

FORM 2 Rev 05/22

State of Colorado Energy & Carbon Management Commission

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APPLICATION FOR PERMIT TO

Application options: Drill (checked), Deepen, Re-enter, Recomplete and Operate, Amend, Refile (checked), Sidetrack. Well type: GAS (checked), COALBED, OTHER. Zone type: SINGLE ZONE (checked), MULTIPLE ZONES, COMMINGLE ZONES.

Well Name: Irwin 6-65 23-11 Well Number: 3HN Name of Operator: GMT EXPLORATION COMPANY LLC ECMC Operator Number: 10243 Address: 4949 S NIAGARA ST SUITE 250 City: DENVER State: CO Zip: 80237 Contact Name: Maxwell Blair Phone: (303)586-9291 Fax: () Email: mblair@gmtexploration.com

FINANCIAL ASSURANCE FOR PLUGGING, ABANDONMENT, AND RECLAMATION

ECMC Financial Assurance: The Operator has provided or will provide Financial Assurance to the ECMC for this Well. Surety ID Number (if applicable): 20070102

Federal Financial Assurance: In checking this box, the Operator certifies that it has provided or will provide at least this amount of Financial Assurance to the federal government for this Well. (Per Rule702.a.) Amount of Federal Financial Assurance \$

WELL LOCATION INFORMATION

Surface Location: QtrQtr: SESE Sec: 23 Twp: 6S Rng: 65W Meridian: 6 Footage at Surface: 1124 Feet FSL 491 Feet FEL Latitude: 39.509840 Longitude: -104.626085 GPS Data: GPS Quality Value: 1.3 Type of GPS Quality Value: PDOP Date of Measurement: 04/26/2019 Ground Elevation: 6222 Field Name: WILDCAT Field Number: 99999 Well Plan: is [] Directional [X] Horizontal (highly deviated) [] Vertical If Well plan is Directional or Horizontal attach Deviated Drilling Plan and Directional Data.

Subsurface Locations: Top of Productive Zone (TPZ) Sec: 23 Twp: 6S Rng: 65W Footage at TPZ: 2042 FNL 1490 FWL Measured Depth of TPZ: 9536 True Vertical Depth of TPZ: 8212 FNL/FSL FEL/FWL

Base of Productive Zone (BPZ)

Sec: 11 Twp: 6S Rng: 65W Footage at BPZ: 600 FNL 1485 FWL
Measured Depth of BPZ: 21539 True Vertical Depth of BPZ: 8212 FNL/FSL FEL/FWL

Bottom Hole Location (BHL)

Sec: 11 Twp: 6S Rng: 65W Footage at BHL: 550 FNL 1485 FWL
FNL/FSL FEL/FWL

LOCAL GOVERNMENT PERMITTING INFORMATION

County: ELBERT Municipality: N/A

Is the Surface Location of this Well in an area designated as one of State interest and subject to the requirements of § 24-65.1-108 C.R.S.? No

Per § 34-60-106(1)(f)(I)(A) C.R.S., the following questions pertain to the Relevant Local Government approval of the siting of the proposed Oil and Gas Location.

SB 19-181 provides that when "applying for a permit to drill," operators must include proof that they sought a local government siting permit and the disposition of that permit application, or that the local government does not have siting regulations. § 34-60-106(1)(f)(I) (A) C.R.S.

Does the Relevant Local Government regulate the siting of Oil and Gas Locations, with respect to this Location? [] Yes [X] 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 disposition of the application filed with the Relevant Local Government is: Waived Date of Final Disposition:

Comments: Oil and Gas Pad sites require a building permit site plan, which is in development. Elbert County waived its right to precede.

SURFACE AND MINERAL OWNERSHIP AT WELL'S OIL & GAS LOCATION

Surface Owner of the land at this Well's Oil and Gas Location: [X] Fee [] State [] Federal [] Indian

Mineral Owner beneath this Well's Oil and Gas Location: [X] Fee [] State [] Federal [] Indian

Surface Owner Protection Bond (if applicable): Surety ID Number (if applicable):

MINERALS DEVELOPED BY WELL

The ownership of all the minerals that will be developed by this Well is (check all that apply):

- [X] Fee
- [] State
- [] Federal
- [] Indian
- [] N/A

LEASE INFORMATION

Using standard QtrQtr, Section, Township, Range format describe one entire mineral lease as follows:

* If this Well is within a unit, describe a lease that will be developed by the Well.

