<u>District I</u> 1625 N. French Dr., Hobbs, NM 88240 Phone:(575) 393-6161 Fax:(575) 393-0720

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 359148

	APPLICATION FOR PERIVIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD	AZUNE
Operator Name and Address		2. OGRID Number

Operator Name and Address		2. OGRID Number								
LONGFELLOW ENERGY, LP	372210									
8115 Preston Road	3. API Number									
Dallas, TX 75225		30-015-54792								
4. Property Code	5. Property Name	6. Well No.								
335193	MARLEY STATE COM 31 CD	006H								

7. Surface Location

UL - Lot		Section	Township	Range	Lot Idn	Feet From	N/S Line	Feet From	E/W Line	County
	Р	36	17S	27E		905	S	490	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	
	Р	31	17S	28E	Р	538	S	20	E	Eddy	

9. Pool Information

RED LAKE; GLORIETA-YESO, NORTHEAST	96836

Additional Well Information

11. Work Type	12. Well Type	13. Cable/Rotary	, , , , , , , , , , , , , , , , , , ,	15. Ground Level Elevation	
New Well	OIL		State	3671	
16. Multiple	17. Proposed Depth	18. Formation	19. Contractor	20. Spud Date	
N	N 10588			3/10/2024	
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	Sacks of Cement	Estimated TOC					
Surf	12.25	9.625	36	1300	610	0				
Prod	8.75	7	32	5250	793	1100				
Prod	8.75	5.5	20	10588	793	1100				

## Casing/Cement Program: Additional Comments

22. Proposed Blowout Prevention Program

Туре	Working Pressure	Test Pressure	Manufacturer
Double Ram	3000	3000	Shaffer

knowledge and be	elief.	s true and complete to the best of my  NMAC ⊠ and/or 19.15.14.9 (B) NMAC		OIL CONSERVATIO	ON DIVISION		
Signature:							
Printed Name:	Electronically filed by David Cair	1	Approved By:	Ward Rikala			
Title:	Engineering Technologist		Title:				
Email Address:	david.cain@longfellowenergy.co	om	Approved Date:	2/28/2024	Expiration Date: 2/28/2026		
Date:	2/7/2024	Phone: 972-590-9918	Conditions of Approval Attached				

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410

Phone: (505) 334-6178 Fax: (505) 334-6170

1220 S. St. Francis Dr., Santa Fe, NM 87505 Phone: (505) 476-3460 Fax: (505) 476-3462

District IV

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

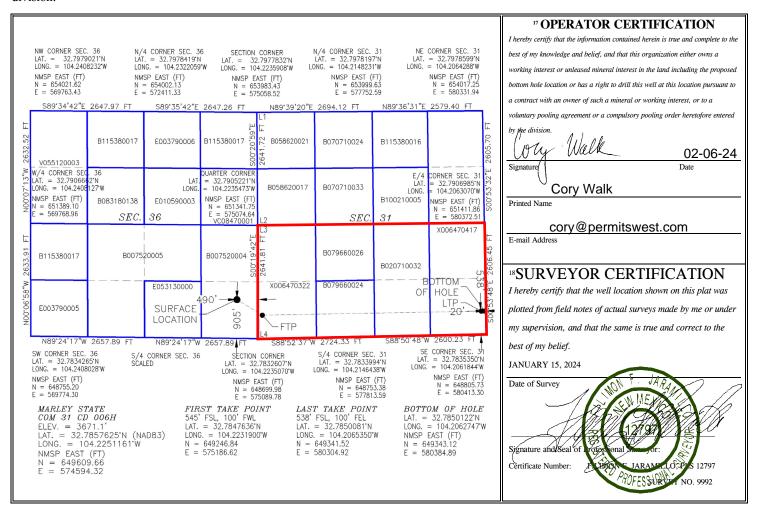
Form C-102 Revised August 1, 2011 Submit one copy to appropriate District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

