

Well Name: KC7 FED COM	Well Location: T25S / R35E / SEC 1 / LOT 1 / 32.16599 / -103.315048	County or Parish/State: LEA / NM
Well Number: 603H	Type of Well: OIL WELL	Allottee or Tribe Name:
Lease Number: NMNM132081	Unit or CA Name:	Unit or CA Number:
US Well Number: 3002548618	Well Status: Drilling Well	Operator: FRANKLIN MOUNTAIN ENERGY LLC

Notice of Intent

Sundry ID: 2671104

Type of Submission: Notice of Intent	Type of Action: Drilling Operations
Date Sundry Submitted: 05/10/2022	Time Sundry Submitted: 01:35
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 5250'. - 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__H_P_602__KC7_FED_COM_603H__PLAN__2_20220510133454.pdf
- KC_7_Fed_Com_603H_14Pt._Plan_Technical_Changes_20220510133454.pdf
- KC7_Fed_Com_603H_GEOPROG_Final_20220510133454.pdf
- Liberty_Connections_Performance_Data_7.6250_29.7000_0.3750__P110_HC_20220510133434.pdf
- Eagle_606_Spec_Sheet_20220510133434.pdf

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Lease Number: NMNM132081	Unit or CA Name:	Unit or CA Number:
US Well Number: 3002548618	Well Status: Drilling Well	Operator: FRANKLIN MOUNTAIN ENERGY LLC

Conditions of Approval

Specialist Review

1_25_35_1_Sundry_ID_2671104_KC7_Fed_Com_603H_Lea_NM132081_Franklin_Mountain_Energy_LLC_13_22c_10_5_2020_LV_20220531123744.pdf
KC7_Fed_Com_603H_Dr_COA_Sundry_ID_2671104_20220531123744.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 01:35 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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www.usstubular.com

**FRANKLIN MOUNTAIN
ENERGY**



FRANKLIN MOUNTAIN ENERGY

LEA COUNTY, NM (NAD 83)

SEC 1, T25S, R35E

KC7 FED COM 603H

ORIGINAL HOLE

PLAN #2

Standard Planning Report

06 May, 2022



FRANKLIN MOUNTAIN
ENERGY

CATHEDRAL

Project: LEA COUNTY, NM (NAD 83)
Site: SEC 1, T25S, R35E
Well: KC7 FED COM 603H
Wellbore: ORIGINAL HOLE
PLAN #2

WELL DETAILS: KC7 FED COM 603H

30' KB @ 3364.20usft (H&P 602)

Ground Level: 3334.20

Gravity: 0.99849

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	425612.87	856431.20	32° 9' 57.563 N	103° 18' 54.171 W
US State Plane 1983 New Mexico Eastern Zone					



Total Azimuth to Grid North
True North: -0.54°
Magnetic North: 5.81°

Magnetic Field
Strength: 47512.7nT
Dip Angle: 59.70°
Date: 5/5/2022
Model: HRGM

SECTION DETAILS

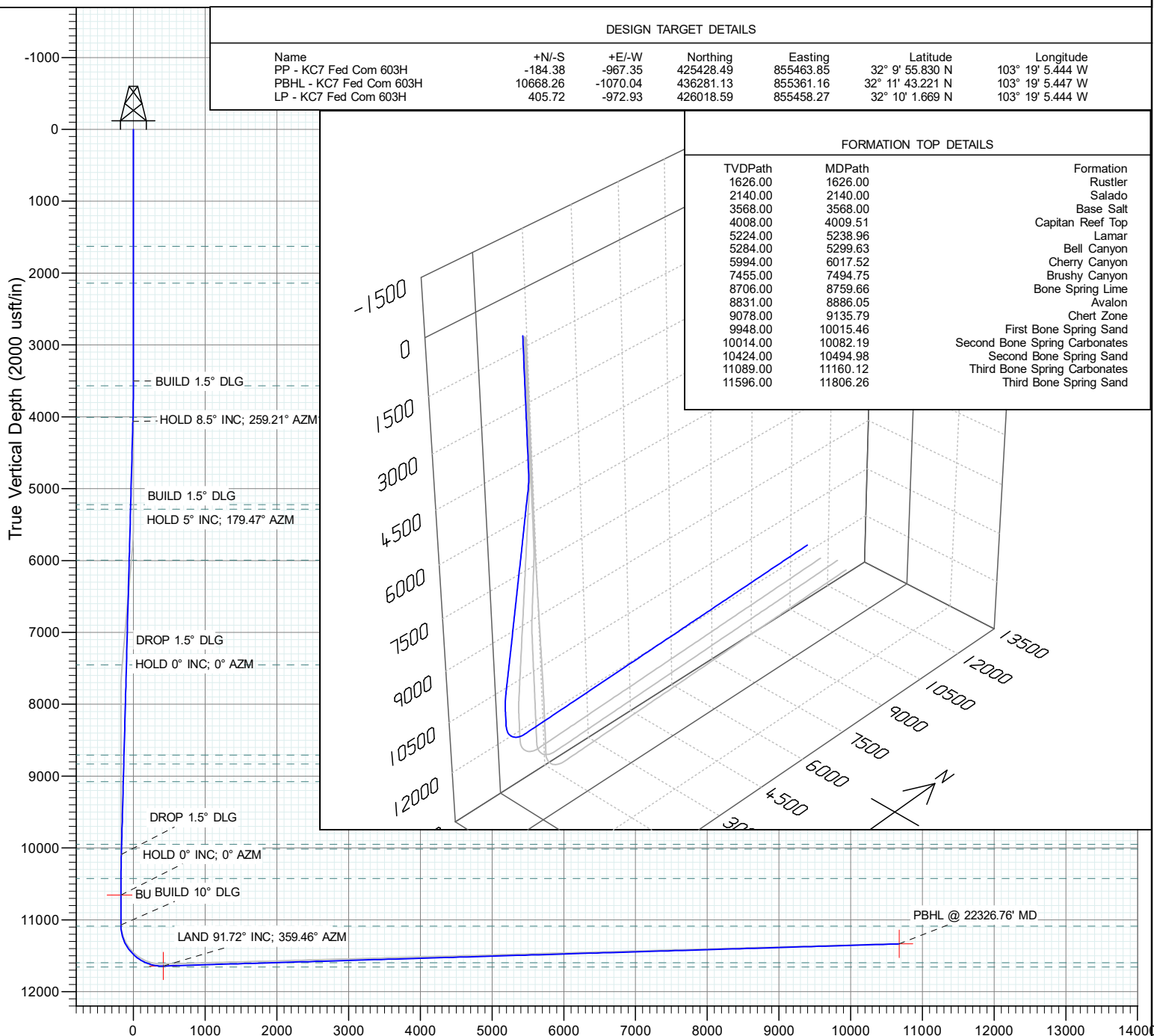
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
3500.00	0.00	0.00	3500.00	0.00	0.00	0.00	0.00	0.00	BUILD 1.5° DLG
4066.84	8.50	259.21	4064.77	-7.86	-41.24	1.50	259.21	-7.47	HOLD 8.5° INC; 259.21° AZM
10159.27	8.50	259.21	10090.23	-176.52	-926.11	0.00	0.00	-167.78	DROP 1.5° DLG
10726.12	0.00	0.00	10655.00	-184.38	-967.35	1.50	180.00	-175.25	HOLD 0° INC; 0° AZM
11141.96	0.00	0.00	11070.84	-184.38	-967.35	0.00	0.00	-175.25	BUILD 10° DLG
12059.16	91.72	359.46	11643.54	405.75	-972.93	10.00	359.46	414.90	LAND 91.72° INC; 359.46° AZM
22326.76	91.72	359.46	11335.36	10668.26	-1070.04	0.00	0.00	10677.87	PBHL @ 22326.76' MD

