



XTO Energy

Eddy County, NM (NAD-27)

Tombstone 11 State

#121

Wellbore #1

Plan: PERMIT

Standard Planning Report

15 February, 2019



Project: Eddy County, NM (NAD-27)
Site: Tombstone 11 State
Well: #121
Wellbore: Wellbore #1
Design: PERMIT

WELL DETAILS: #121

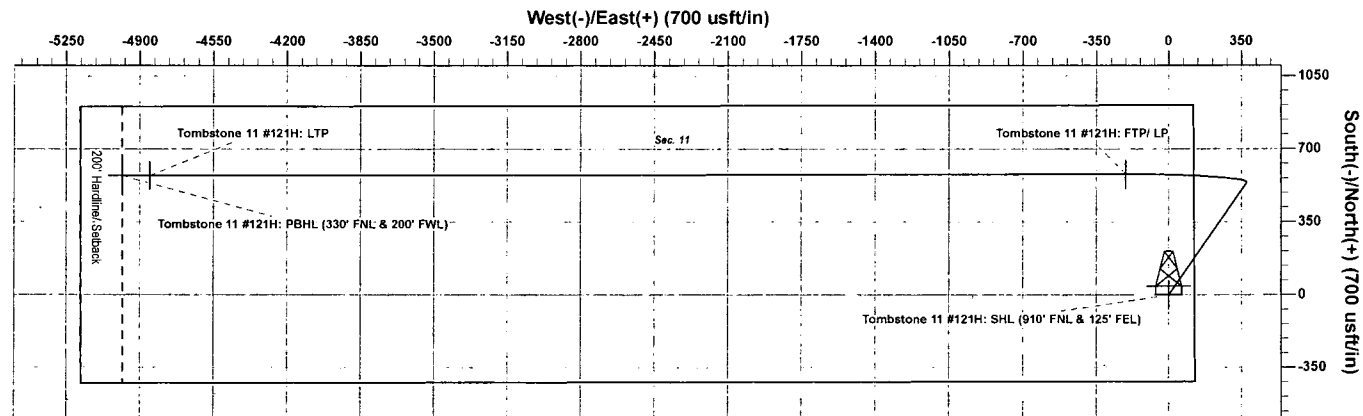
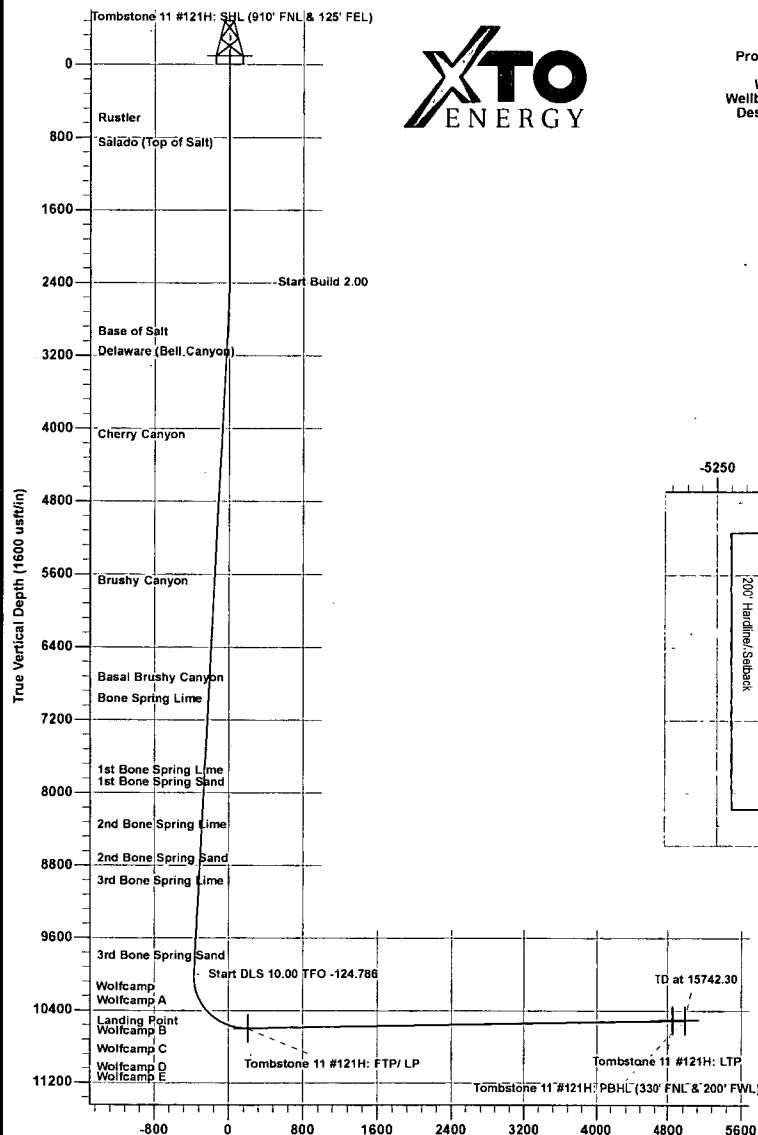
Rig Name: Precision 525
RKB = 15' @ 3105.00usft (Precision 525)
Ground Level: 3090.00
Northing: 418258.20
Easting: 619717.00
Latitude: 32.149317
Longitude: -103.946516