	WEEE ECCHIONARY REMEMBER DEPICTION TEM											
	API Number			<sup>2</sup> Pool Co								
30-015- <b>54792</b>				96836	6	RED LAKE	; GLORIETA-\	ESO, NO	RTHEAST			
<sup>4</sup> Property (	Code				<sup>5</sup> Property	Name			<sup>6</sup> Well Number			
33519	3			$\mathbf{M}_{A}$	ARLEY STATE	E COM 31 CD			006Н			
<sup>7</sup> OGRID !	No.				8 Operator	Name			<sup>9</sup> Elevation			
37221	0			LC	NGFELLOW 1	ENERGY, LP			3671.1			
<sup>10</sup> Surface Location												
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West	line County			
P	36	17 S	27 E		905	SOUTH	490	EAST	EDDY			
	•	•	п В	ottom I	Iole Location	If Different Fi	rom Surface		•			
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West	line County			
P	31	17 S	28 E		538	SOUTH	20	EAST	EDDY			
12 Dedicated Acre	es 13 Joint	or Infill	Consolidation	1 Code	Code 15 Order No.				•			
327.43			С									

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.



Inten	t Yes	As Dril	led											
API#														
1	Operator Name: LONGFELLOW ENERGY, LP						perty N			СОМ	31 (	CD		Well Number 006H
Kick (	Off Point	(KOP)												
UL	Section	Township	Range	Lot	Feet		From N	I/S	Feet		From	n E/W	County	
Latitu	ıde				Longitu	ıde			<u> </u>				NAD	
First 7	Гаке Poin	it (FTP)			.1									
UL	Section 31	Township 17S	Range 28E	Lot 4	Feet 545		From N SOUT	•	Feet 100		From WES	n E/W ST	County EDDY	
Latitu 32.7	<sup>ide</sup> 784763	6			Longitu 104.2		1900						NAD 83	
Last T	ake Poin	t (LTP)												
UL P	Section 31	Township 17S	Range 28E	Lot	Feet 538		m N/S UTH	Feet 100		From EAS		Count EDD		
Latitu 32.7	<sup>ide</sup> 785008	1			Longitu 104.2		5350					NAD 83		
Is this	s well the	defining v	vell for th	e Horiz	zontal Sp	oacin,	g Unit?	. [	No	]				
Is this	s well an	infill well?		Yes										
	ng Unit.	lease prov	ide API if	availab	ole, Opei	rator	Name	and v	vell n	umber	for I	Definir	ng well fo	r Horizontal
One	rator Nar	me:				Pro	nerty N	lame:						Well Number
		LLOW EN	ERGY, L	P		Property Name:  MARLEY STATE COM 31 CD						003H		

