

Well Name: MIRROR FED COM	Well Location: T24S / R35E / SEC 14 / TR A / 32.223879 / -103.332208	County or Parish/State: LEA / NM
Well Number: 304H	Type of Well: OIL WELL	Allottee or Tribe Name:
Lease Number: NMNM138888	Unit or CA Name:	Unit or CA Number:
US Well Number: 3002551765	Well Status: Drilling Well	Operator: FRANKLIN MOUNTAIN ENERGY LLC

Notice of Intent

Sundry ID: 2745628

Type of Submission: Notice of Intent	Type of Action: APD Change
Date Sundry Submitted: 08/10/2023	Time Sundry Submitted: 02:33
Date proposed operation will begin: 08/01/2023	

Procedure Description: Franklin Mountain Energy, LLC (FME), Operator, respectfully requests approval to make the following changes to the proposed drilling plan for the above referenced well. BHL Change: FME requests approval to change the BHL for this well to 150' FSL 380' FEL Sec 23 24S 35E. SHL remains the same. Please see attached Directional Plan, revised 14-point plan, geo prog and C-102.

NOI Attachments

Procedure Description

- Mirror_Fed_Com_304H_Plan_3_20230810143306.pdf
- Mirror_Fed_Com_304H_Updated_14PP_13_20230810143306.pdf
- Mirror_Fed_Com_304H_GEOPROG_prelimV2_20230810143252.pdf
- C_102_2_Mile_Mirror_Fed_Com_304H_20230810143252.pdf

Received by OCD: 8/18/2023 6:35:39 PM

Page 2 of 20

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Lease Number: NMNM138888	Unit or CA Name:	Unit or CA Number:
US Well Number: 3002551765	Well Status: Drilling Well	Operator: FRANKLIN MOUNTAIN ENERGY LLC

Conditions of Approval

Additional

Mirror_Fed_Com_304H_Dr_COA_20230818140108.pdf

Operator

I certify that the foregoing is true and correct. Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction. Electronic submission of Sundry Notices through this system satisfies regulations requiring a

Operator Electronic Signature: RACHAEL OVERBEY	Signed on: AUG 10, 2023 02:33 PM
Name: FRANKLIN MOUNTAIN ENERGY LLC	
Title: Director – Operations Planning and Regulatory	
Street Address: 44 COOK STREET, SUITE 1000	
City: Denver	State: CO
Phone: (720) 414-7868	
Email address: roverbey@fmellc.com	

Field

Representative Name:		
Street Address:		
City:	State:	Zip:
Phone:		
Email address:		

BLM Point of Contact

BLM POC Name: CHRISTOPHER WALLS	BLM POC Title: Petroleum Engineer
BLM POC Phone: 5752342234	BLM POC Email Address: cwalls@blm.gov
Disposition: Approved	Disposition Date: 08/18/2023
Signature: Chris Walls	

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

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 98294		3 Pool Name WC-025 G-07 S243517D; MIDDLE BONE SPRING	
4 Property Code		5 Property Name MIRROR FED COM			6 Well Number 304H
7 OGRID No. 373910		8 Operator Name FRANKLIN MOUNTAIN ENERGY LLC			9 Elevation 3419.3'

10 Surface Location

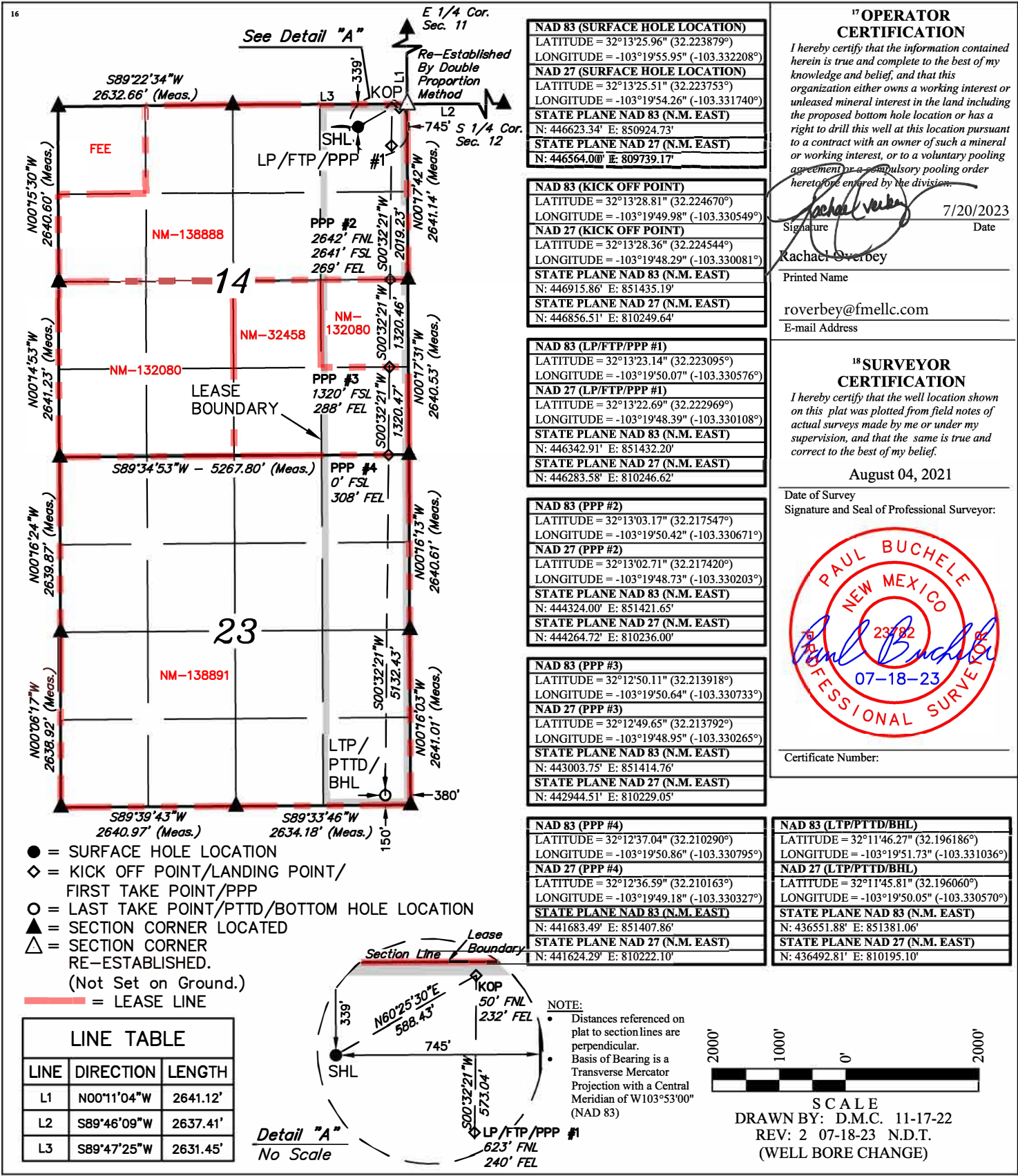
UL or lot no. A	Section 14	Township 24S	Range 35E	Lot Idn	Feet from the 339	North/South line NORTH	Feet from the 745	East/West line EAST	County LEA
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11 Bottom Hole Location If Different From Surface

UL or lot no. P	Section 23	Township 24S	Range 35E	Lot Idn	Feet from the 150	North/South line SOUTH	Feet from the 380	East/West line EAST	County LEA
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12 Dedicated Acres 320	13 Joint or Infill	14 Consolidation Code	15 Order No.
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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.