DESIGN TARGET DETAILS

Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
PP - KC7 Fed Com 603H	-184.38	-967.35	425428.49	855463.85	32° 9' 55.830 N	103° 19' 5.444 W
PBHL - KC7 Fed Com 603H	10668.26	-1070.04	436281.13	855361.16	32° 11' 43.221 N	103° 19' 5.447 W
LP - KC7 Fed Com 603H	405.72	-972.93	426018.59	855458.27	32° 10' 1.669 N	103° 19' 5.444 W

FORMATION TOP DETAILS

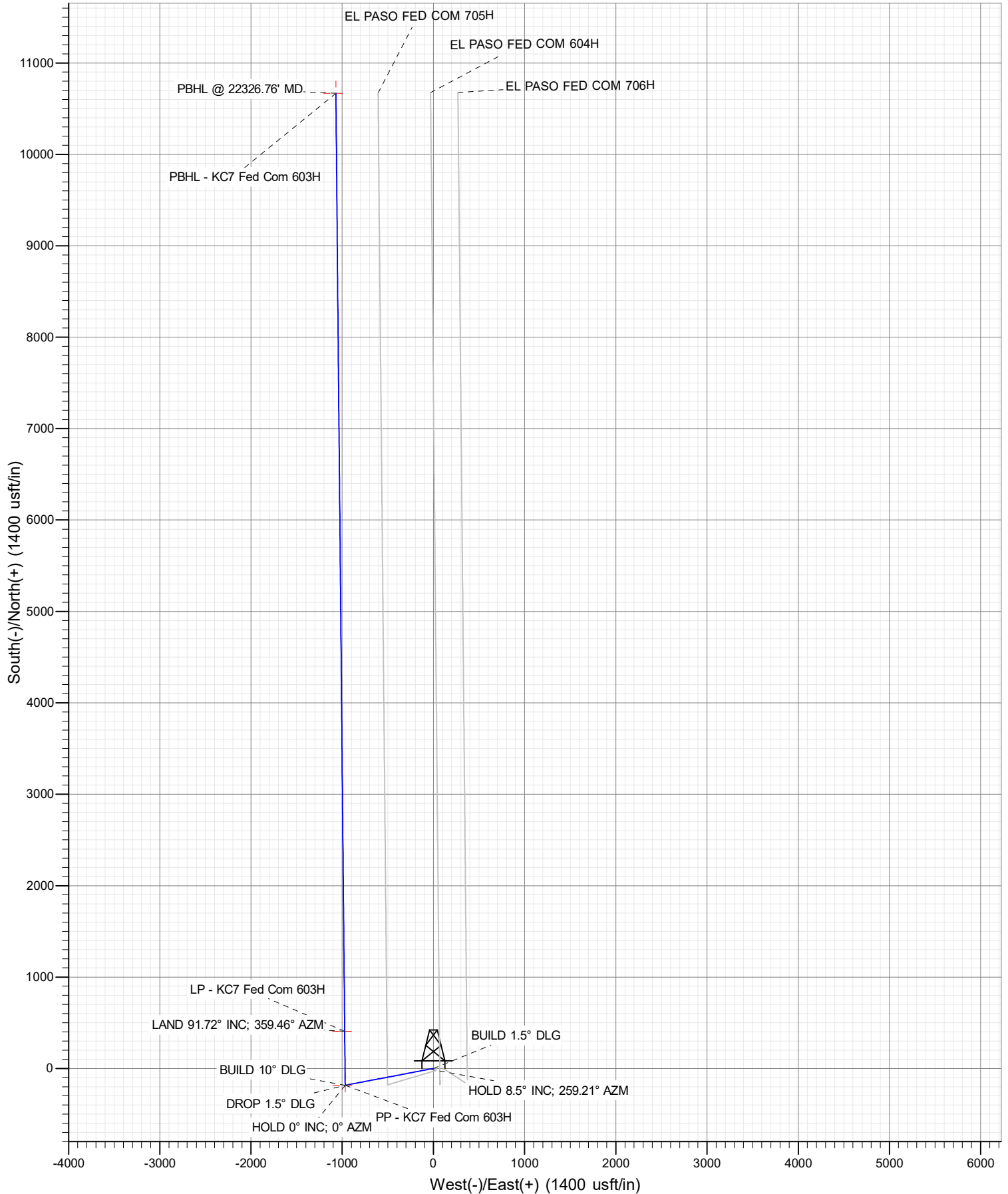
TVDPath	MDPath	Formation
1626.00	1626.00	Rustler
2140.00	2140.00	Salado
3568.00	3568.00	Base Salt
4008.00	4009.51	Capitan Reef Top
5224.00	5238.96	Lamar
5284.00	5299.63	Bell Canyon
5994.00	6017.52	Cherry Canyon
7455.00	7494.75	Brushy Canyon
8706.00	8759.66	Bone Spring Lime
8831.00	8886.05	Avalon
9078.00	9135.79	Chert Zone
9948.00	10015.46	First Bone Spring Sand
10014.00	10082.19	Second Bone Spring Carbonates
10424.00	10494.98	Second Bone Spring Sand
11089.00	11160.12	Third Bone Spring Carbonates
11596.00	11806.26	Third Bone Spring Sand



Vertical Section at 359.46° (2000 usft/in)

FRANKLIN MOUNTAIN
ENERGY

US State Plane 1983
New Mexico Eastern Zone
Project: LEA COUNTY, NM (NAD 83)
Site: SEC 1, T25S, R35E
Well: KC7 FED COM 603H
Wellbore: ORIGINAL HOLE
30' KB @ 3364.20usft (H&P 602)
Ground Elevation: 3334.20
PLAN #2



Planning Report



Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well KC7 FED COM 603H
Company:	FRANKLIN MOUNTAIN ENERGY	TVD Reference:	30' KB @ 3364.20usft (H&P 602)
Project:	LEA COUNTY, NM (NAD 83)	MD Reference:	30' KB @ 3364.20usft (H&P 602)
Site:	SEC 1, T25S, R35E	North Reference:	Grid
Well:	KC7 FED COM 603H	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL HOLE		
Design:	PLAN #2		

Project	LEA COUNTY, 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	SEC 1, T25S, R35E, Gravity: 0.99849					
Site Position:		Northing:	425,613.46 usft	Latitude:	32° 9' 57.563 N	
From:	Map	Easting:	856,501.19 usft	Longitude:	103° 18' 53.357 W	
Position Uncertainty:		0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.54