* If this Well is not subject to a unit, describe the lease that will be produced by the Well.

(Attach a Lease Map or Lease Description or Lease if necessary.)

Please see attached Lease Map.

Total Acres in Described Lease: 614 Described Mineral Lease is: Fee State Federal Indian
Federal or State Lease # _____

SAFETY SETBACK INFORMATION

Distance from Well to nearest:

Building: 1670 Feet
Building Unit: 1879 Feet
Public Road: 2550 Feet
Above Ground Utility: 1925 Feet
Railroad: 5280 Feet
Property Line: 491 Feet

INSTRUCTIONS:

- Specify all distances per Rule 308.b.(1).
- 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 – as defined in 100 Series Rules.

OBJECTIVE FORMATIONS

Objective Formation(s)	Formation Code	Spacing Order Number(s)	Unit Acreage Assigned to Well	Unit Configuration (N/2, SE/4, etc.)
NIOBRARA	NBRR	535-1185	1600	11&14:All;23:N/2

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

SUBSURFACE MINERAL SETBACKS

Enter 5280 for distance greater than 1 mile.

Is this Well within a unit? Yes

If YES:

Enter the minimum distance from the Completed Zone of this Well to the Unit Boundary: 600 Feet

Enter the minimum distance from the Completed Zone of this Well to the Completed Zone of an offset Well within the same unit permitted or completed in the same formation: 446 Feet

If NO:

Enter the minimum distance from the Completed Zone of this Well to the Lease Line of the described lease: _____ Feet

Enter the minimum distance from the Completed Zone of this Well to the Completed Zone of an offset Well producing from the same lease and permitted or completed in the same formation: _____ Feet

Exception Location

If this Well requires the approval of a Rule 401.c Exception Location, enter the Rule or spacing order number and attach the Exception Location Request and Waivers. _____

SPACING & FORMATIONS COMMENTS

Approved Order 535-1185

DRILLING PROGRAMProposed Total Measured Depth: 21589 Feet TVD at Proposed Total Measured Depth 8212 Feet

Distance from the proposed wellbore to nearest existing or proposed wellbore belonging to another operator, including plugged wells:

Enter distance if less than or equal to 1,500 feet: 888 Feet No well belonging to another operator within 1,500 feetWill a closed-loop drilling system be used? YesIs 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 Plan unless a plan was already submitted with the Form 2A per Rule 304.c.(10).Will there be hydraulic fracture treatment at a depth less than 2,000 feet in this well? NoWill salt sections be encountered during drilling? NoWill salt based (>15,000 ppm Cl) drilling fluids be used? NoWill oil based drilling fluids be used? YesBOP Equipment Type: Annular Preventor Double Ram Rotating Head None

Beneficial reuse or land application plan submitted? _____

Reuse Facility ID: _____ or Document Number: _____

CASING PROGRAM

<u>Casing Type</u>	<u>Size of Hole</u>	<u>Size of Casing</u>	<u>Grade</u>	<u>Wt/Ft</u>	<u>Csg/Liner Top</u>	<u>Setting Depth</u>	<u>Sacks Cmt</u>	<u>Cmt Btm</u>	<u>Cmt Top</u>
CONDUCTOR	24	16	NA	42	0	80	100	80	0
SURF	12+1/2	9+5/8	J55 LTC	36	0	2644	900	2644	0
1ST	8+1/2	5+1/2	HCP110	20	0	21589	3240	21589	

 Conductor Casing is NOT planned**POTENTIAL FLOW AND CONFINING FORMATIONS**

<u>Zone Type</u>	<u>Formation /Hazard</u>	<u>Top M.D.</u>	<u>Top T.V.D.</u>	<u>Bottom M.D.</u>	<u>Bottom T.V.D.</u>	<u>TDS (mg/L)</u>	<u>Data Source</u>	<u>Comment</u>
Groundwater	Dawson	109	109	520	520	0-500	Other	COGIS - Sample Site Inquiry
Groundwater	Denver	575	574	1453	1422	0-500	Other	COGIS - Sample Site Inquiry
Groundwater	Upper Arapahoe	1488	1454	2015	1914	0-500	Other	COGIS - Sample Site Inquiry
Groundwater	Laramie-Fox Hills	2375	2212	2839	2596	0-500	Other	COGIS - Sample Site Inquiry
Confining Layer	Pierre Shale	2839	2596	3641	3260			
Hydrocarbon	Sussex-Terry	3461	3260	3822	3409			Not Productive in Area
Hydrocarbon	Shannon-Hygiene	6500	5622	6681	5775			Not Productive in Area
Confining Layer	Pierre Shale	6681	5775	8929	7917			
Confining Layer	Sharon Springs Shale	8929	7917	8971	7952			Not Productive in Area
Hydrocarbon	Niobrara	8971	7952	21589	8212			The TVD of the deepest hydrocarbon zone is the bottom of the well and not the bottom of the formation. The formation is not planned to be exited.

