

WPXENERGY®

WPX Energy

Eddy County, New Mexico (NAD 83)

Bindel 4 Fee

Bindel 4 Fee 1H

Pilot Hole

**NM OIL CONSERVATION
ARTESIA DISTRICT**

OCT 11 2018

RECEIVED

30-015-45042

Plan: Design #3

Standard Planning Report

05 October, 2018

MS Directional

Database: EDM 5000.14 Conroe DB
Company: WPX Energy
Project: Eddy County, New Mexico (NAD 83)
Site: Bindel 4 Fee
Well: Bindel 4 Fee 1H
Wellbore: Pilot Hole
Design: Design #3

Local Co-ordinate Reference: Well Bindel 4 Fee 1H
TVD Reference: WELL @ 3151.00usft (Orion Phoenix)
MD Reference: WELL @ 3151.00usft (Orion Phoenix)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Project	Eddy County, New Mexico (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	Bindel 4 Fee		
Site Position:		Northing:	485,869.60 usft
From:	Map	Easting:	585,912.10 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 20' 8.321 N
		Longitude:	104° 11' 20.438 W

Well	Bindel 4 Fee 1H		
Well Position	+N/-S	0.00 usft	Northing: 486,168.40 usft
	+E/-W	0.00 usft	Easting: 585,969.50 usft
Position Uncertainty	0.00 usft	Wellhead Elevation:	usft
Grid Convergence:	0.08 °	Ground Level:	3,126.00 usft

Wellbore	Pilot Hole		
Magnetics	Model Name	Sample Date	Declination (°)
	BGGM2018	10/10/2018	7.17
			Dip Angle (°)
			60.00
			Field Strength (nT)
			47,864

Design	Design #3		
Audit Notes:			
Version:	Phase:	PLAN	Tie On Depth: 0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)
	0.00	0.00	0.00
			Direction (°)
			268.89

Plan Survey Tool Program	Date 10/5/2018		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name
1	0.00	9,989.07 Design #3 (Pilot Hole)	MWD
			OWSG MWD - Standard