Geologic Prognosis



Well Name	Mirror Fed Com 304H
Operator	Franklin Mountain Energy, LLC
Project Area	Mirror Unit
Well Type	First Bone Spring Lateral
API	
Permit Number	
Rig	

State	NM	County	Lea						
SHL	Township	24S/35E	Section	14	745'	FEL	339'	FNL	
BHL	Township	24S/35E	Section	23	380'	FEL	150'	FSL	
Surface Latitude	NAD 83	32.223879							
Surface Longitude	NAD 83	103.332208							
Bottom Hole Latitude	NAD 83	32.196186							
Bottom Hole Longitude	NAD 83	103.331036							
Ground Level	3,420'	Rig KB	30'	KB	3,450'				

Formations	PROG SS	PROG TVD	Picked TVD	delta	Potential/Issues
Cenozoic Alluvium (surface)	3,420'	30'	30'	0	Sand/Gravels/unconsolidated
Rustler	1,942'	1,508'			Carbonates
Salado	1,529'	1,921'			Salt, Carbonate & Clastics
Base Salt	-364'	3,814'			Shaley Carbonate & Shale
Lamar	-1,986'	5,436'			Carbonate & Clastics
Bell Canyon	-2,041'	5,491'			Sandstone - oil/gas/water
Cherry Canyon	-2,672'	6,122'			Sandstone - oil/gas/water
Brushy Canyon	-4,010'	7,460'			Sand/carb/shales - oil/gas/water
Bone Spring Lime	-5,327'	8,777'			Shale/Carbonates - oil/gas
Avalon	-5,396'	8,846'			Shale/Carbonates - oil/gas
Chert Zone	-5,553'	9,003'			Carbonate/Chert
First Bone Spring Sand	-6,419'	9,869'			Sandstone - oil/gas/water
HZ Target	-6,468'	9,918'			Sandstone - oil/gas/water
Second Bone Spring Carbonates	-6,510'	9,961'			Shale/Carbonates - oil/gas
Second Bone Spring Sand	-7,046'	10,497'			Sandstone - oil/gas/water

Target interval is expected to have an average apparent dip of ~0 degrees up along the lateral based on the First Bone Spring structure

Target window tolerance is set at +/- 15'

Target Line: 9,918' KBTVD @ 0' VS w/ 90.0° inc.
Offset Log: Elevate 702H_PH (30025485900000)
Updated: 6/26/2023

FME Geologist	Ellen Wilcox	ewilcox@fmellc.com
Office		Cell 585.880.1737

Electric Logs					From	To
Open-Hole						
	n/a					
MWD/LWD						
	MWD GR				Int. 1 Csg. Point	TD
Mud Log:						
at drill out of surface casing						
Sampling:	10' samples in vertical and through curve, 30' samples in lateral					
Samples:	1 set dry samples at footage frequency noted above					
Mud Gas:	Continuous					
Daily Contact:	g/daily report at 7:30am and 4:30 pm CST					
Daily Mud Log Email Distribution List						
Final Mud Log Distribution						
	Ben Kessel (bkessel@fmellc.com)				email	
	Jenna Tavares (jtavares@fmellc.com)					
Cuttings/Samples Shipment Information						

Franklin Mountain Energy

Lea Co., NM (NAD-83)

Mirror MH Pad 1 & 2

Mirror Fed Com 304H

OH

Plan 3

Standard Planning Report

03 July, 2023





Project: Lea Co., NM (NAD-83)
 Site: Mirror MH Pad 1 & 2
 Well: Mirror Fed Com 304H
 Wellbore: OH
 Design: Plan 3
 Lat: 32.223879
 Long: -103.332208
 GL: 3419.30
 KB: 30' KB @ 3449.30usft



WELL DETAILS: Mirror Fed Com 304H

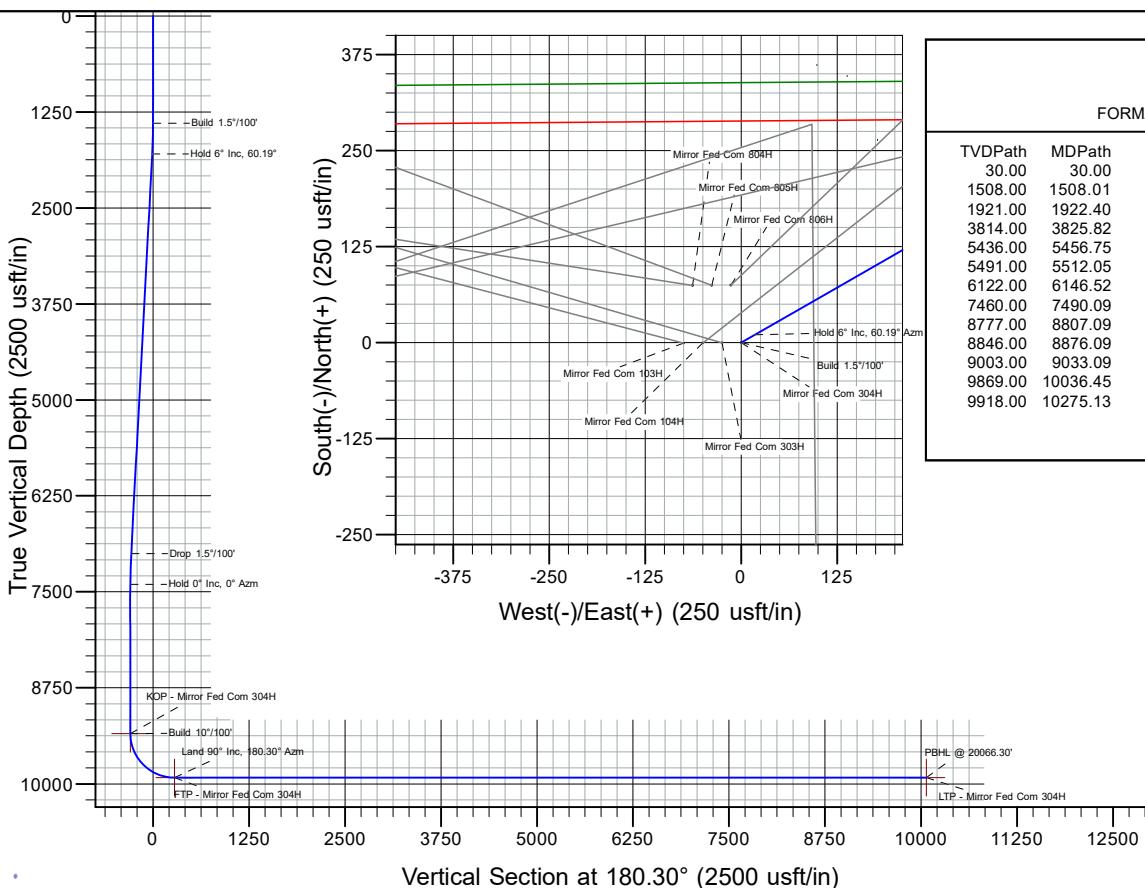
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	446623.34	850924.73	32.223879	-103.332208

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
KOP - Mirror Fed Com 304H	9345.00	292.52	510.46	446915.86	851435.19	Point
FTP - Mirror Fed Com 304H	9918.00	-280.43	507.47	446342.91	851432.20	Point
LTP - Mirror Fed Com 304H	9918.00	-10071.46	456.33	436551.88	851381.06	Point

