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XTO ENERGY, INC.

Eddy County, NM

Sec 36, T23S, R30E

Los Medanos 36-23-30 State #121H

Wellbore #1

30-015-45208

Plan: Design #1

QES Well Planning Report

08 August, 2018





Well Planning Report



Database: EDM 5000.1 Single User Db
Company: XTO ENERGY, INC.
Project: Eddy County, NM
Site: Sec 36, T23S, R30E
Well: Los Medanos 36-23-30 State #121H
Wellbore: Wellbore #1
Design: Design #1

Local Co-ordinate Reference: Well Los Medanos 36-23-30 State #121H
TVD Reference: RKB @ 3431.5usft (Trinidad #445)
MD Reference: RKB @ 3431.5usft (Trinidad #445)
North Reference: True
Survey Calculation Method: Minimum Curvature

Project	Eddy County, NM		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site	Sec 36, T23S, R30E		
Site Position:		Northing:	456,891.30 usft
From:	Map	Easting:	651,988.20 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 15' 18.556 N
		Longitude:	103° 50' 30.036 W
		Grid Convergence:	0.26 °

Well	Los Medanos 36-23-30 State #121H		
Well Position	+N/-S	30.0 usft	Northing:
	+E/-W	0.2 usft	Easting:
Position Uncertainty	0.0 usft	Wellhead Elevation:	Ground Level:
			3,415.0 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
	IGRF2015	8/8/2018	(°)	(°)	(nT)
			6.96	60.03	47,810.79079744

Design	Design #1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(usft)	(usft)	(usft)	(°)
	0.0	0.0	0.0	7.84

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
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
5,000.0	0.00	0.00	5,000.0	0.0	0.0	0.00	0.00	0.00	0.00	
5,213.9	6.42	108.43	5,213.5	-3.8	11.4	3.00	3.00	0.00	108.43	
10,908.1	6.42	108.43	10,871.9	-205.0	615.2	0.00	0.00	0.00	0.00	
11,828.5	90.00	359.80	11,462.0	367.9	676.0	10.00	9.08	-11.80	-108.52	
16,258.5	90.00	359.80	11,462.0	4,797.8	660.6	0.00	0.00	0.00	0.00	PBHL - LM 121H



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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)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
Rustler									
299.5	0.00	0.00	299.5	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
Top Salt*									
614.5	0.00	0.00	614.5	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	0.00
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	0.00
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	0.00
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	0.00
2,600.0	0.00	0.00	2,600.0	0.0	0.0	0.0	0.00	0.00	0.00
2,700.0	0.00	0.00	2,700.0	0.0	0.0	0.0	0.00	0.00	0.00
2,800.0	0.00	0.00	2,800.0	0.0	0.0	0.0	0.00	0.00	0.00
2,900.0	0.00	0.00	2,900.0	0.0	0.0	0.0	0.00	0.00	0.00
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.0	0.00	0.00	0.00
3,100.0	0.00	0.00	3,100.0	0.0	0.0	0.0	0.00	0.00	0.00
3,200.0	0.00	0.00	3,200.0	0.0	0.0	0.0	0.00	0.00	0.00
3,300.0	0.00	0.00	3,300.0	0.0	0.0	0.0	0.00	0.00	0.00
3,400.0	0.00	0.00	3,400.0	0.0	0.0	0.0	0.00	0.00	0.00
3,500.0	0.00	0.00	3,500.0	0.0	0.0	0.0	0.00	0.00	0.00
3,600.0	0.00	0.00	3,600.0	0.0	0.0	0.0	0.00	0.00	0.00
3,700.0	0.00	0.00	3,700.0	0.0	0.0	0.0	0.00	0.00	0.00
Base of Salt (Anhydrite)									
3,773.5	0.00	0.00	3,773.5	0.0	0.0	0.0	0.00	0.00	0.00
3,800.0	0.00	0.00	3,800.0	0.0	0.0	0.0	0.00	0.00	0.00
3,900.0	0.00	0.00	3,900.0	0.0	0.0	0.0	0.00	0.00	0.00
4,000.0	0.00	0.00	4,000.0	0.0	0.0	0.0	0.00	0.00	0.00
Bell Canyon Ss./ Delaware									
4,045.5	0.00	0.00	4,045.5	0.0	0.0	0.0	0.00	0.00	0.00
4,100.0	0.00	0.00	4,100.0	0.0	0.0	0.0	0.00	0.00	0.00
4,200.0	0.00	0.00	4,200.0	0.0	0.0	0.0	0.00	0.00	0.00
4,300.0	0.00	0.00	4,300.0	0.0	0.0	0.0	0.00	0.00	0.00
4,400.0	0.00	0.00	4,400.0	0.0	0.0	0.0	0.00	0.00	0.00
4,500.0	0.00	0.00	4,500.0	0.0	0.0	0.0	0.00	0.00	0.00