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Bulld 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	
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,700.23	10.00	116.76	2,697.69	-19.61	38.90	2.00	2.00	0.00	116.76	
8,223.84	10.00	116.76	8,137.31	-451.62	895.75	0.00	0.00	0.00	0.00	
8,724.07	0.00	0.00	8,635.00	-471.23	934.65	2.00	-2.00	0.00	180.00	VP v3 - Bindel 4 Fe
9,989.07	0.00	0.00	9,900.00	-471.23	934.65	0.00	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)
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
350.00	0.00	0.00	350.00	0.00	0.00	0.00	0.00	0.00	0.00
13 3/8"									
354.00	0.00	0.00	354.00	0.00	0.00	0.00	0.00	0.00	0.00
Salado									
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
697.00	0.00	0.00	697.00	0.00	0.00	0.00	0.00	0.00	0.00
Castile									
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
2,130.00	0.00	0.00	2,130.00	0.00	0.00	0.00	0.00	0.00	0.00
Bell Canyon									
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
KOP, 2.00°/100' Build									
2,300.00	2.00	116.76	2,299.98	-0.79	1.56	-1.54	2.00	2.00	0.00
2,400.00	4.00	116.76	2,399.84	-3.14	6.23	-6.17	2.00	2.00	0.00
2,500.00	6.00	116.76	2,499.45	-7.07	14.01	-13.87	2.00	2.00	0.00
2,600.00	8.00	116.76	2,598.70	-12.55	24.89	-24.65	2.00	2.00	0.00
2,700.23	10.00	116.76	2,697.69	-19.61	38.90	-38.51	2.00	2.00	0.00
Begin 10.00° Tangent									
2,800.00	10.00	116.76	2,795.94	-27.41	54.38	-53.83	0.00	0.00	0.00
2,900.00	10.00	116.76	2,894.42	-35.24	69.89	-69.19	0.00	0.00	0.00
3,000.00	10.00	116.76	2,992.90	-43.06	85.40	-84.55	0.00	0.00	0.00
3,098.60	10.00	116.76	3,090.00	-50.77	100.70	-99.69	0.00	0.00	0.00
Cherry Canyon									
3,100.00	10.00	116.76	3,091.38	-50.88	100.91	-99.91	0.00	0.00	0.00
3,200.00	10.00	116.76	3,189.86	-58.70	116.43	-115.27	0.00	0.00	0.00
3,300.00	10.00	116.76	3,288.34	-66.52	131.94	-130.62	0.00	0.00	0.00
3,400.00	10.00	116.76	3,386.82	-74.34	147.45	-145.98	0.00	0.00	0.00
3,500.00	10.00	116.76	3,485.30	-82.16	162.96	-161.34	0.00	0.00	0.00
3,600.00	10.00	116.76	3,583.78	-89.98	178.48	-176.70	0.00	0.00	0.00
3,700.00	10.00	116.76	3,682.26	-97.81	193.99	-192.06	0.00	0.00	0.00
3,800.00	10.00	116.76	3,780.74	-105.63	209.50	-207.42	0.00	0.00	0.00
3,900.00	10.00	116.76	3,879.22	-113.45	225.01	-222.77	0.00	0.00	0.00
4,000.00	10.00	116.76	3,977.70	-121.27	240.53	-238.13	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)
4,056.16	10.00	116.76	4,033.00	-125.66	249.24	-246.76	0.00	0.00	0.00
Brushy Canyon									
4,100.00	10.00	116.76	4,076.18	-129.09	256.04	-253.49	0.00	0.00	0.00
4,200.00	10.00	116.76	4,174.66	-136.91	271.55	-268.85	0.00	0.00	0.00
4,300.00	10.00	116.76	4,273.14	-144.73	287.06	-284.21	0.00	0.00	0.00
4,400.00	10.00	116.76	4,371.61	-152.55	302.58	-299.57	0.00	0.00	0.00
4,500.00	10.00	116.76	4,470.09	-160.37	318.09	-314.92	0.00	0.00	0.00
4,600.00	10.00	116.76	4,568.57	-168.20	333.60	-330.28	0.00	0.00	0.00
4,700.00	10.00	116.76	4,667.05	-176.02	349.12	-345.64	0.00	0.00	0.00
4,800.00	10.00	116.76	4,765.53	-183.84	364.63	-361.00	0.00	0.00	0.00
4,900.00	10.00	116.76	4,864.01	-191.66	380.14	-376.36	0.00	0.00	0.00
5,000.00	10.00	116.76	4,962.49	-199.48	395.65	-391.71	0.00	0.00	0.00
5,100.00	10.00	116.76	5,060.97	-207.30	411.17	-407.07	0.00	0.00	0.00
5,200.00	10.00	116.76	5,159.45	-215.12	426.68	-422.43	0.00	0.00	0.00
5,300.00	10.00	116.76	5,257.93	-222.94	442.19	-437.79	0.00	0.00	0.00
5,400.00	10.00	116.76	5,356.41	-230.76	457.70	-453.15	0.00	0.00	0.00
5,500.00	10.00	116.76	5,454.89	-238.59	473.22	-468.51	0.00	0.00	0.00
5,600.00	10.00	116.76	5,553.37	-246.41	488.73	-483.86	0.00	0.00	0.00
5,607.75	10.00	116.76	5,561.00	-247.01	489.93	-485.05	0.00	0.00	0.00
Bone Spring									
5,700.00	10.00	116.76	5,651.85	-254.23	504.24	-499.22	0.00	0.00	0.00
5,710.31	10.00	116.76	5,662.00	-255.03	505.84	-500.81	0.00	0.00	0.00
9 5/8"									
5,800.00	10.00	116.76	5,750.33	-262.05	519.75	-514.58	0.00	0.00	0.00
5,900.00	10.00	116.76	5,848.81	-269.87	535.27	-529.94	0.00	0.00	0.00
6,000.00	10.00	116.76	5,947.29	-277.69	550.78	-545.30	0.00	0.00	0.00
6,038.30	10.00	116.76	5,985.00	-280.69	556.72	-551.18	0.00	0.00	0.00
Avalon									
6,100.00	10.00	116.76	6,045.76	-285.51	566.29	-560.65	0.00	0.00	0.00
6,200.00	10.00	116.76	6,144.24	-293.33	581.80	-576.01	0.00	0.00	0.00
6,300.00	10.00	116.76	6,242.72	-301.15	597.32	-591.37	0.00	0.00	0.00
6,400.00	10.00	116.76	6,341.20	-308.98	612.83	-606.73	0.00	0.00	0.00
6,500.00	10.00	116.76	6,439.68	-316.80	628.34	-622.09	0.00	0.00	0.00
6,567.34	10.00	116.76	6,506.00	-322.06	638.79	-632.43	0.00	0.00	0.00
1st Bone Spring Sand									
6,600.00	10.00	116.76	6,538.16	-324.62	643.85	-637.45	0.00	0.00	0.00
6,700.00	10.00	116.76	6,636.64	-332.44	659.37	-652.80	0.00	0.00	0.00
6,800.00	10.00	116.76	6,735.12	-340.26	674.88	-668.16	0.00	0.00	0.00
6,854.71	10.00	116.76	6,789.00	-344.54	683.37	-676.56	0.00	0.00	0.00
2nd Bone Spring Lime									
6,900.00	10.00	116.76	6,833.60	-348.08	690.39	-683.52	0.00	0.00	0.00
7,000.00	10.00	116.76	6,932.08	-355.90	705.91	-698.88	0.00	0.00	0.00
7,100.00	10.00	116.76	7,030.56	-363.72	721.42	-714.24	0.00	0.00	0.00
7,186.76	10.00	116.76	7,116.00	-370.51	734.88	-727.56	0.00	0.00	0.00
2nd Bone Spring Sand									
7,200.00	10.00	116.76	7,129.04	-371.54	736.93	-729.59	0.00	0.00	0.00
7,300.00	10.00	116.76	7,227.52	-379.37	752.44	-744.95	0.00	0.00	0.00
7,400.00	10.00	116.76	7,326.00	-387.19	767.96	-760.31	0.00	0.00	0.00
7,402.03	10.00	116.76	7,328.00	-387.35	768.27	-760.62	0.00	0.00	0.00
3rd Bone Spring Lime									
7,500.00	10.00	116.76	7,424.48	-395.01	783.47	-775.67	0.00	0.00	0.00
7,600.00	10.00	116.76	7,522.96	-402.83	798.98	-791.03	0.00	0.00	0.00
7,700.00	10.00	116.76	7,621.43	-410.65	814.49	-806.39	0.00	0.00	0.00

