

FORM
2
Rev
10/24

State of Colorado
Energy & Carbon Management Commission

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Phone: (303) 894-2100 Fax: (303) 894-2109



Document Number:

404023721

Date Received:

12/13/2024

APPLICATION FOR PERMIT TO

Drill Deepen Re-enter Recomplete and Operate Amend

TYPE OF WELL OIL GAS COALBE GEOTHERMAL OTHER: _____

Refile

ZONE TYPE SINGLE ZONE MULTIPLE ZONES COMMINGLE ZONES

Sidetrack

Well Name: Fox Creek 12-63 Well Number: 25-1-9
Name of Operator: BISON IV OPERATING LLC ECMC Operator Number: 10670
Address: 518 17TH STREET SUITE 1800
City: DENVER State: CO Zip: 80202
Contact Name: Rachel Milne Phone: (720)370-8580 Fax: ()
Email: rmilne@bisonog.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): 20230068

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: SWSE Sec: 25 Twp: 12N Rng: 63W Meridian: 6

Footage at Surface: 930 Feet FSL 1380 Feet FEL

Latitude: 40.975918 Longitude: -104.376641

GPS Data: GPS Quality Value: 2.2 Type of GPS Quality Value: PDOP Date of Measurement: 08/20/2018

Ground Elevation: 5399

Field Name: HEREFORD Field Number: 34200

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: 36 Twp: 12N Rng: 63W Footage at TPZ: 150 FNL 2003 FEL

Measured Depth of TPZ: 7857 True Vertical Depth of TPZ: 7462 FNL/FSL FEL/FWL

Base of Productive Zone (BPZ)

Sec: 1 Twp: 11N Rng: 63W Footage at BPZ: 150 FSL 2003 FEL
Measured Depth of BPZ: 18192 True Vertical Depth of BPZ: 7462 FNL/FSL FEL/FWL

Bottom Hole Location (BHL)

Sec: 1 Twp: 11N Rng: 63W Footage at BHL: 50 FSL 2004 FEL
FNL/FSL FEL/FWL

LOCAL GOVERNMENT PERMITTING INFORMATION

County: WELD 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 and §37-90.5-107(2)(b)(I) C.R.S, the following questions pertain to the Relevant Local Government approval of the siting of the proposed Oil and Gas or Deep Geothermal Locations.

The Energy and Carbon Management Act and the Geothermal Resources Act provide 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.

Does the Relevant Local Government regulate the siting of Oil and Gas and Deep Geothermal 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: Approved Date of Final Disposition: 09/04/2019

Comments: WOGLA19-0111 Approved 9/4/19

GEOTHERMAL

Well Overview

The following questions determine informational requirements based on Well type:

Which type of Geothermal Well is this? Select one of the following:

Will this well be constructed using cementing methodologies other than those listed in Rule 408.f?

If Yes, what method will be used:

Please describe the cementing method to be used in detail:

Geothermal Resource Units

Fill out the information below to submit an application for a Geothermal Resource Unit (GRU) as part of the current permit application. This may also be completed later using a Form 4 Sundry.

Will this Well be in an existing GRU?

Are you submitting your application for a new GRU as part of the current application?

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

Surface Owner of the land at this Well's Oil and Gas Or Deep Geothermal Location: Fee State Federal Indian

Mineral Owner beneath this Well's Oil and Gas Or Deep Geothermal 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.)

T12N R63W Sec 36: ALL

Total Acres in Described Lease: 640 Described Mineral Lease is: Fee State Federal Indian

Federal or State Lease # OG-108612

SAFETY SETBACK INFORMATION

Distance from Well to nearest:

Building: 5280 Feet
Building Unit: 5280 Feet
Public Road: 906 Feet
Above Ground Utility: 1225 Feet
Railroad: 5280 Feet
Property Line: 957 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	421-121	1280	T12N R63W Sec 36: ALL; T11 R63W Sec 1; ALL

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: 150 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: 43 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: 18292 Feet TVD at Proposed Total Measured Depth 7462 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: 1440 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? 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	26	16	N/A	37	0	80	50	80	0
SURF	13+1/2	9+5/8	J55	36	0	1900	787	1900	0
1ST	8+1/2	5+1/2	HCP110	20	0	18292	1988	18292	1700

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	Fox Hills	969	969	1370	1370	0-500	DWR	
Confining Layer	Pierre	1370	1370	4382	4356			
Hydrocarbon	Parkman	4382	4356	4711	4681			
Confining Layer	Pierre	4711	4681	5242	5204			
Hydrocarbon	Sussex	5242	5204	5571	5528			
Confining Layer	Pierre	5571	5528	5973	5924			
Hydrocarbon	Shannon	5973	5924	6348	6294			
Confining Layer	Pierre	6348	6294	7332	7238			
Confining Layer	Sharon Springs	7332	7238	7423	7305			
Hydrocarbon	Niobrara	7423	7305	18292	7462			Bottom TVD is bottom of the well and not bottom of the formation; the formation is not planned to be exited.