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Planned Survey

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4,600.0	0.00	0.00	4,600.0	0.0	0.0	0.0	0.00	0.00	0.00
4,700.0	0.00	0.00	4,700.0	0.0	0.0	0.0	0.00	0.00	0.00
4,800.0	0.00	0.00	4,800.0	0.0	0.0	0.0	0.00	0.00	0.00
4,900.0	0.00	0.00	4,900.0	0.0	0.0	0.0	0.00	0.00	0.00
Cherry Canyon Ss.									
4,946.5	0.00	0.00	4,946.5	0.0	0.0	0.0	0.00	0.00	0.00
Build 3°/100'									
5,000.0	0.00	0.00	5,000.0	0.0	0.0	0.0	0.00	0.00	0.00
5,100.0	3.00	108.43	5,100.0	-0.8	2.5	-0.5	3.00	3.00	0.00
5,200.0	6.00	108.43	5,199.6	-3.3	9.9	-1.9	3.00	3.00	0.00
EOB @ 6.42° Inc / 108.43° Azm									
5,213.9	6.42	108.43	5,213.5	-3.8	11.4	-2.2	3.00	3.00	0.00
5,300.0	6.42	108.43	5,299.0	-6.8	20.5	-4.0	0.00	0.00	0.00
5,400.0	6.42	108.43	5,398.4	-10.4	31.1	-6.0	0.00	0.00	0.00
5,500.0	6.42	108.43	5,497.8	-13.9	41.7	-8.1	0.00	0.00	0.00
5,600.0	6.42	108.43	5,597.1	-17.4	52.3	-10.1	0.00	0.00	0.00
5,700.0	6.42	108.43	5,696.5	-21.0	62.9	-12.2	0.00	0.00	0.00
5,800.0	6.42	108.43	5,795.9	-24.5	73.5	-14.2	0.00	0.00	0.00
5,900.0	6.42	108.43	5,895.3	-28.0	84.1	-16.3	0.00	0.00	0.00
6,000.0	6.42	108.43	5,994.6	-31.6	94.7	-18.3	0.00	0.00	0.00
6,100.0	6.42	108.43	6,094.0	-35.1	105.3	-20.4	0.00	0.00	0.00
6,200.0	6.42	108.43	6,193.4	-38.6	115.9	-22.4	0.00	0.00	0.00
6,300.0	6.42	108.43	6,292.7	-42.2	126.5	-24.5	0.00	0.00	0.00
6,400.0	6.42	108.43	6,392.1	-45.7	137.1	-26.6	0.00	0.00	0.00
6,500.0	6.42	108.43	6,491.5	-49.2	147.7	-28.6	0.00	0.00	0.00
Brushy Canyon Ss.									
6,567.4	6.42	108.43	6,558.5	-51.6	154.9	-30.0	0.00	0.00	0.00
6,600.0	6.42	108.43	6,590.9	-52.8	158.3	-30.7	0.00	0.00	0.00
6,700.0	6.42	108.43	6,690.2	-56.3	168.9	-32.7	0.00	0.00	0.00
6,800.0	6.42	108.43	6,789.6	-59.8	179.5	-34.8	0.00	0.00	0.00
6,900.0	6.42	108.43	6,889.0	-63.4	190.1	-36.8	0.00	0.00	0.00
7,000.0	6.42	108.43	6,988.4	-66.9	200.7	-38.9	0.00	0.00	0.00
7,100.0	6.42	108.43	7,087.7	-70.4	211.4	-40.9	0.00	0.00	0.00
7,200.0	6.42	108.43	7,187.1	-74.0	222.0	-43.0	0.00	0.00	0.00
7,300.0	6.42	108.43	7,286.5	-77.5	232.6	-45.0	0.00	0.00	0.00
7,400.0	6.42	108.43	7,385.9	-81.0	243.2	-47.1	0.00	0.00	0.00
7,500.0	6.42	108.43	7,485.2	-84.6	253.8	-49.1	0.00	0.00	0.00
7,600.0	6.42	108.43	7,584.6	-88.1	264.4	-51.2	0.00	0.00	0.00
7,700.0	6.42	108.43	7,684.0	-91.6	275.0	-53.3	0.00	0.00	0.00
7,800.0	6.42	108.43	7,783.3	-95.1	285.6	-55.3	0.00	0.00	0.00
7,900.0	6.42	108.43	7,882.7	-98.7	296.2	-57.4	0.00	0.00	0.00
Bone Spring Lm.									
7,900.8	6.42	108.43	7,883.5	-98.7	296.3	-57.4	0.00	0.00	0.00
Avalon Ss.									
7,978.3	6.42	108.43	7,960.5	-101.4	304.5	-59.0	0.00	0.00	0.00
8,000.0	6.42	108.43	7,982.1	-102.2	306.8	-59.4	0.00	0.00	0.00
8,100.0	6.42	108.43	8,081.5	-105.7	317.4	-61.5	0.00	0.00	0.00
8,200.0	6.42	108.43	8,180.8	-109.3	328.0	-63.5	0.00	0.00	0.00
Bone Spg. Upper Avalon Lm.									
8,226.8	6.42	108.43	8,207.5	-110.2	330.8	-64.1	0.00	0.00	0.00
8,300.0	6.42	108.43	8,280.2	-112.8	338.6	-65.6	0.00	0.00	0.00
8,400.0	6.42	108.43	8,379.6	-116.3	349.2	-67.6	0.00	0.00	0.00
8,500.0	6.42	108.43	8,479.0	-119.9	359.8	-69.7	0.00	0.00	0.00