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

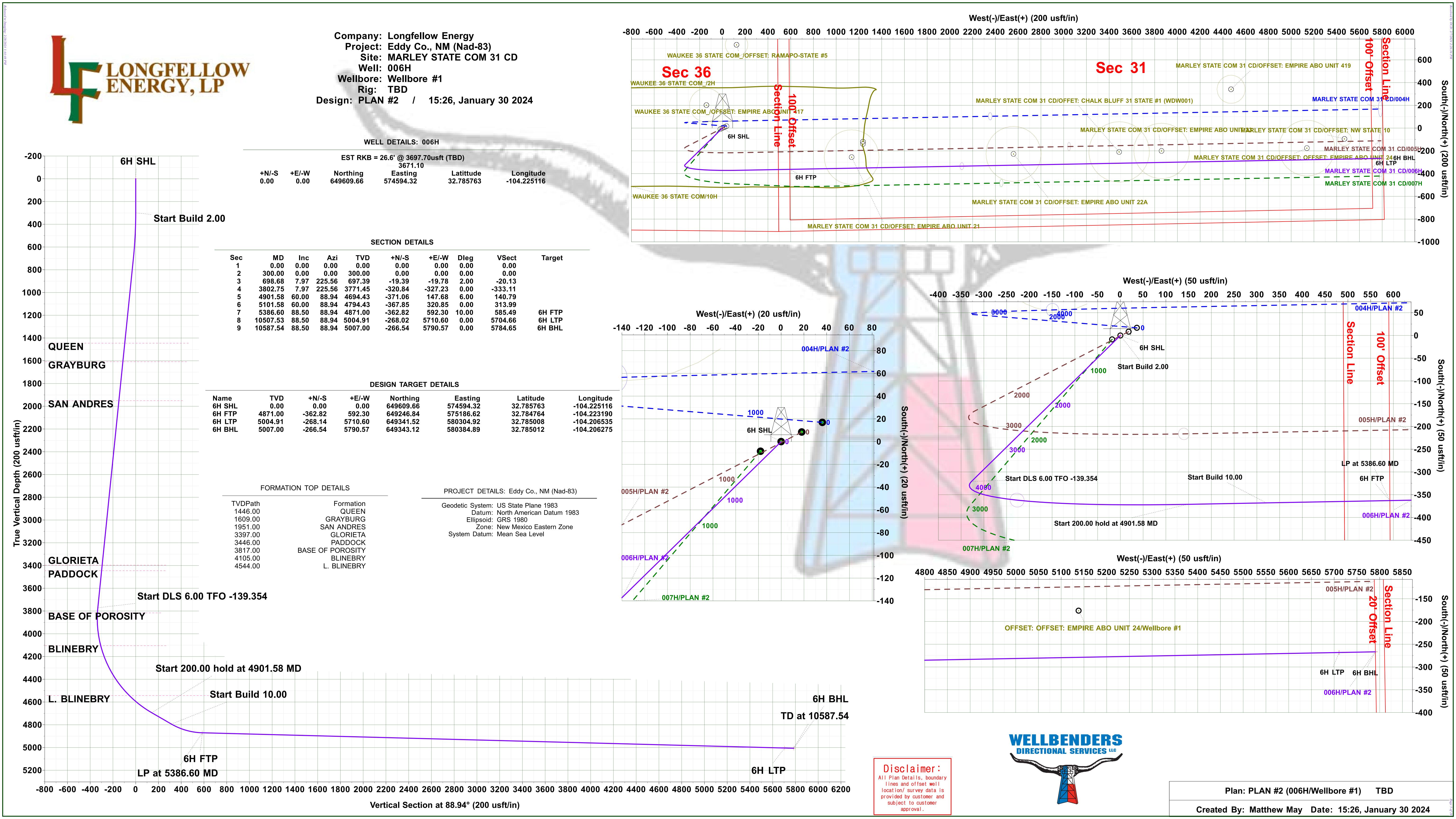
Form APD Conditions

Permit 359148

#### PERMIT CONDITIONS OF APPROVAL

Operator Name and Address:	API Number:
LONGFELLOW ENERGY, LP [372210]	30-015-54792
8115 Preston Road	Well:
Dallas, TX 75225	MARLEY STATE COM 31 CD #006H

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	If cement does not circulate on any string, a CBL is required for that string 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**

Eddy Co., NM (Nad-83) MARLEY STATE COM 31 CD 006H

Wellbore #1

Plan: PLAN #2

# **Standard Planning Report**

30 January, 2024



WBDS\_SQL\_3 Database: Company: Longfellow Energy Project: Eddy Co., NM (Nad-83) Site: MARLEY STATE COM 31 CD

Well: 006H Wellbore: Wellbore #1 Design: PLAN #2

Local Co-ordinate Reference:

**TVD Reference:** MD Reference: North Reference:

**Survey Calculation Method:** 

Well 006H

EST RKB = 26.6' @ 3697.70usft (TBD) EST RKB = 26.6' @ 3697.70usft (TBD)

Minimum Curvature

**Project** Eddy Co., NM (Nad-83)

Map System: US State Plane 1983 Geo Datum: Map Zone:

North American Datum 1983 New Mexico Eastern Zone

System Datum:

Mean Sea Level

Site MARLEY STATE COM 31 CD

651,132.39 usft Site Position: Northing: 32.789950 Latitude: 573,868.18 usft -104.227474 From: Lat/Long Easting: Longitude:

0.00 usft **Position Uncertainty:** Slot Radius: 13.200 in

Well 006H

0.00 usft **Well Position** +N/-S 649,609.66 usft Latitude: 32.785763 Northing: 0.00 usft -104.225116 574,594.32 usft +E/-W Easting: Longitude: **Position Uncertainty** 0.00 usft Wellhead Elevation: usfl **Ground Level:** 3,671.10 usft