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7,800.00	10.00	116.76	7,719.91	-418.47	830.01	-821.74	0.00	0.00	0.00
7,900.00	10.00	116.76	7,818.39	-426.29	845.52	-837.10	0.00	0.00	0.00
8,000.00	10.00	116.76	7,916.87	-434.11	861.03	-852.46	0.00	0.00	0.00
8,100.00	10.00	116.76	8,015.35	-441.93	876.54	-867.82	0.00	0.00	0.00
8,200.00	10.00	116.76	8,113.83	-449.76	892.06	-883.18	0.00	0.00	0.00
8,223.84	10.00	116.76	8,137.31	-451.62	895.75	-886.84	0.00	0.00	0.00
Begin 2.00°/100' Drop									
8,300.00	8.48	116.76	8,212.48	-457.13	906.68	-897.65	2.00	-2.00	0.00
8,347.24	7.54	116.76	8,259.26	-460.09	912.56	-903.47	2.00	-2.00	0.00
VP v2 - Bindel 4 Fee 1H									
8,400.00	6.48	116.76	8,311.62	-462.99	918.30	-909.16	2.00	-2.00	0.00
8,500.00	4.48	116.76	8,411.16	-467.29	926.83	-917.61	2.00	-2.00	0.00
8,600.00	2.48	116.76	8,510.97	-470.02	932.25	-922.97	2.00	-2.00	0.00
8,676.07	0.96	116.76	8,587.00	-471.05	934.29	-924.99	2.00	-2.00	0.00
3rd Bone Spring Sand									
8,700.00	0.48	116.76	8,610.93	-471.19	934.56	-925.26	2.00	-2.00	0.00
8,724.07	0.00	0.00	8,635.00	-471.23	934.65	-925.35	2.00	-2.00	0.00
Begin Vertical Hold - VP v3 - Bindel 4 Fee 1H									
8,800.00	0.00	0.00	8,710.93	-471.23	934.65	-925.35	0.00	0.00	0.00
8,900.00	0.00	0.00	8,810.93	-471.23	934.65	-925.35	0.00	0.00	0.00
9,000.00	0.00	0.00	8,910.93	-471.23	934.65	-925.35	0.00	0.00	0.00
9,018.07	0.00	0.00	8,929.00	-471.23	934.65	-925.35	0.00	0.00	0.00
Wolfcamp Top									
9,050.07	0.00	0.00	8,961.00	-471.23	934.65	-925.35	0.00	0.00	0.00
WC_X									
9,100.00	0.00	0.00	9,010.93	-471.23	934.65	-925.35	0.00	0.00	0.00
9,115.07	0.00	0.00	9,026.00	-471.23	934.65	-925.35	0.00	0.00	0.00
WC_Y									
9,155.07	0.00	0.00	9,066.00	-471.23	934.65	-925.35	0.00	0.00	0.00
Wolfcamp A									
9,200.00	0.00	0.00	9,110.93	-471.23	934.65	-925.35	0.00	0.00	0.00
9,300.00	0.00	0.00	9,210.93	-471.23	934.65	-925.35	0.00	0.00	0.00
9,345.07	0.00	0.00	9,256.00	-471.23	934.65	-925.35	0.00	0.00	0.00
Wolfcamp B									
9,400.00	0.00	0.00	9,310.93	-471.23	934.65	-925.35	0.00	0.00	0.00
9,500.00	0.00	0.00	9,410.93	-471.23	934.65	-925.35	0.00	0.00	0.00
9,522.07	0.00	0.00	9,433.00	-471.23	934.65	-925.35	0.00	0.00	0.00
Wolfcamp C									
9,600.00	0.00	0.00	9,510.93	-471.23	934.65	-925.35	0.00	0.00	0.00
9,700.00	0.00	0.00	9,610.93	-471.23	934.65	-925.35	0.00	0.00	0.00
9,709.07	0.00	0.00	9,620.00	-471.23	934.65	-925.35	0.00	0.00	0.00
Wolfcamp D									
9,730.07	0.00	0.00	9,641.00	-471.23	934.65	-925.35	0.00	0.00	0.00
PBHL v3 - Bindel 4 Fee 1H									
9,800.00	0.00	0.00	9,710.93	-471.23	934.65	-925.35	0.00	0.00	0.00
9,900.00	0.00	0.00	9,810.93	-471.23	934.65	-925.35	0.00	0.00	0.00
9,975.07	0.00	0.00	9,886.00	-471.23	934.65	-925.35	0.00	0.00	0.00
Wolfcamp D Base									
9,989.07	0.00	0.00	9,900.00	-471.23	934.65	-925.35	0.00	0.00	0.00
Pilot Hole PBHL									

