

FORM  
2

Rev  
12/20

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:

402589425

(SUBMITTED)

Date Received:

05/12/2021

APPLICATION FOR PERMIT TO:

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

Amend ☐

TYPE OF WELL OIL ☒ GAS ☐ COALBED ☐ OTHER: \_\_\_\_\_

Refill ☐

ZONE TYPE SINGLE ZONE ☒ MULTIPLE ZONES ☐ COMMINGLE ZONES ☐

Sidetrack ☐

Well Name: Crystal 6-65 22-10 Well Number: 6HN  
Name of Operator: GMT EXPLORATION COMPANY LLC COGCC Operator Number: 10243  
Address: 1560 BROADWAY STE 2000  
City: DENVER State: CO Zip: 80202  
Contact Name: Whitney Eberhardt Phone: (303)586 9286 Fax: ( )  
Email: w.eberhardt@gmtexploration.com

RECLAMATION FINANCIAL ASSURANCE

Plugging and Abandonment Bond Surety ID: 20070102

WELL LOCATION INFORMATION

Surface Location

QtrQtr: NESE Sec: 22 Twp: 6S Rng: 65W Meridian: 6  
Footage at Surface: 1931 Feet FSL 818 Feet FEL  
Latitude: 39.512208 Longitude: -104.645680  
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 FNL 2408 FEL  
Measured Depth of TPZ: 8695 True Vertical Depth of TPZ: 8133 FNL/FSL FEL/FWL

Base of Productive Zone (BPZ)

Sec: 10 Twp: 6S Rng: 65W Footage at BPZ: 600 FNL 2418 FEL  
Measured Depth of BPZ: 20698 True Vertical Depth of BPZ: 8133 FNL/FSL FEL/FWL

Bottom Hole Location (BHL)

Sec: 10 Twp: 6S Rng: 65W Footage at BHL: 550 FNL 2418 FEL  
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.? Yes

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 Financial Assurance (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: 980 Feet  
Building Unit: 2181 Feet  
Public Road: 2661 Feet  
Above Ground Utility: 1032 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.

Railroad: 5280 Feet  
Property Line: 720 Feet

## 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	10 & 15: All; 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: 458 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

## DRILLING PROGRAM

Proposed Total Measured Depth: 20748 Feet TVD at Proposed Total Measured Depth 8133 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: Feet ☒ No well belonging to another operator within 1,500 feet

Will a closed-loop drilling system be used? Yes

Is 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? No

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? Yes

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

Beneficial reuse or land application plan submitted? No

Reuse Facility ID: or Document Number:

**CASING PROGRAM**

Casing Type	Size of Hole	Size of Casing	Grade	Wt/Ft	Csg/Liner Top	Setting Depth	Sacks Cmt	Cmt Btm	Cmt Top
CONDUCTOR	24	16	N/A	42	0	80	100	80	0
SURF	12+1/2	9+5/8	J55LTC	36	0	2650	900	2650	0
1ST	8+1/2	5+1/2	HCP110	20	0	20748	3110	20748	1500

☐ Conductor Casing is NOT planned

**POTENTIAL FLOW AND CONFINING FORMATIONS**

Zone Type	Formation /Hazard	Top M.D.	Top T.V.D.	Bottom M.D.	Bottom T.V.D.	TDS (mg/L)	Data Source	Comment
Groundwater	Dawson	46	46	507	507	0-500	Other	COGIS Sample Inquiry
Groundwater	Denver	548	548	1459	1435	0-500	Other	COGIS Sample Inquiry
Groundwater	Upper Arapahoe	1500	1474	1953	1910	0-500	Other	COGIS Sample Inquiry
Groundwater	Laramie-Fox Hills	2252	2197	2663	2592	0-500	Other	COGIS Sample Inquiry
Confining Layer	Pierre Shale	2663	2592	3461	3360			
Hydrocarbon	Sussex-Terry	3461	3360	3617	3510			Not productive in area
Hydrocarbon	Shannon-Hygiene	5799	5608	6081	5880			Not productive in area
Confining Layer	Lower Pierre Shale	6081	5880	8188	7918			
Confining Layer	Sharon Springs Shale	8188	7918	8201	7928			sloughing clay
Hydrocarbon	Niobrara	8201	7928	20748	8133			Potential Flow Formation Table: 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: Nearest wellbore in proposed unit is the Crystal 6-65 22-10 7HN per anti-collision.

There are no outside-operated wells within 1500'.

This application is in a Comprehensive Area Plan No

CAP #: \_\_\_\_\_

Oil and Gas Development Plan Name \_\_\_\_\_

OGDP ID#: \_\_\_\_\_

Location ID: 479191

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

Signed: \_\_\_\_\_

Print Name: Justin Garrett

Title: Regulatory Analyst

Date: 5/12/2021

Email: regulatory@ascentgeomatics.c



Based on the information provided herein, this Application for Permit-to-Drill complies with COGCC Rules, applicable orders, and SB 19-181 and is hereby approved.

COGCC Approved: \_\_\_\_\_ Director of COGCC Date: \_\_\_\_\_  
Expiration Date: \_\_\_\_\_

API NUMBER

05

### 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

### Best Management Practices

#### No BMP/COA Type

#### Description

1	Drilling/Completion Operations	Prior to drilling operations, operator will perform an anti-collision scan of existing wells that have the potential of being within close proximity of the proposed well. This anti-collision scan will include definitive MWD or gyro surveys of the offset wells with included error of uncertainty per survey instrument, and compared against the proposed well path with its respective error of uncertainty. If current surveys do not exist for the offset wells, operator may have gyro surveys conducted to verify bottom hole location. The proposed well will only be drilled if the anti-collision scan results indicate that there is not a risk for collision, or harm to people or the environment.
2	Drilling/Completion Operations	Alternative Logging Program: One of the first wells drilled on the pad will be logged with an open-hole Resistivity Log and Gamma Ray Log from the kick-off 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 "Alternative Logging Program - No open-hole logs were run" and shall clearly identify the type of log and the well (by API#) in which open-hole logs were run.
3	Drilling/Completion Operations	No drill stem test will be performed.
4	Drilling/Completion Operations	Upon initial rig up and at least once every thirty (30) days during drilling operations thereafter, pressure testing of the casing string and each component of the blow out equipment including flange connections will be performed to seventy percent (70%) of the internal yield of casing, whichever is less. Pressure testing will be conducted. The documented results will be retained by operator for inspection by the Director for a period of one (1) year. Activation of the pipe rams for function testing shall be conducted daily when practical. A BOP with a minimum pressure rating of three thousand (3,000) psi will be utilized. At a minimum, it will consist of two (2) ram preventers and one (1) annular preventer. A backup system of pressure control will be on site consisting of a minimum of one thousand (1,000) psi accumulator. All on site representatives will be certified in Well Control Operations.

Total: 4 comment(s)

### Attachment List

<u>Att Doc Num</u>	<u>Name</u>
402594387	SURFACE AGRMT/SURETY
402597885	OffsetWellEvaluations Data
402684094	WELL LOCATION PLAT
402684096	DEVIATED DRILLING PLAN
402684098	DIRECTIONAL DATA

Total Attach: 5 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.