Well	KC7 FED COM 603H					
Well Position	+N/-S	-0.59 usft	Northing:	425,612.87 usft	Latitude:	32° 9' 57.563 N
	+E/-W	-69.99 usft	Easting:	856,431.20 usft	Longitude:	103° 18' 54.171 W
Position Uncertainty	0.00 usft		Wellhead Elevation:		Ground Level:	3,334.20 usft

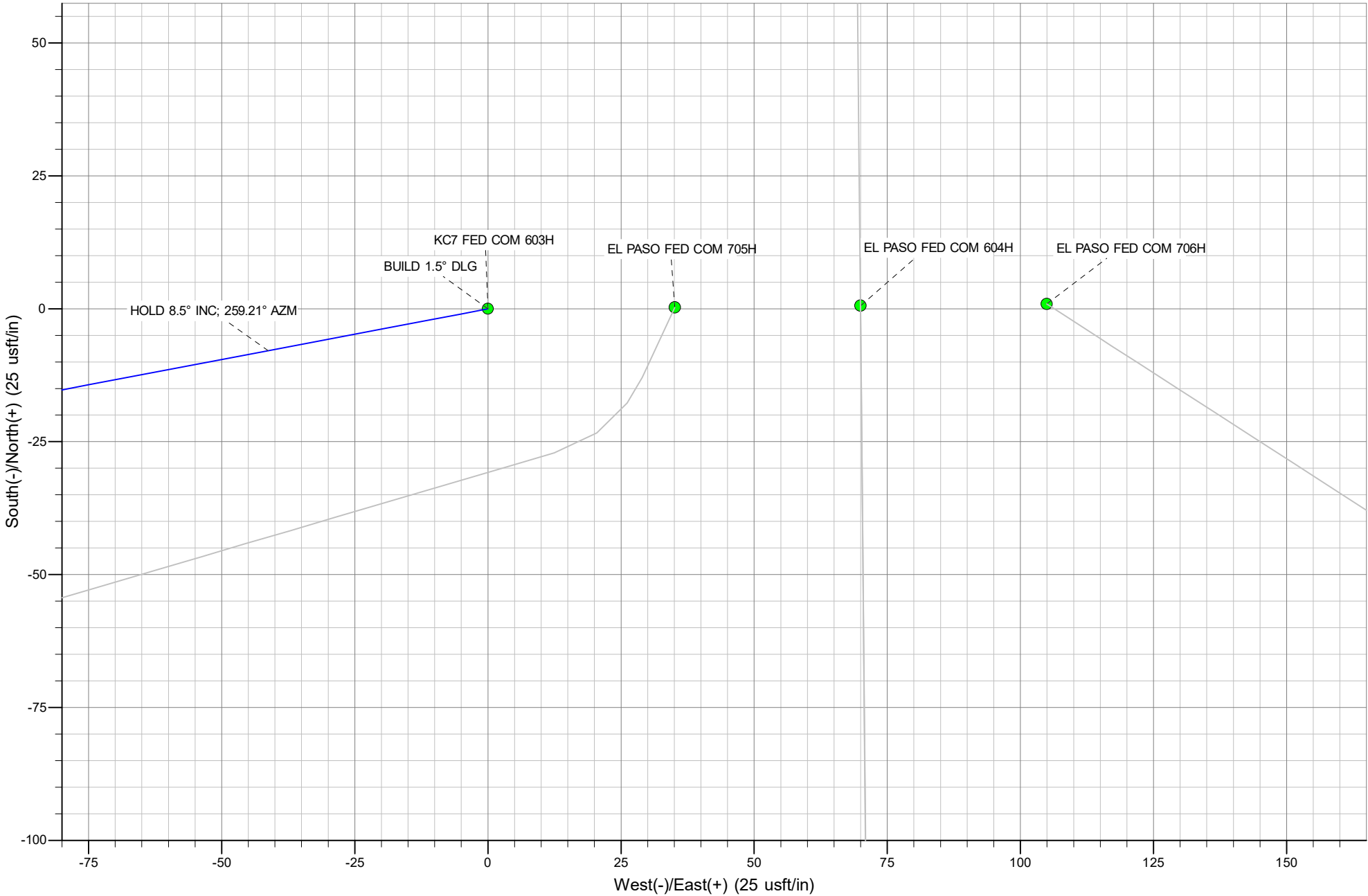
Wellbore	ORIGINAL HOLE				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HRGM	5/5/2022	6.35	59.70	47,512.67031055

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 (°)
	0.00	0.00	0.00	359.46

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	
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00	
4,066.85	8.50	259.21	4,064.77	-7.86	-41.24	1.50	1.50	0.00	259.21	
10,159.27	8.50	259.21	10,090.23	-176.52	-926.11	0.00	0.00	0.00	0.00	
10,726.12	0.00	0.00	10,655.00	-184.38	-967.35	1.50	-1.50	0.00	180.00	
11,141.96	0.00	0.00	11,070.84	-184.38	-967.35	0.00	0.00	0.00	0.00	
12,059.16	91.72	359.46	11,643.54	405.75	-972.93	10.00	10.00	0.00	359.46	
22,326.76	91.72	359.46	11,335.36	10,668.26	-1,070.04	0.00	0.00	0.00	0.00	



US State Plane 1983
New Mexico Eastern Zone
Project: LEA COUNTY, NM (NAD 83)
Site: SEC 1, T25S, R35E
Well: KC7 FED COM 603H
Wellbore: ORIGINAL HOLE
30' KB @ 3364.20usft (H&P 602)
Ground Elevation: 3334.20
PLAN #2



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Company:	FRANKLIN MOUNTAIN ENERGY	TVD Reference:	30' KB @ 3364.20usft (H&P 602)
Project:	LEA COUNTY, NM (NAD 83)	MD Reference:	30' KB @ 3364.20usft (H&P 602)
Site:	SEC 1, T25S, R35E	North Reference:	Grid
Well:	KC7 FED COM 603H	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL HOLE		
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
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
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
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
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00
BUILD 1.5° DLG									
3,600.00	1.50	259.21	3,599.99	-0.25	-1.29	-0.23	1.50	1.50	0.00
3,700.00	3.00	259.21	3,699.91	-0.98	-5.14	-0.93	1.50	1.50	0.00
3,800.00	4.50	259.21	3,799.69	-2.20	-11.57	-2.10	1.50	1.50	0.00
3,900.00	6.00	259.21	3,899.27	-3.92	-20.55	-3.72	1.50	1.50	0.00
4,000.00	7.50	259.21	3,998.57	-6.12	-32.10	-5.82	1.50	1.50	0.00
4,066.85	8.50	259.21	4,064.77	-7.86	-41.24	-7.47	1.50	1.50	0.00
HOLD 8.5° INC; 259.21° AZM									
4,100.00	8.50	259.21	4,097.56	-8.78	-46.06	-8.34	0.00	0.00	0.00
4,200.00	8.50	259.21	4,196.46	-11.55	-60.58	-10.98	0.00	0.00	0.00
4,300.00	8.50	259.21	4,295.36	-14.32	-75.10	-13.61	0.00	0.00	0.00
4,400.00	8.50	259.21	4,394.26	-17.08	-89.63	-16.24	0.00	0.00	0.00
4,500.00	8.50	259.21	4,493.16	-19.85	-104.15	-18.87	0.00	0.00	0.00
4,600.00	8.50	259.21	4,592.06	-22.62	-118.68	-21.50	0.00	0.00	0.00
4,700.00	8.50	259.21	4,690.96	-25.39	-133.20	-24.13	0.00	0.00	0.00
4,800.00	8.50	259.21	4,789.86	-28.16	-147.72	-26.76	0.00	0.00	0.00
4,900.00	8.50	259.21	4,888.76	-30.93	-162.25	-29.39	0.00	0.00	0.00
5,000.00	8.50	259.21	4,987.67	-33.69	-176.77	-32.03	0.00	0.00	0.00