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	2400.00	0.00	0.00	2400.00	0.00	0.00	0.00	0.00	0.00
3	2650.08	5.00	34.87	2649.76	8.95	6.24	2.00	34.868	-6.25
4	10028.53	5.00	34.87	10000.12	536.75	373.99	0.00	0.000	-374.93
5	10967.94	61.08	269.90	10600.00	579.60	-209.10	10.00	-124.786	208.09
6	15612.27	91.08	269.90	10512.45	571.62	-4862.60	0.00	0.000	4861.59
7	15742.30	91.08	269.90	10510.00	571.40	-4982.60	0.00	0.000	4981.60

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
Tombstone 11 #121H: SHL (910' FNL & 125' FEL)	0.00	0.00	0.00	418258.20	619717.00	32.149317	-103.946516	Point
Tombstone 11 #121H: LTP	10510.00	571.70	-4852.60	418829.50	614984.40	32.150938	-103.962189	Point
Tombstone 11 #121H: PBHL (330' FNL & 200' FWL)	10510.00	571.40	-4982.60	418829.50	614734.40	32.150938	-103.962609	Point
Tombstone 11 #121H: FTP/LP	10500.00	579.60	-209.10	418837.80	619507.90	32.150913	-103.947185	Point



FORMATION TOP DETAILS

TVDPath	Formation
671.00	Rustler
944.00	Salado (Top of Salt)
3021.00	Base of Salt
3234.00	Delaware (Bell Canyon)
4151.00	Cherry Canyon
5757.00	Brushy Canyon
6618.00	Basal Brushy Canyon
7050.00	Bone Spring Lime
7917.00	1st Bone Spring Lime
7964.00	1st Bone Spring Sand
8432.00	2nd Bone Spring Lime
8603.00	2nd Bone Spring Sand
9053.00	3rd Bone Spring Lime
9877.00	3rd Bone Spring Sand
10229.00	Wolfcamp
10257.00	Wolfcamp X
10321.00	Wolfcamp Y
10373.00	Wolfcamp A
10600.00	Landing Point

PROJECT DETAILS: Eddy County, NM (NAD-27)

Geodetic System: US State Plane 1927 (Exact solution)

Datum: NAD 1927 (NADCON CONUS)

Ellipsoid: Clarke 1866

Zone: New Mexico East 3001

System Datum: Mean Sea Level

Plan: PERMIT (#121/Wellbore #1)

Created By: Matthew May Date: 5:43, February 15 2019

The customer should only rely on this document after independently verifying all paths, targets, coordinates, lease and hard lines represented. Any decisions made or wells drilled utilizing this or any other information supplied by Prototype are at the sole risk and responsibility of the customer.



