District I
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District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

Form C-101
August 1, 2011

Permit 315667

APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE

1. Operator Name and Address		2. OGRID Number
LONGFELLOW ENERGY, LP 8115 Preston Road Dallas, TX 75225		372210 3. API Number 30-015-53816
4. Property Code 334079	5. Property Name Marley State Com 31 AB	6. Well No. 003H

7. Surface Location

UL - Lot	Section	Township	Range	Lot Idn	Feet From	N/S Line	Feet From	E/W Line	County
A	36	17S	27E		1085	N	1210	E	Eddy

8. Proposed Bottom Hole Location

UL - Lot	Section	Township	Range	Lot Idn	Feet From	N/S Line	Feet From	E/W Line	County
A	31	17S	28E	A	1234	N	20	E	Eddy

9. Pool Information

RED LAKE; GLORIETA-YESO, NORTHEAST	96836

Additional Well Information

11. Work Type	12. Well Type	13. Cable/Rotary	14. Lease Type	15. Ground Level Elevation
New Well	OIL		State	3624
16. Multiple	**17. Proposed Depth**	**18. Formation**	**19. Contractor**	**20. Spud Date**
N	9214	Yeso		6/1/2023
Depth to Ground water		Distance from nearest fresh water well		Distance to nearest surface water

☒ **We will be using a closed-loop system in lieu of lined pits**

21. Proposed Casing and Cement Program

Type	Hole Size	Casing Size	Casing Weight/ft	Setting Depth	Sacks of Cement	Estimated TOC
Surf	12.25	9.625	36	1300	650	0
Prod	8.75	7	32	3910	730	1050
Prod	8.75	5.5	20	9214	730	1050

Casing/Cement Program: Additional Comments

22. Proposed Blowout Prevention Program

Type	Working Pressure	Test Pressure	Manufacturer
Double Ram	3000	3000	Shaffer
Blind	3000	3000	Shaffer

23. I hereby certify that the information given above is true and complete to the best of my knowledge and belief. **I further certify I have complied with 19.15.14.9 (A) NMAC ☒ and/or 19.15.14.9 (B) NMAC ☒, if applicable.** Signature:		**OIL CONSERVATION DIVISION**	
Printed Name:	Electronically filed by David Cain	Approved By:	Ward Rikala
Title:	Engineering Technologist	Title:	
Email Address:	david.cain@longfellowenergy.com	Approved Date: 5/30/2023	Expiration Date: 5/30/2025
Date: 5/19/2023	Phone: 214-265-4715	Conditions of Approval Attached	

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State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-102
Revised August 1, 2011
Submit one copy to appropriate District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

[1] API Number	[2] Pool Code	[3] Pool Name
30-015-	96836	RED LAKE; GLORIETA-YESO, NORTHEAST

[4] Property Code	[5] Property Name	[6] Well Number
	MARLEY STATE COM 31 AB	003H

[7] OGRID No.	[8] Operator Name	[9] Elevation
372210	LONGFELLOW ENERGY, LP	3624.5

[10] Surface Location

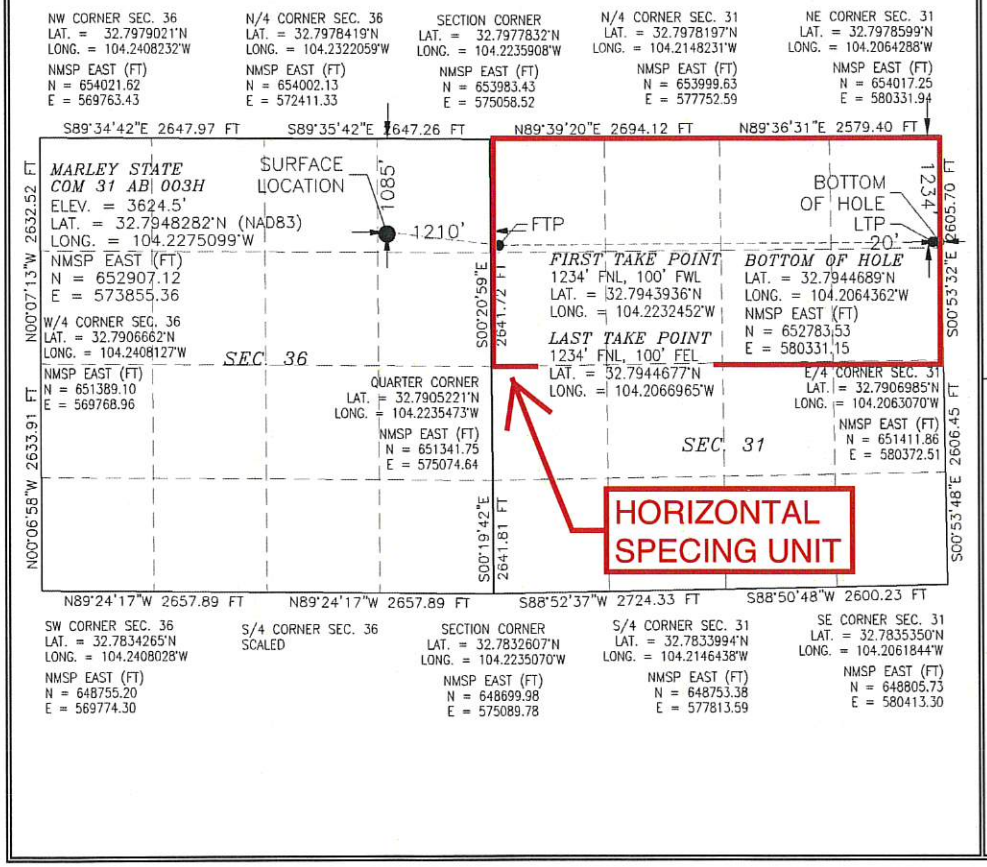
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	36	17 S	27 E		1085	NORTH	1210	EAST	EDDY

[11] Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	31	17 S	28 E		1234	NORTH	20	EAST	EDDY

[12] Dedicated Acres	[13] Joint or Infill	[14] Consolidation Code	[15] Order No.
327.09		C	

No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.



[17] OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

5-18-23

Signature Date

BRIAN WOOD

Printed Name

brian@permitswest.com

E-mail Address

505 466-8120

[18] SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

MAY 11, 2023

Date of Survey

Signature and Seal of Professional Surveyor:

Certificate Number: EDMUND F. JARAMILLO, PLS 12797

SURVEY NO. 8808G

Intent YES As Drilled

API #

Operator Name:	Property Name:	Well Number
LONGFELLOW ENERGY, LP	MARLEY STATE COM 31 AB	003H

Kick Off Point (KOP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County

Latitude	Longitude	NAD

First Take Point (FTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
D	31	17S	28E		1234	NORTH	100	WEST	EDDY

Latitude	Longitude	NAD
32.7943936	104.2232452	83

Last Take Point (LTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
A	31	17S	28E		1234	NORTH	100	EAST	EDDY

Latitude	Longitude	NAD
32.7944677	104.2066965	83

Is this well the defining well for the Horizontal Spacing Unit? YES

Is this well an infill well? NO

If infill is yes please provide API if available, Operator Name and well number for Defining well for Horizontal Spacing Unit.