**Grid Convergence:** 0.059°

PLAN #2 Design

**Audit Notes:** 

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

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

0.00 0.00 0.00 88.94

**Plan Survey Tool Program** Date 01/25/24

**Depth From Depth To** 

(usft) **Tool Name** (usft) Survey (Wellbore) Remarks

0.00 10,587.54 PLAN #2 (Wellbore #1) MWD+IFR1+SAG+FDIR

OWSG MWD + IFR1 + Sag

Plan Sections	s									
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	
698.68	7.97	225.56	697.39	-19.39	-19.78	2.00	2.00	0.00	225.565	
3,802.75	7.97	225.56	3,771.45	-320.84	-327.23	0.00	0.00	0.00	0.000	
4,901.59	60.00	88.94	4,694.43	-371.06	147.68	6.00	4.73	-12.43	-139.354	
5,101.59	60.00	88.94	4,794.43	-367.85	320.85	0.00	0.00	0.00	0.000	
5,386.60	88.50	88.94	4,871.00	-362.82	592.30	10.00	10.00	0.00	0.000	6H FTP
10,507.53	88.50	88.94	5,004.91	-268.02	5,710.60	0.00	0.00	0.00	0.000	6H LTP
10,587.54	88.50	88.94	5,007.00	-266.54	5,790.57	0.00	0.00	0.00	0.000	6H BHL



Database: WBDS\_SQL\_3
Company: Longfellow Energy
Project: Eddy Co., NM (Nad-83)
Site: MARLEY STATE COM 31 CD

Well: 006H
Wellbore: Wellbore #1
Design: PLAN #2

Local Co-ordinate Reference: TVD Reference:

MD Reference: North Reference: Survey Calculation Method: Well 006H

EST RKB = 26.6' @ 3697.70usft (TBD) EST RKB = 26.6' @ 3697.70usft (TBD)

Grid

ned 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 <b>6H SHL</b>	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	225.56	399.98	-1.22	-1.25	-1.27	2.00	2.00	0.00
500.00	4.00	225.56	499.84	-4.89	-4.98	-5.07	2.00	2.00	0.00
600.00	6.00	225.56	599.45	-10.99	-11.21	-11.41	2.00	2.00	0.00
698.68	7.97	225.56	697.39	-19.39	-19.78	-20.13	2.00	2.00	0.00
700.00	7.97	225.56	698.70	-19.52	-19.91	-20.26	0.00	0.00	0.00
800.00	7.97	225.56	797.73	-29.23	-29.81	-30.35	0.00	0.00	0.00
900.00	7.97	225.56	896.77	-38.94	-39.72	-40.43	0.00	0.00	0.00
1,000.00	7.97	225.56	995.80	-48.65	-49.62	-50.51	0.00	0.00	0.00
1,100.00	7.97	225.56	1,094.83	-58.36	-59.53	-60.60	0.00	0.00	0.00
1,200.00	7.97	225.56	1,193.87	-68.08	-69.43	-70.68	0.00	0.00	0.00
1,300.00	7.97	225.56	1,292.90	-77.79	-79.34	-80.76	0.00	0.00	0.00
1,400.00	7.97	225.56	1,391.93	-87.50	-89.24	-90.85	0.00	0.00	0.00