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8,600.0	6.42	108.43	8,578.3	-123.4	370.4	-71.7	0.00	0.00	0.00
8,700.0	6.42	108.43	8,677.7	-126.9	381.0	-73.8	0.00	0.00	0.00
8,800.0	6.42	108.43	8,777.1	-130.5	391.6	-75.8	0.00	0.00	0.00
Bone Spg. Lower Avalon Lm.									
8,814.5	6.42	108.43	8,791.5	-131.0	393.2	-76.1	0.00	0.00	0.00
8,900.0	6.42	108.43	8,876.5	-134.0	402.2	-77.9	0.00	0.00	0.00
1st Bone Spring Ss.									
8,935.3	6.42	108.43	8,911.5	-135.3	406.0	-78.6	0.00	0.00	0.00
9,000.0	6.42	108.43	8,975.8	-137.5	412.8	-80.0	0.00	0.00	0.00
9,100.0	6.42	108.43	9,075.2	-141.1	423.4	-82.0	0.00	0.00	0.00
9,200.0	6.42	108.43	9,174.6	-144.6	434.0	-84.1	0.00	0.00	0.00
9,300.0	6.42	108.43	9,274.0	-148.1	444.6	-86.1	0.00	0.00	0.00
9,400.0	6.42	108.43	9,373.3	-151.7	455.2	-88.2	0.00	0.00	0.00
2nd Bone Spring Carb.									
9,438.4	6.42	108.43	9,411.5	-153.0	459.3	-89.0	0.00	0.00	0.00
9,500.0	6.42	108.43	9,472.7	-155.2	465.8	-90.2	0.00	0.00	0.00
9,600.0	6.42	108.43	9,572.1	-158.7	476.4	-92.3	0.00	0.00	0.00
9,700.0	6.42	108.43	9,671.4	-162.3	487.1	-94.3	0.00	0.00	0.00
9,800.0	6.42	108.43	9,770.8	-165.8	497.7	-96.4	0.00	0.00	0.00
2nd Bone Spring Ss.									
9,821.8	6.42	108.43	9,792.5	-166.6	500.0	-96.8	0.00	0.00	0.00
9,900.0	6.42	108.43	9,870.2	-169.3	508.3	-98.4	0.00	0.00	0.00
10,000.0	6.42	108.43	9,969.6	-172.9	518.9	-100.5	0.00	0.00	0.00
10,100.0	6.42	108.43	10,068.9	-176.4	529.5	-102.5	0.00	0.00	0.00
3rd Bone Spring Carb.									
10,103.6	6.42	108.43	10,072.5	-176.5	529.8	-102.6	0.00	0.00	0.00
10,200.0	6.42	108.43	10,168.3	-179.9	540.1	-104.6	0.00	0.00	0.00
10,300.0	6.42	108.43	10,267.7	-183.5	550.7	-106.6	0.00	0.00	0.00
10,400.0	6.42	108.43	10,367.1	-187.0	561.3	-108.7	0.00	0.00	0.00
10,500.0	6.42	108.43	10,466.4	-190.5	571.9	-110.8	0.00	0.00	0.00
10,600.0	6.42	108.43	10,565.8	-194.1	582.5	-112.8	0.00	0.00	0.00
10,700.0	6.42	108.43	10,665.2	-197.6	593.1	-114.9	0.00	0.00	0.00
10,800.0	6.42	108.43	10,764.6	-201.1	603.7	-116.9	0.00	0.00	0.00
3rd Bone Spring Ss.									
10,870.4	6.42	108.43	10,834.5	-203.6	611.2	-118.4	0.00	0.00	0.00
Build 10°/100'									
10,908.1	6.42	108.43	10,871.9	-205.0	615.2	-119.1	0.00	0.00	0.00
10,950.0	6.45	70.31	10,913.6	-204.9	619.6	-118.5	10.00	0.08	-90.88
11,000.0	9.38	40.00	10,963.2	-200.8	624.9	-113.7	10.00	5.85	-60.61
11,050.0	13.57	26.01	11,012.2	-192.4	630.1	-104.7	10.00	8.38	-27.97
War Wink Ss.									
11,091.9	17.40	19.68	11,052.5	-182.1	634.3	-93.9	10.00	9.16	-15.12
11,100.0	18.17	18.76	11,060.3	-179.8	635.1	-91.5	10.00	9.38	-11.37
11,150.0	22.93	14.39	11,107.1	-163.0	640.1	-74.1	10.00	9.53	-8.72
11,200.0	27.77	11.48	11,152.2	-142.1	644.8	-52.8	10.00	9.69	-5.83
Red Hills Ss.									
11,233.6	31.05	10.00	11,181.5	-125.9	647.9	-36.3	10.00	9.76	-4.41
11,250.0	32.66	9.37	11,195.4	-117.4	649.3	-27.7	10.00	9.80	-3.81
11,300.0	37.57	7.76	11,236.3	-88.9	653.6	1.1	10.00	9.83	-3.22
Wolfcamp Sh									
11,349.9	42.49	6.48	11,274.5	-57.1	657.5	33.1	10.00	9.86	-2.57
11,350.0	42.50	6.48	11,274.6	-57.0	657.6	33.2	10.00	9.88	-2.32
Wolfcamp X Sd									