Planning Report



Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well KC7 FED COM 603H
Company:	FRANKLIN MOUNTAIN ENERGY	TVD Reference:	30' KB @ 3364.20usft (H&P 602)
Project:	LEA COUNTY, NM (NAD 83)	MD Reference:	30' KB @ 3364.20usft (H&P 602)
Site:	SEC 1, T25S, R35E	North Reference:	Grid
Well:	KC7 FED COM 603H	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL HOLE		
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)	
5,100.00	8.50	259.21	5,086.57	-36.46	-191.30	-34.66	0.00	0.00	0.00	
5,200.00	8.50	259.21	5,185.47	-39.23	-205.82	-37.29	0.00	0.00	0.00	
5,300.00	8.50	259.21	5,284.37	-42.00	-220.34	-39.92	0.00	0.00	0.00	
5,400.00	8.50	259.21	5,383.27	-44.77	-234.87	-42.55	0.00	0.00	0.00	
5,500.00	8.50	259.21	5,482.17	-47.54	-249.39	-45.18	0.00	0.00	0.00	
5,600.00	8.50	259.21	5,581.07	-50.30	-263.92	-47.81	0.00	0.00	0.00	
5,700.00	8.50	259.21	5,679.97	-53.07	-278.44	-50.45	0.00	0.00	0.00	
5,800.00	8.50	259.21	5,778.87	-55.84	-292.97	-53.08	0.00	0.00	0.00	
5,900.00	8.50	259.21	5,877.77	-58.61	-307.49	-55.71	0.00	0.00	0.00	
6,000.00	8.50	259.21	5,976.67	-61.38	-322.01	-58.34	0.00	0.00	0.00	
6,100.00	8.50	259.21	6,075.58	-64.15	-336.54	-60.97	0.00	0.00	0.00	
6,200.00	8.50	259.21	6,174.48	-66.91	-351.06	-63.60	0.00	0.00	0.00	
6,300.00	8.50	259.21	6,273.38	-69.68	-365.59	-66.23	0.00	0.00	0.00	
6,400.00	8.50	259.21	6,372.28	-72.45	-380.11	-68.86	0.00	0.00	0.00	
6,500.00	8.50	259.21	6,471.18	-75.22	-394.63	-71.50	0.00	0.00	0.00	
6,600.00	8.50	259.21	6,570.08	-77.99	-409.16	-74.13	0.00	0.00	0.00	
6,700.00	8.50	259.21	6,668.98	-80.76	-423.68	-76.76	0.00	0.00	0.00	
6,800.00	8.50	259.21	6,767.88	-83.52	-438.21	-79.39	0.00	0.00	0.00	
6,900.00	8.50	259.21	6,866.78	-86.29	-452.73	-82.02	0.00	0.00	0.00	
7,000.00	8.50	259.21	6,965.68	-89.06	-467.25	-84.65	0.00	0.00	0.00	
7,100.00	8.50	259.21	7,064.58	-91.83	-481.78	-87.28	0.00	0.00	0.00	
7,200.00	8.50	259.21	7,163.49	-94.60	-496.30	-89.92	0.00	0.00	0.00	
7,300.00	8.50	259.21	7,262.39	-97.37	-510.83	-92.55	0.00	0.00	0.00	
7,400.00	8.50	259.21	7,361.29	-100.13	-525.35	-95.18	0.00	0.00	0.00	
7,500.00	8.50	259.21	7,460.19	-102.90	-539.87	-97.81	0.00	0.00	0.00	
7,600.00	8.50	259.21	7,559.09	-105.67	-554.40	-100.44	0.00	0.00	0.00	
7,700.00	8.50	259.21	7,657.99	-108.44	-568.92	-103.07	0.00	0.00	0.00	
7,800.00	8.50	259.21	7,756.89	-111.21	-583.45	-105.70	0.00	0.00	0.00	
7,900.00	8.50	259.21	7,855.79	-113.98	-597.97	-108.33	0.00	0.00	0.00	
8,000.00	8.50	259.21	7,954.69	-116.74	-612.50	-110.97	0.00	0.00	0.00	
8,100.00	8.50	259.21	8,053.59	-119.51	-627.02	-113.60	0.00	0.00	0.00	
8,200.00	8.50	259.21	8,152.49	-122.28	-641.54	-116.23	0.00	0.00	0.00	
8,300.00	8.50	259.21	8,251.40	-125.05	-656.07	-118.86	0.00	0.00	0.00	
8,400.00	8.50	259.21	8,350.30	-127.82	-670.59	-121.49	0.00	0.00	0.00	
8,500.00	8.50	259.21	8,449.20	-130.59	-685.12	-124.12	0.00	0.00	0.00	
8,600.00	8.50	259.21	8,548.10	-133.35	-699.64	-126.75	0.00	0.00	0.00	
8,700.00	8.50	259.21	8,647.00	-136.12	-714.16	-129.39	0.00	0.00	0.00	
8,800.00	8.50	259.21	8,745.90	-138.89	-728.69	-132.02	0.00	0.00	0.00	
8,900.00	8.50	259.21	8,844.80	-141.66	-743.21	-134.65	0.00	0.00	0.00	
9,000.00	8.50	259.21	8,943.70	-144.43	-757.74	-137.28	0.00	0.00	0.00	
9,100.00	8.50	259.21	9,042.60	-147.20	-772.26	-139.91	0.00	0.00	0.00	
9,200.00	8.50	259.21	9,141.50	-149.96	-786.78	-142.54	0.00	0.00	0.00	
9,300.00	8.50	259.21	9,240.40	-152.73	-801.31	-145.17	0.00	0.00	0.00	
9,400.00	8.50	259.21	9,339.31	-155.50	-815.83	-147.80	0.00	0.00	0.00	
9,500.00	8.50	259.21	9,438.21	-158.27	-830.36	-150.44	0.00	0.00	0.00	
9,600.00	8.50	259.21	9,537.11	-161.04	-844.88	-153.07	0.00	0.00	0.00	
9,700.00	8.50	259.21	9,636.01	-163.81	-859.40	-155.70	0.00	0.00	0.00	
9,800.00	8.50	259.21	9,734.91	-166.57	-873.93	-158.33	0.00	0.00	0.00	
9,900.00	8.50	259.21	9,833.81	-169.34	-888.45	-160.96	0.00	0.00	0.00	
10,000.00	8.50	259.21	9,932.71	-172.11	-902.98	-163.59	0.00	0.00	0.00	
10,100.00	8.50	259.21	10,031.61	-174.88	-917.50	-166.22	0.00	0.00	0.00	
10,159.27	8.50	259.21	10,090.23	-176.52	-926.11	-167.78	0.00	0.00	0.00	
DROP 1.5° DLG										
10,200.00	7.89	259.21	10,130.54	-177.61	-931.81	-168.82	1.50	-1.50	0.00	