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Planning Report

Database: EDM 5000.1 Single User Db
Company: XTO Energy
Project: Eddy County, NM (NAD-27)
Site: Tombstone 11 State
Well: #121
Wellbore: Wellbore #1
Design: PERMIT

Local Co-ordinate Reference: Well #121
TVD Reference: RKB = 15' @ 3105.00usft (Precision 525)
MD Reference: RKB = 15' @ 3105.00usft (Precision 525)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Project	Eddy County, NM (NAD-27)		
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	Tombstone 11 State			
Site Position:		Northing:	418,228.20 usft	Latitude: 32.149235
From: Map		Easting:	619,717.20 usft	Longitude: -103.946516
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence: 0.206 °

Well	#121			
Well Position	+N/-S	30.00 usft	Northing:	418,258.20 usft
	+E/-W	-0.20 usft	Easting:	619,717.00 usft
Position Uncertainty	0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level: 3,090.00 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	2/15/2019	6.942	59.913	47,686

Design	PERMIT				
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	269.90	

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	0.000	
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.000	
2,650.08	5.00	34.87	2,649.76	8.95	6.24	2.00	2.00	0.00	34.868	
10,028.53	5.00	34.87	10,000.12	536.75	373.99	0.00	0.00	0.00	0.000	
10,967.94	91.08	269.90	10,600.00	579.60	-209.10	10.00	9.16	-13.30	-124.786	Tombstone 11 #12
15,612.27	91.08	269.90	10,512.45	571.62	-4,852.60	0.00	0.00	0.00	0.000	Tombstone 11 #12
15,742.30	91.08	269.90	10,510.00	571.40	-4,982.60	0.00	0.00	0.00	0.000	Tombstone 11 #12



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Local Co-ordinate Reference: Well #121
 TVD Reference: RKB = 15' @ 3105.00usft (Precision 525)
 MD Reference: RKB = 15' @ 3105.00usft (Precision 525)
 North Reference: Grid
 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)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tombstone 11 #121H: SHL (910' FNL & 125' FEL)									
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
671.00	0.00	0.00	671.00	0.00	0.00	0.00	0.00	0.00	0.00
Rustler									
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
944.00	0.00	0.00	944.00	0.00	0.00	0.00	0.00	0.00	0.00
Salado (Top of Salt)									
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	2.00	34.87	2,499.98	1.43	1.00	-1.00	2.00	2.00	0.00
2,600.00	4.00	34.87	2,599.84	5.73	3.99	-4.00	2.00	2.00	0.00
2,650.08	5.00	34.87	2,649.76	8.95	6.24	-6.25	2.00	2.00	0.00
2,700.00	5.00	34.87	2,699.49	12.52	8.72	-8.75	0.00	0.00	0.00
2,800.00	5.00	34.87	2,799.11	19.67	13.71	-13.74	0.00	0.00	0.00
2,900.00	5.00	34.87	2,898.73	26.83	18.69	-18.74	0.00	0.00	0.00
3,000.00	5.00	34.87	2,998.35	33.98	23.68	-23.74	0.00	0.00	0.00
3,022.74	5.00	34.87	3,021.00	35.61	24.81	-24.87	0.00	0.00	0.00
Base of Salt									
3,100.00	5.00	34.87	3,097.97	41.13	28.66	-28.73	0.00	0.00	0.00
3,200.00	5.00	34.87	3,197.59	48.29	33.64	-33.73	0.00	0.00	0.00
3,236.55	5.00	34.87	3,234.00	50.90	35.47	-35.56	0.00	0.00	0.00
Delaware (Bell Canyon)									
3,300.00	5.00	34.87	3,297.21	55.44	38.63	-38.73	0.00	0.00	0.00
3,400.00	5.00	34.87	3,396.83	62.59	43.61	-43.72	0.00	0.00	0.00
3,500.00	5.00	34.87	3,496.45	69.75	48.60	-48.72	0.00	0.00	0.00
3,600.00	5.00	34.87	3,596.07	76.90	53.58	-53.72	0.00	0.00	0.00
3,700.00	5.00	34.87	3,695.68	84.05	58.57	-58.71	0.00	0.00	0.00
3,800.00	5.00	34.87	3,795.30	91.21	63.55	-63.71	0.00	0.00	0.00
3,900.00	5.00	34.87	3,894.92	98.36	68.53	-68.71	0.00	0.00	0.00
4,000.00	5.00	34.87	3,994.54	105.51	73.52	-73.70	0.00	0.00	0.00
4,100.00	5.00	34.87	4,094.16	112.67	78.50	-78.70	0.00	0.00	0.00
4,157.06	5.00	34.87	4,151.00	116.75	81.35	-81.55	0.00	0.00	0.00