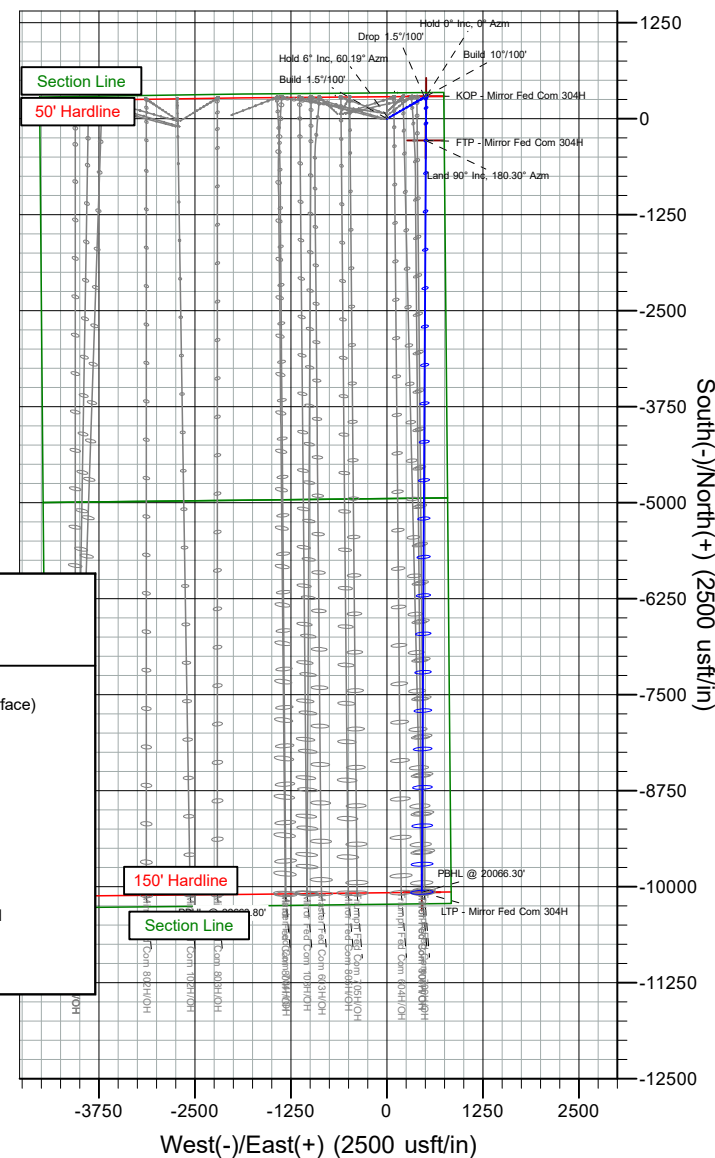
SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1400.00	0.00	0.00	1400.00	0.00	0.00	0.00	0.00	0.00	Build 1.5°/100'
1799.85	6.00	60.19	1799.12	10.40	18.14	1.50	60.19	-10.49	Hold 6° Inc, 60.19° Azm
7030.24	6.00	60.19	7000.88	282.12	492.32	0.00	0.00	-284.70	Drop 1.5°/100'
7430.09	0.00	0.00	7400.00	292.52	510.46	1.50	180.00	-295.19	Hold 0° Inc, 0° Azm
9375.13	0.00	0.00	9345.04	292.52	510.46	0.00	0.00	-295.19	Build 10°/100'
10275.13	90.00	180.30	9918.00	-280.43	507.47	10.00	180.30	277.77	Land 90° Inc, 180.30° Azm
20066.30	90.00	180.30	9918.00	-10071.46	456.33	0.00	0.00	10068.93	PBHL @ 20066.30'



FORMATION TOPS

TVDPath	MDPath	Formation
30.00	30.00	Cenozoic Alluvium (surface)
1508.00	1508.01	Rustler
1921.00	1922.40	Salado
3814.00	3825.82	Base Salt
5436.00	5456.75	Lamar
5491.00	5512.05	Bell Canyon
6122.00	6146.52	Cherry Canyon
7460.00	7490.09	Brushy Canyon
8777.00	8807.09	Bone Spring Lime
8846.00	8876.09	Avalon
9003.00	9033.09	Chert Zone
9869.00	10036.45	First Bone Spring Sand
9918.00	10275.13	HZ Target



Azimuths to Grid North
 True North: -0.53°
 Magnetic North: 5.76°

Magnetic Field
 Strength: 47454.5nT
 Dip Angle: 59.72°
 Date: 7/2/2023
 Model: HRGM

Plan: Plan 3 (Mirror Fed Com 304H/OH)

Created By: Dusty Moyer

Date: 19:35, July 03 2023

Planning Report



Database:	EDM 5000.17 Single User Db	Local Co-ordinate Reference:	Well Mirror Fed Com 304H
Company:	Franklin Mountain Energy	TVD Reference:	30' KB @ 3449.30usft
Project:	Lea Co., NM (NAD-83)	MD Reference:	30' KB @ 3449.30usft
Site:	Mirror MH Pad 1 & 2	North Reference:	Grid
Well:	Mirror Fed Com 304H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan 3		

Project	Lea 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		Mirror MH Pad 1 & 2			
Site Position:		Northing:	446,622.75 usft	Latitude:	32.223879
From:	Map	Easting:	850,849.76 usft	Longitude:	-103.332451
Position Uncertainty:		0.00 usft	Slot Radius:	13-3/16 "	

Well	Mirror Fed Com 304H					
Well Position	+N/-S	0.00 usft	Northing:	446,623.34 usft	Latitude:	32.223879
	+E/-W	0.00 usft	Easting:	850,924.73 usft	Longitude:	-103.332209
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	3,419.30 usft
Grid Convergence:		0.53 °				

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HRGM	7/2/2023	6.30	59.72	47,454.45212125

Design	Plan 3				
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	180.30	

Plan Survey Tool Program	Date	7/3/2023			
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.00	20,066.30 Plan 3 (OH)	MWD+HDGM		
			OWSG MWD + HRGM		

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,799.85	6.00	60.19	1,799.12	10.40	18.14	1.50	1.50	0.00	60.19	
7,030.24	6.00	60.19	7,000.88	282.12	492.32	0.00	0.00	0.00	0.00	
7,430.09	0.00	0.00	7,400.00	292.52	510.46	1.50	-1.50	0.00	180.00	
9,375.13	0.00	0.00	9,345.04	292.52	510.46	0.00	0.00	0.00	0.00	
10,275.13	90.00	180.30	9,918.00	-280.43	507.47	10.00	10.00	0.00	180.30	
20,066.30	90.00	180.30	9,918.00	-10,071.46	456.33	0.00	0.00	0.00	0.00	

Planning Report



Database:	EDM 5000.17 Single User Db	Local Co-ordinate Reference:	Well Mirror Fed Com 304H
Company:	Franklin Mountain Energy	TVD Reference:	30' KB @ 3449.30usft
Project:	Lea Co., NM (NAD-83)	MD Reference:	30' KB @ 3449.30usft
Site:	Mirror MH Pad 1 & 2	North Reference:	Grid
Well:	Mirror Fed Com 304H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan 3		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N-S (usft)	+E-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30.00	0.00	0.00	30.00	0.00	0.00	0.00	0.00	0.00	0.00
Cenozoic Alluvium (surface)									
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	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
Build 1.5°/100'									
1,500.00	1.50	60.19	1,499.99	0.65	1.14	-0.66	1.50	1.50	0.00
1,508.01	1.62	60.19	1,508.00	0.76	1.32	-0.77	1.50	1.50	0.00
Rustler									
1,600.00	3.00	60.19	1,599.91	2.60	4.54	-2.63	1.50	1.50	0.00
1,700.00	4.50	60.19	1,699.69	5.85	10.22	-5.91	1.50	1.50	0.00
1,799.85	6.00	60.19	1,799.12	10.40	18.14	-10.49	1.50	1.50	0.00
Hold 6° Inc, 60.19° Azm									
1,800.00	6.00	60.19	1,799.27	10.40	18.16	-10.50	0.00	0.00	0.00
1,900.00	6.00	60.19	1,898.72	15.60	27.22	-15.74	0.00	0.00	0.00
1,922.40	6.00	60.19	1,921.00	16.76	29.25	-16.92	0.00	0.00	0.00
Salado									
2,000.00	6.00	60.19	1,998.17	20.79	36.29	-20.98	0.00	0.00	0.00
2,100.00	6.00	60.19	2,097.63	25.99	45.35	-26.23	0.00	0.00	0.00
2,200.00	6.00	60.19	2,197.08	31.18	54.42	-31.47	0.00	0.00	0.00
2,300.00	6.00	60.19	2,296.53	36.38	63.48	-36.71	0.00	0.00	0.00
2,400.00	6.00	60.19	2,395.99	41.57	72.55	-41.95	0.00	0.00	0.00
2,500.00	6.00	60.19	2,495.44	46.77	81.62	-47.20	0.00	0.00	0.00
2,600.00	6.00	60.19	2,594.89	51.97	90.68	-52.44	0.00	0.00	0.00
2,700.00	6.00	60.19	2,694.34	57.16	99.75	-57.68	0.00	0.00	0.00
2,800.00	6.00	60.19	2,793.80	62.36	108.81	-62.92	0.00	0.00	0.00
2,900.00	6.00	60.19	2,893.25	67.55	117.88	-68.17	0.00	0.00	0.00
3,000.00	6.00	60.19	2,992.70	72.75	126.94	-73.41	0.00	0.00	0.00
3,100.00	6.00	60.19	3,092.15	77.94	136.01	-78.65	0.00	0.00	0.00
3,200.00	6.00	60.19	3,191.61	83.14	145.08	-83.89	0.00	0.00	0.00
3,300.00	6.00	60.19	3,291.06	88.33	154.14	-89.14	0.00	0.00	0.00
3,400.00	6.00	60.19	3,390.51	93.53	163.21	-94.38	0.00	0.00	0.00
3,500.00	6.00	60.19	3,489.96	98.72	172.27	-99.62	0.00	0.00	0.00
3,600.00	6.00	60.19	3,589.42	103.92	181.34	-104.87	0.00	0.00	0.00
3,700.00	6.00	60.19	3,688.87	109.11	190.41	-110.11	0.00	0.00	0.00
3,800.00	6.00	60.19	3,788.32	114.31	199.47	-115.35	0.00	0.00	0.00
3,825.82	6.00	60.19	3,814.00	115.65	201.81	-116.70	0.00	0.00	0.00
Base Salt									
3,900.00	6.00	60.19	3,887.77	119.50	208.54	-120.59	0.00	0.00	0.00
4,000.00	6.00	60.19	3,987.23	124.70	217.60	-125.84	0.00	0.00	0.00
4,100.00	6.00	60.19	4,086.68	129.89	226.67	-131.08	0.00	0.00	0.00

