

Well Name: FMM FED COM	Well Location: T24S / R35E / SEC 36 / TR M / 32.167668 / -103.325608	County or Parish/State: LEA / NM
Well Number: 301H	Type of Well: OIL WELL	Allottee or Tribe Name:
Lease Number: NMNM132081	Unit or CA Name:	Unit or CA Number:
US Well Number: 3002549848	Well Status: Drilling Well	Operator: FRANKLIN MOUNTAIN ENERGY LLC

Notice of Intent

Sundry ID: 2671109

Type of Submission: Notice of Intent Type of Action: Drilling Operations

Date Sundry Submitted: 05/10/2022 Time Sundry Submitted: 01:42

Date proposed operation will begin: 05/15/2022

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: - Change 1st Intermediate set depth to 5100'. - 2nd Intermediate Casing: FME would like approval to utilize 7.625 inch Liberty 558 29.7lb. HCP-110 and, - Production Casing: FME would like approval to utilize 5.5 inch Eagle 606 23lb. P-110 in the drilling of this bore. - Change cement volumes based on updated Geoprog, casing and casing set depths. Please see attached revised 14-point plan, directional plan, geo prog and data sheets.

Surface Disturbance

Is any additional surface disturbance proposed?: No

NOI Attachments

Procedure Description

- FME__FMM_Fed_Com_301H__Plan__2_WP_RPT_20220510134139.pdf
- FMM_Fed_Com_301H_14Pt._Plan_Technical_Changes_20220510134139.pdf
- FMM_Fed_Com_301H_GEOPROG_FINAL_20220510134139.pdf
- Eagle_606_Spec_Sheet_20220510134117.pdf
- Liberty_Connections_Performance_Data_7.6250_29.7000_0.3750__P110_HC_20220510134117.pdf

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Lease Number: NMNM132081	Unit or CA Name:	Unit or CA Number:
US Well Number: 3002549848	Well Status: Drilling Well	Operator: FRANKLIN MOUNTAIN ENERGY LLC

Conditions of Approval

Specialist Review

FMM_Fed_Com_301H_Dr_COA_Sundry_ID_2671109_20220531111551.pdf
36_24_35_M_Sundry_ID_2671109_FMM_Fed_Com_301H_Lea_NM132081_Franklin_Mountain_Energy_LLC_13_22d_5_31_2022_LV_20220531111551.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: MAY 10, 2022 01:41 PM
Name: FRANKLIN MOUNTAIN ENERGY LLC
Title: Director – Operations Planning and Regulatory
Street Address: 2401 E 2nd Avenue, Suite 300
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 Phone: 5752342234
Disposition: Approved
Signature: Chris Walls
BLM POC Title: Petroleum Engineer
BLM POC Email Address: cwalls@blm.gov
Disposition Date: 12/14/2022



U. S. Steel Tubular Products

7/14/2020 11:41:19 AM

5.500" 23.00lbs/ft (0.415" Wall) P110 USS-EAGLE SFH®



MECHANICAL PROPERTIES	Pipe	USS-EAGLE SFH™	
Minimum Yield Strength	110,000	--	psi
Maximum Yield Strength	140,000	--	psi
Minimum Tensile Strength	125,000	--	psi
DIMENSIONS	Pipe	USS-EAGLE SFH™	
Outside Diameter	5.500	5.830	in.
Wall Thickness	0.415	--	in.
Inside Diameter	4.670	4.585	in.
Standard Drift	4.545	4.545	in.
Alternate Drift	--	4.545	in.
Nominal Linear Weight, T&C	23.00	--	lbs/ft
Plain End Weight	22.56	--	lbs/ft
SECTION AREA	Pipe	USS-EAGLE SFH™	
Critical Area	6.630	5.507	sq. in.
Joint Efficiency	--	83.1	%
PERFORMANCE	Pipe	USS-EAGLE SFH™	
Minimum Collapse Pressure	14,540	14,540	psi
External Pressure Leak Resistance	--	9,130	psi
Minimum Internal Yield Pressure	14,520	14,520	psi
Minimum Pipe Body Yield Strength	729,000	--	lbs
Joint Strength	--	606,000	lbs
Compression Rating	--	606,000	lbs
Reference Length	--	17,900	ft
Maximum Uniaxial Bend Rating	--	76.2	deg/100 ft
MAKE-UP DATA	Pipe	USS-EAGLE SFH™	
Make-Up Loss	--	6.65	in.
Minimum Make-Up Torque	--	16,600	ft-lbs
Maximum Make-Up Torque	--	19,800	ft-lbs
Maximum Operating Torque	--	28,000	ft-lbs

Legal Notice

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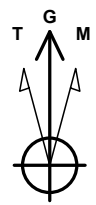
U. S. Steel Tubular Products
460 Wildwood Forest Drive, Suite 300S
Spring, Texas 77380

1-877-893-9461
connections@uss.com
www.usstubular.com

Released to Imaging: 12/14/2022 3:32:08 PM

Franklin Mountain Energy

Project: Lea County, NM (NAD83)
Site: FMM Fed Com
Well: FMM Fed Com 301H
Wellbore: OH
Design: Plan #2



Azimuths to Grid North
True North: -0.54°
Magnetic North: 5.87°

Magnetic Field
Strength: 47465.2nT
Dip Angle: 59.88°
Date: 8/27/2021
Model: IGRF2020