OPERATOR COMMENTS AND SUBMITTAL

Comments

COA Type	Description
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	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 of the pad for a total of three (3) wells logged during the second rig occupation of this location
Drilling/Completion Operations	Per 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 ECMC 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 ECMC engineer prior to stimulation. 3) A post-production test within 60 days after first sales, as reported on the Form 10, Certificate of Clearance.
Drilling/Completion Operations	1) Submit Form 42 electronically to ECMC 2 business days prior to MIRU (Spud Notice), for the first well/activity on the pad and provide 2 business days spud notice for all subsequent wells drilled on the pad. 2) Comply with Rule 408.j and provide cement coverage from the end of production casing 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 aquifers are covered.
Drilling/Completion Operations	Operator acknowledges the proximity of the listed wells. Operator assures that this offset list will be remediated per the DJ Basin Horizontal Offset Policy (option 4). Operator will submit a Form 42 ("OTHER – AS SPECIFIED BY PERMIT CONDITION") stating that appropriate mitigation will be completed, during the hydraulic stimulation of this well. This Form 42 shall be filed 48 hours prior to stimulation. Operator will assure that the well's Bradenhead is open and monitored during the entire stimulation treatment – a person will monitor for any evidence of fluid, a Bradenhead test will be performed prior to the beginning of stimulation. Crittter Creek #6-12H (API NO 123-31493) Longhorn B #3-36H (API NO 123-30586) Longhorn G #4-36H (API NO 123-31573) Longhorn B #5-36H (API NO 123-31532) Fox Creek 12-63 #25-2-1 (API NO 123-50374) Fox Creek 12-63 #25-2-2 (API NO 123-50369) Fox Creek 12-63 #25-23-4 (API NO 123-50373) Fox Creek 12-63 #25-24-5 (API NO 123-50371) Fox Creek 12-63 #25-24-6 (API NO 123-50368) Fox Creek #505-2501H (API NO 123-41613) Fox Creek #504-2524H (API NO 123-41612)
Drilling/Completion Operations	Operator acknowledges the proximity of the listed wells: Operator agrees to: provide mitigation option 1 or 2 (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 this well. Jake #2-01H (API NO 123-30574) Lamotta #5-01M (API NO 123-30556)
7 COAs	

Operator Best Management Practices

No	BMP/COA Type	Description
1	Drilling/Completion Operations	Blowout Prevention Equipment ("BOPE"): A double ram annular preventer will be used during drilling.
2	Drilling/Completion Operations	Anti-collision: Operator will perform an anti-collision evaluation of all active (producing, shut in, or temporarily abandoned) offset wellbores that have the potential of being within 150 feet of a proposed well prior to drilling operations for the proposed well. Notice shall be given to all offset operators prior to drilling.
3	Drilling/Completion Operations	Alternative Logging Program - One of the first wells drilled on the pad will be logged with Open Hole Resistivity Log and Gamma Ray Log from the kick-off point to 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 (by API#, well name & number) the well in which open-hole logs were run.
4	Drilling/Completion Operations	When a skid is performed, if a previous well on that pad has completed a full BOPE test within the past 21 days, then the only required BOPE tests are for the BOPE connections that were broken during skid. The purpose of this is to prevent the wear and tear on the choke line and kill line valves. The annular and double rams will be tested as per usual, and all broken connections will also be tested (annular to 70% of rated pressure, all other values and connections will be tested to full rated pressure). Under no circumstances will 21 days be exceeded without completing a full BOPE Test to all connections including all choke and kill line valves. Daily function test/activation of pipe rams are still required in addition to a preventer operator test on each trip.

Total: 4 comment(s)

ATTACHMENT LIST

Att Doc Num	Name
404023721	FORM 2 SUBMITTED
404023791	WELL LOCATION PLAT
404027728	OffsetWellEvaluations Data
404027734	OTHER
404027739	DEVIATED DRILLING PLAN
404027766	DIRECTIONAL DATA
404083875	OFFSET WELL EVALUATION

Total Attach: 7 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Permit	Final Review Complete.	02/06/2025
Permit	-State Land Board has no objections -Received consent from the operator for the following: 1.Adding the refile COA for built location 2.Adding the drilling beyond the setback COA 3.Confirming that lease is with the state of Colorado 4.Adding additional open hole logging COA 5.Changed the permit to refile since the APD is expired -Passed Permit Review	02/05/2025
Permit	-Corrected BPZ depth as per directional drilling plan -Requesting the following from the operator: 1.Adding the refile COA for built location 2.Adding the drilling beyond the setback COA 3.Confirming the lease since Section 36 is own by the State of Colorado 4.Adding additional open hole logging COA	01/31/2025
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 #403898189 in Location #466299 file for additional information. This APD complies with all Colorado ECMC Rules and Staff concludes that any potential direct adverse impacts to public health, safety, welfare, the environment, and wildlife resources will be minimized and mitigated by the successful implementation of the proposed BMPs for Location #466299. OGLA task passed.	01/30/2025
Engineer	Offset Wells Evaluated.	12/19/2024

Total: 5 comment(s)