API #

Operator Name:	Property Name:	Well Number

KZ 06/29/2018

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State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

Form APD Conditions

Permit 315667

PERMIT CONDITIONS OF APPROVAL

Operator Name and Address:	API Number:
LONGFELLOW ENERGY, LP [372210] 8115 Preston Road Dallas, TX 75225	30-015-53816
	Well: Marley State Com 31 AB #003H

OCD Reviewer	Condition
ward.rikala	Notify OCD 24 hours prior to casing & cement
ward.rikala	Will require a File As Drilled C-102 and a Directional Survey with the C-104
ward.rikala	Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string
ward.rikala	Cement is required to circulate on both surface and intermediate1 strings of casing
ward.rikala	Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system
ward.rikala	The Operator is to notify NMOCD by sundry (Form C-103) within ten (10) days of the well being spud

LONGFELLOW ENERGY, LP

Company: Longfellow Energy
Project: Eddy Co., NM (Nad-83)
Site: MARLEY STATE COM 31 AB
Well: 003H
Wellbore: Wellbore #1
Rig: TBD
Design: PLAN #8 / 14:11, May 08 2023

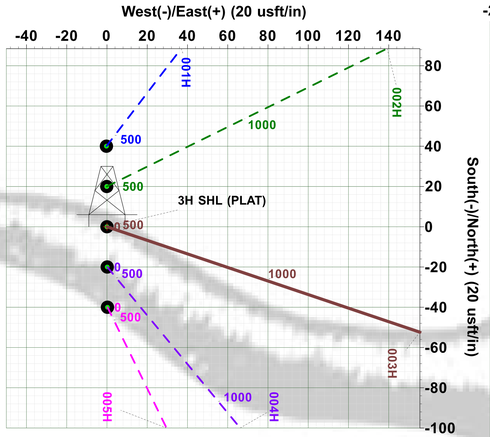
PROJECT DETAILS: Eddy Co., NM (Nad-83)

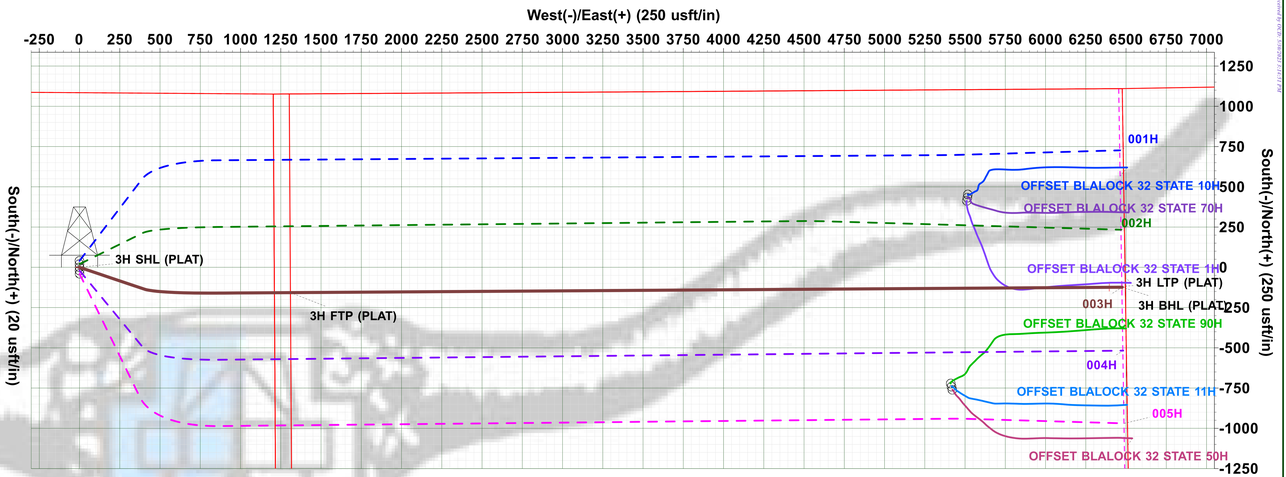
Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: New Mexico Eastern Zone
System Datum: Mean Sea Level

WELLBENDERS DIRECTIONAL SERVICES LLC

FORMATION TOP DETAILS

TVDPath	Formation
1007.00	QUEEN
1440.00	GRAYBURG
1785.00	SAN ANDRES
3183.00	GLORIETA
3221.00	PADDOCK





