

FORM 2
Rev 05/22

State of Colorado
Oil and Gas Conservation Commission

1120 Lincoln Street, Suite 801, Denver, Colorado 80203
Phone: (303) 894-2100 Fax: (303) 894-2109



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(SUBMITTED)
Date Received:
02/06/2023

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: Hayward Well Number: 0993-25-12E
Name of Operator: LARAMIE ENERGY LLC COGCC Operator Number: 10433
Address: 1700 LINCOLN ST STE 3950
City: DENVER State: CO Zip: 80203
Contact Name: Katy Middleton Phone: (970)9858240 Fax: ()
Email: kmiddleton@laramie-energy.com

FINANCIAL ASSURANCE FOR PLUGGING, ABANDONMENT, AND RECLAMATION

COGCC Financial Assurance
 The Operator has provided or will provide Financial Assurance to the COGCC for this Well.
Surety ID Number (if applicable): 20210135

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: SENE Sec: 25 Twp: 9S Rng: 93W Meridian: 6
Footage at Surface: 2569 Feet FNL 859 Feet FEL
Latitude: 39.244788 Longitude: -107.715777
GPS Data: GPS Quality Value: 1.3 Type of GPS Quality Value: PDOP Date of Measurement: 04/30/2019
Ground Elevation: 8008
Field Name: VEGA Field Number: 85930
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: 25 Twp: 9S Rng: 93W Footage at TPZ: 1408 FSL 660 FEL
Measured Depth of TPZ: 6658 True Vertical Depth of TPZ: 6497 FNL/FSL FEL/FWL

Base of Productive Zone (BPZ)

Sec: 25 Twp: 9S Rng: 93W Footage at BPZ: 1408 FSL 660 FEL
Measured Depth of BPZ: 8608 True Vertical Depth of BPZ: 8447 FNL/FSL FEL/FWL

Bottom Hole Location (BHL)

Sec: 25 Twp: 9S Rng: 93W Footage at BHL: 1408 FSL 660 FEL
FNL/FSL FEL/FWL

LOCAL GOVERNMENT PERMITTING INFORMATION

County: MESA 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? [X] Yes [] No

[X] 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: 06/14/2022

Comments: Per the Mesa County Land Development Code Table 6-1: Use Table and Section 6.02(Q), "Oil and Gas Drilling " is an allowed use in the Agricultural, Forestry, Transitional (AFT) zone district. The subject parcel is designated by Mesa County as AFT zone district. The Hayward 0993-25-09 Pad meets all the Mesa County zoning setback requirements for the AFT zone district. While Oil and Gas Drilling is an allowed use, Oil and Gas Locations must be permitted within Mesa County. Laramie submitted an Oil and Gas Location Application to Mesa County on May 19th, 2022. The Mesa County Community Development Planning Division issued the Oil and Gas Site Location Approval Document on June 14th, 2022, with conditions for operations. The Mesa County Permit is attached to this Form 2.

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.)

See Lease Map. Fee and Federals Minerals committed to Federal Communitization Agreement: COC-076718 covering all of Section 25. The Hayward 0993-25-09 well pad will only target fee minerals. Laramie is proposing to drill 13 new directional natural gas wells that will produce fee minerals. There are no federal wells associated with proposed mineral development. The mineral development is for approximately 160-acres in the E½E½ of Section 25, Township 9 South, Range 93 West, 6th P.M.