1,454.59	7.97	225.56	1,446.00	-92.80	-94.65	-96.35	0.00	0.00	0.00
1,500.00	7.97	225.56	1,490.97	-97.21	-99.15	-100.93	0.00	0.00	0.00
1,600.00	7.97	225.56	1,590.00	-106.92	-109.05	-111.01	0.00	0.00	0.00
1,619.18	7.97	225.56	1,609.00	-108.79	-110.95	-112.95	0.00	0.00	0.00
1,700.00	7.97	225.56	1,689.03	-116.63	-118.96	-121.09	0.00	0.00	0.00
1,800.00	7.97	225.56	1,788.07	-126.35	-128.86	-131.18	0.00	0.00	0.00
1,900.00	7.97	225.56	1,887.10	-136.06	-138.77	-141.26	0.00	0.00	0.00
1,964.52 <b>SAN ANDF</b> 2,000.00	7.97 <b>RES</b> 7.97	225.56 225.56	1,951.00 1,986.13	-142.32 -145.77	-145.16 -148.67	-147.77 -151.34	0.00	0.00	0.00
2,100.00	7.97	225.56	2,085.17	-155.48	-158.58	-161.43	0.00	0.00	0.00
2,200.00	7.97	225.56	2,184.20	-165.19	-168.48	-171.51	0.00	0.00	0.00
2,300.00	7.97	225.56	2,283.23	-174.90	-178.39	-181.59	0.00	0.00	0.00
2,400.00	7.97	225.56	2,382.27	-184.61	-188.29	-191.67	0.00	0.00	0.00
2,500.00	7.97	225.56	2,481.30	-194.33	-198.20	-201.76	0.00	0.00	0.00
2,600.00	7.97	225.56	2,580.33	-204.04	-208.10	-211.84	0.00	0.00	0.00
2,700.00	7.97	225.56	2,679.37	-213.75	-218.01	-221.92	0.00	0.00	0.00
2,800.00	7.97	225.56	2,778.40	-223.46	-227.91	-232.01	0.00	0.00	0.00
2,900.00	7.97	225.56	2,877.43	-233.17	-237.82	-242.09	0.00	0.00	0.00
3,000.00	7.97	225.56	2,976.47	-242.88	-247.72	-252.17	0.00	0.00	0.00
3,100.00	7.97	225.56	3,075.50	-252.60	-257.63	-262.25	0.00	0.00	0.00
3,200.00	7.97	225.56	3,174.53	-262.31	-267.53	-272.34	0.00	0.00	0.00
3,300.00	7.97	225.56	3,273.57	-272.02	-277.44	-282.42	0.00	0.00	0.00
3,400.00	7.97	225.56	3,372.60	-281.73	-287.34	-292.50	0.00	0.00	0.00
3,424.64	7.97	225.56	3,397.00	-284.12	-289.78	-294.99	0.00	0.00	0.00
GLORIETA		005.50	0.440.00	000.00	004.00	200.00	0.00	0.00	0.00
3,474.12 <b>PADDOCK</b> 3,500.00 3,600.00 3,700.00	7.97 7.97 7.97 7.97	225.56 225.56 225.56 225.56	3,446.00 3,471.63 3,570.67 3,669.70	-288.93 -291.44 -301.15 -310.86	-294.68 -297.25 -307.15 -317.06	-299.98 -302.59 -312.67 -322.75	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00
3,802.75 3,848.64 BASE OF	7.97 6.15 <b>POROSITY</b>	225.56 208.58	3,771.45 3,817.00	-320.84 -325.23	-327.23 -330.68	-333.11 -336.64	0.00 6.00	0.00 -3.97	0.00 -37.01