Planning Report



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Company:	Franklin Mountain Energy	TVD Reference:	30' KB @ 3449.30usft
Project:	Lea Co., NM (NAD-83)	MD Reference:	30' KB @ 3449.30usft
Site:	Mirror MH Pad 1 & 2	North Reference:	Grid
Well:	Mirror Fed Com 304H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan 3		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
4,200.00	6.00	60.19	4,186.13	135.09	235.73	-136.32	0.00	0.00	0.00	
4,300.00	6.00	60.19	4,285.58	140.28	244.80	-141.56	0.00	0.00	0.00	
4,400.00	6.00	60.19	4,385.04	145.48	253.87	-146.81	0.00	0.00	0.00	
4,500.00	6.00	60.19	4,484.49	150.67	262.93	-152.05	0.00	0.00	0.00	
4,600.00	6.00	60.19	4,583.94	155.87	272.00	-157.29	0.00	0.00	0.00	
4,700.00	6.00	60.19	4,683.40	161.06	281.06	-162.53	0.00	0.00	0.00	
4,800.00	6.00	60.19	4,782.85	166.26	290.13	-167.78	0.00	0.00	0.00	
4,900.00	6.00	60.19	4,882.30	171.45	299.20	-173.02	0.00	0.00	0.00	
5,000.00	6.00	60.19	4,981.75	176.65	308.26	-178.26	0.00	0.00	0.00	
5,100.00	6.00	60.19	5,081.21	181.84	317.33	-183.50	0.00	0.00	0.00	
5,200.00	6.00	60.19	5,180.66	187.04	326.39	-188.75	0.00	0.00	0.00	
5,300.00	6.00	60.19	5,280.11	192.23	335.46	-193.99	0.00	0.00	0.00	
5,400.00	6.00	60.19	5,379.56	197.43	344.52	-199.23	0.00	0.00	0.00	
5,456.75	6.00	60.19	5,436.00	200.38	349.67	-202.21	0.00	0.00	0.00	
Lamar										
5,500.00	6.00	60.19	5,479.02	202.63	353.59	-204.47	0.00	0.00	0.00	
5,512.05	6.00	60.19	5,491.00	203.25	354.68	-205.11	0.00	0.00	0.00	
Bell Canyon										
5,600.00	6.00	60.19	5,578.47	207.82	362.66	-209.72	0.00	0.00	0.00	
5,700.00	6.00	60.19	5,677.92	213.02	371.72	-214.96	0.00	0.00	0.00	
5,800.00	6.00	60.19	5,777.37	218.21	380.79	-220.20	0.00	0.00	0.00	
5,900.00	6.00	60.19	5,876.83	223.41	389.85	-225.44	0.00	0.00	0.00	
6,000.00	6.00	60.19	5,976.28	228.60	398.92	-230.69	0.00	0.00	0.00	
6,100.00	6.00	60.19	6,075.73	233.80	407.98	-235.93	0.00	0.00	0.00	
6,146.52	6.00	60.19	6,122.00	236.21	412.20	-238.37	0.00	0.00	0.00	
Cherry Canyon										
6,200.00	6.00	60.19	6,175.18	238.99	417.05	-241.17	0.00	0.00	0.00	
6,300.00	6.00	60.19	6,274.64	244.19	426.12	-246.41	0.00	0.00	0.00	
6,400.00	6.00	60.19	6,374.09	249.38	435.18	-251.66	0.00	0.00	0.00	
6,500.00	6.00	60.19	6,473.54	254.58	444.25	-256.90	0.00	0.00	0.00	
6,600.00	6.00	60.19	6,572.99	259.77	453.31	-262.14	0.00	0.00	0.00	
6,700.00	6.00	60.19	6,672.45	264.97	462.38	-267.38	0.00	0.00	0.00	
6,800.00	6.00	60.19	6,771.90	270.16	471.45	-272.63	0.00	0.00	0.00	
6,900.00	6.00	60.19	6,871.35	275.36	480.51	-277.87	0.00	0.00	0.00	
7,000.00	6.00	60.19	6,970.81	280.55	489.58	-283.11	0.00	0.00	0.00	
7,030.24	6.00	60.19	7,000.88	282.12	492.32	-284.70	0.00	0.00	0.00	
Drop 1.5°/100'										
7,100.00	4.95	60.19	7,070.32	285.43	498.09	-288.04	1.50	-1.50	0.00	
7,200.00	3.45	60.19	7,170.05	289.08	504.45	-291.71	1.50	-1.50	0.00	
7,300.00	1.95	60.19	7,269.93	291.42	508.54	-294.08	1.50	-1.50	0.00	
7,400.00	0.45	60.19	7,369.91	292.46	510.36	-295.13	1.50	-1.50	0.00	
7,430.09	0.00	0.00	7,400.00	292.52	510.46	-295.19	1.50	-1.50	0.00	
Hold 0° Inc, 0° Azm										
7,490.09	0.00	0.00	7,460.00	292.52	510.46	-295.19	0.00	0.00	0.00	
Brushy Canyon										
7,500.00	0.00	0.00	7,469.91	292.52	510.46	-295.19	0.00	0.00	0.00	
7,600.00	0.00	0.00	7,569.91	292.52	510.46	-295.19	0.00	0.00	0.00	
7,700.00	0.00	0.00	7,669.91	292.52	510.46	-295.19	0.00	0.00	0.00	
7,800.00	0.00	0.00	7,769.91	292.52	510.46	-295.19	0.00	0.00	0.00	
7,900.00	0.00	0.00	7,869.91	292.52	510.46	-295.19	0.00	0.00	0.00	
8,000.00	0.00	0.00	7,969.91	292.52	510.46	-295.19	0.00	0.00	0.00	
8,100.00	0.00	0.00	8,069.91	292.52	510.46	-295.19	0.00	0.00	0.00	
8,200.00	0.00	0.00	8,169.91	292.52	510.46	-295.19	0.00	0.00	0.00	