OPERATOR COMMENTS AND SUBMITTAL

Comments

CONDITIONS OF APPROVAL, IF ANY LIST

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.

<u>COA Type</u>	<u>Description</u>
Drilling/Completion Operations	Operator will log two (2) additional well(s) with open-hole resistivity log with gamma-ray log from the kick-off point into the surface casing for the stratigraphically deepest wells on the pad for a total of three (3) wells logged during the second rig occupation of this location
Interim Reclamation	In the event delayed operations are to occur, Operator shall comply with Notice to Operators: Interim Reclamation Procedures for Delayed Operations (dated January 5, 2017)
Drilling/Completion Operations	Operator will ensure the wellbore beyond the unit boundary setback is physically isolated and is not completed. In the Operator Comments on the Form 5A the operator will (1) report the footages from the section lines of the bottom of the completed interval (2) describe how the wellbore beyond the unit boundary setback is physically isolated and (3) certify that none of the wellbore beyond the setback was completed.
Drilling/Completion Operations	1) Submit Form 42 electronically to COGCC 2 business days prior to MIRU (spud notice) for the first well activity with a rig on the pad and provide 2 business day spud notice via Form 42 for all subsequent wells drilled on the pad. 2) Comply with Rule 408.j. and provide cement coverage from TD to a minimum of 500' above Niobrara. Verify coverage with cement bond log. 3) Oil-based drilling fluid is to be used only after all fresh water aquifers are covered.
Drilling/Completion Operations	Per COGCC Order 1-232, Bradenhead tests shall be performed according to the following schedule and Form 17 submitted within 10 days of each test: 1) Within 60 days of rig release, prior to stimulation. If any pressure greater than 200 psi, must contact COGCC engineer prior to stimulation. 2) If a delayed completion, 6 months after rig release and prior to stimulation. If any pressure greater than 200 psi, must contact COGCC engineer prior to stimulation. 3) A post-production test within 60 days after first sales, as reported on the Form 10, Certificate of Clearance.
5 COAs	

Operator Best Management Practices

<u>No</u>	<u>BMP/COA Type</u>	<u>Description</u>
1	Drilling/Completion Operations	Logging: The Irwin 6-65 23-11 10HN (API No. 05-039-06722) well drilled on the pad was logged with an open-hole Resistivity Log and Gamma Ray Log from the kickoff point into the surface casing. All wells on the pad will have a cement bond log with gamma-ray run on production casing (or on intermediate casing if production liner is run) into the surface casing. The horizontal portion of every well will be logged with a measured-while-drilling gamma-ray log. The Form 5, Completion Report, for each well on the pad will list all logs run and have those logs attached. The Form 5 for a well without open-hole logs shall clearly state "No open-hole logs were run. The Irwin 6-65 23-11 10HN (API No. 05-039- 6722) is the well in which open-hole logs were run.

Total: 1 comment(s)

ATTACHMENT LIST

<u>Att Doc Num</u>	<u>Name</u>
403818730	FORM 2 SUBMITTED

Total Attach: 1 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Permit	Final Review Completed.	01/24/2025
OGLA	This Location and its associated Form 2A materials was fully evaluated during the review of this APD in accordance with current Rules. See Sundry doc #404065775 in Location #479194 file for additional information. This APD complies with all Colorado ECMC Rules. OGLA task passed.	01/22/2025
OGLA	OGLA Staff has requested the following additional information: An updated Location Drawing with nearby HPH layers. Mitigation and minimization measures that will be implemented on location.	11/20/2024
Permit	Received consent from the operator for the following: 1. Add the refile COA 2. Add the drilling beyond the setback COA 3. Add the additional open hole logging COA 4. Add the refile comment Passed Permit Review	10/01/2024
Permit	Requesting the following from the operator: 1. Adding the refile COA for built locations 2. Adding the drilling beyond the setback COA 3. Adding the additional open hole logging COA 4. Adding the Refile Comment	09/19/2024

Total: 5 comment(s)