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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)
Cherry Canyon									
4,200.00	5.00	34.87	4,193.78	119.82	83.49	-83.70	0.00	0.00	0.00
4,300.00	5.00	34.87	4,293.40	126.97	88.47	-88.69	0.00	0.00	0.00
4,400.00	5.00	34.87	4,393.02	134.13	93.45	-93.69	0.00	0.00	0.00
4,500.00	5.00	34.87	4,492.64	141.28	98.44	-98.69	0.00	0.00	0.00
4,600.00	5.00	34.87	4,592.26	148.43	103.42	-103.68	0.00	0.00	0.00
4,700.00	5.00	34.87	4,691.88	155.59	108.41	-108.68	0.00	0.00	0.00
4,800.00	5.00	34.87	4,791.50	162.74	113.39	-113.68	0.00	0.00	0.00
4,900.00	5.00	34.87	4,891.12	169.89	118.38	-118.67	0.00	0.00	0.00
5,000.00	5.00	34.87	4,990.73	177.05	123.36	-123.67	0.00	0.00	0.00
5,100.00	5.00	34.87	5,090.35	184.20	128.34	-128.67	0.00	0.00	0.00
5,200.00	5.00	34.87	5,189.97	191.35	133.33	-133.66	0.00	0.00	0.00
5,300.00	5.00	34.87	5,289.59	198.51	138.31	-138.66	0.00	0.00	0.00
5,400.00	5.00	34.87	5,389.21	205.66	143.30	-143.65	0.00	0.00	0.00
5,500.00	5.00	34.87	5,488.83	212.81	148.28	-148.65	0.00	0.00	0.00
5,600.00	5.00	34.87	5,588.45	219.96	153.26	-153.65	0.00	0.00	0.00
5,700.00	5.00	34.87	5,688.07	227.12	158.25	-158.64	0.00	0.00	0.00
5,769.19	5.00	34.87	5,757.00	232.07	161.70	-162.10	0.00	0.00	0.00
Brushy Canyon									
5,800.00	5.00	34.87	5,787.69	234.27	163.23	-163.64	0.00	0.00	0.00
5,900.00	5.00	34.87	5,887.31	241.42	168.22	-168.64	0.00	0.00	0.00
6,000.00	5.00	34.87	5,986.93	248.58	173.20	-173.63	0.00	0.00	0.00
6,100.00	5.00	34.87	6,086.55	255.73	178.19	-178.63	0.00	0.00	0.00
6,200.00	5.00	34.87	6,186.17	262.88	183.17	-183.63	0.00	0.00	0.00
6,300.00	5.00	34.87	6,285.78	270.04	188.15	-188.62	0.00	0.00	0.00
6,400.00	5.00	34.87	6,385.40	277.19	193.14	-193.62	0.00	0.00	0.00
6,500.00	5.00	34.87	6,485.02	284.34	198.12	-198.62	0.00	0.00	0.00
6,600.00	5.00	34.87	6,584.64	291.50	203.11	-203.61	0.00	0.00	0.00
6,700.00	5.00	34.87	6,684.26	298.65	208.09	-208.61	0.00	0.00	0.00
6,800.00	5.00	34.87	6,783.88	305.80	213.07	-213.61	0.00	0.00	0.00
6,834.25	5.00	34.87	6,818.00	308.25	214.78	-215.32	0.00	0.00	0.00
Basal Brushy Canyon									
6,900.00	5.00	34.87	6,883.50	312.96	218.06	-218.60	0.00	0.00	0.00
7,000.00	5.00	34.87	6,983.12	320.11	223.04	-223.60	0.00	0.00	0.00
7,067.14	5.00	34.87	7,050.00	324.91	226.39	-226.96	0.00	0.00	0.00
Bone Spring Lime									
7,100.00	5.00	34.87	7,082.74	327.26	228.03	-228.60	0.00	0.00	0.00
7,200.00	5.00	34.87	7,182.36	334.42	233.01	-233.59	0.00	0.00	0.00
7,300.00	5.00	34.87	7,281.98	341.57	238.00	-238.59	0.00	0.00	0.00
7,400.00	5.00	34.87	7,381.60	348.72	242.98	-243.59	0.00	0.00	0.00
7,500.00	5.00	34.87	7,481.22	355.88	247.96	-248.58	0.00	0.00	0.00
7,600.00	5.00	34.87	7,580.83	363.03	252.95	-253.58	0.00	0.00	0.00
7,700.00	5.00	34.87	7,680.45	370.18	257.93	-258.58	0.00	0.00	0.00
7,800.00	5.00	34.87	7,780.07	377.34	262.92	-263.57	0.00	0.00	0.00
7,900.00	5.00	34.87	7,879.69	384.49	267.90	-268.57	0.00	0.00	0.00
7,937.45	5.00	34.87	7,917.00	387.17	269.77	-270.44	0.00	0.00	0.00
1st Bone Spring Lime									
7,984.63	5.00	34.87	7,964.00	390.54	272.12	-272.80	0.00	0.00	0.00
1st Bone Spring Sand									
8,000.00	5.00	34.87	7,979.31	391.64	272.88	-273.57	0.00	0.00	0.00
8,100.00	5.00	34.87	8,078.93	398.80	277.87	-278.56	0.00	0.00	0.00
8,200.00	5.00	34.87	8,178.55	405.95	282.85	-283.56	0.00	0.00	0.00
8,300.00	5.00	34.87	8,278.17	413.10	287.84	-288.56	0.00	0.00	0.00