Database:WBDS\_SQL\_3Company:Longfellow EnergyProject:Eddy Co., NM (Nad-83)Site:MARLEY STATE COM 31 CD

Well: 006H
Wellbore: Wellbore #1
Design: PLAN #2

Local Co-ordinate Reference: TVD Reference:

MD Reference: North Reference: Survey Calculation Method: Well 006H

EST RKB = 26.6' @ 3697.70usft (TBD) EST RKB = 26.6' @ 3697.70usft (TBD)

Grid

Plann	ed 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)
	3,850.00 3,900.00 3,950.00 4,000.00	6.11 5.19 5.88 7.75	207.93 178.49 147.78 127.75	3,818.35 3,868.12 3,917.90 3,967.55	-325.36 -329.97 -334.40 -338.63	-330.75 -331.94 -330.51 -326.48	-336.71 -337.98 -336.64 -332.69	6.00 6.00 6.00 6.00	-3.19 -1.83 1.37 3.75	-47.58 -58.88 -61.43 -40.07
	4,050.00 4,100.00 4,140.26 BLINEBRY	10.18 12.85 15.08	116.30 109.38 105.61	4,016.94 4,065.93 4,105.00	-342.65 -346.45 -349.34	-319.85 -310.65 -301.38	-326.14 -317.01 -307.79	6.00 6.00 6.00	4.85 5.34 5.56	-22.90 -13.83 -9.37
	4,150.00 4,200.00	15.63 18.49	104.86 101.68	4,114.39 4,162.19	-350.02 -353.36	-298.89 -284.61	-305.32 -291.10	6.00 6.00	5.64 5.71	-7.73 -6.35
	4,250.00 4,300.00 4,350.00 4,400.00 4,450.00	21.38 24.30 27.23 30.18 33.13	99.34 97.53 96.09 94.91 93.93	4,209.19 4,255.26 4,300.29 4,344.14 4,386.70	-356.44 -359.27 -361.83 -364.12 -366.13	-267.86 -248.66 -227.08 -203.18 -177.03	-274.40 -255.27 -233.74 -209.89 -183.77	6.00 6.00 6.00 6.00 6.00	5.78 5.83 5.87 5.89 5.91	-4.69 -3.61 -2.88 -2.36 -1.97
	4,500.00 4,550.00 4,600.00 4,650.00 4,653.24	36.09 39.06 42.03 45.00 45.20	93.09 92.36 91.71 91.14 91.11	4,427.84 4,467.47 4,505.46 4,541.71 4,544.00	-367.86 -369.30 -370.45 -371.30 -371.35	-148.68 -118.23 -85.75 -51.34 -49.04	-155.46 -125.04 -92.59 -58.20 -55.90	6.00 6.00 6.00 6.00 6.00	5.92 5.93 5.94 5.95 5.95	-1.68 -1.46 -1.28 -1.14 -1.08
	L. BLINEB									
	4,700.00 4,750.00 4,800.00 4,850.00 4,901.59	47.98 50.96 53.94 56.92 60.00	90.63 90.16 89.72 89.32 88.94	4,576.13 4,608.62 4,639.09 4,667.45 4,694.43	-371.86 -372.11 -372.07 -371.72 -371.06	-15.08 22.92 62.55 103.72 147.68	-21.96 16.03 55.66 96.83 140.79	6.00 6.00 6.00 6.00 6.00	5.95 5.96 5.96 5.96 5.97	-1.03 -0.94 -0.86 -0.80 -0.75
	5,000.00 5,101.59 5,150.00 5,200.00 5,250.00	60.00 60.00 64.84 69.84 74.84	88.94 88.94 88.94 88.94 88.94	4,743.64 4,794.43 4,816.84 4,836.10 4,851.26	-369.48 -367.85 -367.05 -366.20 -365.32	232.89 320.85 363.74 409.86 457.48	226.02 313.99 356.89 403.02 450.65	0.00 0.00 10.00 10.00 10.00	0.00 0.00 10.00 10.00 10.00	0.00 0.00 0.00 0.00 0.00
	5,300.00 5,350.00 5,386.60 <b>6H FTP</b>	79.84 84.84 88.50	88.94 88.94 88.94	4,862.21 4,868.88 4,871.00	-364.41 -363.50 -362.82	506.24 555.77 592.30	499.42 548.95 585.49	10.00 10.00 10.00	10.00 10.00 10.00	0.00 0.00 0.00
	5,400.00 5,500.00	88.50 88.50	88.94 88.94	4,871.35 4,873.97	-362.57 -360.72	605.69 705.64	598.88 698.85	0.00 0.00	0.00 0.00	0.00 0.00
	5,600.00 5,700.00 5,800.00 5,900.00 6,000.00	88.50 88.50 88.50 88.50 88.50	88.94 88.94 88.94 88.94 88.94	4,876.58 4,879.20 4,881.81 4,884.43 4,887.04	-358.87 -357.02 -355.17 -353.32 -351.46	805.59 905.54 1,005.49 1,105.44 1,205.38	798.81 898.78 998.74 1,098.71 1,198.68	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
	6,100.00 6,200.00 6,300.00 6,400.00 6,500.00	88.50 88.50 88.50 88.50 88.50	88.94 88.94 88.94 88.94	4,889.65 4,892.27 4,894.88 4,897.50 4,900.11	-349.61 -347.76 -345.91 -344.06 -342.21	1,305.33 1,405.28 1,505.23 1,605.18 1,705.13	1,298.64 1,398.61 1,498.57 1,598.54 1,698.51	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
	6,600.00 6,700.00 6,800.00 6,900.00 7,000.00	88.50 88.50 88.50 88.50 88.50	88.94 88.94 88.94 88.94	4,902.73 4,905.34 4,907.96 4,910.57 4,913.19	-340.36 -338.51 -336.66 -334.80 -332.95	1,805.08 1,905.03 2,004.97 2,104.92 2,204.87	1,798.47 1,898.44 1,998.40 2,098.37 2,198.33	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
	7,100.00	88.50	88.94	4,915.80	-331.10	2,304.82	2,298.30	0.00	0.00	0.00