Well Planning Report



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Project: Eddy County, NM
Site: Sec 36, T23S, R30E
Well: Los Medanos 36-23-30 State #121H
Wellbore: Wellbore #1
Design: Design #1

Local Co-ordinate Reference: Well Los Medanos 36-23-30 State #121H
TVD Reference: RKB @ 3431.5usft (Trinidad #445)
MD Reference: RKB @ 3431.5usft (Trinidad #445)
North Reference: True
Survey Calculation Method: Minimum Curvature

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)
11,372.0	44.67	5.99	11,290.5	-42.0	659.2	48.3	10.00	9.88	-2.23
11,400.0	47.45	5.42	11,309.9	-21.9	661.2	68.5	10.00	9.89	-2.05
11,450.0	52.40	4.51	11,342.1	16.2	664.5	106.7	10.00	9.90	-1.81
Wolfcamp Y Sd									
11,457.2	53.11	4.39	11,346.5	22.0	664.9	112.5	10.00	9.91	-1.67
11,500.0	57.36	3.71	11,370.9	57.0	667.4	147.5	10.00	9.92	-1.57
11,550.0	62.32	3.01	11,396.0	100.2	669.9	190.6	10.00	9.92	-1.42
Wolfcamp A Sh.									
11,562.1	63.52	2.84	11,401.5	110.9	670.5	201.3	10.00	9.93	-1.34
11,600.0	67.28	2.36	11,417.3	145.3	672.1	235.6	10.00	9.93	-1.28
11,650.0	72.25	1.75	11,434.6	192.2	673.7	282.3	10.00	9.94	-1.20
11,700.0	77.22	1.19	11,447.7	240.4	675.0	330.2	10.00	9.94	-1.14
11,750.0	82.19	0.64	11,456.7	289.6	675.7	379.0	10.00	9.94	-1.10
11,800.0	87.16	0.10	11,461.3	339.3	676.1	428.4	10.00	9.94	-1.07
EOC @ 90.00° Inc / 359.80° Azm / 11462.0' TVD									
11,828.5	90.00	359.80	11,462.0	367.9	676.0	456.6	10.00	9.94	-1.06
11,900.0	90.00	359.80	11,462.0	439.3	675.8	527.4	0.00	0.00	0.00
12,000.0	90.00	359.80	11,462.0	539.3	675.4	626.4	0.00	0.00	0.00
12,100.0	90.00	359.80	11,462.0	639.3	675.1	725.4	0.00	0.00	0.00
12,200.0	90.00	359.80	11,462.0	739.3	674.7	824.5	0.00	0.00	0.00
12,300.0	90.00	359.80	11,462.0	839.3	674.4	923.5	0.00	0.00	0.00
12,400.0	90.00	359.80	11,462.0	939.3	674.0	1,022.5	0.00	0.00	0.00
12,500.0	90.00	359.80	11,462.0	1,039.3	673.7	1,121.5	0.00	0.00	0.00
12,600.0	90.00	359.80	11,462.0	1,139.3	673.4	1,220.5	0.00	0.00	0.00