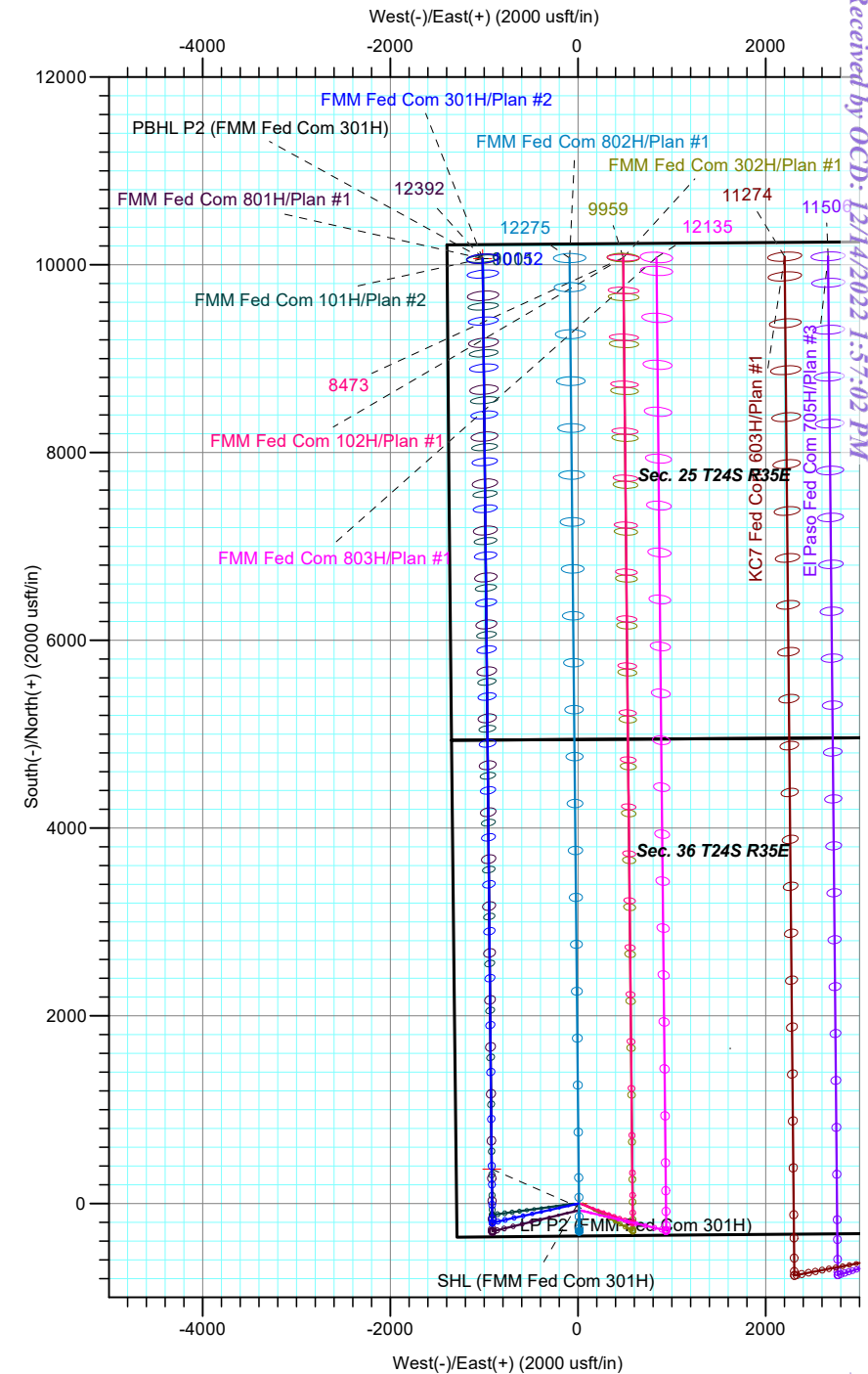
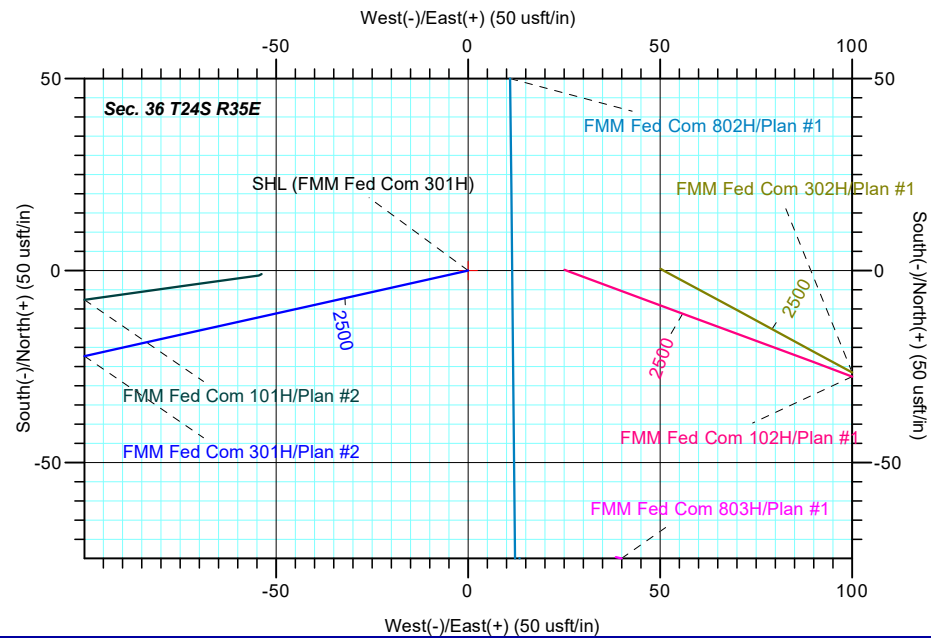
PROJECT DETAILS: Lea County, NM (NAD83)
Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: New Mexico Eastern Zone

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
LP P2 (FMM Fed Com 301H)	10152.00	369.93	-917.70	426562.55	852239.84	32.1687083	-103.3285622
PBHL P2 (FMM Fed Com 301H)	10152.00	10066.55	-1014.09	436259.18	852143.46	32.1953620	-103.3285810
SHL (FMM Fed Com 301H)	0.00	0.00	0.00	426192.62	853157.54	32.1676680	-103.3256080

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VFace	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2000.00	0.00	0.00	2000.00	0.00	0.00	0.00	0.00	0.00	Start Build 1.50
2760.81	11.41	257.45	2755.79	-16.41	-73.71	1.50	257.45	-8.94	Start 3958.70 hold at 2760.81 MD
6719.50	11.41	257.45	6636.21	-186.59	-838.29	0.00	0.00	-101.63	Start Drop -1.50
7480.31	0.00	0.00	7392.00	-203.00	-912.00	1.50	180.00	-110.57	Start 2187.04 hold at 7480.31 MD
9667.35	0.00	0.00	9579.04	-203.00	-912.00	0.00	0.00	-110.57	Start DLS 10.00 TFO 359.43
10567.35	90.00	359.43	10152.00	369.93	-917.70	10.00	359.43	460.05	Start 9697.10 hold at 10567.35 MD
20264.45	90.00	359.43	10152.00	10066.55	-1014.09	0.00	0.00	117.50	TD at 20264.45



TOTAL DIRECTIONAL SERVICES LLC

Plan: Plan #2 (FMM Fed Com 301H/OH)
Created By: RDW
Date: 19:53, May 06 2022
Approved: _____
Date: _____

Received by OCD: 12/14/2022 1:57:02 PM

Page 4 of 22

Franklin Mountain Energy

Project: Lea County, NM (NAD83)
Site: FMM Fed Com
Well: FMM Fed Com 301H
Wellbore: OH
Design: Plan #2

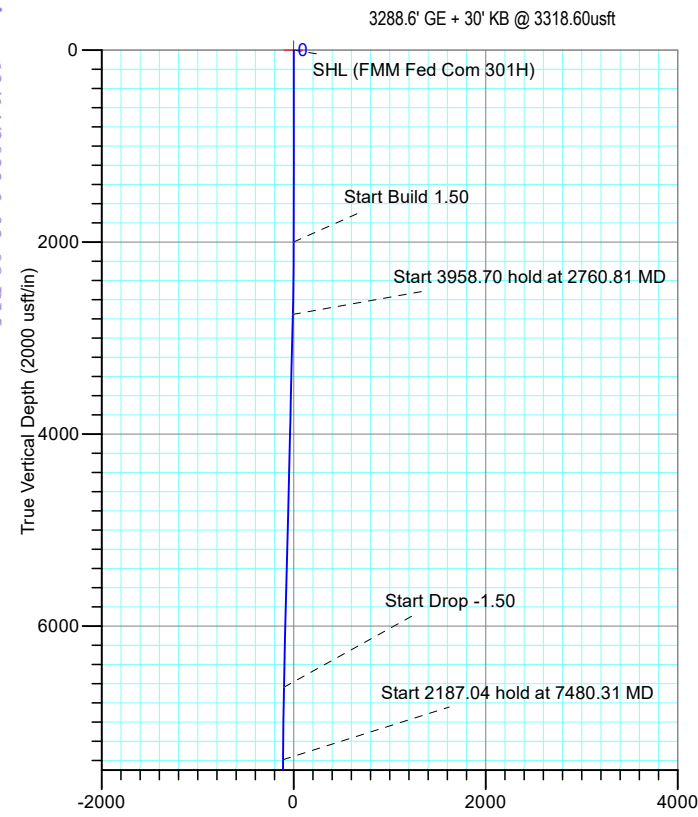


Azimuths to Grid North
True North: -0.54°
Magnetic North: 5.87°

Magnetic Field
Strength: 47465.2nT
Dip Angle: 59.88°
Date: 8/27/2021
Model: IGRF2020

PROJECT DETAILS: Lea County, NM (NAD83)