Planning Report



Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well KC7 FED COM 603H
Company:	FRANKLIN MOUNTAIN ENERGY	TVD Reference:	30' KB @ 3364.20usft (H&P 602)
Project:	LEA COUNTY, NM (NAD 83)	MD Reference:	30' KB @ 3364.20usft (H&P 602)
Site:	SEC 1, T25S, R35E	North Reference:	Grid
Well:	KC7 FED COM 603H	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL HOLE		
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)
10,300.00	6.39	259.21	10,229.76	-179.93	-944.03	-171.03	1.50	-1.50	0.00
10,400.00	4.89	259.21	10,329.28	-181.78	-953.68	-172.78	1.50	-1.50	0.00
10,500.00	3.39	259.21	10,429.01	-183.13	-960.78	-174.06	1.50	-1.50	0.00
10,600.00	1.89	259.21	10,528.90	-183.99	-965.30	-174.88	1.50	-1.50	0.00
10,700.00	0.39	259.21	10,628.88	-184.36	-967.26	-175.24	1.50	-1.50	0.00
10,726.12	0.00	0.00	10,655.00	-184.38	-967.35	-175.25	1.50	-1.50	0.00
HOLD 0° INC; 0° AZM									
10,800.00	0.00	0.00	10,728.88	-184.38	-967.35	-175.25	0.00	0.00	0.00
10,900.00	0.00	0.00	10,828.88	-184.38	-967.35	-175.25	0.00	0.00	0.00
11,000.00	0.00	0.00	10,928.88	-184.38	-967.35	-175.25	0.00	0.00	0.00
11,100.00	0.00	0.00	11,028.88	-184.38	-967.35	-175.25	0.00	0.00	0.00
11,141.96	0.00	0.00	11,070.84	-184.38	-967.35	-175.25	0.00	0.00	0.00
BUILD 10° DLG									
11,200.00	5.80	359.46	11,128.78	-181.44	-967.38	-172.32	10.00	10.00	0.00
11,300.00	15.80	359.46	11,226.89	-162.72	-967.55	-153.60	10.00	10.00	0.00
11,400.00	25.80	359.46	11,320.25	-127.25	-967.89	-118.12	10.00	10.00	0.00
11,500.00	35.80	359.46	11,406.03	-76.11	-968.37	-66.98	10.00	10.00	0.00
11,600.00	45.80	359.46	11,481.63	-10.85	-968.99	-1.71	10.00	10.00	0.00
11,700.00	55.80	359.46	11,544.75	66.55	-969.72	75.69	10.00	10.00	0.00
11,800.00	65.80	359.46	11,593.46	153.73	-970.55	162.87	10.00	10.00	0.00
11,900.00	75.80	359.46	11,626.30	248.05	-971.44	257.19	10.00	10.00	0.00
12,000.00	85.80	359.46	11,642.26	346.63	-972.37	355.78	10.00	10.00	0.00
12,059.16	91.72	359.46	11,643.54	405.75	-972.93	414.90	10.00	10.00	0.00
LAND 91.72° INC; 359.46° AZM									
12,100.00	91.72	359.46	11,642.31	446.57	-973.32	455.72	0.00	0.00	0.00
12,200.00	91.72	359.46	11,639.31	546.52	-974.27	555.68	0.00	0.00	0.00
12,300.00	91.72	359.46	11,636.31	646.47	-975.21	655.63	0.00	0.00	0.00
12,400.00	91.72	359.46	11,633.31	746.42	-976.16	755.59	0.00	0.00	0.00
12,500.00	91.72	359.46	11,630.31	846.37	-977.10	855.54	0.00	0.00	0.00
12,600.00	91.72	359.46	11,627.31	946.32	-978.05	955.50	0.00	0.00	0.00
12,700.00	91.72	359.46	11,624.31	1,046.27	-978.99	1,055.45	0.00	0.00	0.00
12,800.00	91.72	359.46	11,621.30	1,146.22	-979.94	1,155.41	0.00	0.00	0.00
12,900.00	91.72	359.46	11,618.30	1,246.17	-980.89	1,255.36	0.00	0.00	0.00
13,000.00	91.72	359.46	11,615.30	1,346.12	-981.83	1,355.32	0.00	0.00	0.00
13,100.00	91.72	359.46	11,612.30	1,446.07	-982.78	1,455.27	0.00	0.00	0.00
13,200.00	91.72	359.46	11,609.30	1,546.02	-983.72	1,555.23	0.00	0.00	0.00
13,300.00	91.72	359.46	11,606.30	1,645.97	-984.67	1,655.18	0.00	0.00	0.00
13,400.00	91.72	359.46	11,603.30	1,745.93	-985.61	1,755.14	0.00	0.00	0.00
13,500.00	91.72	359.46	11,600.29	1,845.88	-986.56	1,855.09	0.00	0.00	0.00
13,600.00	91.72	359.46	11,597.29	1,945.83	-987.51	1,955.05	0.00	0.00	0.00
13,700.00	91.72	359.46	11,594.29	2,045.78	-988.45	2,055.00	0.00	0.00	0.00
13,800.00	91.72	359.46	11,591.29	2,145.73	-989.40	2,154.96	0.00	0.00	0.00
13,900.00	91.72	359.46	11,588.29	2,245.68	-990.34	2,254.91	0.00	0.00	0.00
14,000.00	91.72	359.46	11,585.29	2,345.63	-991.29	2,354.87	0.00	0.00	0.00
14,100.00	91.72	359.46	11,582.28	2,445.58	-992.24	2,454.82	0.00	0.00	0.00
14,200.00	91.72	359.46	11,579.28	2,545.53	-993.18	2,554.78	0.00	0.00	0.00
14,300.00	91.72	359.46	11,576.28	2,645.48	-994.13	2,654.73	0.00	0.00	0.00
14,400.00	91.72	359.46	11,573.28	2,745.43	-995.07	2,754.69	0.00	0.00	0.00
14,500.00	91.72	359.46	11,570.28	2,845.38	-996.02	2,854.64	0.00	0.00	0.00
14,600.00	91.72	359.46	11,567.28	2,945.33	-996.96	2,954.60	0.00	0.00	0.00
14,700.00	91.72	359.46	11,564.28	3,045.28	-997.91	3,054.55	0.00	0.00	0.00
14,800.00	91.72	359.46	11,561.27	3,145.23	-998.86	3,154.51	0.00	0.00	0.00
14,900.00	91.72	359.46	11,558.27	3,245.18	-999.80	3,254.46	0.00	0.00	0.00