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Local Co-ordinate Reference: Well Bindel 4 Fee 1H
TVD Reference: WELL @ 3151.00usft (Orion Phoenix)
MD Reference: WELL @ 3151.00usft (Orion Phoenix)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

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
VP v3 - Bindel 4 Fee - plan hits target center - Point	0.00	0.00	8,635.00	-471.23	934.65	485,697.17	586,904.16	32° 20' 6.601 N	104° 11' 8.878 W

Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
350.00	350.00	13 3/8"	13-3/8	17-1/2
5,710.31	5,662.00	9 5/8"	9-5/8	12-1/4

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
354.00	354.00	Salado		0.00	
697.00	697.00	Castile		0.00	
2,130.00	2,130.00	Bell Canyon		0.00	
3,098.60	3,090.00	Cherry Canyon		0.00	
4,056.16	4,033.00	Brushy Canyon		0.00	
5,607.75	5,561.00	Bone Spring		0.00	
6,038.30	5,985.00	Avalon		0.00	
6,567.34	6,506.00	1st Bone Spring Sand		0.00	
6,854.71	6,789.00	2nd Bone Spring Lime		0.00	
7,186.76	7,116.00	2nd Bone Spring Sand		0.00	
7,402.03	7,328.00	3rd Bone Spring Lime		0.00	
8,676.07	8,587.00	3rd Bone Spring Sand		0.00	
9,018.07	8,929.00	Wolfcamp Top		0.00	
9,050.07	8,961.00	WC_X		0.00	
9,115.07	9,026.00	WC_Y		0.00	
9,155.07	9,066.00	Wolfcamp A		0.00	
9,345.07	9,256.00	Wolfcamp B		0.00	
9,522.07	9,433.00	Wolfcamp C		0.00	
9,709.07	9,620.00	Wolfcamp D		0.00	
9,975.07	9,886.00	Wolfcamp D Base		0.00	