Database: WBDS\_SQL\_3
Company: Longfellow Energy
Project: Eddy Co., NM (Nad-83)
Site: MARLEY STATE COM 31 CD

 Well:
 006H

 Wellbore:
 Wellbore #1

 Design:
 PLAN #2

Local Co-ordinate Reference: TVD Reference:

MD Reference:
North Reference:

**Survey Calculation Method:** 

Well 006H

EST RKB = 26.6' @ 3697.70usft (TBD) EST RKB = 26.6' @ 3697.70usft (TBD)

Grid

nned 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)
7,200.00 7,300.00 7,400.00 7,500.00	88.50 88.50 88.50 88.50	88.94 88.94 88.94 88.94	4,918.42 4,921.03 4,923.65 4,926.26	-329.25 -327.40 -325.55 -323.70	2,404.77 2,504.72 2,604.67 2,704.61	2,398.27 2,498.23 2,598.20 2,698.16	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00
7,600.00 7,700.00 7,800.00 7,900.00 8,000.00	88.50 88.50 88.50 88.50 88.50	88.94 88.94 88.94 88.94	4,928.88 4,931.49 4,934.11 4,936.72 4,939.34	-321.85 -319.99 -318.14 -316.29 -314.44	2,804.56 2,904.51 3,004.46 3,104.41 3,204.36	2,798.13 2,898.10 2,998.06 3,098.03 3,197.99	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
8,100.00 8,200.00 8,300.00 8,400.00 8,500.00	88.50 88.50 88.50 88.50 88.50	88.94 88.94 88.94 88.94 88.94	4,941.95 4,944.57 4,947.18 4,949.80 4,952.41	-312.59 -310.74 -308.89 -307.04 -305.18	3,304.31 3,404.26 3,504.20 3,604.15 3,704.10	3,297.96 3,397.92 3,497.89 3,597.86 3,697.82	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
8,600.00 8,700.00 8,800.00 8,900.00 9,000.00	88.50 88.50 88.50 88.50 88.50	88.94 88.94 88.94 88.94	4,955.03 4,957.64 4,960.26 4,962.87 4,965.49	-303.33 -301.48 -299.63 -297.78 -295.93	3,804.05 3,904.00 4,003.95 4,103.90 4,203.84	3,797.79 3,897.75 3,997.72 4,097.69 4,197.65	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
9,100.00 9,200.00 9,300.00 9,400.00 9,500.00	88.50 88.50 88.50 88.50 88.50	88.94 88.94 88.94 88.94 88.94	4,968.10 4,970.72 4,973.33 4,975.95 4,978.56	-294.08 -292.23 -290.38 -288.52 -286.67	4,303.79 4,403.74 4,503.69 4,603.64 4,703.59	4,297.62 4,397.58 4,497.55 4,597.51 4,697.48	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
9,600.00 9,700.00 9,800.00 9,900.00 10,000.00	88.50 88.50 88.50 88.50 88.50	88.94 88.94 88.94 88.94 88.94	4,981.18 4,983.79 4,986.41 4,989.02 4,991.64	-284.82 -282.97 -281.12 -279.27 -277.42	4,803.54 4,903.49 5,003.43 5,103.38 5,203.33	4,797.45 4,897.41 4,997.38 5,097.34 5,197.31	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
10,100.00 10,200.00 10,300.00 10,400.00 10,507.53	88.50 88.50 88.50 88.50 88.50	88.94 88.94 88.94 88.94	4,994.25 4,996.87 4,999.48 5,002.10 5,004.91	-275.57 -273.71 -271.86 -270.01 -268.02	5,303.28 5,403.23 5,503.18 5,603.13 5,710.60	5,297.27 5,397.24 5,497.21 5,597.17 5,704.66	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
6H LTP 10,587.54 6H BHL	88.50	88.94	5,007.00	-266.54	5,790.57	5,784.65	0.00	0.00	0.00



Database: WBDS\_SQL\_3
Company: Longfellow Energy
Project: Eddy Co., NM (Nad-83)
Site: MARLEY STATE COM 31 CD