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

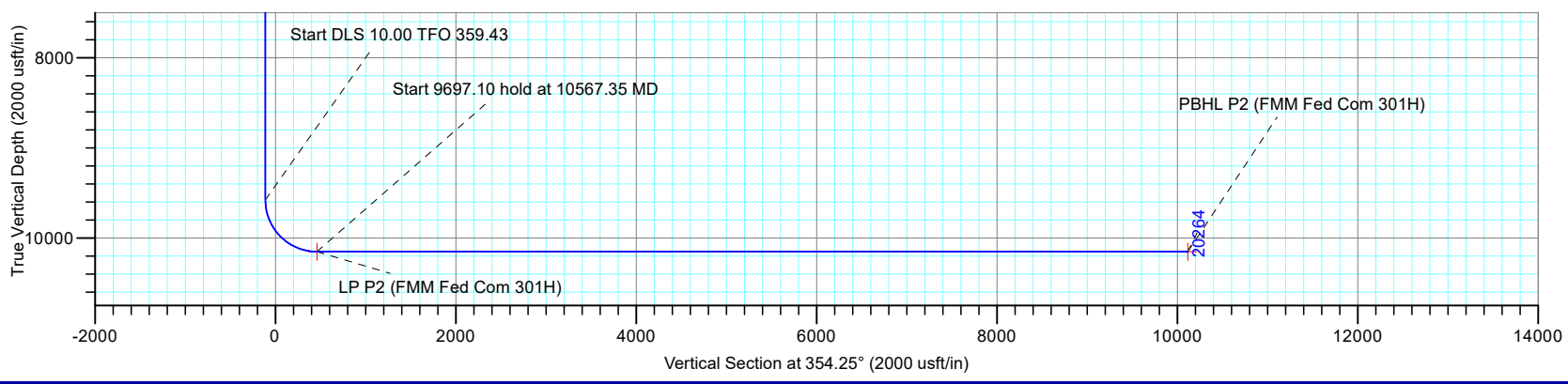
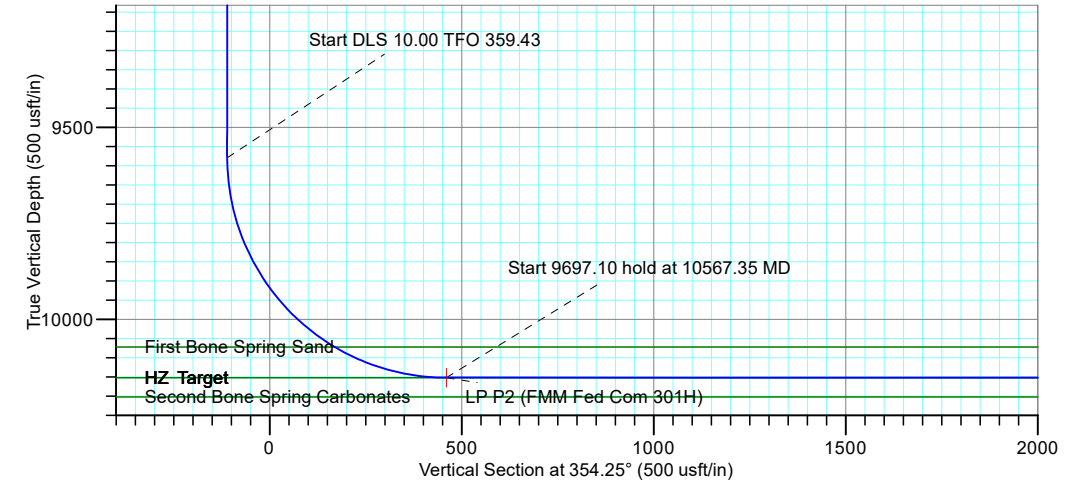


SECTION DETAILS

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	
2000.00	0.00	0.00	2000.00	0.00	0.00	0.00	0.00	0.00	Start Build 1.50
2760.81	11.41	257.45	2755.79	-16.41	-73.71	1.50	257.45	-8.94	Start 3958.70 hold at 2760.81 MD
6719.50	11.41	257.45	6636.21	-186.59	-838.29	0.00	0.00	-101.63	Start Drop -1.50
7480.31	0.00	0.00	7392.00	-203.00	-912.00	1.50	180.00	-110.57	Start 2187.04 hold at 7480.31 MD
9667.35	0.00	0.00	9579.04	-203.00	-912.00	0.00	0.00	-110.57	Start DLS 10.00 TFO 359.43
10567.35	90.00	359.43	10152.00	369.93	-917.70	10.00	359.43	460.05	Start 9697.10 hold at 10567.35 MD
20264.45	90.00	359.43	10152.00	10066.55	1014.09	0.00	0.00	117.50	TD at 20264.45

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
LP P2 (FMM Fed Com 301H)	10152.00	369.93	-917.70	32.1687083	-103.3285622
PBHL P2 (FMM Fed Com 301H)	10152.00	10066.55	1014.09	32.1953620	-103.3285810
SHL (FMM Fed Com 301H)	0.00	0.00	0.00	32.1676680	-103.3256080



TOTAL DIRECTIONAL SERVICES LLC

Plan: Plan #2 (FMM Fed Com 301H/OH)
Created By: RDW
Date: 19:54, May 06 2022
Approved: _____
Date: _____



Franklin Mountain Energy

Lea County, NM (NAD83)

FMM Fed Com

FMM Fed Com 301H

OH

Plan: Plan #2

Standard Planning Report

06 May, 2022





Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well FMM Fed Com 301H
Company:	Franklin Mountain Energy	TVD Reference:	3288.6' GE + 30' KB @ 3318.60usft
Project:	Lea County, NM (NAD83)	MD Reference:	3288.6' GE + 30' KB @ 3318.60usft
Site:	FMM Fed Com	North Reference:	Grid
Well:	FMM Fed Com 301H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2		

Project	Lea County, NM (NAD83)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	FMM Fed Com		
Site Position:		Northing:	426,192.39 usft
From:	Lat/Long	Easting:	853,132.79 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32.1676680
		Longitude:	-103.3256880

Well		FMM Fed Com 301H				
Well Position	+N/-S	0.00 usft	Northing:	426,192.62 usft	Latitude:	32.1676680
	+E/-W	0.00 usft	Easting:	853,157.54 usft	Longitude:	-103.3256080
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	3,288.60 usft
Grid Convergence:		0.54 °				

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	8/27/2021	6.40	59.88	47,465.16024146

Design	Plan #2			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	10,152.00	0.00	0.00	354.25

Plan Survey Tool Program	Date	5/6/2022		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	20,263.45 Plan #2 (OH)	OWSG (Rev2) MWD	
			OWSG MWD - Standard	

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	
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,760.81	11.41	257.45	2,755.79	-16.41	-73.71	1.50	1.50	0.00	257.45	
6,719.50	11.41	257.45	6,636.21	-186.59	-838.29	0.00	0.00	0.00	0.00	
7,480.31	0.00	0.00	7,392.00	-203.00	-912.00	1.50	-1.50	0.00	180.00	
9,667.35	0.00	0.00	9,579.04	-203.00	-912.00	0.00	0.00	0.00	0.00	
10,567.35	90.00	359.43	10,152.00	369.93	-917.70	10.00	10.00	-0.06	359.43	
20,264.45	90.00	359.43	10,152.00	10,066.55	-1,014.09	0.00	0.00	0.00	0.00	PBHL P2 (FMM Fed



Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well FMM Fed Com 301H
Company:	Franklin Mountain Energy	TVD Reference:	3288.6' GE + 30' KB @ 3318.60usft
Project:	Lea County, NM (NAD83)	MD Reference:	3288.6' GE + 30' KB @ 3318.60usft
Site:	FMM Fed Com	North Reference:	Grid
Well:	FMM Fed Com 301H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2		