Planning Report



Database:	EDM 5000.17 Single User Db	Local Co-ordinate Reference:	Well Mirror Fed Com 304H
Company:	Franklin Mountain Energy	TVD Reference:	30' KB @ 3449.30usft
Project:	Lea Co., NM (NAD-83)	MD Reference:	30' KB @ 3449.30usft
Site:	Mirror MH Pad 1 & 2	North Reference:	Grid
Well:	Mirror Fed Com 304H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan 3		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,300.00	0.00	0.00	8,269.91	292.52	510.46	-295.19	0.00	0.00	0.00
8,400.00	0.00	0.00	8,369.91	292.52	510.46	-295.19	0.00	0.00	0.00
8,500.00	0.00	0.00	8,469.91	292.52	510.46	-295.19	0.00	0.00	0.00
8,600.00	0.00	0.00	8,569.91	292.52	510.46	-295.19	0.00	0.00	0.00
8,700.00	0.00	0.00	8,669.91	292.52	510.46	-295.19	0.00	0.00	0.00
8,800.00	0.00	0.00	8,769.91	292.52	510.46	-295.19	0.00	0.00	0.00
8,807.09	0.00	0.00	8,777.00	292.52	510.46	-295.19	0.00	0.00	0.00
Bone Spring Lime									
8,876.09	0.00	0.00	8,846.00	292.52	510.46	-295.19	0.00	0.00	0.00
Avalon									
8,900.00	0.00	0.00	8,869.91	292.52	510.46	-295.19	0.00	0.00	0.00
9,000.00	0.00	0.00	8,969.91	292.52	510.46	-295.19	0.00	0.00	0.00
9,033.09	0.00	0.00	9,003.00	292.52	510.46	-295.19	0.00	0.00	0.00
Chert Zone									
9,100.00	0.00	0.00	9,069.91	292.52	510.46	-295.19	0.00	0.00	0.00
9,200.00	0.00	0.00	9,169.91	292.52	510.46	-295.19	0.00	0.00	0.00
9,300.00	0.00	0.00	9,269.91	292.52	510.46	-295.19	0.00	0.00	0.00
9,375.13	0.00	0.00	9,345.04	292.52	510.46	-295.19	0.00	0.00	0.00
Build 10°/100'									
9,400.00	2.49	180.30	9,369.90	291.98	510.46	-294.65	10.00	10.00	0.00
9,500.00	12.49	180.30	9,468.92	278.97	510.39	-281.64	10.00	10.00	0.00
9,600.00	22.49	180.30	9,564.18	248.96	510.23	-251.63	10.00	10.00	0.00
9,700.00	32.49	180.30	9,652.78	202.86	509.99	-205.53	10.00	10.00	0.00
9,800.00	42.49	180.30	9,732.03	142.08	509.67	-144.75	10.00	10.00	0.00
9,900.00	52.49	180.30	9,799.52	68.47	509.29	-71.13	10.00	10.00	0.00
10,000.00	62.49	180.30	9,853.20	-15.75	508.85	13.09	10.00	10.00	0.00
10,036.45	66.13	180.30	9,869.00	-48.60	508.68	45.93	10.00	10.00	0.00
First Bone Spring Sand									
10,100.00	72.49	180.30	9,891.44	-108.01	508.37	105.35	10.00	10.00	0.00
10,200.00	82.49	180.30	9,913.08	-205.51	507.86	202.85	10.00	10.00	0.00
10,275.13	90.00	180.30	9,918.00	-280.43	507.47	277.76	10.00	10.00	0.00
Land 90° Inc, 180.30° Azm - HZ Target									
10,300.00	90.00	180.30	9,918.00	-305.30	507.34	302.64	0.00	0.00	0.00
10,400.00	90.00	180.30	9,918.00	-405.30	506.82	402.64	0.00	0.00	0.00
10,500.00	90.00	180.30	9,918.00	-505.29	506.29	502.64	0.00	0.00	0.00
10,600.00	90.00	180.30	9,918.00	-605.29	505.77	602.64	0.00	0.00	0.00
10,700.00	90.00	180.30	9,918.00	-705.29	505.25	702.64	0.00	0.00	0.00
10,800.00	90.00	180.30	9,918.00	-805.29	504.73	802.64	0.00	0.00	0.00
10,900.00	90.00	180.30	9,918.00	-905.29	504.20	902.64	0.00	0.00	0.00
11,000.00	90.00	180.30	9,918.00	-1,005.29	503.68	1,002.64	0.00	0.00	0.00
11,100.00	90.00	180.30	9,918.00	-1,105.29	503.16	1,102.64	0.00	0.00	0.00
11,200.00	90.00	180.30	9,918.00	-1,205.28	502.64	1,202.64	0.00	0.00	0.00
11,300.00	90.00	180.30	9,918.00	-1,305.28	502.11	1,302.64	0.00	0.00	0.00
11,400.00	90.00	180.30	9,918.00	-1,405.28	501.59	1,402.64	0.00	0.00	0.00
11,500.00	90.00	180.30	9,918.00	-1,505.28	501.07	1,502.64	0.00	0.00	0.00
11,600.00	90.00	180.30	9,918.00	-1,605.28	500.55	1,602.64	0.00	0.00	0.00
11,700.00	90.00	180.30	9,918.00	-1,705.28	500.03	1,702.64	0.00	0.00	0.00
11,800.00	90.00	180.30	9,918.00	-1,805.28	499.50	1,802.64	0.00	0.00	0.00
11,900.00	90.00	180.30	9,918.00	-1,905.28	498.98	1,902.64	0.00	0.00	0.00
12,000.00	90.00	180.30	9,918.00	-2,005.27	498.46	2,002.64	0.00	0.00	0.00
12,100.00	90.00	180.30	9,918.00	-2,105.27	497.94	2,102.64	0.00	0.00	0.00
12,200.00	90.00	180.30	9,918.00	-2,205.27	497.41	2,202.64	0.00	0.00	0.00
12,300.00	90.00	180.30	9,918.00	-2,305.27	496.89	2,302.64	0.00	0.00	0.00

