

FORM  
2  
Rev  
05/22

# State of Colorado Energy & Carbon Management Commission

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403846106  
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## APPLICATION FOR PERMIT TO

Drill     Deepen     Re-enter     Recomplete and Operate    Amend

TYPE OF WELL    OIL     GAS     COALBED     OTHER: \_\_\_\_\_    Refile

ZONE TYPE    SINGLE ZONE     MULTIPLE ZONES     COMMINGLE ZONES     Sidetrack

Well Name: Crystal 6-65 22-10    Well Number: 5HN

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: (720)946-3028

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: NESE    Sec: 22    Twp: 6S    Rng: 65W    Meridian: 6

Footage at Surface: 1932 Feet    1932 Feet    838 Feet    838 Feet

Latitude: 39.512209    Longitude: -104.645752

GPS Data:    GPS Quality Value: 1.7    Type of GPS Quality Value: PDOP    Date of Measurement: 04/25/2019

Ground Elevation: 6178

Field Name: WILDCAT    Field Number: 99999

Well Plan: is  Directional     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: 22    Twp: 6S    Rng: 65W    Footage at TPZ: 2044    2044    2408    2408

Measured Depth of TPZ: 8870    True Vertical Depth of TPZ: 8188    8188    8188

Base of Productive Zone (BPZ)

Sec: 10 Twp: 6S Rng: 65W Footage at BPZ: 600 FNL 2419 FWL  
Measured Depth of BPZ: 20873 True Vertical Depth of BPZ: 8188 FNL/FSL FEL/FWL

Bottom Hole Location (BHL)

Sec: 10 Twp: 6S Rng: 65W Footage at BHL: 550 FNL 2419 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 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: Fee State Federal Indian

Mineral Owner beneath this Well's Oil and Gas Location: 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):

- 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.)

N/2, SE/4, Section 22, T6S, R65W

Total Acres in Described Lease: 480 Described Mineral Lease is:  Fee  State  Federal  Indian

Federal or State Lease # \_\_\_\_\_

### SAFETY SETBACK INFORMATION

Distance from Well to nearest:

Building: 960 Feet  
Building Unit: 2179 Feet  
Public Road: 2660 Feet  
Above Ground Utility: 1013 Feet  
Railroad: 5280 Feet  
Property Line: 720 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	535-1184	1600	T6S R65W Sec. 10; 15: All; Sec. 22: 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: 452 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 535-1184

**DRILLING PROGRAM**Proposed Total Measured Depth: 20923 Feet TVD at Proposed Total Measured Depth 8188 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: 1315 Feet  No well belonging to another operator within 1,500 feetWill a closed-loop drilling system be used? YesIs H<sub>2</sub>S gas reasonably expected to be encountered during drilling operations at concentrations greater than or equal to 100 ppm? No If yes, attach an H<sub>2</sub>S 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  NoneBeneficial reuse or land application plan submitted? No

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	N/A	42	0	80	100	80	0
SURF	12+1/2	9+5/8	J55 LTC	36	0	2650	900	2650	0
1ST	8+1/2	5+1/2	HCP110	20	0	20923	3140	20923	

 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	46	46	507	507	0-500	Other	COGIS-Sample Site Inquiry
Groundwater	Denver	548	548	1465	1435	0-500	Other	COGIS-Sample Site Inquiry
Groundwater	Upper Arapahoe	1506	1474	1969	1910	0-500	Other	COGIS-Sample Site Inquiry
Groundwater	Laramie-Fox Hills	2274	2197	2694	2592	0-500	Other	COGIS-Sample Site Inquiry
Confining Layer	Pierre Shale	2694	2592	3510	3360			
Hydrocarbon	Sussex-Terry	3510	3360	3669	3510			Not Productive in Area
Hydrocarbon	Shannon-Hygiene	5898	5608	6186	5880			Not Productive in Area
Confining Layer	Lower Pierre Shale	6186	5880	8292	7918			
Confining Layer	Sharon Springs Shale	8292	7918	8304	7928			Sloughing Clay
Confining Layer	Niobrara	8304	7928	20923	8188			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
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.
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	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 a cement bond log.
Drilling/Completion Operations	Operator acknowledges the proximity of the listed non-operated wells: Operator agrees to: provide mitigation option 3 (per the DJ Basin Horizontal Offset Policy) to mitigate the situation, ensure all applicable documentation is submitted based on the selected mitigation option chosen, and submit a Form 42 ("OFFSET MITIGATION COMPLETED") for the remediated wells, referencing the API number of the proposed horizontal well(s) stating what appropriate mitigation occurred and that it has been completed, prior to the hydraulic stimulation of these wells.  039-06153 Davidson 16-3 039-06386 UPRR-Whelchel 1-15
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 is observed or if there is continuous flow, Operator must contact COGCC engineering for approval prior to stimulation. 2) If a delayed completion, a second test is required between 6-9 months after rig release and must be conducted prior to stimulation. If any pressure greater than 200 psi is observed or if there is continuous flow, Operator must contact COGCC engineering for approval prior to stimulation. 3) A post-production test within 60 days after first sales, as reported on the Form 10, Certificate of Clearance.
6 COAs	

## Operator Best Management Practices

<b>No</b>	<b>BMP/COA Type</b>	<b>Description</b>
1	Drilling/Completion Operations	Logging: The Crystal 6-65 22-10HN (API No. 05-039-06742) 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 Crystal 6-65 22-10HN (API No. 05-039-06742) is the well in which open-hole logs were run.

Total: 1 comment(s)

### ATTACHMENT LIST

<b>Att Doc Num</b>	<b>Name</b>
403846106	FORM 2 SUBMITTED

Total Attach: 1 Files

### General Comments

<b>User Group</b>	<b>Comment</b>	<b>Comment Date</b>
Permit	Final Review Complete.	04/07/2025
OGLA	OGLA Staff has requested the following additional information: CPW consultation regarding the HPH in the area. Mitigation and minimization measures that will be implemented on location.	11/20/2024
Permit	Received approval from the operator for the following changes: 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 Passed Permit Review	10/08/2024
Permit	Requested 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	10/08/2024

Total: 4 comment(s)