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
1,222.00	0.00	0.00	1,222.00	0.00	0.00	0.00	0.00	0.00	0.00
Rustler									
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
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,539.00	0.00	0.00	1,539.00	0.00	0.00	0.00	0.00	0.00	0.00
Salado									
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 1.50									
2,100.00	1.50	257.45	2,099.99	-0.28	-1.28	-0.15	1.50	1.50	0.00
2,200.00	3.00	257.45	2,199.91	-1.14	-5.11	-0.62	1.50	1.50	0.00
2,300.00	4.50	257.45	2,299.69	-2.56	-11.49	-1.39	1.50	1.50	0.00
2,400.00	6.00	257.45	2,399.27	-4.55	-20.42	-2.48	1.50	1.50	0.00
2,500.00	7.50	257.45	2,498.57	-7.10	-31.90	-3.87	1.50	1.50	0.00
2,600.00	9.00	257.45	2,597.54	-10.22	-45.90	-5.57	1.50	1.50	0.00
2,700.00	10.50	257.45	2,696.09	-13.90	-62.43	-7.57	1.50	1.50	0.00
2,760.81	11.41	257.45	2,755.79	-16.41	-73.71	-8.94	1.50	1.50	0.00
Start 3958.70 hold at 2760.81 MD									
2,800.00	11.41	257.45	2,794.20	-18.09	-81.28	-9.85	0.00	0.00	0.00
2,900.00	11.41	257.45	2,892.23	-22.39	-100.60	-12.20	0.00	0.00	0.00
3,000.00	11.41	257.45	2,990.25	-26.69	-119.91	-14.54	0.00	0.00	0.00
3,100.00	11.41	257.45	3,088.27	-30.99	-139.23	-16.88	0.00	0.00	0.00
3,183.37	11.41	257.45	3,170.00	-34.57	-155.33	-18.83	0.00	0.00	0.00
Base Salt									
3,200.00	11.41	257.45	3,186.30	-35.29	-158.54	-19.22	0.00	0.00	0.00
3,300.00	11.41	257.45	3,284.32	-39.59	-177.85	-21.56	0.00	0.00	0.00
3,400.00	11.41	257.45	3,382.34	-43.89	-197.17	-23.90	0.00	0.00	0.00
3,500.00	11.41	257.45	3,480.37	-48.19	-216.48	-26.25	0.00	0.00	0.00
3,600.00	11.41	257.45	3,578.39	-52.48	-235.79	-28.59	0.00	0.00	0.00
3,700.00	11.41	257.45	3,676.41	-56.78	-255.11	-30.93	0.00	0.00	0.00
3,800.00	11.41	257.45	3,774.43	-61.08	-274.42	-33.27	0.00	0.00	0.00
3,823.02	11.41	257.45	3,797.00	-62.07	-278.87	-33.81	0.00	0.00	0.00
Capitan									
3,900.00	11.41	257.45	3,872.46	-65.38	-293.73	-35.61	0.00	0.00	0.00



Planning Report



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Site:	FMM Fed Com	North Reference:	Grid
Well:	FMM Fed Com 301H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2		

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)
4,000.00	11.41	257.45	3,970.48	-69.68	-313.05	-37.95	0.00	0.00	0.00
4,100.00	11.41	257.45	4,068.50	-73.98	-332.36	-40.29	0.00	0.00	0.00
4,200.00	11.41	257.45	4,166.53	-78.28	-351.68	-42.64	0.00	0.00	0.00
4,300.00	11.41	257.45	4,264.55	-82.58	-370.99	-44.98	0.00	0.00	0.00
4,400.00	11.41	257.45	4,362.57	-86.88	-390.30	-47.32	0.00	0.00	0.00
4,500.00	11.41	257.45	4,460.59	-91.18	-409.62	-49.66	0.00	0.00	0.00
4,600.00	11.41	257.45	4,558.62	-95.47	-428.93	-52.00	0.00	0.00	0.00
4,700.00	11.41	257.45	4,656.64	-99.77	-448.24	-54.34	0.00	0.00	0.00
4,800.00	11.41	257.45	4,754.66	-104.07	-467.56	-56.68	0.00	0.00	0.00
4,900.00	11.41	257.45	4,852.69	-108.37	-486.87	-59.03	0.00	0.00	0.00
5,000.00	11.41	257.45	4,950.71	-112.67	-506.19	-61.37	0.00	0.00	0.00
5,092.11	11.41	257.45	5,041.00	-116.63	-523.98	-63.52	0.00	0.00	0.00
Lamar									
5,100.00	11.41	257.45	5,048.73	-116.97	-525.50	-63.71	0.00	0.00	0.00
5,200.00	11.41	257.45	5,146.76	-121.27	-544.81	-66.05	0.00	0.00	0.00
5,224.73	11.41	257.45	5,171.00	-122.33	-549.59	-66.63	0.00	0.00	0.00
Bell Canyon									
5,300.00	11.41	257.45	5,244.78	-125.57	-564.13	-68.39	0.00	0.00	0.00
5,400.00	11.41	257.45	5,342.80	-129.87	-583.44	-70.73	0.00	0.00	0.00
5,500.00	11.41	257.45	5,440.82	-134.17	-602.75	-73.08	0.00	0.00	0.00
5,600.00	11.41	257.45	5,538.85	-138.46	-622.07	-75.42	0.00	0.00	0.00
5,700.00	11.41	257.45	5,636.87	-142.76	-641.38	-77.76	0.00	0.00	0.00
5,800.00	11.41	257.45	5,734.89	-147.06	-660.70	-80.10	0.00	0.00	0.00
5,900.00	11.41	257.45	5,832.92	-151.36	-680.01	-82.44	0.00	0.00	0.00
6,000.00	11.41	257.45	5,930.94	-155.66	-699.32	-84.78	0.00	0.00	0.00
6,030.67	11.41	257.45	5,961.00	-156.98	-705.25	-85.50	0.00	0.00	0.00
Cherry Canyon									
6,100.00	11.41	257.45	6,028.96	-159.96	-718.64	-87.12	0.00	0.00	0.00
6,200.00	11.41	257.45	6,126.98	-164.26	-737.95	-89.47	0.00	0.00	0.00
6,300.00	11.41	257.45	6,225.01	-168.56	-757.26	-91.81	0.00	0.00	0.00
6,400.00	11.41	257.45	6,323.03	-172.86	-776.58	-94.15	0.00	0.00	0.00
6,500.00	11.41	257.45	6,421.05	-177.16	-795.89	-96.49	0.00	0.00	0.00
6,600.00	11.41	257.45	6,519.08	-181.45	-815.21	-98.83	0.00	0.00	0.00
6,700.00	11.41	257.45	6,617.10	-185.75	-834.52	-101.17	0.00	0.00	0.00
6,719.50	11.41	257.45	6,636.21	-186.59	-838.29	-101.63	0.00	0.00	0.00
Start Drop -1.50									
6,800.00	10.20	257.45	6,715.28	-189.87	-853.02	-103.42	1.50	-1.50	0.00
6,900.00	8.70	257.45	6,813.92	-193.44	-869.05	-105.36	1.50	-1.50	0.00
7,000.00	7.20	257.45	6,912.96	-196.45	-882.56	-107.00	1.50	-1.50	0.00
7,100.00	5.70	257.45	7,012.32	-198.89	-893.54	-108.33	1.50	-1.50	0.00
7,200.00	4.20	257.45	7,111.95	-200.77	-901.97	-109.35	1.50	-1.50	0.00
7,300.00	2.70	257.45	7,211.76	-202.08	-907.85	-110.06	1.50	-1.50	0.00
7,369.29	1.67	257.45	7,281.00	-202.65	-910.43	-110.38	1.50	-1.50	0.00
Brushy Canyon									
7,400.00	1.20	257.45	7,311.70	-202.82	-911.18	-110.47	1.50	-1.50	0.00
7,480.31	0.00	0.00	7,392.00	-203.00	-912.00	-110.57	1.50	-1.50	0.00
Start 2187.04 hold at 7480.31 MD									
7,500.00	0.00	0.00	7,411.69	-203.00	-912.00	-110.57	0.00	0.00	0.00
7,600.00	0.00	0.00	7,511.69	-203.00	-912.00	-110.57	0.00	0.00	0.00
7,700.00	0.00	0.00	7,611.69	-203.00	-912.00	-110.57	0.00	0.00	0.00
7,800.00	0.00	0.00	7,711.69	-203.00	-912.00	-110.57	0.00	0.00	0.00
7,900.00	0.00	0.00	7,811.69	-203.00	-912.00	-110.57	0.00	0.00	0.00
8,000.00	0.00	0.00	7,911.69	-203.00	-912.00	-110.57	0.00	0.00	0.00



Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well FMM Fed Com 301H
Company:	Franklin Mountain Energy	TVD Reference:	3288.6' GE + 30' KB @ 3318.60usft
Project:	Lea County, NM (NAD83)	MD Reference:	3288.6' GE + 30' KB @ 3318.60usft
Site:	FMM Fed Com	North Reference:	Grid
Well:	FMM Fed Com 301H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2		

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)
8,100.00	0.00	0.00	8,011.69	-203.00	-912.00	-110.57	0.00	0.00	0.00
8,200.00	0.00	0.00	8,111.69	-203.00	-912.00	-110.57	0.00	0.00	0.00
8,300.00	0.00	0.00	8,211.69	-203.00	-912.00	-110.57	0.00	0.00	0.00
8,400.00	0.00	0.00	8,311.69	-203.00	-912.00	-110.57	0.00	0.00	0.00
8,500.00	0.00	0.00	8,411.69	-203.00	-912.00	-110.57	0.00	0.00	0.00
8,600.00	0.00	0.00	8,511.69	-203.00	-912.00	-110.57	0.00	0.00	0.00
8,700.00	0.00	0.00	8,611.69	-203.00	-912.00	-110.57	0.00	0.00	0.00
8,730.31	0.00	0.00	8,642.00	-203.00	-912.00	-110.57	0.00	0.00	0.00
Bone Spring Lime									
8,800.00	0.00	0.00	8,711.69	-203.00	-912.00	-110.57	0.00	0.00	0.00
8,805.31	0.00	0.00	8,717.00	-203.00	-912.00	-110.57	0.00	0.00	0.00
Avalon									
8,900.00	0.00	0.00	8,811.69	-203.00	-912.00	-110.57	0.00	0.00	0.00
9,000.00	0.00	0.00	8,911.69	-203.00	-912.00	-110.57	0.00	0.00	0.00
9,100.00	0.00	0.00	9,011.69	-203.00	-912.00	-110.57	0.00	0.00	0.00
9,164.31	0.00	0.00	9,076.00	-203.00	-912.00	-110.57	0.00	0.00	0.00
Chert Zone									
9,200.00	0.00	0.00	9,111.69	-203.00	-912.00	-110.57	0.00	0.00	0.00
9,300.00	0.00	0.00	9,211.69	-203.00	-912.00	-110.57	0.00	0.00	0.00
9,400.00	0.00	0.00	9,311.69	-203.00	-912.00	-110.57	0.00	0.00	0.00
9,500.00	0.00	0.00	9,411.69	-203.00	-912.00	-110.57	0.00	0.00	0.00
9,600.00	0.00	0.00	9,511.69	-203.00	-912.00	-110.57	0.00	0.00	0.00
9,667.35	0.00	0.00	9,579.04	-203.00	-912.00	-110.57	0.00	0.00	0.00
Start DLS 10.00 TFO 359.43									
9,700.00	3.27	359.43	9,611.68	-202.07	-912.01	-109.64	10.00	10.00	0.00
9,750.00	8.27	359.43	9,661.41	-197.05	-912.06	-104.64	10.00	10.00	0.00
9,800.00	13.27	359.43	9,710.51	-187.71	-912.15	-95.34	10.00	10.00	0.00
9,850.00	18.27	359.43	9,758.62	-174.13	-912.29	-81.82	10.00	10.00	0.00
9,900.00	23.27	359.43	9,805.35	-156.41	-912.46	-64.17	10.00	10.00	0.00
9,950.00	28.27	359.43	9,850.37	-134.69	-912.68	-42.53	10.00	10.00	0.00
10,000.00	33.27	359.43	9,893.32	-109.12	-912.93	-17.07	10.00	10.00	0.00
10,050.00	38.27	359.43	9,933.88	-79.91	-913.22	12.03	10.00	10.00	0.00
10,100.00	43.27	359.43	9,971.73	-47.27	-913.55	44.53	10.00	10.00	0.00
10,150.00	48.27	359.43	10,006.60	-11.46	-913.90	80.20	10.00	10.00	0.00
10,200.00	53.27	359.43	10,038.22	27.25	-914.29	118.76	10.00	10.00	0.00
10,250.00	58.27	359.43	10,066.34	68.58	-914.70	159.91	10.00	10.00	0.00
10,260.94	59.36	359.43	10,072.00	77.93	-914.79	169.23	10.00	10.00	0.00
First Bone Spring Sand									
10,300.00	63.27	359.43	10,090.75	112.19	-915.13	203.35	10.00	10.00	0.00
10,350.00	68.27	359.43	10,111.27	157.77	-915.59	248.74	10.00	10.00	0.00
10,400.00	73.27	359.43	10,127.73	204.96	-916.06	295.75	10.00	10.00	0.00
10,450.00	78.27	359.43	10,140.02	253.41	-916.54	344.00	10.00	10.00	0.00
10,500.00	83.27	359.43	10,148.04	302.74	-917.03	393.13	10.00	10.00	0.00
10,550.00	88.27	359.43	10,151.74	352.59	-917.52	442.77	10.00	10.00	0.00
10,567.35	90.00	359.43	10,152.00	369.93	-917.70	460.05	10.00	10.00	0.00
Start 9697.10 hold at 10567.35 MD - HZ Target									
10,600.00	90.00	359.43	10,152.00	402.58	-918.02	492.57	0.00	0.00	0.00
10,700.00	90.00	359.43	10,152.00	502.58	-919.01	592.16	0.00	0.00	0.00
10,800.00	90.00	359.43	10,152.00	602.57	-920.01	691.75	0.00	0.00	0.00
10,900.00	90.00	359.43	10,152.00	702.57	-921.00	791.34	0.00	0.00	0.00
11,000.00	90.00	359.43	10,152.00	802.56	-922.00	890.93	0.00	0.00	0.00
11,100.00	90.00	359.43	10,152.00	902.56	-922.99	990.52	0.00	0.00	0.00
11,200.00	90.00	359.43	10,152.00	1,002.55	-923.98	1,090.11	0.00	0.00	0.00



Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well FMM Fed Com 301H
Company:	Franklin Mountain Energy	TVD Reference:	3288.6' GE + 30' KB @ 3318.60usft
Project:	Lea County, NM (NAD83)	MD Reference:	3288.6' GE + 30' KB @ 3318.60usft
Site:	FMM Fed Com	North Reference:	Grid
Well:	FMM Fed Com 301H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2		

