law. Operator must also use the water in the location set forth in the water right decree or well permit, otherwise an application for a change in place of use is required under Colorado law. Section 37-92-103(5), C.R.S. (2011).

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: 3/24/2014

Expiration Date: 03/23/2016

API NUMBER

05 045 17709 00

Conditions Of Approval

All representations, stipulations and conditions of approval stated in the Form 2A for this location shall constitute representations, stipulations and conditions of approval for this Form 2 Permit-to-Drill and are enforceable to the same extent as all other representations, stipulations and conditions of approval stated in this Permit-to-Drill.

COA Type

Description

	<p>(1) COMPLIANCE WITH THE MOST CURRENT REVISION OF THE NORTHWEST COLORADO NOTIFICATION POLICY IS REQUIRED.</p> <p>(2) COMPLIANCE WITH THE MOST CURRENT REVISION OF THE GARFIELD COUNTY RULISON-FIELD NOTICE TO OPERATORS IS REQUIRED.</p> <p>(3) CEMENT ON PRODUCTION CASING MUST BE A MINIMUM OF 200' ABOVE THE TOP OF THE MESA-VERDE FORMATION (OR 200' ABOVE THE OHIO CREEK FORMATION IF PRESENT). CEMENT TOP VERIFICATION BY CBL IS REQUIRED. THIS REQUIREMENT SHALL SUPERSEDE THE TOP OF CEMENT REQUIREMENTS IN THE MAMM CREEK FIELD NOTICE TO OPERATORS.</p>
	<p>Open hole resistivity and gamma logs shall be run to describe the stratigraphy of the entire well bore and to adequately verify the setting depth of surface casing and aquifer coverage. On a multi-well pad, these open hole logs are only required on one of the first wells drilled on the pad and the Drilling Completion Report - Form 5 for every well on the pad shall identify which well was logged.</p>

Best Management Practices

No BMP/COA Type

Description

<p>1 Wildlife</p>	<p>Marathon has established an evaluation process for operations within the Piceance Basin that addresses wildlife concerns. This listing of Items 1-6 represents our specific actions that are considered avoidance and minimization actions by the Colorado Parks and Wildlife (CPW). Marathon has developed these BMPs as part of our Standard Operating Procedures (SOP) to provide operational and wildlife management for the Piceance Basin.</p> <ol style="list-style-type: none"> 1. Riparian Area Protection for Wildlife <ul style="list-style-type: none"> • Marathon will locate roads as far from riparian areas and bottoms of drainages as possible and outside of riparian habitat. However, Marathon is limited in areas where landowners dictate utilization of roads. 2. Company Vehicle Guidelines and Traffic Reductions for Wildlife Protection <ul style="list-style-type: none"> • Marathon has 25 mph limit for all roads (speed limit signs are posted); additionally it is Marathon's policy to prohibit the use of radios/cell phones while driving to enhance driving awareness. Car pooling for major projects is encouraged for all Marathon contractors to reduce traffic; carpooling is evaluated and used where practical for major projects. • Marathon utilizes SCADA/Automation system to better understand and operate wellsite operations. The SCADA/Automation system provides a real-time view of the site with the ability to remotely start-up and shut-down certain operations. The system can be used to eliminate unnecessary trips to the production pad. Marathon currently has twenty-two pads in production and all pads are monitored by the SCADA/Automation system. The SCADA/Automation is a key component to safe, efficient, and environmentally friendly operations. • When actively drilling, Marathon utilizes one Temporary Living camp to house the resources needed to support the drilling operations within the Piceance Basin. The site supports approximately 50 personnel that function on 12-hour shifts. The shift work schedule is 2-weeks on and 2-weeks off. This is a traffic reduction of 25 vehicles per day, 7-days per week. There is an understanding that the reduction of traffic as a whole reduces the opportunity for wildlife impacts. 3. Infrastructure Layout for Wildlife Protection <ul style="list-style-type: none"> • Marathon has installed consolidated and centralized fluid collection facilities and water pipelines to manage fluids in the field. Through 2011, Marathon has installed approximately 50 miles of pipelines to manage existing production as well as future developments. The majority of the water pipelines are located adjacent to existing roads and within existing ROWs. The installation of most of the water pipelines was performed in conjunction with the installation of gas gathering lines performed by Enterprise. During the installation, both Marathon and Enterprise utilized the same contractor to reduce the overall disturbance and traffic by making one ground disturbance; thereby, reducing manpower, pieces of equipment and installation schedule. • From 2008 through 2011, Marathon has utilized the fluid infrastructure to move approximately 2.2 million barrels of water throughout the field. The use of the pipelines and central facilities has saved approximately 22,000 truck loads and over 330,000 trucking miles. As Marathon continues to produce from this field, there will be continued utilization of this infrastructure to manage fluids which will continue to reduce disturbances and traffic. Produced water can be pumped via pipeline to Pad 18A for storage and offsite disposal. Produced water can be pumped via pipeline to Pad 32C for storage and enhanced evaporation. The use of Pads 18A and 32C for managing produced water effectively minimize truck traffic within the field. • Based on development to date, future development of the field will utilize the infrastructure that has been installed. Each future well requires approximately 25,000 barrels of water to drill and complete. The water trucks used for transport carry approximately 100 barrels per load. As a result, continuing to utilize the infrastructure will save up to 250 truck loads per well during future development. Total development will require an average of eight wells per pad to achieve 20 acre spacing. This equates to 2,000 truck loads per pad and would increase with more aggressive development. As stated earlier, the traffic reduction will continue as long as the wells are producing and the water pipelines and facilities are utilized to manage fluids. 4. Drilling and Completions Operations for the Protection of Wildlife <ul style="list-style-type: none"> • Marathon will review annually the scheduled civil construction, drilling and completion activities (Plan of Development [POD]) to avoid portions of SWH, specifically for the GrSG. Additionally, Marathon through the POD will schedule our activities in an effort to avoid and/or minimize operations near and within lek sites, elk production areas and active raptor nests. <p>The POD will be submitted to the CPW by the end of January for each calendar year.</p>
-------------------	---