Planning Report



Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well KC7 FED COM 603H
Company:	FRANKLIN MOUNTAIN ENERGY	TVD Reference:	30' KB @ 3364.20usft (H&P 602)
Project:	LEA COUNTY, NM (NAD 83)	MD Reference:	30' KB @ 3364.20usft (H&P 602)
Site:	SEC 1, T25S, R35E	North Reference:	Grid
Well:	KC7 FED COM 603H	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL HOLE		
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)
15,000.00	91.72	359.46	11,555.27	3,345.13	-1,000.75	3,354.42	0.00	0.00	0.00
15,100.00	91.72	359.46	11,552.27	3,445.08	-1,001.69	3,454.37	0.00	0.00	0.00
15,200.00	91.72	359.46	11,549.27	3,545.03	-1,002.64	3,554.33	0.00	0.00	0.00
15,300.00	91.72	359.46	11,546.27	3,644.98	-1,003.58	3,654.28	0.00	0.00	0.00
15,400.00	91.72	359.46	11,543.26	3,744.93	-1,004.53	3,754.24	0.00	0.00	0.00
15,500.00	91.72	359.46	11,540.26	3,844.89	-1,005.48	3,854.19	0.00	0.00	0.00
15,600.00	91.72	359.46	11,537.26	3,944.84	-1,006.42	3,954.15	0.00	0.00	0.00
15,700.00	91.72	359.46	11,534.26	4,044.79	-1,007.37	4,054.10	0.00	0.00	0.00
15,800.00	91.72	359.46	11,531.26	4,144.74	-1,008.31	4,154.06	0.00	0.00	0.00
15,900.00	91.72	359.46	11,528.26	4,244.69	-1,009.26	4,254.01	0.00	0.00	0.00
16,000.00	91.72	359.46	11,525.26	4,344.64	-1,010.20	4,353.97	0.00	0.00	0.00
16,100.00	91.72	359.46	11,522.25	4,444.59	-1,011.15	4,453.92	0.00	0.00	0.00
16,200.00	91.72	359.46	11,519.25	4,544.54	-1,012.10	4,553.88	0.00	0.00	0.00
16,300.00	91.72	359.46	11,516.25	4,644.49	-1,013.04	4,653.83	0.00	0.00	0.00
16,400.00	91.72	359.46	11,513.25	4,744.44	-1,013.99	4,753.79	0.00	0.00	0.00
16,500.00	91.72	359.46	11,510.25	4,844.39	-1,014.93	4,853.74	0.00	0.00	0.00
16,600.00	91.72	359.46	11,507.25	4,944.34	-1,015.88	4,953.70	0.00	0.00	0.00
16,700.00	91.72	359.46	11,504.25	5,044.29	-1,016.82	5,053.65	0.00	0.00	0.00
16,800.00	91.72	359.46	11,501.24	5,144.24	-1,017.77	5,153.60	0.00	0.00	0.00
16,900.00	91.72	359.46	11,498.24	5,244.19	-1,018.72	5,253.56	0.00	0.00	0.00
17,000.00	91.72	359.46	11,495.24	5,344.14	-1,019.66	5,353.51	0.00	0.00	0.00
17,100.00	91.72	359.46	11,492.24	5,444.09	-1,020.61	5,453.47	0.00	0.00	0.00
17,200.00	91.72	359.46	11,489.24	5,544.04	-1,021.55	5,553.42	0.00	0.00	0.00
17,300.00	91.72	359.46	11,486.24	5,643.99	-1,022.50	5,653.38	0.00	0.00	0.00
17,400.00	91.72	359.46	11,483.23	5,743.94	-1,023.45	5,753.33	0.00	0.00	0.00
17,500.00	91.72	359.46	11,480.23	5,843.89	-1,024.39	5,853.29	0.00	0.00	0.00
17,600.00	91.72	359.46	11,477.23	5,943.85	-1,025.34	5,953.24	0.00	0.00	0.00
17,700.00	91.72	359.46	11,474.23	6,043.80	-1,026.28	6,053.20	0.00	0.00	0.00
17,800.00	91.72	359.46	11,471.23	6,143.75	-1,027.23	6,153.15	0.00	0.00	0.00
17,900.00	91.72	359.46	11,468.23	6,243.70	-1,028.17	6,253.11	0.00	0.00	0.00
18,000.00	91.72	359.46	11,465.23	6,343.65	-1,029.12	6,353.06	0.00	0.00	0.00
18,100.00	91.72	359.46	11,462.22	6,443.60	-1,030.07	6,453.02	0.00	0.00	0.00
18,200.00	91.72	359.46	11,459.22	6,543.55	-1,031.01	6,552.97	0.00	0.00	0.00
18,300.00	91.72	359.46	11,456.22	6,643.50	-1,031.96	6,652.93	0.00	0.00	0.00
18,400.00	91.72	359.46	11,453.22	6,743.45	-1,032.90	6,752.88	0.00	0.00	0.00
18,500.00	91.72	359.46	11,450.22	6,843.40	-1,033.85	6,852.84	0.00	0.00	0.00
18,600.00	91.72	359.46	11,447.22	6,943.35	-1,034.79	6,952.79	0.00	0.00	0.00
18,700.00	91.72	359.46	11,444.21	7,043.30	-1,035.74	7,052.75	0.00	0.00	0.00
18,800.00	91.72	359.46	11,441.21	7,143.25	-1,036.69	7,152.70	0.00	0.00	0.00
18,900.00	91.72	359.46	11,438.21	7,243.20	-1,037.63	7,252.66	0.00	0.00	0.00
19,000.00	91.72	359.46	11,435.21	7,343.15	-1,038.58	7,352.61	0.00	0.00	0.00
19,100.00	91.72	359.46	11,432.21	7,443.10	-1,039.52	7,452.57	0.00	0.00	0.00
19,200.00	91.72	359.46	11,429.21	7,543.05	-1,040.47	7,552.52	0.00	0.00	0.00
19,300.00	91.72	359.46	11,426.21	7,643.00	-1,041.41	7,652.48	0.00	0.00	0.00
19,400.00	91.72	359.46	11,423.20	7,742.95	-1,042.36	7,752.43	0.00	0.00	0.00
19,500.00	91.72	359.46	11,420.20	7,842.90	-1,043.31	7,852.39	0.00	0.00	0.00
19,600.00	91.72	359.46	11,417.20	7,942.85	-1,044.25	7,952.34	0.00	0.00	0.00
19,700.00	91.72	359.46	11,414.20	8,042.80	-1,045.20	8,052.30	0.00	0.00	0.00
19,800.00	91.72	359.46	11,411.20	8,142.76	-1,046.14	8,152.25	0.00	0.00	0.00
19,900.00	91.72	359.46	11,408.20	8,242.71	-1,047.09	8,252.21	0.00	0.00	0.00
20,000.00	91.72	359.46	11,405.20	8,342.66	-1,048.03	8,352.16	0.00	0.00	0.00
20,100.00	91.72	359.46	11,402.19	8,442.61	-1,048.98	8,452.12	0.00	0.00	0.00
20,200.00	91.72	359.46	11,399.19	8,542.56	-1,049.93	8,552.07	0.00	0.00	0.00
20,300.00	91.72	359.46	11,396.19	8,642.51	-1,050.87	8,652.03	0.00	0.00	0.00