Planning Report



Database:	EDM 5000.17 Single User Db	Local Co-ordinate Reference:	Well Mirror Fed Com 304H
Company:	Franklin Mountain Energy	TVD Reference:	30' KB @ 3449.30usft
Project:	Lea Co., NM (NAD-83)	MD Reference:	30' KB @ 3449.30usft
Site:	Mirror MH Pad 1 & 2	North Reference:	Grid
Well:	Mirror Fed Com 304H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan 3		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
12,400.00	90.00	180.30	9,918.00	-2,405.27	496.37	2,402.64	0.00	0.00	0.00	
12,500.00	90.00	180.30	9,918.00	-2,505.27	495.85	2,502.64	0.00	0.00	0.00	
12,600.00	90.00	180.30	9,918.00	-2,605.27	495.33	2,602.64	0.00	0.00	0.00	
12,700.00	90.00	180.30	9,918.00	-2,705.26	494.80	2,702.64	0.00	0.00	0.00	
12,800.00	90.00	180.30	9,918.00	-2,805.26	494.28	2,802.64	0.00	0.00	0.00	
12,900.00	90.00	180.30	9,918.00	-2,905.26	493.76	2,902.64	0.00	0.00	0.00	
13,000.00	90.00	180.30	9,918.00	-3,005.26	493.24	3,002.64	0.00	0.00	0.00	
13,100.00	90.00	180.30	9,918.00	-3,105.26	492.71	3,102.64	0.00	0.00	0.00	
13,200.00	90.00	180.30	9,918.00	-3,205.26	492.19	3,202.64	0.00	0.00	0.00	
13,300.00	90.00	180.30	9,918.00	-3,305.26	491.67	3,302.64	0.00	0.00	0.00	
13,400.00	90.00	180.30	9,918.00	-3,405.25	491.15	3,402.64	0.00	0.00	0.00	
13,500.00	90.00	180.30	9,918.00	-3,505.25	490.62	3,502.64	0.00	0.00	0.00	
13,600.00	90.00	180.30	9,918.00	-3,605.25	490.10	3,602.64	0.00	0.00	0.00	
13,700.00	90.00	180.30	9,918.00	-3,705.25	489.58	3,702.64	0.00	0.00	0.00	
13,800.00	90.00	180.30	9,918.00	-3,805.25	489.06	3,802.64	0.00	0.00	0.00	
13,900.00	90.00	180.30	9,918.00	-3,905.25	488.54	3,902.64	0.00	0.00	0.00	
14,000.00	90.00	180.30	9,918.00	-4,005.25	488.01	4,002.64	0.00	0.00	0.00	
14,100.00	90.00	180.30	9,918.00	-4,105.25	487.49	4,102.64	0.00	0.00	0.00	
14,200.00	90.00	180.30	9,918.00	-4,205.24	486.97	4,202.64	0.00	0.00	0.00	
14,300.00	90.00	180.30	9,918.00	-4,305.24	486.45	4,302.64	0.00	0.00	0.00	
14,400.00	90.00	180.30	9,918.00	-4,405.24	485.92	4,402.64	0.00	0.00	0.00	
14,500.00	90.00	180.30	9,918.00	-4,505.24	485.40	4,502.64	0.00	0.00	0.00	
14,600.00	90.00	180.30	9,918.00	-4,605.24	484.88	4,602.64	0.00	0.00	0.00	
14,700.00	90.00	180.30	9,918.00	-4,705.24	484.36	4,702.64	0.00	0.00	0.00	
14,800.00	90.00	180.30	9,918.00	-4,805.24	483.83	4,802.64	0.00	0.00	0.00	
14,900.00	90.00	180.30	9,918.00	-4,905.23	483.31	4,902.64	0.00	0.00	0.00	
15,000.00	90.00	180.30	9,918.00	-5,005.23	482.79	5,002.64	0.00	0.00	0.00	
15,100.00	90.00	180.30	9,918.00	-5,105.23	482.27	5,102.64	0.00	0.00	0.00	
15,200.00	90.00	180.30	9,918.00	-5,205.23	481.75	5,202.64	0.00	0.00	0.00	
15,300.00	90.00	180.30	9,918.00	-5,305.23	481.22	5,302.64	0.00	0.00	0.00	
15,400.00	90.00	180.30	9,918.00	-5,405.23	480.70	5,402.64	0.00	0.00	0.00	
15,500.00	90.00	180.30	9,918.00	-5,505.23	480.18	5,502.64	0.00	0.00	0.00	
15,600.00	90.00	180.30	9,918.00	-5,605.22	479.66	5,602.64	0.00	0.00	0.00	
15,700.00	90.00	180.30	9,918.00	-5,705.22	479.13	5,702.64	0.00	0.00	0.00	
15,800.00	90.00	180.30	9,918.00	-5,805.22	478.61	5,802.64	0.00	0.00	0.00	
15,900.00	90.00	180.30	9,918.00	-5,905.22	478.09	5,902.64	0.00	0.00	0.00	
16,000.00	90.00	180.30	9,918.00	-6,005.22	477.57	6,002.64	0.00	0.00	0.00	
16,100.00	90.00	180.30	9,918.00	-6,105.22	477.05	6,102.64	0.00	0.00	0.00	
16,200.00	90.00	180.30	9,918.00	-6,205.22	476.52	6,202.64	0.00	0.00	0.00	
16,300.00	90.00	180.30	9,918.00	-6,305.22	476.00	6,302.64	0.00	0.00	0.00	
16,400.00	90.00	180.30	9,918.00	-6,405.21	475.48	6,402.64	0.00	0.00	0.00	
16,500.00	90.00	180.30	9,918.00	-6,505.21	474.96	6,502.64	0.00	0.00	0.00	
16,600.00	90.00	180.30	9,918.00	-6,605.21	474.43	6,602.64	0.00	0.00	0.00	
16,700.00	90.00	180.30	9,918.00	-6,705.21	473.91	6,702.64	0.00	0.00	0.00	
16,800.00	90.00	180.30	9,918.00	-6,805.21	473.39	6,802.64	0.00	0.00	0.00	
16,900.00	90.00	180.30	9,918.00	-6,905.21	472.87	6,902.64	0.00	0.00	0.00	
17,000.00	90.00	180.30	9,918.00	-7,005.21	472.34	7,002.64	0.00	0.00	0.00	
17,100.00	90.00	180.30	9,918.00	-7,105.20	471.82	7,102.64	0.00	0.00	0.00	
17,200.00	90.00	180.30	9,918.00	-7,205.20	471.30	7,202.64	0.00	0.00	0.00	
17,300.00	90.00	180.30	9,918.00	-7,305.20	470.78	7,302.64	0.00	0.00	0.00	
17,400.00	90.00	180.30	9,918.00	-7,405.20	470.26	7,402.64	0.00	0.00	0.00	
17,500.00	90.00	180.30	9,918.00	-7,505.20	469.73	7,502.64	0.00	0.00	0.00	
17,600.00	90.00	180.30	9,918.00	-7,605.20	469.21	7,602.64	0.00	0.00	0.00	
17,700.00	90.00	180.30	9,918.00	-7,705.20	468.69	7,702.64	0.00	0.00	0.00	

Planning Report



Database:	EDM 5000.17 Single User Db	Local Co-ordinate Reference:	Well Mirror Fed Com 304H
Company:	Franklin Mountain Energy	TVD Reference:	30' KB @ 3449.30usft
Project:	Lea Co., NM (NAD-83)	MD Reference:	30' KB @ 3449.30usft
Site:	Mirror MH Pad 1 & 2	North Reference:	Grid
Well:	Mirror Fed Com 304H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan 3		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
17,800.00	90.00	180.30	9,918.00	-7,805.19	468.17	7,802.64	0.00	0.00	0.00	
17,900.00	90.00	180.30	9,918.00	-7,905.19	467.64	7,902.64	0.00	0.00	0.00	
18,000.00	90.00	180.30	9,918.00	-8,005.19	467.12	8,002.64	0.00	0.00	0.00	
18,100.00	90.00	180.30	9,918.00	-8,105.19	466.60	8,102.64	0.00	0.00	0.00	
18,200.00	90.00	180.30	9,918.00	-8,205.19	466.08	8,202.64	0.00	0.00	0.00	
18,300.00	90.00	180.30	9,918.00	-8,305.19	465.56	8,302.64	0.00	0.00	0.00	
18,400.00	90.00	180.30	9,918.00	-8,405.19	465.03	8,402.64	0.00	0.00	0.00	
18,500.00	90.00	180.30	9,918.00	-8,505.19	464.51	8,502.64	0.00	0.00	0.00	
18,600.00	90.00	180.30	9,918.00	-8,605.18	463.99	8,602.64	0.00	0.00	0.00	
18,700.00	90.00	180.30	9,918.00	-8,705.18	463.47	8,702.64	0.00	0.00	0.00	
18,800.00	90.00	180.30	9,918.00	-8,805.18	462.94	8,802.64	0.00	0.00	0.00	
18,900.00	90.00	180.30	9,918.00	-8,905.18	462.42	8,902.64	0.00	0.00	0.00	
19,000.00	90.00	180.30	9,918.00	-9,005.18	461.90	9,002.64	0.00	0.00	0.00	
19,100.00	90.00	180.30	9,918.00	-9,105.18	461.38	9,102.64	0.00	0.00	0.00	
19,200.00	90.00	180.30	9,918.00	-9,205.18	460.85	9,202.64	0.00	0.00	0.00	
19,300.00	90.00	180.30	9,918.00	-9,305.17	460.33	9,302.64	0.00	0.00	0.00	
19,400.00	90.00	180.30	9,918.00	-9,405.17	459.81	9,402.64	0.00	0.00	0.00	
19,500.00	90.00	180.30	9,918.00	-9,505.17	459.29	9,502.64	0.00	0.00	0.00	
19,600.00	90.00	180.30	9,918.00	-9,605.17	458.77	9,602.64	0.00	0.00	0.00	
19,700.00	90.00	180.30	9,918.00	-9,705.17	458.24	9,702.64	0.00	0.00	0.00	
19,800.00	90.00	180.30	9,918.00	-9,805.17	457.72	9,802.64	0.00	0.00	0.00	
19,900.00	90.00	180.30	9,918.00	-9,905.17	457.20	9,902.64	0.00	0.00	0.00	
20,000.00	90.00	180.30	9,918.00	-10,005.16	456.68	10,002.64	0.00	0.00	0.00	
20,066.30	90.00	180.30	9,918.00	-10,071.46	456.33	10,068.93	0.00	0.00	0.00	
PBHL @ 20066.30'										