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

SAFETY SETBACK INFORMATION

Distance from Well to nearest:

Building: 993 Feet
Building Unit: 993 Feet
Public Road: 5280 Feet
Above Ground Utility: 5280 Feet
Railroad: 5280 Feet
Property Line: 434 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.)
WILLIAMS FORK-ILES	WFILS	369-12	640	Section 25: 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: 660 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: 326 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: 8608 Feet TVD at Proposed Total Measured Depth 8447 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 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? No

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	26	16	SA-53B	36.94	0	60	150	60	0
SURF	24	8+5/8	J-55	24	0	1530	264	1530	0
1ST	7+7/8	4+1/2	P110IC	11.6	2700	8608	1277	8608	2700

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	Freshwater/Groundwater	0	0	600	600	501-1000	DWR	Hayward ranch water well domestic – stock & irrigation. Water well top perf: 1610 ft depth. Deepest water well: 600 ft depth. (TDS: 300-1500 mg/L)
Confining Layer	Wasatch	600	600	3265	3197			N/A
Hydrocarbon	Wasatch 'G' Sand	3265	3197	3696	3615	1001-10000	Other	Wasatch Producers Sec 5 & Sec 9 & Sec 15 T6S, R97W API: 05045200130001, 05045200230000, 05045106860000 (11/12/2020) (TDS: 760-2,050 mg/L)
Hydrocarbon	Fort Union	3696	3615	4890	4773			Potential Hazard: Instability
Confining Layer	Lower Wasatch	4890	4773	5275	5147			Fluid Present: Saltwater
Hydrocarbon	Ohio Creek	5275	5147	5636	5497	>10000	Produced Water Sample	Wells API# 05077087650000 Buzzard Creek 22-3 Potential Hazard: Loss circulation; Fluid Present: Saltwater
Hydrocarbon	Williams Fork	5636	5497	6658	6497	>10000	Produced Water Sample	Sup & Shep 0993-25-16W API# 05077105790000
Hydrocarbon	Top of Gas	6658	6497	8008	7847	>10000	Produced Water Sample	Sup & Shep 0993-25-16W API# 05077105790000
Hydrocarbon	Cameo	8008	7847	8388	8227	>10000	Produced Water Sample	Sup & Shep 0993-25-16W API# 05077105790000
Hydrocarbon	Base Cameo	8388	8227	8408	8247	>10000	Produced Water Sample	Sup & Shep 0993-25-16W API# 05077105790000
Hydrocarbon	Rollins	8408	8247	8608	8447	>10000	Produced Water Sample	Sup & Shep 0993-25-16W API# 05077105790000

OPERATOR COMMENTS AND SUBMITTAL

Comments: The Hayward 0993-25-12E well is not located within a mapped HPH. Laramie consulted with CPW regarding the proposed 13 wells and proposed operations at the Hayward Pad. The CPW Consultation Summary and CPW Waiver are attached to this Form 2. Laramie consulted with CDPHE regarding the proposed 13 wells and proposed operations at the Hayward Pad. The CDPHE Consultation Letter, which includes BMPs, are attached to this Form 2. BHL Coordinates: 39.241162; -107.715031

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

Oil and Gas Development Plan Name _____ OGDID #: _____

Location ID: 455725

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

Signed: _____ Print Name: Katy Middleton

Title: Regulatory Specialist Date: 2/6/2023 Email: kmiddleton@laramie-

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
05 077 10601 00

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.

<u>COA Type</u>	<u>Description</u>
0 COA	

Best Management Practices

<u>No</u>	<u>BMP/COA Type</u>	<u>Description</u>
1	Drilling/Completion Operations	Alternative Logging Program: One of the wells drilled on the pad will be logged with open-hole Resistivity Log and Gamma Ray Log from TD 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 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 will state "Alternative Logging Program - No open-hole logs were run" and will clearly identify the type of log and the well (by API#) in which open-hole logs were run.

Total: 1 comment(s)

Attachment List

<u>Att Doc Num</u>	<u>Name</u>
403246372	WELL LOCATION PLAT
403246377	DEVIATED DRILLING PLAN
403246379	DEVIATED DRILLING PLAN
403246383	DIRECTIONAL DATA
403246544	SURFACE AGRMT/SURETY
403310657	WAIVERS
403310664	MINERAL LEASE MAP
403311140	OTHER
403311141	OTHER

Total Attach: 9 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
		Stamp Upon Approval

Total: 0 comment(s)