WELL DETAILS: 003H

RKB = 20.3' @ 3644.80usft (TBD)
3624.50

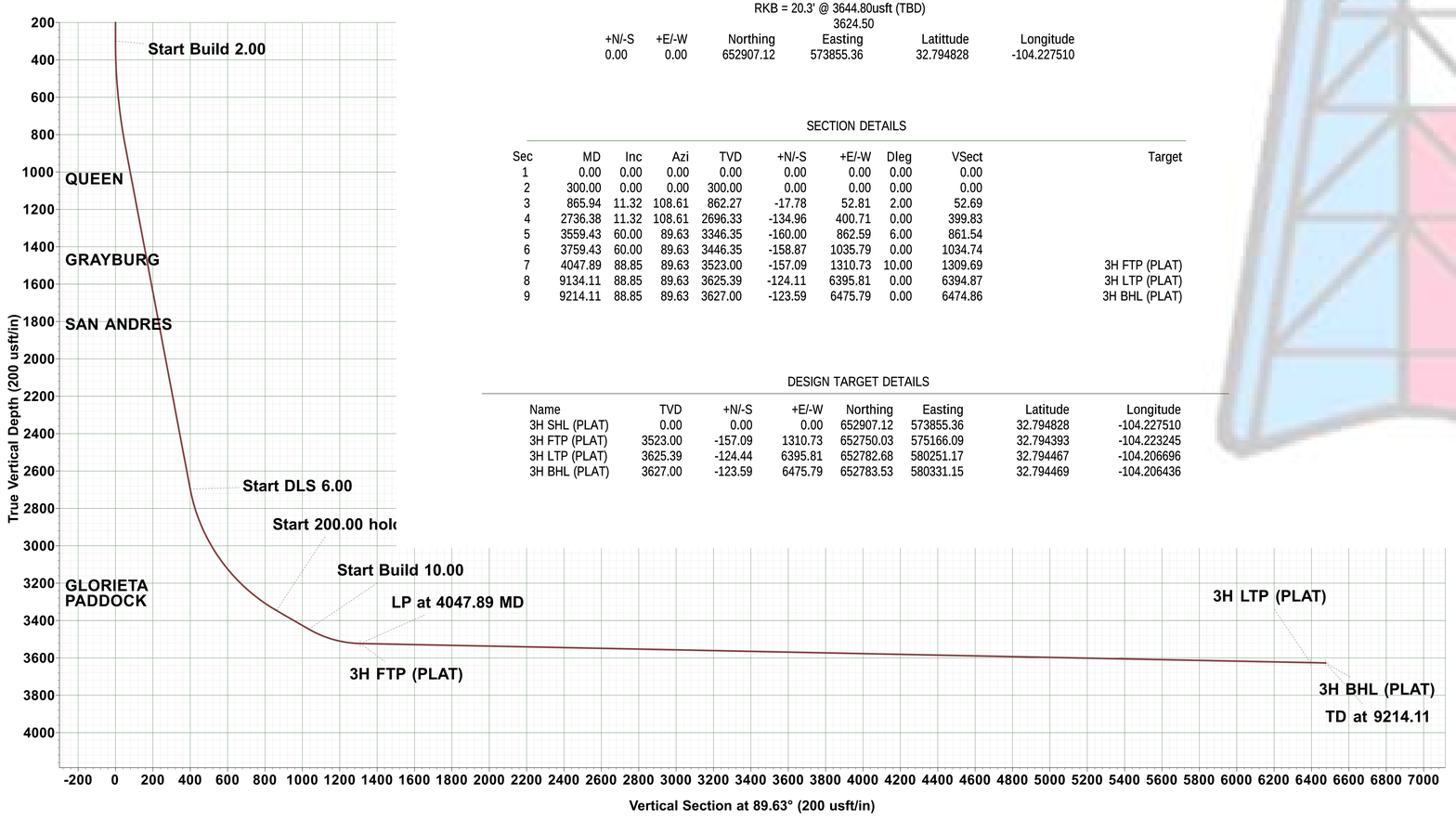
+N/-S	+E/-W	Northing	Easting	Latittude	Longitude
0.00	0.00	652907.12	573855.36	32.794828	-104.227510

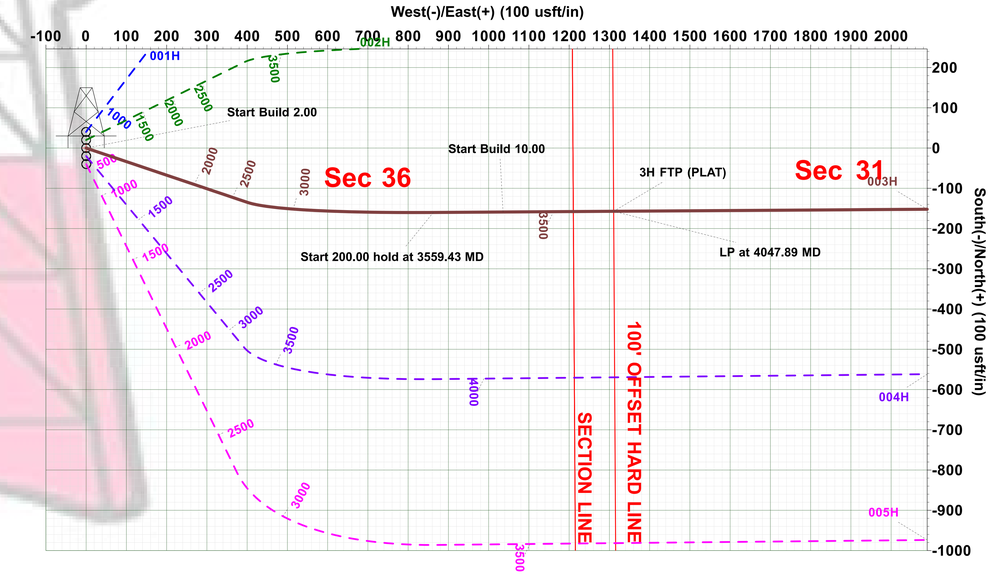
SECTION DETAILS

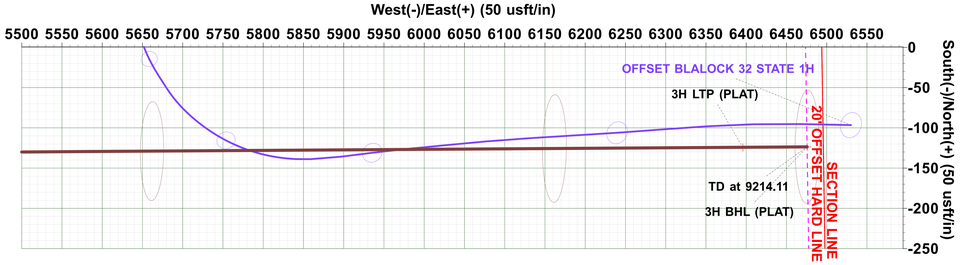
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	VSect	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	
3	865.94	11.32	108.61	862.27	-17.78	52.81	2.00	52.69	
4	2736.38	11.32	108.61	2696.33	-134.96	400.71	0.00	399.83	
5	3559.43	60.00	89.63	3346.35	-160.00	862.59	6.00	861.54	
6	3759.43	60.00	89.63	3446.35	-158.87	1035.79	0.00	1034.74	
7	4047.89	88.85	89.63	3523.00	-157.09	1310.73	10.00	1309.69	3H FTP (PLAT)
8	9134.11	88.85	89.63	3625.39	-124.11	6395.81	0.00	6394.87	3H LTP (PLAT)
9	9214.11	88.85	89.63	3627.00	-123.59	6475.79	0.00	6474.86	3H BHL (PLAT)

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
3H SHL (PLAT)	0.00	0.00	0.00	652907.12	573855.36	32.794828	-104.227510
3H FTP (PLAT)	3523.00	-157.09	1310.73	652750.03	575166.09	32.794393	-104.223245
3H LTP (PLAT)	3625.39	-124.44	6395.81	652782.68	580251.17	32.794467	-104.206696
3H BHL (PLAT)	3627.00	-123.59	6475.79	652783.53	580331.15	32.794469	-104.206436