Planning Report



Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well KC7 FED COM 603H
Company:	FRANKLIN MOUNTAIN ENERGY	TVD Reference:	30' KB @ 3364.20usft (H&P 602)
Project:	LEA COUNTY, NM (NAD 83)	MD Reference:	30' KB @ 3364.20usft (H&P 602)
Site:	SEC 1, T25S, R35E	North Reference:	Grid
Well:	KC7 FED COM 603H	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL HOLE		
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)	
20,400.00	91.72	359.46	11,393.19	8,742.46	-1,051.82	8,751.98	0.00	0.00	0.00	
20,500.00	91.72	359.46	11,390.19	8,842.41	-1,052.76	8,851.94	0.00	0.00	0.00	
20,600.00	91.72	359.46	11,387.19	8,942.36	-1,053.71	8,951.89	0.00	0.00	0.00	
20,700.00	91.72	359.46	11,384.18	9,042.31	-1,054.65	9,051.85	0.00	0.00	0.00	
20,800.00	91.72	359.46	11,381.18	9,142.26	-1,055.60	9,151.80	0.00	0.00	0.00	
20,900.00	91.72	359.46	11,378.18	9,242.21	-1,056.55	9,251.76	0.00	0.00	0.00	
21,000.00	91.72	359.46	11,375.18	9,342.16	-1,057.49	9,351.71	0.00	0.00	0.00	
21,100.00	91.72	359.46	11,372.18	9,442.11	-1,058.44	9,451.67	0.00	0.00	0.00	
21,200.00	91.72	359.46	11,369.18	9,542.06	-1,059.38	9,551.62	0.00	0.00	0.00	
21,300.00	91.72	359.46	11,366.18	9,642.01	-1,060.33	9,651.58	0.00	0.00	0.00	
21,400.00	91.72	359.46	11,363.17	9,741.96	-1,061.28	9,751.53	0.00	0.00	0.00	
21,500.00	91.72	359.46	11,360.17	9,841.91	-1,062.22	9,851.49	0.00	0.00	0.00	
21,600.00	91.72	359.46	11,357.17	9,941.86	-1,063.17	9,951.44	0.00	0.00	0.00	
21,700.00	91.72	359.46	11,354.17	10,041.81	-1,064.11	10,051.40	0.00	0.00	0.00	
21,800.00	91.72	359.46	11,351.17	10,141.76	-1,065.06	10,151.35	0.00	0.00	0.00	
21,900.00	91.72	359.46	11,348.17	10,241.72	-1,066.00	10,251.31	0.00	0.00	0.00	
22,000.00	91.72	359.46	11,345.16	10,341.67	-1,066.95	10,351.26	0.00	0.00	0.00	
22,100.00	91.72	359.46	11,342.16	10,441.62	-1,067.90	10,451.22	0.00	0.00	0.00	
22,200.00	91.72	359.46	11,339.16	10,541.57	-1,068.84	10,551.17	0.00	0.00	0.00	
22,300.00	91.72	359.46	11,336.16	10,641.52	-1,069.79	10,651.13	0.00	0.00	0.00	
22,326.76	91.72	359.46	11,335.36	10,668.26	-1,070.04	10,677.87	0.00	0.00	0.00	
PBHL @ 22326.76' MD										

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
PP - KC7 Fed Com 603H - plan hits target center - Point	0.00	0.00	10,655.00	-184.38	-967.35	425,428.49	855,463.85	32° 9' 55.830 N	103° 19' 5.444 W	
PBHL - KC7 Fed Com 603H - plan hits target center - Point	0.00	0.00	11,335.36	10,668.26	-1,070.04	436,281.13	855,361.16	32° 11' 43.221 N	103° 19' 5.447 W	
LP - KC7 Fed Com 603H - plan hits target center - Point	0.00	0.00	11,643.54	405.72	-972.93	426,018.59	855,458.27	32° 10' 1.669 N	103° 19' 5.444 W	

Planning Report



Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well KC7 FED COM 603H
Company:	FRANKLIN MOUNTAIN ENERGY	TVD Reference:	30' KB @ 3364.20usft (H&P 602)
Project:	LEA COUNTY, NM (NAD 83)	MD Reference:	30' KB @ 3364.20usft (H&P 602)
Site:	SEC 1, T25S, R35E	North Reference:	Grid
Well:	KC7 FED COM 603H	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL HOLE		
Design:	PLAN #2		

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,626.00	1,626.00	Rustler		0.00		
2,140.00	2,140.00	Salado		0.00		
3,568.00	3,568.00	Base Salt		0.00		
4,009.51	4,008.00	Capitan Reef Top		0.00		
5,238.96	5,224.00	Lamar		0.00		
5,299.63	5,284.00	Bell Canyon		0.00		
6,017.52	5,994.00	Cherry Canyon		0.00		
7,494.75	7,455.00	Brushy Canyon		0.00		
8,759.66	8,706.00	Bone Spring Lime		0.00		
8,886.05	8,831.00	Avalon		0.00		
9,135.79	9,078.00	Chert Zone		0.00		
10,015.46	9,948.00	First Bone Spring Sand		0.00		
10,082.19	10,014.00	Second Bone Spring Carbonates		0.00		
10,494.98	10,424.00	Second Bone Spring Sand		0.00		
11,160.12	11,089.00	Third Bone Spring Carbonates		0.00		
11,806.26	11,596.00	Third Bone Spring Sand		0.00		

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
3,500.00	3,500.00	0.00	0.00	BUILD 1.5° DLG	
4,066.85	4,064.77	-7.86	-41.24	HOLD 8.5° INC; 259.21° AZM	
10,159.27	10,090.23	-176.52	-926.11	DROP 1.5° DLG	
10,726.12	10,655.00	-184.38	-967.35	HOLD 0° INC; 0° AZM	
11,141.96	11,070.84	-184.38	-967.35	BUILD 10° DLG	
12,059.16	11,643.54	405.75	-972.93	LAND 91.72° INC; 359.46° AZM	
22,326.76	11,335.36	10,668.26	-1,070.04	PBHL @ 22326.76' MD	



KC7 Fed Com 603H

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)	3,334'	25'	25'	0	Sand/Gravels/unconsolidated
Rustler	1,735'	1,624'			Carbonates
Salado	1,221'	2,138'			Salt, Carbonate & Clastics
Base Salt	-207'	3,566'			Shaley Carbonate & Shale
Capitan Reef Top	-647'	4,006'			Carbonates
Lamar	-1,863'	5,222'			Carbonate & Clastics
Bell Canyon	-1,923'	5,282'			Sandstone - oil/gas/water
Cherry Canyon	-2,633'	5,992'			Sandstone - oil/gas/water
Brushy Canyon	-4,094'	7,453'			Sand/carb/shales - oil/gas/water
Bone Spring Lime	-5,344'	8,703'			Shale/Carbonates - oil/gas
Avalon	-5,470'	8,829'			Shale/Carbonates - oil/gas
Chert Zone	-5,717'	9,076'			Carbonates, chert
First Bone Spring Sand	-6,587'	9,946'			Sandstone - oil/gas/water
Second Bone Spring Carbonates	-6,653'	10,012'			Shale/Carbonates - oil/gas
Second Bone Spring Sand	-7,062'	10,421'			Sandstone - oil/gas/water
Third Bone Spring Carbonates	-7,728'	11,087'			Shale/Carbonates - oil/gas
Third Bone Spring Sand	-8,235'	11,594'			Sandstone - oil/gas/water
HZ Target at SHL	-8,294'	11,653'			Overpressure shale/sand- Oil/Gas
Wolfcamp	-8,380'	11,739'			Overpressure shale/sand- Oil/Gas
Wolfcamp A	-8,449'	11,808'			Overpressure Shale - Oil/Gas
Wolfcamp B	-8,579'	11,938'			Overpressure Shale - Oil/Gas

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

Upper Permian Sands	0- 400'	Fresh Water
Delaware Sands	5,282'	Oil
Bone Spring	9,946'	Oil
Wolfcamp	11,739'	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 1,350' and circulating cement back to surface.