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Well #121
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 RKB = 15' @ 3105.00usft (Precision 525)
 Grid
 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)
8,400.00	5.00	34.87	8,377.79	420.26	292.82	-293.55	0.00	0.00	0.00
8,454.42	5.00	34.87	8,432.00	424.15	295.53	-296.27	0.00	0.00	0.00
2nd Bone Spring Lime									
8,500.00	5.00	34.87	8,477.41	427.41	297.80	-298.55	0.00	0.00	0.00
8,600.00	5.00	34.87	8,577.03	434.56	302.79	-303.55	0.00	0.00	0.00
8,700.00	5.00	34.87	8,676.65	441.72	307.77	-308.54	0.00	0.00	0.00
8,800.00	5.00	34.87	8,776.27	448.87	312.76	-313.54	0.00	0.00	0.00
8,826.84	5.00	34.87	8,803.00	450.79	314.09	-314.88	0.00	0.00	0.00
2nd Bone Spring Sand									
8,900.00	5.00	34.87	8,875.88	456.02	317.74	-318.54	0.00	0.00	0.00
9,000.00	5.00	34.87	8,975.50	463.18	322.73	-323.53	0.00	0.00	0.00
9,077.79	5.00	34.87	9,053.00	468.74	326.60	-327.42	0.00	0.00	0.00
3rd Bone Spring Lime									
9,100.00	5.00	34.87	9,075.12	470.33	327.71	-328.53	0.00	0.00	0.00
9,200.00	5.00	34.87	9,174.74	477.48	332.69	-333.53	0.00	0.00	0.00
9,300.00	5.00	34.87	9,274.36	484.63	337.68	-338.52	0.00	0.00	0.00
9,400.00	5.00	34.87	9,373.98	491.79	342.66	-343.52	0.00	0.00	0.00
9,500.00	5.00	34.87	9,473.60	498.94	347.65	-348.52	0.00	0.00	0.00
9,600.00	5.00	34.87	9,573.22	506.09	352.63	-353.51	0.00	0.00	0.00
9,700.00	5.00	34.87	9,672.84	513.25	357.61	-358.51	0.00	0.00	0.00
9,800.00	5.00	34.87	9,772.46	520.40	362.60	-363.51	0.00	0.00	0.00
9,900.00	5.00	34.87	9,872.08	527.55	367.58	-368.50	0.00	0.00	0.00
9,904.94	5.00	34.87	9,877.00	527.91	367.83	-368.75	0.00	0.00	0.00
3rd Bone Spring Sand									
10,000.00	5.00	34.87	9,971.70	534.71	372.57	-373.50	0.00	0.00	0.00
10,028.53	5.00	34.87	10,000.12	536.75	373.99	-374.93	0.00	0.00	0.00
10,050.00	4.17	9.82	10,021.52	538.29	374.66	-375.60	10.00	-3.89	-116.68
10,100.00	5.93	313.66	10,071.35	541.86	373.10	-374.04	10.00	3.54	-112.32
10,150.00	10.15	293.62	10,120.86	545.41	367.19	-368.14	10.00	8.43	-40.06
10,200.00	14.86	285.68	10,169.66	548.91	356.97	-357.93	10.00	9.41	-15.88
10,250.00	19.70	281.54	10,217.39	552.33	342.53	-343.50	10.00	9.70	-8.28
10,262.38	20.92	280.81	10,229.00	553.17	338.32	-339.28	10.00	9.78	-5.95
Wolfcamp									
10,292.67	23.89	279.31	10,257.00	555.17	326.95	-327.92	10.00	9.82	-4.95
Wolfcamp X									
10,300.00	24.61	278.99	10,263.69	555.65	323.98	-324.95	10.00	9.85	-4.25
10,350.00	29.55	277.25	10,308.19	558.84	301.45	-302.43	10.00	9.87	-3.48
10,364.83	31.02	276.84	10,321.00	559.75	294.03	-295.00	10.00	9.90	-2.82
Wolfcamp Y									
10,400.00	34.50	275.97	10,350.57	561.87	275.12	-276.10	10.00	9.91	-2.45
10,427.69	37.25	275.40	10,373.00	563.47	258.97	-259.96	10.00	9.92	-2.09
Wolfcamp A									
10,450.00	39.47	274.98	10,390.50	564.73	245.18	-246.17	10.00	9.93	-1.86
10,500.00	44.44	274.18	10,427.67	567.38	211.87	-212.86	10.00	9.94	-1.61
10,550.00	49.42	273.50	10,461.81	569.82	175.44	-176.44	10.00	9.95	-1.34
10,600.00	54.39	272.93	10,492.64	572.02	136.17	-137.17	10.00	9.96	-1.16
10,650.00	59.38	272.41	10,519.95	573.96	94.35	-95.35	10.00	9.96	-1.02
10,700.00	64.36	271.95	10,543.52	575.64	50.30	-51.30	10.00	9.97	-0.92
10,750.00	69.34	271.53	10,563.17	577.03	4.36	-5.37	10.00	9.97	-0.85
10,800.00	74.33	271.13	10,578.75	578.14	-43.12	42.11	10.00	9.97	-0.79
10,850.00	79.32	270.76	10,590.14	578.94	-91.78	90.77	10.00	9.97	-0.76
10,900.00	84.30	270.39	10,597.27	579.43	-141.25	140.24	10.00	9.97	-0.73
10,946.28	88.92	270.06	10,600.00	579.61	-187.44	186.43	10.00	9.97	-0.72