Plan: PLAN #8 (003H/Wellbore #1) TBD

Created By: MATTHEW MAY Date: 14:11, May 08 2023

LONGFELLOW ENERGY, LP

Planning Report

WELLBENDERS DIRECTIONAL SERVICES LTD

Database:	WBDS_SQL_2	**Local Co-ordinate Reference:**	Well 003H
Company:	Longfellow Energy	**TVD Reference:**	RKB = 20.3' @ 3644.80usft (TBD)
Project:	Eddy Co., NM (Nad-83)	**MD Reference:**	RKB = 20.3' @ 3644.80usft (TBD)
Site:	MARLEY STATE COM 31 AB	**North Reference:**	Grid
Well:	003H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	PLAN #8		

Project Eddy Co., NM (Nad-83)

Map System:	US State Plane 1983	**System Datum:**	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site MARLEY STATE COM 31 AB

Site Position:		**Northing:**	652,447.99 usft	**Latitude:**	32.793545
From:	Map	**Easting:**	580,846.39 usft	**Longitude:**	-104.204761
Position Uncertainty:	0.00 usft	**Slot Radius:**	13.200 in	**Grid Convergence:**	0.070 °

Well 003H

Well Position	**+N/-S**	459.13 usft	**Northing:**	652,907.12 usft	**Latitude:**	32.794828
	+E/-W	-6,991.03 usft	**Easting:**	573,855.36 usft	**Longitude:**	-104.227510
Position Uncertainty		0.00 usft	**Wellhead Elevation:**		**Ground Level:**	3,624.50 usft

Wellbore Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	05/30/23	6.666	60.257	47,557.71450485

Design PLAN #8

Audit Notes:

Version:		**Phase:**	PLAN	**Tie On Depth:**	0.00

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	89.63

Plan Survey Tool Program **Date** 05/08/23

	Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	9,214.10	PLAN #8 (Wellbore #1)	MWD+IFR1+SAG+FDIR OWSG MWD + IFR1 + Sag	

Plan Sections

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.000	
865.94	11.32	108.61	862.27	-17.78	52.81	2.00	2.00	0.00	108.613	
2,736.38	11.32	108.61	2,696.33	-134.96	400.71	0.00	0.00	0.00	0.000	
3,559.43	60.00	89.63	3,346.35	-160.00	862.59	6.00	5.91	-2.31	-21.787	
3,759.43	60.00	89.63	3,446.35	-158.87	1,035.79	0.00	0.00	0.00	0.000	
4,047.89	88.85	89.63	3,523.00	-157.09	1,310.73	10.00	10.00	0.00	0.000	3H FTP (PLAT)
9,134.11	88.85	89.63	3,625.39	-124.11	6,395.81	0.00	0.00	0.00	0.000	3H LTP (PLAT)
9,214.11	88.85	89.63	3,627.00	-123.59	6,475.79	0.00	0.00	0.00	0.000	3H BHL (PLAT)

LONGFELLOW ENERGY, LP

Planning Report

WELLBENDERS DIRECTIONAL SERVICES LLC

Database:	WBDS_SQL_2	**Local Co-ordinate Reference:**	Well 003H
Company:	Longfellow Energy	**TVD Reference:**	RKB = 20.3' @ 3644.80usft (TBD)
Project:	Eddy Co., NM (Nad-83)	**MD Reference:**	RKB = 20.3' @ 3644.80usft (TBD)
Site:	MARLEY STATE COM 31 AB	**North Reference:**	Grid
Well:	003H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	PLAN #8		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	2.00	108.61	399.98	-0.56	1.65	1.65	2.00	2.00	0.00
500.00	4.00	108.61	499.84	-2.23	6.61	6.60	2.00	2.00	0.00
600.00	6.00	108.61	599.45	-5.01	14.87	14.84	2.00	2.00	0.00
700.00	8.00	108.61	698.70	-8.90	26.42	26.36	2.00	2.00	0.00
800.00	10.00	108.61	797.47	-13.89	41.25	41.16	2.00	2.00	0.00
865.94	11.32	108.61	862.27	-17.78	52.81	52.69	2.00	2.00	0.00
900.00	11.32	108.61	895.66	-19.92	59.14	59.01	0.00	0.00	0.00
1,000.00	11.32	108.61	993.72	-26.18	77.74	77.57	0.00	0.00	0.00
1,100.00	11.32	108.61	1,091.77	-32.45	96.34	96.13	0.00	0.00	0.00
1,200.00	11.32	108.61	1,189.83	-38.71	114.94	114.69	0.00	0.00	0.00
1,300.00	11.32	108.61	1,287.88	-44.98	133.54	133.25	0.00	0.00	0.00
1,400.00	11.32	108.61	1,385.94	-51.24	152.14	151.81	0.00	0.00	0.00
1,500.00	11.32	108.61	1,483.99	-57.51	170.74	170.37	0.00	0.00	0.00
1,600.00	11.32	108.61	1,582.05	-63.77	189.34	188.93	0.00	0.00	0.00
1,700.00	11.32	108.61	1,680.10	-70.03	207.94	207.49	0.00	0.00	0.00
1,800.00	11.32	108.61	1,778.16	-76.30	226.54	226.05	0.00	0.00	0.00
1,900.00	11.32	108.61	1,876.21	-82.56	245.14	244.60	0.00	0.00	0.00
2,000.00	11.32	108.61	1,974.27	-88.83	263.74	263.16	0.00	0.00	0.00
2,100.00	11.32	108.61	2,072.32	-95.09	282.34	281.72	0.00	0.00	0.00
2,200.00	11.32	108.61	2,170.38	-101.36	300.94	300.28	0.00	0.00	0.00
2,300.00	11.32	108.61	2,268.43	-107.62	319.54	318.84	0.00	0.00	0.00
2,400.00	11.32	108.61	2,366.49	-113.89	338.14	337.40	0.00	0.00	0.00
2,500.00	11.32	108.61	2,464.54	-120.15	356.74	355.96	0.00	0.00	0.00
2,600.00	11.32	108.61	2,562.60	-126.41	375.34	374.52	0.00	0.00	0.00
2,700.00	11.32	108.61	2,660.65	-132.68	393.94	393.08	0.00	0.00	0.00
2,736.38	11.32	108.61	2,696.33	-134.96	400.71	399.83	0.00	0.00	0.00
2,750.00	12.08	107.16	2,709.66	-135.81	403.34	402.45	6.00	5.60	-10.64
2,800.00	14.93	103.11	2,758.28	-138.81	414.62	413.71	6.00	5.70	-8.11
2,850.00	17.83	100.34	2,806.24	-141.65	428.42	427.50	6.00	5.79	-5.54
2,900.00	20.75	98.33	2,853.43	-144.30	444.72	443.78	6.00	5.85	-4.03
2,950.00	23.70	96.79	2,899.71	-146.78	463.47	462.51	6.00	5.89	-3.07
3,000.00	26.65	95.58	2,944.96	-149.05	484.61	483.64	6.00	5.91	-2.42
3,050.00	29.62	94.59	2,989.05	-151.13	508.09	507.10	6.00	5.93	-1.97
3,100.00	32.59	93.77	3,031.85	-153.01	533.84	532.85	6.00	5.94	-1.64
3,150.00	35.56	93.08	3,073.27	-154.68	561.80	560.79	6.00	5.95	-1.39
3,200.00	38.54	92.47	3,113.17	-156.13	591.89	590.87	6.00	5.96	-1.21
3,250.00	41.52	91.94	3,151.45	-157.36	624.02	622.99	6.00	5.96	-1.06
3,300.00	44.50	91.47	3,188.01	-158.38	658.11	657.07	6.00	5.97	-0.94
3,350.00	47.49	91.05	3,222.74	-159.17	694.06	693.02	6.00	5.97	-0.85
3,400.00	50.47	90.67	3,255.55	-159.73	731.77	730.73	6.00	5.97	-0.77
3,450.00	53.46	90.31	3,286.36	-160.06	771.15	770.10	6.00	5.97	-0.70
3,500.00	56.45	89.99	3,315.07	-160.17	812.08	811.03	6.00	5.98	-0.65
3,550.00	59.44	89.68	3,341.60	-160.05	854.45	853.40	6.00	5.98	-0.61
3,559.43	60.00	89.63	3,346.35	-160.00	862.59	861.54	6.00	5.98	-0.59
3,600.00	60.00	89.63	3,366.64	-159.77	897.73	896.68	0.00	0.00	0.00
3,700.00	60.00	89.63	3,416.64	-159.21	984.33	983.28	0.00	0.00	0.00
3,759.43	60.00	89.63	3,446.35	-158.87	1,035.79	1,034.74	0.00	0.00	0.00
3,800.00	64.06	89.63	3,465.38	-158.64	1,071.62	1,070.57	10.00	10.00	0.00
3,850.00	69.06	89.63	3,485.27	-158.34	1,117.47	1,116.43	10.00	10.00	0.00
3,900.00	74.06	89.63	3,501.08	-158.04	1,164.89	1,163.85	10.00	10.00	0.00