	<p>This component of the WMP will be a living document. Marathon will utilize C-K Associates, LLC (C-K) as our third party review team jointly with our regulatory compliance group to balance developments and ecological concerns within the Piceance Basin.</p> <p>Marathon's goal during the annual POD scheduling is to avoid at a minimum 66% of the GrSG SWH.</p> <ul style="list-style-type: none"> • If for some reason an area cannot be avoided, Marathon will attempt to avoid the timing period associated with the wildlife category of concern. - Lek avoidance is from March 1 through May 15 for major activities; - Elk Production is rotation of production areas on a seasonal basis; - 4-mile buffer for GrSG March 1-June 30 (4-months) <p>Note: there is an overlap of geographical areas between the elk production areas and the 4-mile GrSG buffer area (SWH). In Marathon's effort to meet the timing for an elk production area, we also achieve avoidance for a portion of the 4-mile buffer area.</p> <ul style="list-style-type: none"> • Marathon has agreed to seasonal rotation development activities for the elk production areas. • As of January 2012, Marathon has closed all drilling reserve pits. • No drilling has occurred since June 2010; no completions have occurred since December 2010. <p>5. Additional Minimizations for Wildlife Protection</p> <ul style="list-style-type: none"> • Marathon is following the rule requirements for noise. Regarding raptor perch deterrents, Marathon will provide deterrents in areas where surrounding habitats do not provide natural perches. • Marathon joint ownership properties can utilize approved seed mixes and restore disturbed sagebrush. In lease areas the land owner dictates the decision on seed mix and restoration of sagebrush. There are discussions with land owners on decisions regarding high priority habitat (lek areas and adjacent lands) where sagebrush can be restored. In other areas the approved land owner seed mix would be applied. • Marathon conducts raptor surveys and utilizes the CPW's approach to evaluate survey data protocols. <p>6. Additional Awareness for Wildlife Protection</p> <ul style="list-style-type: none"> • Marathon requires that each individual (company and contractor) go through orientation prior to working on locations and annually thereafter. Wildlife awareness is discussed. • Marathon shares a general site map that includes Marathon locations, roads, personnel contacts, etc. In addition, the map highlights Wildlife Timing Periods and the two lek sites within Marathon's acreage. The map is shared with company employees, contractors, and other operators. • Marathon conducts monthly HES mtg (1/yr on wildlife issues) 	
--	--	--

2	Drilling/Completion Operations	<p>Well Surveying & Anti-Collision Policy</p> <p>Scope - An anti-collision risk assessment will be performed during the planning of all directional wells or vertical wells drilled in a field with directional wells. Wellbore anti-collision evaluation is part of WWD&C's risk assessment policy. An anti-collision report will be included in the well plan utilizing both existing wells and planned wells as offset wells.</p> <p>Policy - to obtain accurate directional surveys of its wellbores in order to 1) fulfill the requirements of applicable governmental regulations, 2) intersect geologic targets within established tolerances, and 3) provide survey data in order to maintain the minimum allowable separation between wells.</p> <p>During the well planning phase, the directional plan will be designed to have a separation factor greater than or equal to 1.75 (S.F. = 1.75) in order to allow some deviation from the planned path when the well is drilled. If the directional path cannot be planned greater than or equal to 1.75 then the drilling manager's approval is required for the directional plan. If the planned well path has a separation factor less than or equal to 1.0 (S.F. = 1.0) then the approval from the WWD&C General Manager is required.</p> <p>During drilling operations, wellbore anti-collision will be monitored by calculating a separation factor of the projected well path ahead of the bit and applying the actions listed below.</p> <p>Separation Factor = 1.5 Drill ahead 1.0 < Separation Factor = 1.5 Drilling manager approval required. Implement precautions and procedures developed in the risk assessment Separation Factor = 1.0 Stop drilling. Drilling may not proceed without the WWD&C General Manager approval or until the separation factor has been increased above a 1.0</p>
---	--------------------------------	--

Total: 2 comment(s)

Applicable Policies and Notices to Operators

Piceance Rulison Field - Notice to Operators.
NW Colorado Notification Policy.
Notice Concerning Operating Requirements for Wildlife Protection.

Attachment Check List

<u>Att Doc Num</u>	<u>Name</u>
400526548	FORM 2 SUBMITTED

Total Attach: 1 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Permit	Final review completed. No LGD comments.	3/19/2014 9:14:53 AM
LGD	pass, gdb	12/26/2013 12:01:56 PM
Engineer	THE PROPOSED SURFACE CASING IS MORE THAN 50' BELOW THE DEPTH OF THE DEEPEST WATER WELL WITHIN 1-MILE OF THE SURFACE LOCATION WHEN CORRECTED FOR ELEVATION DIFFERENCES. THE DEEPEST WATER WELL WITHIN 1-MILE IS 00 FEET DEEP.	12/16/2013 3:13:59 PM
Permit	Passed completeness.	12/13/2013 10:54:08 AM

Total: 4 comment(s)