12,700.0	90.00	359.80	11,462.0	1,239.3	673.0	1,319.5	0.00	0.00	0.00
12,800.0	90.00	359.80	11,462.0	1,339.3	672.7	1,418.6	0.00	0.00	0.00
12,900.0	90.00	359.80	11,462.0	1,439.3	672.3	1,517.6	0.00	0.00	0.00
13,000.0	90.00	359.80	11,462.0	1,539.3	672.0	1,616.6	0.00	0.00	0.00
13,100.0	90.00	359.80	11,462.0	1,639.3	671.6	1,715.6	0.00	0.00	0.00
13,200.0	90.00	359.80	11,462.0	1,739.3	671.3	1,814.6	0.00	0.00	0.00
13,300.0	90.00	359.80	11,462.0	1,839.3	670.9	1,913.6	0.00	0.00	0.00
13,400.0	90.00	359.80	11,462.0	1,939.3	670.6	2,012.7	0.00	0.00	0.00
13,500.0	90.00	359.80	11,462.0	2,039.3	670.2	2,111.7	0.00	0.00	0.00
13,600.0	90.00	359.80	11,462.0	2,139.3	669.9	2,210.7	0.00	0.00	0.00
13,700.0	90.00	359.80	11,462.0	2,239.3	669.5	2,309.7	0.00	0.00	0.00
13,800.0	90.00	359.80	11,462.0	2,339.3	669.2	2,408.7	0.00	0.00	0.00
13,900.0	90.00	359.80	11,462.0	2,439.3	668.8	2,507.8	0.00	0.00	0.00
14,000.0	90.00	359.80	11,462.0	2,539.3	668.5	2,606.8	0.00	0.00	0.00
14,100.0	90.00	359.80	11,462.0	2,639.3	668.1	2,705.8	0.00	0.00	0.00
14,200.0	90.00	359.80	11,462.0	2,739.3	667.8	2,804.8	0.00	0.00	0.00
14,300.0	90.00	359.80	11,462.0	2,839.3	667.4	2,903.8	0.00	0.00	0.00
14,400.0	90.00	359.80	11,462.0	2,939.3	667.1	3,002.8	0.00	0.00	0.00
14,500.0	90.00	359.80	11,462.0	3,039.3	666.7	3,101.9	0.00	0.00	0.00
14,600.0	90.00	359.80	11,462.0	3,139.3	666.4	3,200.9	0.00	0.00	0.00
14,700.0	90.00	359.80	11,462.0	3,239.3	666.0	3,299.9	0.00	0.00	0.00
14,800.0	90.00	359.80	11,462.0	3,339.3	665.7	3,398.9	0.00	0.00	0.00
14,900.0	90.00	359.80	11,462.0	3,439.3	665.3	3,497.9	0.00	0.00	0.00
15,000.0	90.00	359.80	11,462.0	3,539.3	665.0	3,596.9	0.00	0.00	0.00
15,100.0	90.00	359.80	11,462.0	3,639.3	664.6	3,696.0	0.00	0.00	0.00
15,200.0	90.00	359.80	11,462.0	3,739.3	664.3	3,795.0	0.00	0.00	0.00
15,300.0	90.00	359.80	11,462.0	3,839.3	663.9	3,894.0	0.00	0.00	0.00
15,400.0	90.00	359.80	11,462.0	3,939.3	663.6	3,993.0	0.00	0.00	0.00
15,500.0	90.00	359.80	11,462.0	4,039.3	663.2	4,092.0	0.00	0.00	0.00