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)
11,300.00	90.00	359.43	10,152.00	1,102.55	-924.98	1,189.71	0.00	0.00	0.00
11,400.00	90.00	359.43	10,152.00	1,202.54	-925.97	1,289.30	0.00	0.00	0.00
11,500.00	90.00	359.43	10,152.00	1,302.54	-926.97	1,388.89	0.00	0.00	0.00
11,600.00	90.00	359.43	10,152.00	1,402.53	-927.96	1,488.48	0.00	0.00	0.00
11,700.00	90.00	359.43	10,152.00	1,502.53	-928.95	1,588.07	0.00	0.00	0.00
11,800.00	90.00	359.43	10,152.00	1,602.52	-929.95	1,687.66	0.00	0.00	0.00
11,900.00	90.00	359.43	10,152.00	1,702.52	-930.94	1,787.25	0.00	0.00	0.00
12,000.00	90.00	359.43	10,152.00	1,802.51	-931.94	1,886.84	0.00	0.00	0.00
12,100.00	90.00	359.43	10,152.00	1,902.51	-932.93	1,986.43	0.00	0.00	0.00
12,200.00	90.00	359.43	10,152.00	2,002.50	-933.92	2,086.03	0.00	0.00	0.00
12,300.00	90.00	359.43	10,152.00	2,102.50	-934.92	2,185.62	0.00	0.00	0.00
12,400.00	90.00	359.43	10,152.00	2,202.49	-935.91	2,285.21	0.00	0.00	0.00
12,500.00	90.00	359.43	10,152.00	2,302.49	-936.91	2,384.80	0.00	0.00	0.00
12,600.00	90.00	359.43	10,152.00	2,402.48	-937.90	2,484.39	0.00	0.00	0.00
12,700.00	90.00	359.43	10,152.00	2,502.48	-938.89	2,583.98	0.00	0.00	0.00
12,800.00	90.00	359.43	10,152.00	2,602.47	-939.89	2,683.57	0.00	0.00	0.00
12,900.00	90.00	359.43	10,152.00	2,702.47	-940.88	2,783.16	0.00	0.00	0.00
13,000.00	90.00	359.43	10,152.00	2,802.46	-941.88	2,882.76	0.00	0.00	0.00
13,100.00	90.00	359.43	10,152.00	2,902.46	-942.87	2,982.35	0.00	0.00	0.00
13,200.00	90.00	359.43	10,152.00	3,002.45	-943.86	3,081.94	0.00	0.00	0.00
13,300.00	90.00	359.43	10,152.00	3,102.45	-944.86	3,181.53	0.00	0.00	0.00
13,400.00	90.00	359.43	10,152.00	3,202.44	-945.85	3,281.12	0.00	0.00	0.00
13,500.00	90.00	359.43	10,152.00	3,302.44	-946.85	3,380.71	0.00	0.00	0.00
13,600.00	90.00	359.43	10,152.00	3,402.43	-947.84	3,480.30	0.00	0.00	0.00
13,700.00	90.00	359.43	10,152.00	3,502.43	-948.83	3,579.89	0.00	0.00	0.00
13,800.00	90.00	359.43	10,152.00	3,602.42	-949.83	3,679.48	0.00	0.00	0.00
13,900.00	90.00	359.43	10,152.00	3,702.42	-950.82	3,779.08	0.00	0.00	0.00
14,000.00	90.00	359.43	10,152.00	3,802.41	-951.82	3,878.67	0.00	0.00	0.00
14,100.00	90.00	359.43	10,152.00	3,902.41	-952.81	3,978.26	0.00	0.00	0.00
14,200.00	90.00	359.43	10,152.00	4,002.40	-953.80	4,077.85	0.00	0.00	0.00
14,300.00	90.00	359.43	10,152.00	4,102.40	-954.80	4,177.44	0.00	0.00	0.00
14,400.00	90.00	359.43	10,152.00	4,202.39	-955.79	4,277.03	0.00	0.00	0.00
14,500.00	90.00	359.43	10,152.00	4,302.39	-956.79	4,376.62	0.00	0.00	0.00
14,600.00	90.00	359.43	10,152.00	4,402.38	-957.78	4,476.21	0.00	0.00	0.00
14,700.00	90.00	359.43	10,152.00	4,502.38	-958.77	4,575.80	0.00	0.00	0.00
14,800.00	90.00	359.43	10,152.00	4,602.37	-959.77	4,675.40	0.00	0.00	0.00
14,900.00	90.00	359.43	10,152.00	4,702.37	-960.76	4,774.99	0.00	0.00	0.00
15,000.00	90.00	359.43	10,152.00	4,802.36	-961.76	4,874.58	0.00	0.00	0.00
15,100.00	90.00	359.43	10,152.00	4,902.36	-962.75	4,974.17	0.00	0.00	0.00
15,200.00	90.00	359.43	10,152.00	5,002.35	-963.74	5,073.76	0.00	0.00	0.00
15,300.00	90.00	359.43	10,152.00	5,102.35	-964.74	5,173.35	0.00	0.00	0.00
15,400.00	90.00	359.43	10,152.00	5,202.34	-965.73	5,272.94	0.00	0.00	0.00
15,500.00	90.00	359.43	10,152.00	5,302.34	-966.73	5,372.53	0.00	0.00	0.00
15,600.00	90.00	359.43	10,152.00	5,402.33	-967.72	5,472.12	0.00	0.00	0.00
15,700.00	90.00	359.43	10,152.00	5,502.33	-968.71	5,571.72	0.00	0.00	0.00
15,800.00	90.00	359.43	10,152.00	5,602.32	-969.71	5,671.31	0.00	0.00	0.00
15,900.00	90.00	359.43	10,152.00	5,702.32	-970.70	5,770.90	0.00	0.00	0.00
16,000.00	90.00	359.43	10,152.00	5,802.31	-971.70	5,870.49	0.00	0.00	0.00
16,100.00	90.00	359.43	10,152.00	5,902.31	-972.69	5,970.08	0.00	0.00	0.00
16,200.00	90.00	359.43	10,152.00	6,002.30	-973.68	6,069.67	0.00	0.00	0.00
16,300.00	90.00	359.43	10,152.00	6,102.30	-974.68	6,169.26	0.00	0.00	0.00
16,400.00	90.00	359.43	10,152.00	6,202.29	-975.67	6,268.85	0.00	0.00	0.00
16,500.00	90.00	359.43	10,152.00	6,302.29	-976.67	6,368.45	0.00	0.00	0.00
16,600.00	90.00	359.43	10,152.00	6,402.29	-977.66	6,468.04	0.00	0.00	0.00



Planning Report



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Company:	Franklin Mountain Energy	TVD Reference:	3288.6' GE + 30' KB @ 3318.60usft
Project:	Lea County, NM (NAD83)	MD Reference:	3288.6' GE + 30' KB @ 3318.60usft
Site:	FMM Fed Com	North Reference:	Grid
Well:	FMM Fed Com 301H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2		