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
KOP - Mirror Fed Com 3 - hit/miss target - Shape - Point	0.00	0.00	9,345.00	292.52	510.46	446,915.86	851,435.19	32.224670	-103.330549
FTP - Mirror Fed Com 3l - plan hits target center - Point	0.00	0.00	9,918.00	-280.43	507.47	446,342.91	851,432.20	32.223095	-103.330576
LTP - Mirror Fed Com 3l - plan hits target center - Point	0.00	0.00	9,918.00	-10,071.46	456.33	436,551.88	851,381.06	32.196186	-103.331037

Planning Report



Database:	EDM 5000.17 Single User Db	Local Co-ordinate Reference:	Well Mirror Fed Com 304H
Company:	Franklin Mountain Energy	TVD Reference:	30' KB @ 3449.30usft
Project:	Lea Co., NM (NAD-83)	MD Reference:	30' KB @ 3449.30usft
Site:	Mirror MH Pad 1 & 2	North Reference:	Grid
Well:	Mirror Fed Com 304H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan 3		

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
30.00	30.00	Cenozoic Alluvium (surface)				
1,508.01	1,508.00	Rustler		0.00		
1,922.40	1,921.00	Salado		0.00		
3,825.82	3,814.00	Base Salt		0.00		
5,456.75	5,436.00	Lamar		0.00		
5,512.05	5,491.00	Bell Canyon		0.00		
6,146.52	6,122.00	Cherry Canyon		0.00		
7,490.09	7,460.00	Brushy Canyon		0.00		
8,807.09	8,777.00	Bone Spring Lime		0.00		
8,876.09	8,846.00	Avalon		0.00		
9,033.09	9,003.00	Chert Zone		0.00		
10,036.45	9,869.00	First Bone Spring Sand		0.00		
10,275.13	9,918.00	HZ Target		0.00		

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
1,400.00	1,400.00	0.00	0.00	Build 1.5°/100'	
1,799.85	1,799.12	10.40	18.14	Hold 6° Inc, 60.19° Azm	
7,030.24	7,000.88	282.12	492.32	Drop 1.5°/100'	
7,430.09	7,400.00	292.52	510.46	Hold 0° Inc, 0° Azm	
9,375.13	9,345.04	292.52	510.46	Build 10°/100'	
10,275.13	9,918.00	-280.43	507.47	Land 90° Inc, 180.30° Azm	
20,066.30	9,918.00	-10,071.46	456.33	PBHL @ 20066.30'	



Mirror Fed Com 304H

1. **Geologic name of surface location:** Permian
2. **Estimated tops of important geological markers:**

Formations	PROG SS	PROG TVD	Picked TVD	delta	Potential/Issues
Cenozoic Alluvium (surface)	3,420'	30'	30'	0	Sand/Gravels/unconsolidated
Rustler	1,942'	1,508'			Carbonates
Salado	1,529'	1,921'			Salt, Carbonate & Clastics
Base Salt	-364'	3,814'			Shaley Carbonate & Shale
Lamar	-1,986'	5,436'			Carbonate & Clastics
Bell Canyon	-2,041'	5,491'			Sandstone - oil/gas/water
Cherry Canyon	-2,672'	6,122'			Sandstone - oil/gas/water
Brushy Canyon	-4,010'	7,460'			Sand/carb/shales - oil/gas/water
Bone Spring Lime	-5,327'	8,777'			Shale/Carbonates - oil/gas
Avalon	-5,396'	8,846'			Shale/Carbonates - oil/gas
Chert Zone	-5,553'	9,003'			Carbonate/Chert
First Bone Spring Sand	-6,419'	9,869'			Sandstone - oil/gas/water
HZ Target	-6,468'	9,918'			Sandstone - oil/gas/water
Second Bone Spring Carbonates	-6,510'	9,961'			Shale/Carbonates - oil/gas
Second Bone Spring Sand	-7,046'	10,497'			Sandstone - oil/gas/water

3. **Estimated depth of anticipated fresh water, oil or gas:**

Upper Permian Sands	0-400'	Fresh Water
Delaware Sands	5,491'	Oil
Avalon	8,846'	Oil
Bone Spring	9,869'	Oil
Wolfcamp	,	Oil

No other formations are expected to give up oil, gas or fresh water in measurable quantities. Surface freshwater sands will be protected by setting 13-3/8" casing at 1,550' and circulating cement back to surface.

4. **Casing Program:**

All casing strings will be run new. Safety factors calculated assuming the well is vertical.

Casing string	Weight	Grade	Burst	Collapse	Tension	Conn	Length	API design factor			
								Burst	Collapse	Tension	Coupling
Surface 13 3/8"	54.5	J-55	2730	1130	853	BTC 909	1,550	1.11	1.40	4.62	4.93
Intermediate 9 5/8"	40	HCL-80	7430	4230	916	BTC 1042	5,500	1.70	1.64	2.86	3.26
Intermediate 7 5/8"	29.7	HCP-110	8280	7150	827	Liberty 558	10,275	1.29	1.49	2.04	1.38
Long string 5 1/2"	23	P-110	14520	14520	729	Eagle 606	20,066 9,918	1.32	1.55	1.30	1.08 1.85

7-5/8" casing will be set at 10,275' MD / 9,918' TVD at 90° inclination. Stress calculations on 5-1/2" casing performed assuming 20,066' depth. Actual max vertical depth is 9,918'.

Cementing Program:

Cementing Stage tool can be placed in the 1st Intermediate string as a contingency to ensure required TOC to surface.



String Type	Hole Size	Casing		Lead					Tail					
		Size	Setting Depth	Sacks	Type of cmt	Yield ft3/sk	Water gal/sk	TOC ft	Sacks	Type of cmt	Yield ft3/sk	Water gal/sk	TOC	Excess
Surf	17.5	13.375	1,550	994	Extenda Cem, 13.5 ppg Class C, 3lb/sk Kol-Seal 0.125pps Poly-E-Flake	1.747	9.06	0	335	Tail, 14.8 ppg, Class C, 1% CaCl2, 0.125pps Celo-Flake	1.349	6.51	1,250	100%
Int1	12.25	9.625	5,500	1965	Lead, 12.8 ppg, Class C, 5% Salt 0.125 pps Poly-E-Flake, 3lb/sk Kol-Seal	1.45	6.9	0	154	Tail, 14.8 ppg, Class C, 0.1% HR 800 .125 pps Poly-E-Flake	1.33	6.3	5,200	100%
Int2	8.75	7.625	10,275	73	Lite Fill, 9.5 ppg, Class C 3lb/sk Bridgemaker Gel, 5% Salt, 5pps LCM, 0.25pps IntegraSeal	5.1	27.2	4,500	280	IntegraCem 14.8 ppg, Class H, P50H; 0.15% ASA 301; 0.5% FL-66; 0.25% R-21	1.33	6.31	7,500	30%
Prod	6.75	5.5	20,066	754	Tail, 13.5 ppg, Class HSLD 82H; 0.4% CFL-2; 4% STE; 0.07% CSA-1000; .29#/sk Salt; .29#/sk Gypseal	1.43	6.87	9,275	20%					

5. Minimum Specifications for Pressure Control:

The minimum blowout preventer equipment (BOPE) shown in Exhibit #1 will consist of a single ram, mud cross and double ram-type (10,000 psi WP) preventer and an annular preventer (5,000-psi WP). Both units will be hydraulically operated, and the ram-type will be equipped with blind rams on bottom and 4 ½" x 7" variable pipe rams on top.

All BOPE will be tested in accordance with Onshore Oil & Gas order No. 2.

Before drilling out of the surface casing, the ram-type BOP and accessory equipment will be tested to 5,000/250 psig and the annular preventer to 5,000/250 psig. The surface casing will be tested for 30 minutes to 0.22 psi/ft or 1500 psi, whichever is greater, but not to exceed 70% of Internal yield.