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 North Reference: Grid
 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)
Landing Point									
10,950.00	89.29	270.03	10,600.06	579.61	-191.16	190.15	10.00	9.97	-0.72
10,967.94	91.08	269.90	10,600.00	579.60	-209.10	208.09	10.00	9.97	-0.72
Tombstone 11 #121H: FTP/ LP									
11,000.00	91.08	269.90	10,599.40	579.54	-241.15	240.14	0.00	0.00	0.00
11,100.00	91.08	269.90	10,597.51	579.37	-341.13	340.12	0.00	0.00	0.00
11,200.00	91.08	269.90	10,595.63	579.20	-441.12	440.10	0.00	0.00	0.00
11,300.00	91.08	269.90	10,593.74	579.03	-541.10	540.09	0.00	0.00	0.00
11,400.00	91.08	269.90	10,591.86	578.86	-641.08	640.07	0.00	0.00	0.00
11,500.00	91.08	269.90	10,589.97	578.69	-741.06	740.05	0.00	0.00	0.00
11,600.00	91.08	269.90	10,588.09	578.51	-841.04	840.03	0.00	0.00	0.00
11,700.00	91.08	269.90	10,586.20	578.34	-941.03	940.02	0.00	0.00	0.00
11,800.00	91.08	269.90	10,584.32	578.17	-1,041.01	1,040.00	0.00	0.00	0.00
11,900.00	91.08	269.90	10,582.43	578.00	-1,140.99	1,139.98	0.00	0.00	0.00
12,000.00	91.08	269.90	10,580.55	577.83	-1,240.97	1,239.96	0.00	0.00	0.00
12,100.00	91.08	269.90	10,578.66	577.66	-1,340.95	1,339.94	0.00	0.00	0.00
12,200.00	91.08	269.90	10,576.78	577.48	-1,440.94	1,439.93	0.00	0.00	0.00
12,300.00	91.08	269.90	10,574.89	577.31	-1,540.92	1,539.91	0.00	0.00	0.00
12,400.00	91.08	269.90	10,573.00	577.14	-1,640.90	1,639.89	0.00	0.00	0.00
12,500.00	91.08	269.90	10,571.12	576.97	-1,740.88	1,739.87	0.00	0.00	0.00
12,600.00	91.08	269.90	10,569.23	576.80	-1,840.87	1,839.86	0.00	0.00	0.00
12,700.00	91.08	269.90	10,567.35	576.63	-1,940.85	1,939.84	0.00	0.00	0.00
12,800.00	91.08	269.90	10,565.46	576.45	-2,040.83	2,039.82	0.00	0.00	0.00
12,900.00	91.08	269.90	10,563.58	576.28	-2,140.81	2,139.80	0.00	0.00	0.00
13,000.00	91.08	269.90	10,561.69	576.11	-2,240.79	2,239.78	0.00	0.00	0.00
13,100.00	91.08	269.90	10,559.81	575.94	-2,340.78	2,339.77	0.00	0.00	0.00