LONGFELLOW ENERGY, LP

Planning Report

WELLBENDERS DIRECTIONAL SERVICES

Database:	WBDS_SQL_2	**Local Co-ordinate Reference:**	Well 003H
Company:	Longfellow Energy	**TVD Reference:**	RKB = 20.3' @ 3644.80usft (TBD)
Project:	Eddy Co., NM (Nad-83)	**MD Reference:**	RKB = 20.3' @ 3644.80usft (TBD)
Site:	MARLEY STATE COM 31 AB	**North Reference:**	Grid
Well:	003H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	PLAN #8		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
3,950.00	79.06	89.63	3,512.70	-157.72	1,213.50	1,212.46	10.00	10.00	0.00
4,000.00	84.06	89.63	3,520.04	-157.40	1,262.95	1,261.90	10.00	10.00	0.00
4,047.89	88.85	89.63	3,523.00	-157.09	1,310.73	1,309.69	10.00	10.00	0.00
4,100.00	88.85	89.63	3,524.05	-156.75	1,362.83	1,361.79	0.00	0.00	0.00
4,200.00	88.85	89.63	3,526.06	-156.10	1,462.81	1,461.77	0.00	0.00	0.00
4,300.00	88.85	89.63	3,528.08	-155.46	1,562.78	1,561.75	0.00	0.00	0.00
4,400.00	88.85	89.63	3,530.09	-154.81	1,662.76	1,661.73	0.00	0.00	0.00
4,500.00	88.85	89.63	3,532.10	-154.16	1,762.74	1,761.71	0.00	0.00	0.00
4,600.00	88.85	89.63	3,534.11	-153.51	1,862.72	1,861.69	0.00	0.00	0.00
4,700.00	88.85	89.63	3,536.13	-152.86	1,962.69	1,961.67	0.00	0.00	0.00
4,800.00	88.85	89.63	3,538.14	-152.21	2,062.67	2,061.65	0.00	0.00	0.00
4,900.00	88.85	89.63	3,540.15	-151.56	2,162.65	2,161.62	0.00	0.00	0.00
5,000.00	88.85	89.63	3,542.17	-150.92	2,262.63	2,261.60	0.00	0.00	0.00
5,100.00	88.85	89.63	3,544.18	-150.27	2,362.60	2,361.58	0.00	0.00	0.00
5,200.00	88.85	89.63	3,546.19	-149.62	2,462.58	2,461.56	0.00	0.00	0.00
5,300.00	88.85	89.63	3,548.21	-148.97	2,562.56	2,561.54	0.00	0.00	0.00
5,400.00	88.85	89.63	3,550.22	-148.32	2,662.54	2,661.52	0.00	0.00	0.00
5,500.00	88.85	89.63	3,552.23	-147.67	2,762.51	2,761.50	0.00	0.00	0.00
5,600.00	88.85	89.63	3,554.25	-147.03	2,862.49	2,861.48	0.00	0.00	0.00
5,700.00	88.85	89.63	3,556.26	-146.38	2,962.47	2,961.46	0.00	0.00	0.00
5,800.00	88.85	89.63	3,558.27	-145.73	3,062.45	3,061.44	0.00	0.00	0.00
5,900.00	88.85	89.63	3,560.28	-145.08	3,162.43	3,161.42	0.00	0.00	0.00
6,000.00	88.85	89.63	3,562.30	-144.43	3,262.40	3,261.40	0.00	0.00	0.00
6,100.00	88.85	89.63	3,564.31	-143.78	3,362.38	3,361.38	0.00	0.00	0.00
6,200.00	88.85	89.63	3,566.32	-143.13	3,462.36	3,461.36	0.00	0.00	0.00
6,300.00	88.85	89.63	3,568.34	-142.49	3,562.34	3,561.34	0.00	0.00	0.00
6,400.00	88.85	89.63	3,570.35	-141.84	3,662.31	3,661.32	0.00	0.00	0.00
6,500.00	88.85	89.63	3,572.36	-141.19	3,762.29	3,761.30	0.00	0.00	0.00
6,600.00	88.85	89.63	3,574.38	-140.54	3,862.27	3,861.28	0.00	0.00	0.00
6,700.00	88.85	89.63	3,576.39	-139.89	3,962.25	3,961.26	0.00	0.00	0.00
6,800.00	88.85	89.63	3,578.40	-139.24	4,062.22	4,061.24	0.00	0.00	0.00
6,900.00	88.85	89.63	3,580.42	-138.60	4,162.20	4,161.22	0.00	0.00	0.00
7,000.00	88.85	89.63	3,582.43	-137.95	4,262.18	4,261.20	0.00	0.00	0.00
7,100.00	88.85	89.63	3,584.44	-137.30	4,362.16	4,361.18	0.00	0.00	0.00
7,200.00	88.85	89.63	3,586.46	-136.65	4,462.13	4,461.16	0.00	0.00	0.00
7,300.00	88.85	89.63	3,588.47	-136.00	4,562.11	4,561.14	0.00	0.00	0.00
7,400.00	88.85	89.63	3,590.48	-135.35	4,662.09	4,661.12	0.00	0.00	0.00
7,500.00	88.85	89.63	3,592.49	-134.71	4,762.07	4,761.10	0.00	0.00	0.00
7,600.00	88.85	89.63	3,594.51	-134.06	4,862.04	4,861.08	0.00	0.00	0.00
7,700.00	88.85	89.63	3,596.52	-133.41	4,962.02	4,961.06	0.00	0.00	0.00
7,800.00	88.85	89.63	3,598.53	-132.76	5,062.00	5,061.04	0.00	0.00	0.00
7,900.00	88.85	89.63	3,600.55	-132.11	5,161.98	5,161.02	0.00	0.00	0.00
8,000.00	88.85	89.63	3,602.56	-131.46	5,261.96	5,261.00	0.00	0.00	0.00
8,100.00	88.85	89.63	3,604.57	-130.81	5,361.93	5,360.98	0.00	0.00	0.00
8,200.00	88.85	89.63	3,606.59	-130.17	5,461.91	5,460.96	0.00	0.00	0.00
8,300.00	88.85	89.63	3,608.60	-129.52	5,561.89	5,560.94	0.00	0.00	0.00
8,400.00	88.85	89.63	3,610.61	-128.87	5,661.87	5,660.92	0.00	0.00	0.00
8,500.00	88.85	89.63	3,612.63	-128.22	5,761.84	5,760.90	0.00	0.00	0.00
8,600.00	88.85	89.63	3,614.64	-127.57	5,861.82	5,860.88	0.00	0.00	0.00
8,700.00	88.85	89.63	3,616.65	-126.92	5,961.80	5,960.85	0.00	0.00	0.00
8,800.00	88.85	89.63	3,618.66	-126.28	6,061.78	6,060.83	0.00	0.00	0.00
8,900.00	88.85	89.63	3,620.68	-125.63	6,161.75	6,160.81	0.00	0.00	0.00
9,000.00	88.85	89.63	3,622.69	-124.98	6,261.73	6,260.79	0.00	0.00	0.00
9,100.00	88.85	89.63	3,624.70	-124.33	6,361.71	6,360.77	0.00	0.00	0.00