Before drilling out of the intermediate casing, the ram-type BOP and accessory equipment will be tested to 10,000/250 psig and the annular preventer to 5,000/250 psig. The intermediate casing will be for 30 minutes to 0.22 psi/ft or 1500 psi, whichever is greater, but not to exceed 70% of Internal yield prior to drill-out.

Pipe rams will be operationally checked each 24-hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets.

A hydraulically operated choke will be installed prior to drilling out of the intermediate casing shoe.



6. Types and characteristics of the proposed mud system:

During this procedure we plan to use a Closed-Loop System and haul contents to the required disposal. The applicable depths and properties of the drilling fluid systems are as follows.

Depth	Type	Weight (ppg)	Viscosity	Water Loss
0 – 1,550'	Fresh - Gel	8.6-8.8	28-34	N/c
1,550' –10,275'	Brine	8.8-10.2	28-34	N/c
10,275' –20,066'	Oil Base	10.0-12.0	58-68	3 – 6
Lateral				

The highest mud weight needed to balance formation is expected to be 10-12 ppg. In order to maintain hole stability, mud weights up to 12 ppg may be utilized.

An electronic pit volume totalizer (PVT) will be utilized on the circulating system, to monitor pit volume, flow rate, pump pressure and stroke rate.

Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept at the wellsite at all times.

7. Auxiliary well control and monitoring equipment:

- (A) A kelly cock will be kept in the drill string at all times.
- (B) A full opening drill pipe-stabbing valve (inside BOP) with proper drill pipe connections will be on the rig floor at all times.
- (C) H₂S monitoring and detection equipment will be utilized from surface casing point to TD.
- (D) A wear bushing will be installed in the wellhead prior to drilling out of the surface casing.

8. Logging, testing and coring program:

GR–CCL–CNL will be run in cased hole during completions phase of operations.

Open-hole logs are not planned for this well.

9. Abnormal conditions, pressures, temperatures and potential hazards:

The estimated bottom-hole temperature at 9,918' TVD (deepest point of the well) is 165°F with an estimated maximum bottom-hole pressure (BHP) at the same point of 6,189 psig (based on 12 ppg MW).

Hydrogen sulfide may be present in the area. All necessary precautions will be taken before drilling operations commence. See Hydrogen Sulfide Plan below:

10. Hydrogen Sulfide Plan:

- A. All personnel shall receive proper awareness H₂S training.
- B. Briefing Area: Two perpendicular areas will be designated by signs and readily accessible.
- C. Required Emergency Equipment
 - a. Well Control Equipment
 - i. Flare line 100' from wellhead to be ignited by auto ignition sparking system.
 - ii. Choke manifold with a remotely operated hydraulic choke.
 - iii. Mud/gas separator.
 - b. Protective equipment for essential personnel
 - i. Breathing Apparatus
 - 1. Rescue packs (SCBA) – 1 unit shall be placed at each briefing area, 2 shall be stored in a safety trailer on site.
 - 2. Work / Escape packs – 4 packs shall be stored on the rig floor with sufficient air hose not to restrict work activity.



3. Emergency Escape Packs – 4 packs shall be stored in the doghouse for emergency evacuation.
- ii. Auxiliary Rescue Equipment
 1. Stretcher
 2. Two OSHA full body harnesses
 3. 100 feet of 5/8 inches OSHA approved rope
 4. 1-20# class ABC fire extinguisher
- c. H2S Detection and Monitoring Equipment
 - i. A stationary detector with three sensors will be placed in the doghouse if equipped, set to visually alarm at 10 ppm and audible at 14 ppm. The detector will be calibrated a minimum of every 30 days or as needed. The sensors will be placed in the following places:
 1. Rig Floor
 2. Below Rig Floor / Near BOPs
 3. End of flow line or where well bore fluid is being discharged (near shakers)
 - ii. If H2S is encountered, measured values and formations will be provided to the BLM.
- d. Visual Warning Systems
 - i. One color code condition sign will be placed at the entrance to the site reflecting the possible conditions at the site.
 - ii. A colored condition flag will be on display, reflecting the current condition at the site at the time.
 - iii. Two windsocks will be placed in strategic locations, visible from all angles.
- e. Mud Program
 - i. The Mud program will be designed to minimize the volume of H2S circulated to surface.
 - ii. The operator will have the necessary mud products to minimize hazards while drilling in H2S bearing zones.
- f. Metallurgy
 - i. All drill strings, casings, tubing, wellhead, blowout preventer, drilling spool, kill lines, choke manifold and lines, and valves shall be suitable for H2S service at the anticipated operating pressures to prevent sour sulfide stress cracking.
- g. Communication
 - i. Communication will be via cell phones and walkie talkies on location.

Franklin Mountain Energy has conducted a review of offset operated wells to determine if an H2S contingency plan is required for the proposed well. Based on concentrations of offset wells, proximity to main roads, and distance to populated areas, the radius of exposure created by a potential release was determined to be minimal and low enough to not necessitate an H2S contingency plan. This will be reevaluated during wellbore construction if H2S is observed and after the well is on production.

11. Anticipated starting date and duration of operations:

The drilling operations on the well should be finished in approximately one month. However, in order to minimize disturbance in the area and to improve efficiency Franklin Mountain is planning to drill all the wells on the pad prior to commence completion operations. To even further reduce the time heavy machinery is used the "batch drilling" method may be used. The drilling rig with walking/skidding capabilities will be used.

**12. Disposal/environmental concerns:**

- (A) Drilled cuttings will be hauled to and disposed of in a state-certified disposal site.
- (B) Non-hazardous waste mud/cement from the drilling process will be also be hauled to and disposed of in a state-certified disposal site.
- (C) Garbage will be hauled to the Pecos City Landfill.
- (D) Sewage (grey water) will be hauled to the Carlsbad City Landfill.

13. Wellhead:

A multi-bowl wellhead system will be utilized.

After running the 13-3/8" surface casing, a 13-5/8" BOP/BOPE system with a minimum working pressure of 10,000 psi will be installed on the wellhead system and will be pressure tested to 250 psi low followed by a 5,000 psi pressure test. This pressure test will be repeated at least every 30 days, as per Onshore Order No. 2

The minimum working pressure of the BOP and related BOPE required for drilling below the surface casing shoe shall be 5,000 psi.

After running the 2nd intermediate casing, and before drilling out, the wellhead, BOP, and related equipment will be tested to 10,000/250 psig.

The multi-bowl wellhead will be installed by vendor's representative(s). A copy of the installation instructions for the Cactus Multi-Bowl WH system has been sent to the BLM office in Carlsbad.

The wellhead will be installed by a third-party welder while being monitored by WH vendor's representative.

All BOP equipment will be tested utilizing a conventional test plug. Not a cup or J-packer type.

A solid steel body pack-off will be utilized after running and cementing the intermediate casing strings. After installation of the first intermediate string the pack-off and lower flanges will be pressure tested to 5,000 psi. After installation of the second intermediate string, the pack-off and upper flange will be pressure tested to 10,000 psi.

Both the surface and intermediate casing strings will be tested as per Onshore Order No. 2 to at least 0.22 psi/ft or 1,500 psi, whichever is greater.

14. Additional variance requests**A. Casing.**

In order to minimize potential environmental and technical hazards, this well is planned with two intermediate strings of casing.

1. Variance is requested to waive the centralizer requirements for the 7-5/8" casing due to the tight clearance with 9-5/8" string.
2. Variance is requested to waive/reduce the centralizer requirements for the 5-1/2" casing due to the tight clearance with 6-3/4" hole and 5-1/2" casing due to tight clearances.

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 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

CONDITIONS

Action 254413

CONDITIONS

Operator: Franklin Mountain Energy LLC 44 Cook Street, Suite 1000 Denver, CO 80206	OGRID: 373910
	Action Number: 254413
	Action Type: [C-103] NOI Change of Plans (C-103A)

CONDITIONS

Created By	Condition	Condition Date
pkautz	None	9/22/2023