4. Casing Program:

All casings 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	1350	1.17	1.61	4.91	5.24
Intermediate 9 5/8"	40	HCL-80	7430	4230	916	BTC 1042	5250	1.76	1.72	2.95	3.36
Intermediate 7 5/8"	29.7	HCP-110	8280	7150	827	Liberty 558	12059	1.10	1.27	1.81	1.22
Long string 5 1/2"	23	P-110	14520	14520	729	Eagle 606	22326 11643	1.32	1.39	1.19	0.99 1.65



7 5/8" casing will be set at 12,059' MD/11,643' TVD at 91° Inc. Stress calculations on 5 1/2" casing performed assuming 22,326' depth. Actual max vertical depth is 11,643'.

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 ft ³ /sk	Water gal/sk	TOC ft	Sacks	Type of cmt	Tail Yield ft ³ /sk	Water gal/sk	TOC	Excess
Surf	17.5	13.375	1350	835	Extenda Cem, 13.5 ppg Class C, 3lb/sk Kol-Seal	1.747	9.06	0	334	HalCem TM, 14.8 ppg, Class C, 1% CaCl ₂ , 0.125pps Celo-Flake	1.349	6.51	1000	100%
Int1	12.25	9.625	5250	1533	0.125pps Poly-E-Flake									
					Lead, 12.8 ppg, Class C 5% Salt,	1.79	9.74	0	154	HalCem TM, 14.8 ppg, Class C, 0.1% HR 800 .125 pps Poly-E-Flake	1.33	6.37	4950	100%
					0.125 pps Poly-E-Flake, 3lb/sk Kol-Seal									
Int2	8.75	7.625	12059	462	Lite Fill, 9.5 ppg, Class C 3lb/sk	2.13	5.97	4250	121	NeoCem 14.8 ppg, Class C	1.33	6.29	11059	50%
					Bridgemaker Gel, 5% Salt, 5pps LCM, 0.25pps Cello-Flake					0.25 pps Cello-Flake, 2% CaCl ₂				
Prod	6.75	5.5	22326	840	Tail, 14.5 ppg, Gas Migration Control	1.34	6.22	11059						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 1/2" 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 – 1,350'	Fresh - Gel	8.6-8.8	28-34	N/c
1,350' – 12,059'	Brine	8.8-10.2	28-34	N/c
12,059' – 22,326' Lateral	Oil Base	10.0-11.0	58-68	3 - 6

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 11,643' TVD (deepest point of the well) is 195F with an estimated maximum bottom-hole pressure (BHP) at the same point of 7,265 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. 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 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	KC7 Fed Com 603H
Operator	Franklin Mountain Energy, LLC
Project Area	FMM Unit
Well Type	10,000' Third Bone Spring Lateral
API	30025486180000
Permit Number	
Rig	H&P 602

State	NM	County	Lea						
SHL	Township	25S/35E	Section	1	720'	FEL	264'	FNL	
BHL	Township	24S/35E	Section	25	1,689'	FEL	150'	FNL	
Surface Latitude	NAD 83		32.16599						
Surface Longitude	NAD 83		103.315048						
Bottom Hole Latitude	NAD 83		32.195339						
Bottom Hole Longitude	NAD 83		103.31818						
Ground Level	3,334'	Rig KB	25'	KB	3,359'				

Formations	PROG SS	PROG TVD	Picked TVD	delta	Potential/Issues
Cenozoic Alluvium (surface)	3,334'	25'	25'	0	Sand/Gravels/unconsolidated
Rustler	1,735'	1,624'			Carbonates
Salado	1,221'	2,138'			Salt, Carbonate & Clastics
Base Salt	-207'	3,566'			Shaley Carbonate & Shale
Capitan Reef Top	-647'	4,006'			Carbonates
Lamar	-1,863'	5,222'			Carbonate & Clastics
Bell Canyon	-1,923'	5,282'			Sandstone - oil/gas/water
Cherry Canyon	-2,633'	5,992'			Sandstone - oil/gas/water
Brushy Canyon	-4,094'	7,453'			Sand/carb/shales - oil/gas/water
Bone Spring Lime	-5,344'	8,703'			Shale/Carbonates - oil/gas
Avalon	-5,470'	8,829'			Shale/Carbonates - oil/gas
Chert Zone	-5,717'	9,076'			Carbonates, chert
First Bone Spring Sand	-6,587'	9,946'			Sandstone - oil/gas/water
Second Bone Spring Carbonates	-6,653'	10,012'			Shale/Carbonates - oil/gas
Second Bone Spring Sand	-7,062'	10,421'			Sandstone - oil/gas/water
Third Bone Spring Carbonates	-7,728'	11,087'			Shale/Carbonates - oil/gas
Third Bone Spring Sand	-8,235'	11,594'			Sandstone - oil/gas/water
HZ Target at SHL	-8,294'	11,653'			Overpressure shale/sand- Oil/Gas
Wolfcamp	-8,380'	11,739'			Overpressure shale/sand- Oil/Gas
Wolfcamp A	-8,449'	11,808'			Overpressure Shale - Oil/Gas
Wolfcamp B	-8,579'	11,938'			Overpressure Shale - Oil/Gas

Target interval is expected to have an average apparent dip of ~1.7 degrees up along the lateral based on the Wolfcamp A structure

Target window tolerance is set at +/- 15'

Target Line: 11656' KBTVD @ 0' VS w/ 91.72° inc.

Offset Log: Proxy WCA 001H (30025439220100)

Revised 5/6/2022

FME Geologist	Cassidy Miller	cmiller@fmellc.com
Cell	303.408.4310	

FME Engineer					
Electric Logs		From		To	
Open-Hole	n/a				
MWD/LWD	MWD GR			Int. 1 Csg. Point	TD
Mud Log:					
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:	Email distribution of mud log/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	
	Cassidy Miller (cmiller@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 167041

CONDITIONS

Operator: Franklin Mountain Energy LLC 44 Cook Street Denver, CO 80206	OGRID: 373910
	Action Number: 167041
	Action Type: [C-103] NOI Change of Plans (C-103A)

CONDITIONS

Created By	Condition	Condition Date
pkautz	None	12/14/2022