13,200.00	91.08	269.90	10,557.92	575.77	-2,440.76	2,439.75	0.00	0.00	0.00
13,300.00	91.08	269.90	10,556.04	575.59	-2,540.74	2,539.73	0.00	0.00	0.00
13,400.00	91.08	269.90	10,554.15	575.42	-2,640.72	2,639.71	0.00	0.00	0.00
13,500.00	91.08	269.90	10,552.27	575.25	-2,740.70	2,739.70	0.00	0.00	0.00
13,600.00	91.08	269.90	10,550.38	575.08	-2,840.69	2,839.68	0.00	0.00	0.00
13,700.00	91.08	269.90	10,548.50	574.91	-2,940.67	2,939.66	0.00	0.00	0.00
13,800.00	91.08	269.90	10,546.61	574.74	-3,040.65	3,039.64	0.00	0.00	0.00
13,900.00	91.08	269.90	10,544.73	574.56	-3,140.63	3,139.62	0.00	0.00	0.00
14,000.00	91.08	269.90	10,542.84	574.39	-3,240.61	3,239.61	0.00	0.00	0.00
14,100.00	91.08	269.90	10,540.96	574.22	-3,340.60	3,339.59	0.00	0.00	0.00
14,200.00	91.08	269.90	10,539.07	574.05	-3,440.58	3,439.57	0.00	0.00	0.00
14,300.00	91.08	269.90	10,537.19	573.88	-3,540.56	3,539.55	0.00	0.00	0.00
14,400.00	91.08	269.90	10,535.30	573.71	-3,640.54	3,639.54	0.00	0.00	0.00
14,500.00	91.08	269.90	10,533.42	573.53	-3,740.52	3,739.52	0.00	0.00	0.00
14,600.00	91.08	269.90	10,531.53	573.36	-3,840.51	3,839.50	0.00	0.00	0.00
14,700.00	91.08	269.90	10,529.65	573.19	-3,940.49	3,939.48	0.00	0.00	0.00
14,800.00	91.08	269.90	10,527.76	573.02	-4,040.47	4,039.46	0.00	0.00	0.00
14,900.00	91.08	269.90	10,525.88	572.85	-4,140.45	4,139.45	0.00	0.00	0.00
15,000.00	91.08	269.90	10,523.99	572.67	-4,240.44	4,239.43	0.00	0.00	0.00
15,100.00	91.08	269.90	10,522.11	572.50	-4,340.42	4,339.41	0.00	0.00	0.00
15,200.00	91.08	269.90	10,520.22	572.33	-4,440.40	4,439.39	0.00	0.00	0.00
15,300.00	91.08	269.90	10,518.34	572.16	-4,540.38	4,539.38	0.00	0.00	0.00
15,400.00	91.08	269.90	10,516.45	571.99	-4,640.36	4,639.36	0.00	0.00	0.00
15,500.00	91.08	269.90	10,514.57	571.82	-4,740.35	4,739.34	0.00	0.00	0.00
15,600.00	91.08	269.90	10,512.68	571.64	-4,840.33	4,839.32	0.00	0.00	0.00
15,612.27	91.08	269.90	10,512.45	571.62	-4,852.60	4,851.59	0.00	0.00	0.00
15,612.32	91.08	269.90	10,512.45	571.62	-4,852.65	4,851.64	0.00	0.00	0.00



