

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:

402587911

Date Received:

05/11/2021

### APPLICATION FOR PERMIT TO:

Drill       Deepen       Re-enter       Recomplete and Operate

Amend

Refile

Sidetrack

TYPE OF WELL OIL  GAS  COALBED  OTHER: \_\_\_\_\_  
ZONE TYPE SINGLE ZONE  MULTIPLE ZONES  COMMINGLE ZONES

Well Name: Irwin 6-65 23-11 Well Number: 4HN  
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)5869286 Fax: (720)9463028  
Email: w.eberhardt@gmtexploration.com

### RECLAMATION FINANCIAL ASSURANCE

Plugging and Abandonment Bond Surety ID: 20070102

### WELL LOCATION INFORMATION

#### Surface Location

QtrQtr: SESE Sec: 23 Twp: 6S Rng: 65W Meridian: 6  
Footage at Surface: 1124 Feet FSL 471 Feet FEL  
Latitude: 39.509840 Longitude: -104.626014  
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  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: 6N Rng: 65W Footage at TPZ: 2040 FNL 1934 FWL  
Measured Depth of TPZ: 9286 True Vertical Depth of TPZ: 8157 FNL/FSL FEL/FWL

##### Base of Productive Zone (BPZ)

Sec: 11 Twp: 6N Rng: 65W Footage at BPZ: 600 FNL 1928 FWL  
Measured Depth of BPZ: 21290 True Vertical Depth of BPZ: 8157 FNL/FSL FEL/FWL

##### Bottom Hole Location (BHL)

Sec: 11 Twp: 6N Rng: 65W Footage at BHL: 550 FNL 1928 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 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.)

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: 1675 Feet

Building Unit: 1884 Feet

Public Road: 2554 Feet

Above Ground Utility: 1931 Feet

Railroad: 5280 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.

Property Line: 471 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	535-1185	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 PROGRAM**

Proposed Total Measured Depth: 21340 Feet TVD at Proposed Total Measured Depth 8157 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: 1331 Feet  No well belonging to another operator within 1,500 feet

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 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? \_\_\_\_\_

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	J-55 LTC	36	0	2644	900	2644	0
1ST	8+1/2	5+1/2	HCP110	20	0	21340	3240	21340	

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	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	2010	1914	0-500	Other	COGIS - Sample Site Inquiry
Groundwater	Laramie-Fox Hills	2375	2212	2803	2596	0-500	Other	COGIS - Sample Site Inquiry
Confining Layer	Pierre Shale	2803	2596	3575	3260			
Hydrocarbon	Sussex-Terry	3575	3260	3748	3409			Not Productive in Area
Hydrocarbon	Shannon-Hygiene	6322	5622	6498	5775			Not Productive in Area
Confining Layer	Pierre Shale	6498	5775	8746	7917			
Confining Layer	Sharon Springs Shale	8746	7917	8792	7952			Sloughing Clay
Hydrocarbon	Niobrara	8792	7952	21340	8157			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 Irwin 6-65 23-11 5HN

Nearest permitted or existing wellbore belonging to another operator is the Amoco 11-4 (API: 05-035-06356) DA Status per anti-collision report.

This well has a bottom-hole location beyond the unit boundary setback. The bottom of the completed interval will be within the unit boundary setback at 600' FNL and 1928' FWL of Section 11. The wellbore beyond the unit boundary setback will be physically isolated and will not be completed.

This application is in a Comprehensive Area Plan       No       CAP #: \_\_\_\_\_

Oil and Gas Development Plan Name \_\_\_\_\_ OGDID #: \_\_\_\_\_

Location ID:       479194      

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:       5/11/2021       Email:       regulatory@ascentgeomatics.c

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 provide the water in the location set forth in the water right decree, COGCC permit, or otherwise an application for a change in place of use is required under Colorado law. Section 37-92-103(5), C.R.S. (2011).

COGCC Approved:  Director of COGCC Date: 8/16/2021

Expiration Date: 08/15/2024

<b>API NUMBER</b> 05 039 06716 00
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**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.

**Condition of Approval**

<b>COA Type</b>	<b>Description</b>
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	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.  039-06356 Amoco 11-4 039-06482 Bennett 10-1
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.
4 COAs	

## Best Management Practices

<b>No</b>	<b>BMP/COA Type</b>	<b>Description</b>
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)

### Applicable Policies and Notices to Operators

Policy for Bradenhead Monitoring During Hydraulic Fracturing Treatments in the Greater Wattenberg Area.  
<http://cogcc.state.co.us/documents/reg/Policies/PolicyGwaBradenheadMonitoringFinal.pdf>

### Attachment List

<b>Att Doc Num</b>	<b>Name</b>
402587911	FORM 2 SUBMITTED
402593938	SURFACE AGRMT/SURETY
402593942	LEASE MAP
402598285	OffsetWellEvaluations Data
402683369	DEVIATED DRILLING PLAN
402683370	DIRECTIONAL DATA
402683371	WELL LOCATION PLAT
402781132	OFFSET WELL EVALUATION

Total Attach: 8 Files

### General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
OGLA	The COGCC conducted an on-site on August 4, 2021 to verify the condition of the mapped stream. Based on the results of the on-site, the stream consists of an upland swale with no identifiable streambed or Ordinary High Water Line. Based on these results, the approved unbuilt Oil and Gas Location is in compliance with Rule 1202.c.(1)R.	08/13/2021
Permit	Final Review Completed.	06/11/2021
Permit	The following corrections were made with operator concurrence: The Surface Location of this Well is not in an area designated as one of State interest and is not subject to the requirements of § 24-65.1-108 C.R.S. Answer corrected to NO. Corrected lease acres on the surface and minerals tab Added beyond unit setback comment to Submit tab Corrected section for BPZ and BHL	06/01/2021

Total: 3 comment(s)