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)
16,700.00	90.00	359.43	10,152.00	6,502.28	-978.65	6,567.63	0.00	0.00	0.00
16,800.00	90.00	359.43	10,152.00	6,602.28	-979.65	6,667.22	0.00	0.00	0.00
16,900.00	90.00	359.43	10,152.00	6,702.27	-980.64	6,766.81	0.00	0.00	0.00
17,000.00	90.00	359.43	10,152.00	6,802.27	-981.64	6,866.40	0.00	0.00	0.00
17,100.00	90.00	359.43	10,152.00	6,902.26	-982.63	6,965.99	0.00	0.00	0.00
17,200.00	90.00	359.43	10,152.00	7,002.26	-983.62	7,065.58	0.00	0.00	0.00
17,300.00	90.00	359.43	10,152.00	7,102.25	-984.62	7,165.17	0.00	0.00	0.00
17,400.00	90.00	359.43	10,152.00	7,202.25	-985.61	7,264.77	0.00	0.00	0.00
17,500.00	90.00	359.43	10,152.00	7,302.24	-986.61	7,364.36	0.00	0.00	0.00
17,600.00	90.00	359.43	10,152.00	7,402.24	-987.60	7,463.95	0.00	0.00	0.00
17,700.00	90.00	359.43	10,152.00	7,502.23	-988.59	7,563.54	0.00	0.00	0.00
17,800.00	90.00	359.43	10,152.00	7,602.23	-989.59	7,663.13	0.00	0.00	0.00
17,900.00	90.00	359.43	10,152.00	7,702.22	-990.58	7,762.72	0.00	0.00	0.00
18,000.00	90.00	359.43	10,152.00	7,802.22	-991.58	7,862.31	0.00	0.00	0.00
18,100.00	90.00	359.43	10,152.00	7,902.21	-992.57	7,961.90	0.00	0.00	0.00
18,200.00	90.00	359.43	10,152.00	8,002.21	-993.56	8,061.49	0.00	0.00	0.00
18,300.00	90.00	359.43	10,152.00	8,102.20	-994.56	8,161.09	0.00	0.00	0.00
18,400.00	90.00	359.43	10,152.00	8,202.20	-995.55	8,260.68	0.00	0.00	0.00
18,500.00	90.00	359.43	10,152.00	8,302.19	-996.55	8,360.27	0.00	0.00	0.00
18,600.00	90.00	359.43	10,152.00	8,402.19	-997.54	8,459.86	0.00	0.00	0.00
18,700.00	90.00	359.43	10,152.00	8,502.18	-998.53	8,559.45	0.00	0.00	0.00
18,800.00	90.00	359.43	10,152.00	8,602.18	-999.53	8,659.04	0.00	0.00	0.00
18,900.00	90.00	359.43	10,152.00	8,702.17	-1,000.52	8,758.63	0.00	0.00	0.00
19,000.00	90.00	359.43	10,152.00	8,802.17	-1,001.52	8,858.22	0.00	0.00	0.00
19,100.00	90.00	359.43	10,152.00	8,902.16	-1,002.51	8,957.81	0.00	0.00	0.00
19,200.00	90.00	359.43	10,152.00	9,002.16	-1,003.50	9,057.41	0.00	0.00	0.00
19,300.00	90.00	359.43	10,152.00	9,102.15	-1,004.50	9,157.00	0.00	0.00	0.00
19,400.00	90.00	359.43	10,152.00	9,202.15	-1,005.49	9,256.59	0.00	0.00	0.00
19,500.00	90.00	359.43	10,152.00	9,302.14	-1,006.49	9,356.18	0.00	0.00	0.00
19,600.00	90.00	359.43	10,152.00	9,402.14	-1,007.48	9,455.77	0.00	0.00	0.00
19,700.00	90.00	359.43	10,152.00	9,502.13	-1,008.47	9,555.36	0.00	0.00	0.00
19,800.00	90.00	359.43	10,152.00	9,602.13	-1,009.47	9,654.95	0.00	0.00	0.00
19,900.00	90.00	359.43	10,152.00	9,702.12	-1,010.46	9,754.54	0.00	0.00	0.00
20,000.00	90.00	359.43	10,152.00	9,802.12	-1,011.46	9,854.13	0.00	0.00	0.00
20,100.00	90.00	359.43	10,152.00	9,902.11	-1,012.45	9,953.73	0.00	0.00	0.00
20,200.00	90.00	359.43	10,152.00	10,002.11	-1,013.45	10,053.32	0.00	0.00	0.00
20,264.45	90.00	359.43	10,152.00	10,066.55	-1,014.09	10,117.50	0.00	0.00	0.00
TD at 20264.45									



Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well FMM Fed Com 301H
Company:	Franklin Mountain Energy	TVD Reference:	3288.6' GE + 30' KB @ 3318.60usft
Project:	Lea County, NM (NAD83)	MD Reference:	3288.6' GE + 30' KB @ 3318.60usft
Site:	FMM Fed Com	North Reference:	Grid
Well:	FMM Fed Com 301H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2		

Design Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
- Shape									
SHL (FMM Fed Com 301H) - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	426,192.62	853,157.54	32.1676680	-103.3256080
LP P2 (FMM Fed Com 301H) - plan hits target center - Point	0.00	0.01	10,152.00	369.93	-917.70	426,562.55	852,239.84	32.1687084	-103.3285622
PBHL P2 (FMM Fed Com 301H) - plan hits target center - Point	0.00	0.00	10,152.00	10,066.55	-1,014.09	436,259.18	852,143.46	32.1953620	-103.3285810

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
30.00	30.00	Cenozoic Alluvium (surface)			
1,222.00	1,222.00	Rustler			
1,539.00	1,539.00	Salado			
3,183.37	3,170.00	Base Salt			
3,823.02	3,797.00	Capitan			
5,092.11	5,041.00	Lamar			
5,224.73	5,171.00	Bell Canyon			
6,030.67	5,961.00	Cherry Canyon			
7,369.29	7,281.00	Brushy Canyon			
8,730.31	8,642.00	Bone Spring Lime			
8,805.31	8,717.00	Avalon			
9,164.31	9,076.00	Chert Zone			
10,260.94	10,072.00	First Bone Spring Sand			
10,567.35	10,152.00	HZ Target			

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
2,000.00	2,000.00	0.00	0.00	Start Build 1.50
2,760.81	2,755.79	-16.41	-73.71	Start 3958.70 hold at 2760.81 MD
6,719.50	6,636.21	-186.59	-838.29	Start Drop -1.50
7,480.31	7,392.00	-203.00	-912.00	Start 2187.04 hold at 7480.31 MD
9,667.35	9,579.04	-203.00	-912.00	Start DLS 10.00 TFO 359.43
10,567.35	10,152.00	369.93	-917.70	Start 9697.10 hold at 10567.35 MD
20,264.45	10,152.00	10,066.55	-1,014.09	TD at 20264.45



FMM Fed Com 301H

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)	3,288'	30'	30'	0	Sand/Gravels/unconsolidated
Rustler	2,096'	1,222'			Carbonates
Salado	1,779'	1,539'			Salt, Carbonate & Clastics
Base Salt	148'	3,170'			Shaley Carbonate & Shale
Capitan	-479'	3,797'			Carbonates
Lamar	-1,723'	5,041'			Carbonate & Clastics
Bell Canyon	-1,853'	5,171'			Sandstone - oil/gas/water
Cherry Canyon	-2,643'	5,961'			Sandstone - oil/gas/water
Brushy Canyon	-3,963'	7,281'			Sand/carb/shales - oil/gas/water
Bone Spring Lime	-5,324'	8,642'			Shale/Carbonates - oil/gas
Avalon	-5,399'	8,717'			Shale/Carbonates - oil/gas
Chert Zone	-5,758'	9,076'			Carbonate/Chert
First Bone Spring Sand	-6,754'	10,072'			Sandstone - oil/gas/water
HZ Target	-6,834'	10,152'			Sandstone - oil/gas/water
Second Bone Spring Carbonates	-6,884'	10,202'			Shale/Carbonates - oil/gas
Second Bone Spring Sand	-7,271'	10,589'			Sandstone - oil/gas/water

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

Upper Permian Sands	0- 400'	Fresh Water
Delaware Sands	5,171'	Oil
Bone Spring Sand	10,072'	Oil
Bone Spring Carbonate	11,202'	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 1,263' 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	12363	0.30	0.18	1.10	1.17
Intermediate 9 5/8"	40	HCL-80	7430	4230	916	BTC 1042	5100	1.79	1.77	3.01	3.43
Intermediate 7 5/8"	29.7	HCP-110	8280	7150	827	Liberty 558	10567	1.26	1.45	2.00	1.35
Long string 5 1/2"	23	P-110	14520	14520	729	Eagle 606 TVD	20264 10152	1.32	1.53	1.29	1.07 1.82

7 5/8" casing will be set at 10,567' MD/10,152' TVD at 90° Inc. Stress calculations on 5 1/2" casing performed assuming 20,264' depth. Actual max vertical depth is 10,152'.