LONGFELLOW ENERGY, LP

Planning Report

WELLBENDERS DIRECTIONAL SERVICES LLC

Database:	WBDS_SQL_2	**Local Co-ordinate Reference:**	Well 003H
Company:	Longfellow Energy	**TVD Reference:**	RKB = 20.3' @ 3644.80usft (TBD)
Project:	Eddy Co., NM (Nad-83)	**MD Reference:**	RKB = 20.3' @ 3644.80usft (TBD)
Site:	MARLEY STATE COM 31 AB	**North Reference:**	Grid
Well:	003H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	PLAN #8		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
9,134.11	88.85	89.63	3,625.39	-124.11	6,395.81	6,394.87	0.00	0.00	0.00
9,200.00	88.85	89.63	3,626.72	-123.68	6,461.69	6,460.75	0.00	0.00	0.00
9,214.11	88.85	89.63	3,627.00	-123.59	6,475.79	6,474.86	0.00	0.00	0.00

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
3H SHL (PLAT) - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	652,907.12	573,855.36	32.794828	-104.227510
3H FTP (PLAT) - plan hits target center - Point	0.00	0.00	3,523.00	-157.09	1,310.73	652,750.03	575,166.09	32.794393	-104.223245
3H LTP (PLAT) - plan misses target center by 0.33usft at 9134.11usft MD (3625.39 TVD, -124.11 N, 6395.81 E) - Point	0.00	0.00	3,625.39	-124.44	6,395.81	652,782.68	580,251.17	32.794467	-104.206697
3H BHL (PLAT) - plan hits target center - Point	0.00	0.00	3,627.00	-123.59	6,475.79	652,783.53	580,331.15	32.794469	-104.206436

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,013.54	1,007.00	QUEEN		0.000	
1,455.13	1,440.00	GRAYBURG		0.000	
1,806.98	1,785.00	SAN ANDRES		0.000	
3,293.00	3,183.00	GLORIETA		0.000	
3,347.43	3,221.00	PADDOCK		0.000	

State of New Mexico
Energy, Minerals and Natural Resources Department

Submit Electronically
Via E-permitting

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

NATURAL GAS MANAGEMENT PLAN

This Natural Gas Management Plan must be submitted with each Application for Permit to Drill (APD) for a new or recompleted well.

Section 1 – Plan Description

Effective May 25, 2021

I. Operator: Longfellow Energy, LLC **OGRID:** 372210 **Date:** 05-15-23

II. Type: ☒ Original ☐ Amendment due to ☐ 19.15.27.9.D(6)(a) NMAC ☐ 19.15.27.9.D(6)(b) NMAC ☐ Other.

If Other, please describe: _____

III. Well(s): Provide the following information for each new or recompleted well or set of wells proposed to be drilled or proposed to be recompleted from a single well pad or connected to a central delivery point.

Well Name	API	ULSTR	Footages	Anticipated Oil BBL/D	Anticipated Gas MCF/D	Anticipated Produced Water BBL/D
Marley State Com 31 AB 001H	30-015-	A-36-17S-27E	1045 FNL & 1210 FEL	500	500	5000
Marley State Com 31 AB 002H	30-015-	A-36-17S-27E	1065 FNL & 1210 FEL	500	500	5000
Marley State Com 31 AB 003H	30-015-	A-36-17S-27E	1085 FNL & 1210 FEL	500	500	5000
Marley State Com 31 AB 004H	30-015-	A-36-17S-27E	1105 FNL & 1210 FEL	500	500	5000
Marley State Com 31 AB 005H	30-015-	A-36-17S-27E	1125 FNL & 1210 FEL	500	500	5000

IV. Central Delivery Point Name: DCP Midstream, LP (248749) @ same pad in A-36-17s-27e) [See 19.15.27.9(D)(1) NMAC]

V. Anticipated Schedule: Provide the following information for each new or recompleted well or set of wells proposed to be drilled or proposed to be recompleted from a single well pad or connected to a central delivery point.