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 North Reference: Grid
 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)
Tombstone 11 #121H: LTP									
15,700.00	91.08	269.90	10,510.80	571.47	-4,940.31	4,939.31	0.00	0.00	0.00
15,742.30	91.08	269.90	10,510.00	571.40	-4,982.60	4,981.60	0.00	0.00	0.00
Tombstone 11 #121H: PBHL (330' FNL & 200' FWL)									

Design Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
Tombstone 11 #121H	0.00	0.01	0.00	0.00	0.00	418,258.20	619,717.00	32.149317	-103.946516
- plan hits target center									
- Point									
Tombstone 11 #121H	0.00	0.01	10,510.00	571.70	-4,852.60	418,829.90	614,864.40	32.150936	-103.962189
- plan misses target center by 2.45usft at 15612.32usft MD (10512.45 TVD, 571.62 N, -4852.65 E)									
- Point									
Tombstone 11 #121H	0.00	0.01	10,510.00	571.40	-4,982.60	418,829.60	614,734.40	32.150936	-103.962609
- plan hits target center									
- Point									
Tombstone 11 #121H	0.00	0.01	10,600.00	579.60	-209.10	418,837.80	619,507.90	32.150913	-103.947185
- plan hits target center									
- Point									

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
671.00	671.00	Rustler			
944.00	944.00	Salado (Top of Salt)			
3,022.74	3,021.00	Base of Salt			
3,236.55	3,234.00	Delaware (Bell Canyon)			
4,157.06	4,151.00	Cherry Canyon			
5,769.19	5,757.00	Brushy Canyon			
6,834.25	6,818.00	Basal Brushy Canyon			
7,067.14	7,050.00	Bone Spring Lime			
7,937.45	7,917.00	1st Bone Spring Lime			
7,984.63	7,964.00	1st Bone Spring Sand			
8,454.42	8,432.00	2nd Bone Spring Lime			
8,826.84	8,803.00	2nd Bone Spring Sand			
9,077.79	9,053.00	3rd Bone Spring Lime			
9,904.94	9,877.00	3rd Bone Spring Sand			
10,262.38	10,229.00	Wolfcamp			
10,292.67	10,257.00	Wolfcamp X			
10,364.83	10,321.00	Wolfcamp Y			
10,427.69	10,373.00	Wolfcamp A			
10,946.28	10,600.00	Landing Point			



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