Well: 006H
Wellbore: Wellbore #1
Design: PLAN #2

Local Co-ordinate Reference: TVD Reference: MD Reference:

North Reference: Survey Calculation Method: Well 006H

EST RKB = 26.6' @ 3697.70usft (TBD) EST RKB = 26.6' @ 3697.70usft (TBD)

Grid

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
6H SHL - plan hits target o - Point	0.00 center	0.00	0.00	0.00	0.00	649,609.66	574,594.32	32.785763	-104.225116
6H FTP - plan hits target of Point	0.00 center	0.00	4,871.00	-362.82	592.30	649,246.84	575,186.62	32.784764	-104.223190
6H LTP - plan misses targ - Point	0.00 get center by	0.00 0.12usft at	5,004.91 10507.53u	-268.14 sft MD (5004	5,710.60 4.91 TVD, -26	649,341.52 68.02 N, 5710.60	580,304.92 E)	32.785008	-104.206535
6H BHL - plan hits target o - Point	0.00 center	0.00	5,007.00	-266.54	5,790.57	649,343.12	580,384.89	32.785012	-104.206275

Formations						
	Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
	1,454.59	1,446.00	QUEEN		0.000	
	1,619.18	1,609.00	GRAYBURG		0.000	
	1,964.52	1,951.00	SAN ANDRES		0.000	
	3,424.64	3,397.00	GLORIETA		0.000	
	3,474.12	3,446.00	PADDOCK		0.000	
	3,848.64	3,817.00	BASE OF POROSITY		0.000	
	4,140.26	4,105.00	BLINEBRY		0.000	
	4,653.24	4,544.00	L. BLINEBRY		0.000	

I. Operator: Longfellow Energy, LLC

# 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

Date: 02-07-24

-	
II. Type:	$\boxtimes$ Original $\square$ Amendment due to $\square$ 19.15.27.9.D(6)(a) NMAC $\square$ 19.15.27.9.D(6)(b) NMAC $\square$ Other.
If Other, 1	please describe:

**OGRID:** 372210

**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 CD 004H	30-015-	P-36-17S-27E	922 FSL & 454 FEL	500	500	5000
Marley State Com 31 CD 005H	30-015-	P-36-17S-27E	913 FSL & 472 FEL	500	500	5000
Marley State Com 31 CD 006H	30-015-	P-36-17S-27E	905 FSL & 490 FEL	500	500	5000
Marley State Com 31 CD 007H	30-015-	P-36-17S-27E	896 FSL & 509 FEL	500	500	5000

IV. Central Delivery Point Name: DCP Midstream, LP (248749) in I-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	Completion	Initial Flow	First Production
			Date	Commencement Date	Back Date	Date
Marley State Com 31 CD 004H	30-015-	3-15-24	3-23-24	7-15-24	9-1-24	9-15-24
Marley State Com 31 CD 005H	30-015-	3-24-24	4-1-24	7-15-24	9-1-24	9-15-24
Marley State Com 31 CD 006H	30-015-	4-2-24	4-10-24	7-15-24	9-1-24	9-15-24
Marley State Com 31 CD 007H	30-015-	4-11-24	4-19-24	7-15-24	9-1-24	9-15-24

**VI. Separation Equipment:** 

Attach a complete description of how Operator will size separation equipment to optimize gas capture.

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 <u>EFFECTIVE APRIL 1, 2022</u>

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	Available Maximum Daily Capacity
			Start Date	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 $\square$ will $\square$ will not have capacity to gather 100% of the anticipated nat	ural gas
production volume from the well prior to the date of first production.	

XIII. Line Pressure. Operator $\square$ does $\square$ 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 C	Derator'	s plan to	manage	production	in res	ponse to	the	increased	line	pressure

XIV. Con	ıfidentiality: [	☐ Operator	asserts c	onfidentiality	purs	suant to	Section	1 71-2-	-8 N	MSA 1	1978	for th	ne informa	tion	prov	ided in
Section 2	as provided	in Paragrapl	h (2) of	Subsection	D of	19.15.2	7.9 NN	ИAС,	and	attache	es a	full (	description	of	the	specific
informatio	on for which co	nfidentiality	is assert	ed and the ba	asis fo	or such as	ssertior	1.								

# 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.



### **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.