Well Name	API	Spud Date	TD Reached Date	Completion Commencement Date	Initial Flow Back Date	First Production Date
Marley State Com 31 AB 001H	30-015-	8-1-23	8-10-23	8-20-23	8-20-23	9-5-23
Marley State Com 31 AB 002H	30-015-	7-15-23	7-25-23	8-1-23	9-1-23	9-15-23
Marley State Com 31 AB 003H	30-015-	7-1-23	7-10-23	8-20-23	9-20-23	10-5-23
Marley State Com 31 AB 004H	30-015-	6-15-23	6-25-23	8-1-23	9-1-23	9-15-23
Marley State Com 31 AB 005H	30-015-	6-1-23	6-10-23	6-20-23	7-20-23	8-5-23

VI. Separation Equipment: ☒ Attach a complete description of how Operator will size separation equipment to optimize gas capture.

VII. Operational Practices: ☒ Attach a complete description of the actions Operator will take to comply with the requirements of Subsection A through F of 19.15.27.8 NMAC.

VIII. Best Management Practices: ☒ Attach a complete description of Operator's best management practices to minimize venting during active and planned maintenance.

Section 2 – Enhanced Plan
EFFECTIVE APRIL 1, 2022

Beginning April 1, 2022, an operator that is not in compliance with its statewide natural gas capture requirement for the applicable reporting area must complete this section.

☑ Operator certifies that it is not required to complete this section because Operator is in compliance with its statewide natural gas capture requirement for the applicable reporting area.

IX. Anticipated Natural Gas Production:

Well	API	Anticipated Average Natural Gas Rate MCF/D	Anticipated Volume of Natural Gas for the First Year MCF

X. Natural Gas Gathering System (NGGS):

Operator	System	ULSTR of Tie-in	Anticipated Gathering Start Date	Available Maximum Daily Capacity of System Segment Tie-in

XI. Map. ☐ Attach an accurate and legible map depicting the location of the well(s), the anticipated pipeline route(s) connecting the production operations to the existing or planned interconnect of the natural gas gathering system(s), and the maximum daily capacity of the segment or portion of the natural gas gathering system(s) to which the well(s) will be connected.

XII. Line Capacity. The natural gas gathering system ☐ will ☐ will not have capacity to gather 100% of the anticipated natural gas production volume from the well prior to the date of first production.

XIII. Line Pressure. Operator ☐ does ☐ does not anticipate that its existing well(s) connected to the same segment, or portion, of the natural gas gathering system(s) described above will continue to meet anticipated increases in line pressure caused by the new well(s).

☐ Attach Operator's plan to manage production in response to the increased line pressure.

XIV. Confidentiality: ☐ Operator asserts confidentiality pursuant to Section 71-2-8 NMSA 1978 for the information provided in Section 2 as provided in Paragraph (2) of Subsection D of 19.15.27.9 NMAC, and attaches a full description of the specific information for which confidentiality is asserted and the basis for such assertion.

Section 3 - Certifications

Effective May 25, 2021

Operator certifies that, after reasonable inquiry and based on the available information at the time of submittal:

☒ Operator will be able to connect the well(s) to a natural gas gathering system in the general area with sufficient capacity to transport one hundred percent of the anticipated volume of natural gas produced from the well(s) commencing on the date of first production, taking into account the current and anticipated volumes of produced natural gas from other wells connected to the pipeline gathering system; or

☐ Operator will not be able to connect to a natural gas gathering system in the general area with sufficient capacity to transport one hundred percent of the anticipated volume of natural gas produced from the well(s) commencing on the date of first production, taking into account the current and anticipated volumes of produced natural gas from other wells connected to the pipeline gathering system. ***If Operator checks this box, Operator will select one of the following:***

Well Shut-In. ☐ Operator will shut-in and not produce the well until it submits the certification required by Paragraph (4) of Subsection D of 19.15.27.9 NMAC; or

Venting and Flaring Plan. ☒ Operator has attached a venting and flaring plan that evaluates and selects one or more of the potential alternative beneficial uses for the natural gas until a natural gas gathering system is available, including:

- **(a)** power generation on lease;
- **(b)** power generation for grid;
- **(c)** compression on lease;
- **(d)** liquids removal on lease;
- **(e)** reinjection for underground storage;
- **(f)** reinjection for temporary storage;
- **(g)** reinjection for enhanced oil recovery;
- **(h)** fuel cell production; and
- **(i)** other alternative beneficial uses approved by the division.

Section 4 - Notices

1. If, at any time after Operator submits this Natural Gas Management Plan and before the well is spud:

(a) Operator becomes aware that the natural gas gathering system it planned to connect the well(s) to has become unavailable or will not have capacity to transport one hundred percent of the production from the well(s), no later than 20 days after becoming aware of such information, Operator shall submit for OCD's approval a new or revised venting and flaring plan containing the information specified in Paragraph (5) of Subsection D of 19.15.27.9 NMAC; or

(b) Operator becomes aware that it has, cumulatively for the year, become out of compliance with its baseline natural gas capture rate or natural gas capture requirement, no later than 20 days after becoming aware of such information, Operator shall submit for OCD's approval a new or revised Natural Gas Management Plan for each well it plans to spud during the next 90 days containing the information specified in Paragraph (2) of Subsection D of 19.15.27.9 NMAC, and shall file an update for each Natural Gas Management Plan until Operator is back in compliance with its baseline natural gas capture rate or natural gas capture requirement.

2. OCD may deny or conditionally approve an APD if Operator does not make a certification, fails to submit an adequate venting and flaring plan which includes alternative beneficial uses for the anticipated volume of natural gas produced, or if OCD determines that Operator will not have adequate natural gas takeaway capacity at the time a well will be spud.

I certify that, after reasonable inquiry, the statements in and attached to this Natural Gas Management Plan are true and correct to the best of my knowledge and acknowledge that a false statement may be subject to civil and criminal penalties under the Oil and Gas Act.

Signature:
Printed Name: Brian Wood
Title: Consultant
E-mail Address: brian@permitswest.com
Date: 5-15-23
Phone: 505 466-8120

OIL CONSERVATION DIVISION **(Only applicable when submitted as a standalone form)**
Approved By:
Title:
Approval Date:
Conditions of Approval:

LONGFELLOW ENERGY, LP

Attachment VI. Separation Equipment:

Longfellow Energy (LFE) production facilities include separation equipment designed to efficiently separate gas from liquid phases to optimize gas capture based on projected and estimated volumes from the completion project. LFE will utilize flowback separation equipment and production separation equipment designed and built to industry specifications after the completion to optimize gas capture and send gas to sales or flare based on analytical composition. LFE operates facilities that are typically multi-well facilities. Production separation equipment is upgraded or installed before new wells are completed. This equipment is on-site and tied into sales gas lines prior to flowback.