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 Size	Setting Depth	Sacks	Type of cmt	Lead Yield ft3/sk	Water gal/sk	TOC ft	Sacks	Type of cmt	Tail Yield ft3/sk	Water gal/sk	TOC	Excess
Surf	17.5	13.375	1263	774	Extenda Cem, 12.8 ppg Class C, 3lb/sk Kol-Seal	1.747	9.06	0	330	Tail, 14.8 ppg, Class C, 1% CaCl ₂ , 0.125pps Celo-Flake	1.349	6.51	1000	100%
Int1	12.25	9.625	5100	1493	Lead, 12.8 ppg, Class C 5% Salt, 0.125 pps Poly-E-Flake, 3lb/sk Kol-Seal	1.79	9.74	0	154	Tail, 14.8 ppg, Class C, 0.1% HR 800 .125 pps Poly-E-Flake	1.33	6.37	4800	100%
Int2	8.75	7.625	10567	293	Lite Fill, 9.5 ppg, Class C 3lb/sk Bridgemaker Gel, 5% Salt, 5pps LCM, 0.25pps Cello-Flake	2.13	5.97	4100	94	NeoCem 14.8 ppg, Class C 0.25 pps Cello-Flake, 2% CaCl ₂	1.33	6.29	9567	50%
Prod	6.75	5.5	20264	798	Tail, 14.5 ppg, Gas Migration Control	1.34	6.22	9567						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 to 1500 psi for 30 minutes.

Before drilling out of the second 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 second intermediate casing will be tested to 2000 psi for 30 minutes prior to drillout.

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 – 1,263'	Fresh - Gel	8.6-8.8	28-34	N/c
1,263' – 10,567'	Brine	8.8-10.2	28-34	N/c
10,567' – 20,264' Lateral	Oil Base	10.0-12.0	58-68	3 - 6

The highest mud weight needed to balance formation is expected to be 10-11 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 10,152' TVD (deepest point of the well) is 170F with an estimated maximum bottom-hole pressure (BHP) at the same point of 6,334 psig (based on 12 ppg MW). Hydrogen sulfate 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 150' 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/Escapes 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. 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. A batch drilling sequence sundry will be submitted for BLM approval prior to spud. A 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 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 21 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 5000 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 1500 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 wave the centralizer requirements for the 7 5/8" casing due to the tight clearance with 9 5/8" string.
2. Variance is requested to wave/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.

FRANKLIN MOUNTAIN ENERGY



Geologic Prognosis

Well Name	FMM Fed Com 301H
Operator	Franklin Mountain Energy, LLC
Project Area	FMM Wells
Well Type	10,000' First Bone Spring Lateral
API	
Permit Number	
Rig	

State	NM	County	Lea						
SHL	Township	24S/35E	Section	36	1,294'	FWL	345'	FSL	
BHL	Township	24S/35E	Section	25	380'	FWL	150'	FNL	
Surface Latitude	NAD 83	32.167688							
Surface Longitude	NAD 83	103.325608							
Bottom Hole Latitude	NAD 83	32.195362							
Bottom Hole Longitude	NAD 83	103.374993							
Ground Level	3,288'	Rig KB	30'	KB	3,318'				

Formations	PROG SS	PROG TVD	Picked TVD	delta	Potential/Issues
Cenozoic Alluvium (surface)	3,288'	30'	30'	0	Sand/Gravels/unconsolidated
Rustler	2,096'	1,222'			Carbonates
Salado	1,779'	1,539'			Salt, Carbonate & Clastics
Base Salt	148'	3,170'			Shaley Carbonate & Shale
Capitan	-479'	3,797'			Carbonates
Lamar	-1,723'	5,041'			Carbonate & Clastics
Bell Canyon	-1,853'	5,171'			Sandstone - oil/gas/water
Cherry Canyon	-2,643'	5,961'			Sandstone - oil/gas/water
Brushy Canyon	-3,963'	7,281'			Sand/carb/shales - oil/gas/water
Bone Spring Lime	-5,324'	8,642'			Shale/Carbonates - oil/gas
Avalon	-5,399'	8,717'			Shale/Carbonates - oil/gas
Chert Zone	-5,758'	9,076'			Carbonate/Chert
First Bone Spring Sand	-6,754'	10,072'			Sandstone - oil/gas/water
HZ Target	-6,834'	10,152'			Sandstone - oil/gas/water
Second Bone Spring Carbonates	-6,884'	10,202'			Shale/Carbonates - oil/gas
Second Bone Spring Sand	-7,271'	10,589'			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: 10152' KBTVD @ 0° VS w/ 90.0° inc.

Offset Log: Proxy 1H (30025439220100)

Updated: 5/3/22

FME Geologist	Ellen Wilcox	ewilcox@fmellc.com
	Office	Cell 585.880.1737
FME Geologist	Ben Kessel	bkessel@fmellc.com
	Office 720-414-7868	Cell 303.868.9946

FME Engineer					
Electric Logs				From	To
Open-Hole	n/a				
MWD/LWD					
	MWD GR			Int. 1 Csg. Point	TD
Mud Log:					
t 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	
Cuttings/Samples Shipment Information					



U. S. Steel Tubular Products

2/21/2022 2:17:25 PM

7.625" 29.70lb/ft (0.375" Wall) P110 HC USS-LIBERTY FJM®



MECHANICAL PROPERTIES	Pipe	USS-LIBERTY FJM®		--
Minimum Yield Strength	110,000	--	psi	--
Maximum Yield Strength	140,000	--	psi	--
Minimum Tensile Strength	125,000	--	psi	--
DIMENSIONS	Pipe	USS-LIBERTY FJM®		--
Outside Diameter	7.625	7.625	in.	--
Wall Thickness	0.375	--	in.	--
Inside Diameter	6.875	6.789	in.	--
Standard Drift	6.750	6.750	in.	--
Alternate Drift	--	--	in.	--
Nominal Linear Weight, T&C	29.70	--	lb/ft	--
Plain End Weight	29.06	--	lb/ft	--
SECTION AREA	Pipe	USS-LIBERTY FJM®		--
Critical Area	8.541	5.074	sq. in.	--
Joint Efficiency	--	59.4	%	--
PERFORMANCE	Pipe	USS-LIBERTY FJM®		--
Minimum Collapse Pressure	6,700	6,700	psi	--
Minimum Internal Yield Pressure	9,460	9,460	psi	--
Minimum Pipe Body Yield Strength	940,000	--	lb	--
Joint Strength	--	558,000	lb	--
Compression Rating	--	558,000	lb	--
Reference Length	--	12,810	ft	--
Maximum Uniaxial Bend Rating	--	39.3	deg/100 ft	--
MAKE-UP DATA	Pipe	USS-LIBERTY FJM®		--
Make-Up Loss	--	3.92	in.	--
Minimum Make-Up Torque	--	10,800	ft-lb	--
Maximum Make-Up Torque	--	15,250	ft-lb	--

UNCONTROLLED

Notes

1. Other than proprietary collapse and connection values, performance properties have been calculated using standard equations defined by API 5C3 and do not incorporate any additional design or safety factors. Calculations assume nominal pipe OD, nominal wall thickness and Specified Minimum Yield Strength (SMYS).
2. Compressive & Tensile Connection Efficiencies are calculated by dividing the connection critical area by the pipe body area.
3. Uniaxial bending rating shown is structural only, and equal to compression efficiency.
4. USS-LIBERTY FJM™ connections are optimized for each combination of OD and wall thickness and cannot be interchanged.
5. Torques have been calculated assuming a thread compound friction factor of 1.0 and are recommended only. Field make-up torques may require adjustment based on actual field conditions (e.g. make-up speed, temperature, thread compound, etc.).
6. Reference length is calculated by joint strength divided by nominal plain end weight with 1.5 safety factor.
7. Connection external pressure leak resistance has been verified to 100% API pipe body collapse pressure following the guidelines of API 5C5 Cal III.

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CONDITIONS

Action 167038

CONDITIONS

Operator: Franklin Mountain Energy LLC 44 Cook Street Denver, CO 80206	OGRID: 373910
	Action Number: 167038
	Action Type: [C-103] NOI Change of Plans (C-103A)

CONDITIONS

Created By	Condition	Condition Date
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