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Design: Design #1

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TVD Reference: RKB @ 3431.5usft (Trinidad #445)
MD Reference: RKB @ 3431.5usft (Trinidad #445)
North Reference: True
Survey Calculation Method: Minimum Curvature

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)
15,600.0	90.00	359.80	11,462.0	4,139.3	662.9	4,191.0	0.00	0.00	0.00
15,700.0	90.00	359.80	11,462.0	4,239.3	662.5	4,290.1	0.00	0.00	0.00
15,800.0	90.00	359.80	11,462.0	4,339.3	662.2	4,389.1	0.00	0.00	0.00
15,900.0	90.00	359.80	11,462.0	4,439.3	661.8	4,488.1	0.00	0.00	0.00
16,000.0	90.00	359.80	11,462.0	4,539.3	661.5	4,587.1	0.00	0.00	0.00
16,100.0	90.00	359.80	11,462.0	4,639.3	661.1	4,686.1	0.00	0.00	0.00
16,200.0	90.00	359.80	11,462.0	4,739.3	660.8	4,785.1	0.00	0.00	0.00
TD @ 16258.5' MD / 11462.0' TVD									
16,258.5	90.00	359.80	11,462.0	4,797.8	660.6	4,843.1	0.00	0.00	0.00

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
FTP - LM 121H - plan misses target center by 170.9usft at 11434.6usft MD (11332.6 TVD, 4.2 N, 663.5 E) - Point	0.00	0.00	11,462.0	-106.4	677.9	456,818.00	652,666.70	32° 15' 17.800 N	103° 50' 22.139 W
LTP - LM 121H - plan misses target center by 8.5usft at 16200.0usft MD (11462.0 TVD, 4739.3 N, 660.8 E) - Point	0.00	0.00	11,462.0	4,747.8	660.9	461,672.10	652,627.40	32° 16' 5.837 N	103° 50' 22.336 W
PBHL - LM 121H - plan hits target center - Rectangle (sides W100.0 H4,430.0 D0.0)	0.00	0.00	11,462.0	4,797.8	660.6	461,722.10	652,626.90	32° 16' 6.332 N	103° 50' 22.340 W



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North Reference: True
Survey Calculation Method: Minimum Curvature

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
299.5	299.5	Rustler			
614.5	614.5	Top Salt*			
3,773.5	3,773.5	Base of Salt (Anhydrite)			
4,045.5	4,045.5	Bell Canyon Ss./ Delaware			
4,946.5	4,946.5	Cherry Canyon Ss.			
6,567.4	6,558.5	Brushy Canyon Ss.			
7,900.8	7,883.5	Bone Spring Lm.			
7,978.3	7,960.5	Avalon Ss.			
8,226.8	8,207.5	Bone Spg. Upper Avalon Lm.			
8,814.5	8,791.5	Bone Spg. Lower Avalon Lm.			
8,935.3	8,911.5	1st Bone Spring Ss.			
9,438.4	9,411.5	2nd Bone Spring Carb.			
9,821.8	9,792.5	2nd Bone Spring Ss.			
10,103.6	10,072.5	3rd Bone Spring Carb.			
10,870.4	10,834.5	3rd Bone Spring Ss.			
11,091.9	11,052.5	War Wink Ss.			
11,233.6	11,181.5	Red Hills Ss.			
11,349.9	11,274.5	Wolfcamp Sh			
11,372.0	11,290.5	Wolfcamp X Sd			
11,457.2	11,346.5	Wolfcamp Y Sd			
11,562.1	11,401.5	Wolfcamp A Sh.			

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
5,000.0	5,000.0	0.0	0.0	Build 3"/100'
5,213.9	5,213.5	-3.8	11.4	EOB @ 6.42° Inc / 108.43° Azm
10,908.1	10,871.9	-205.0	615.2	Build 10"/100'
11,828.5	11,462.0	367.9	676.0	EOC @ 90.00° Inc / 359.80° Azm / 11462.0' TVD
16,258.5	11,462.0	4,797.8	660.6	TD @ 16258.5' MD / 11462.0' TVD