Attachment VII. Operational Practices:

19.15.27.8 Subsection A: Venting and Flaring of Natural Gas

Longfellow Energy (LFE) understands the requirements of NMAC 19.15.27.8 which states that the venting and flaring of natural gas during drilling, completion, or production operations that constitutes waste as defined in 19.15.2 are prohibited.

19.15.27.8 Subsection B: Venting and flaring during drilling operations

1. LFE shall capture or combust natural gas if technically feasible using best industry practices
2. A properly-sized flare stack shall be located at a minimum of 100 feet from the nearest surface hole location unless otherwise approved by the division.
3. In an emergency or malfunction, LFE may vent natural gas to avoid a risk of an immediate and substantial adverse impact on safety, public health, or the environment. LFE will report natural gas vented or flared during an emergency or malfunction to the NMOCD.

19.15.27.8 Subsection C: Venting and flaring during completion or recompletion operations

1. During initial flowback, LFE shall route flowback fluids into a completion or storage tank and, if technically feasible under the applicable well conditions, flare rather than vent and commence operation of a separator as soon as it is technically feasible for a separator to function
2. During separation flowback, LFE shall capture and route natural gas from the separation equipment:
    a. to a gas flowline or collection system, reinject into the well, or use on-site as a fuel source or other purpose that a purchased fuel or raw material would serve; or
    b. to a flare if routing the natural gas to a gas flowline or collection system, reinjecting it into the well, or using it on-site as a fuel source or other purpose that a purchased fuel or raw material would serve would pose a risk to safe operation or personnel safety.
3. If natural gas does not meet gathering pipeline quality specifications, LFE may flare the natural gas for 60 days or until the natural gas meets the pipeline quality specifications, whichever is sooner, provided that:

19.15.27.8 Subsection D: Venting and flaring during production operations

LFE shall not vent or flare natural gas except:

1. during an emergency or malfunction;
2. to unload or clean-up liquid holdup in a well to atmospheric pressure, provided
    a. LFE does not vent after the well achieves a stabilized rate and pressure;
    b. for liquids unloading by manual purging, LFE remains present on-site until the end of unloading or posts at the well site the contact information of the personnel conducting the liquids unloading operation and ensures that personnel remains within 30 minutes' drive time of the well being unloaded until the end of unloading, takes all reasonable actions to achieve a stabilized rate and pressure at the earliest practical time and takes reasonable actions to minimize venting to the maximum extent practicable;
    c. during downhole well maintenance, only when LFE uses a workover rig, swabbing rig, coiled tubing unit or similar specialty equipment and minimizes the venting of natural gas to the extent that it does not pose a risk to safe operations and personnel safety
3. during the following activities unless prohibited by applicable state or federal law, rule, or regulation for the emission of hydrocarbons and volatile organic compounds:
    a. gauging or sampling a storage tank or other low-pressure production vessel;
    b. loading out liquids from a storage tank or other low-pressure production vessel to a transport vehicle;
    c. repair and maintenance, including blowing down and depressurizing production equipment to perform repair and maintenance;
    d. normal operation of a gas-activated pneumatic controller or pump;
    e. normal operation of a storage tank or other low-pressure production vessel, but not including venting from a thief hatch that is not properly closed or maintained
    f. normal operations of valves, flanges and connectors that is not the result of inadequate equipment design or maintenance;
    g. a packer leakage test;
    h. a production test lasting less than 24 hours unless the division requires or approves a longer test period;
    i. when natural gas does not meet the gathering pipeline specifications, provided LFE analyzes natural gas samples twice per week to determine whether the specifications have been achieved, routes the natural gas into a gathering pipeline as soon as the pipeline specifications are met and provides the pipeline specifications and natural gas analyses to the division upon request; or
    j. Commissioning of pipelines, equipment, or facilities only for as long as necessary to purge introduced impurities from the pipeline or equipment.

19.15.27.8 Subsection E: Performance Standards

1. LFE designed completion and production separation equipment and storage tanks for maximum anticipated throughput and pressure to minimize waste.
2. LFE permanent storage tanks associated with production operations that is routed to a flare or control device are equipped with automatic gauging system that reduces the venting of natural gas.
3. LFE shall combust natural gas in a flare stack that is properly sized and designed to ensure proper combustion efficiency.
    a. The flare stack shall be equipped with an automatic ignitor or continuous pilot.

4. The flare stack shall be securely anchored and located at least 100 feet from the well and storage tanks unless otherwise approved by the division.
5. LFE shall conduct an AVO inspection weekly to confirm that all production equipment is operating properly and there are no leaks or releases except as allowed in Subsection D of 19.15.27.8 NMAC.
    a. During an AVO inspection the LFE shall inspect all components, including flare stacks, thief hatches, closed vent systems, pumps, compressors, pressure relief devices, valves, lines, flanges, connectors, and associated piping to identify defects, leaks, and releases by:
        i. a comprehensive external visual inspection;
        ii. listening for pressure and liquid leaks; and
        iii. smelling for unusual and strong odors.
    b. LFE shall make and keep a record of an AVO inspection for not less than five years and make such record available for inspection by the division upon request.
6. facilities shall be designed to minimize waste;
7. LFE has an obligation to minimize waste and shall resolve emergencies as quickly and safely as is feasible.

19.15.27.8 Subsection F: Measurement or estimation of vented and flared natural gas

1. LFE shall measure or estimate the volume of natural gas that it vents, flares, or beneficially uses during drilling, completion, and production operations regardless of the reason or authorization for such venting or flaring.
2. LFE shall install equipment to measure the volume of natural gas flared from existing process piping or a flowline piped from equipment such as high pressure separators, heater treaters, or vapor recovery units associated with a well or facility associated with a well authorized by the APD

Attachment VIII. Best Management Practices:

Longfellow Energy (LFE) utilizes the following best management practices to minimize venting during active and planned maintenance

1. LFE has a closed vent capture system to route emissions from the heater treater, tanks and vapor to the VRU with a flare for backup. The system is designed such that if the VRU is taken out of service for any reason, the vapors will be routed to the flare for combustion.
2. LFE will isolate and attempt to route all vapors to the VRU or flare prior to opening any lines for maintenance to minimize venting from the equipment when technically feasible
3. LFE will shut in wells in the event of a takeaway disruption, emergency situations, or other operations where venting or flaring may occur due to equipment failures.
4. Lease operators will be visiting the location daily to check and maintain all equipment ensuring all scrubbers, flame arrestors, and the flare ignitor is functioning properly.