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
2,200.00	2,200.00	0.00	0.00	KOP, 2.00°/100' Build
2,700.23	2,697.69	-19.61	38.90	Begin 10.00° Tangent
8,223.84	8,137.31	-451.62	895.75	Begin 2.00°/100' Drop
8,724.07	8,635.00	-471.23	934.65	Begin Vertical Hold
9,989.07	9,900.00	-471.23	934.65	Pilot Hole PBHL

WPXENERGY

Company: WPX Energy
Site: Bindel 4 Fee
Well: Bindel 4 Fee 1H
Project: Eddy County, New Mexico (NAD 83)
Rig Name: Orion Phoenix

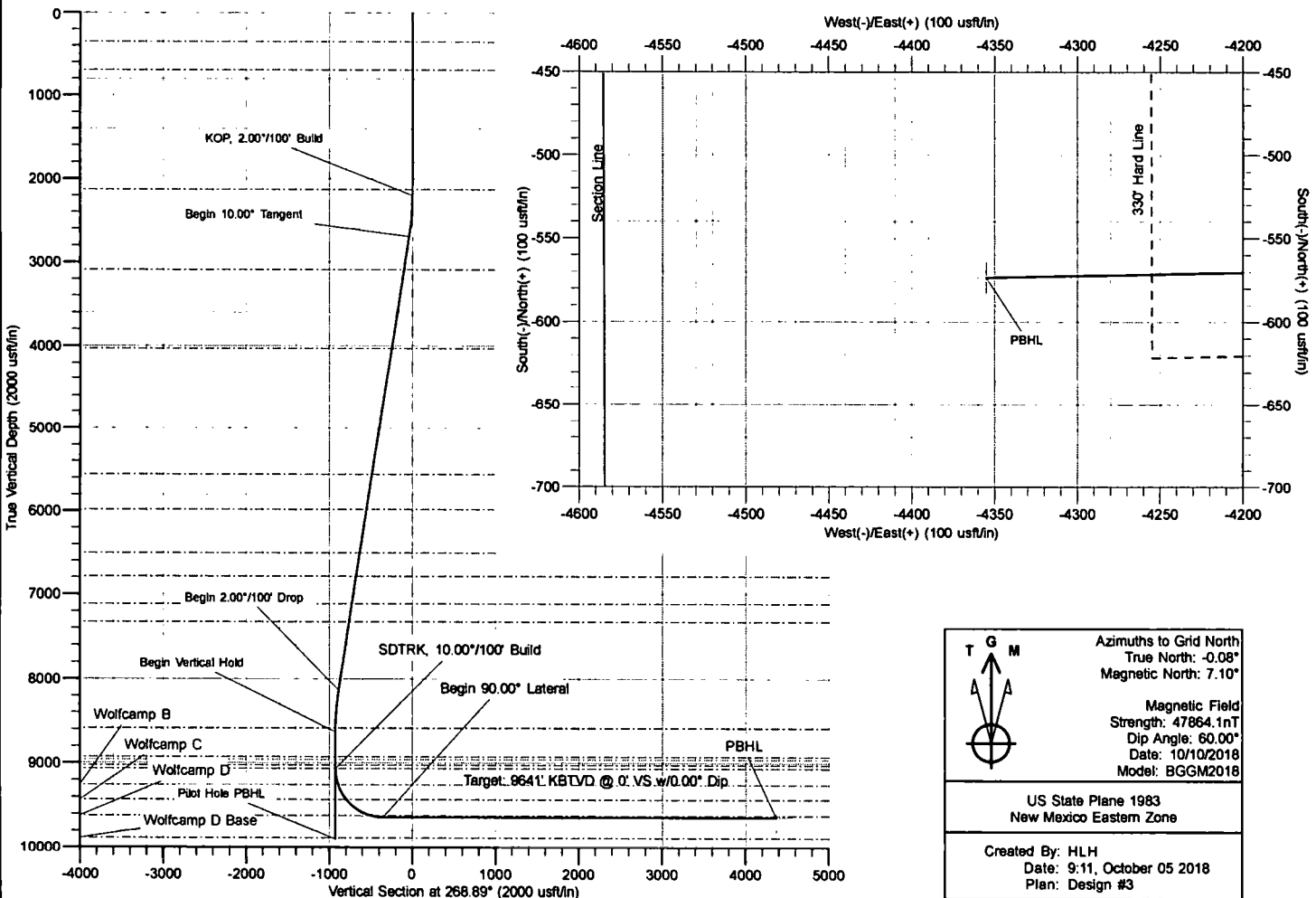
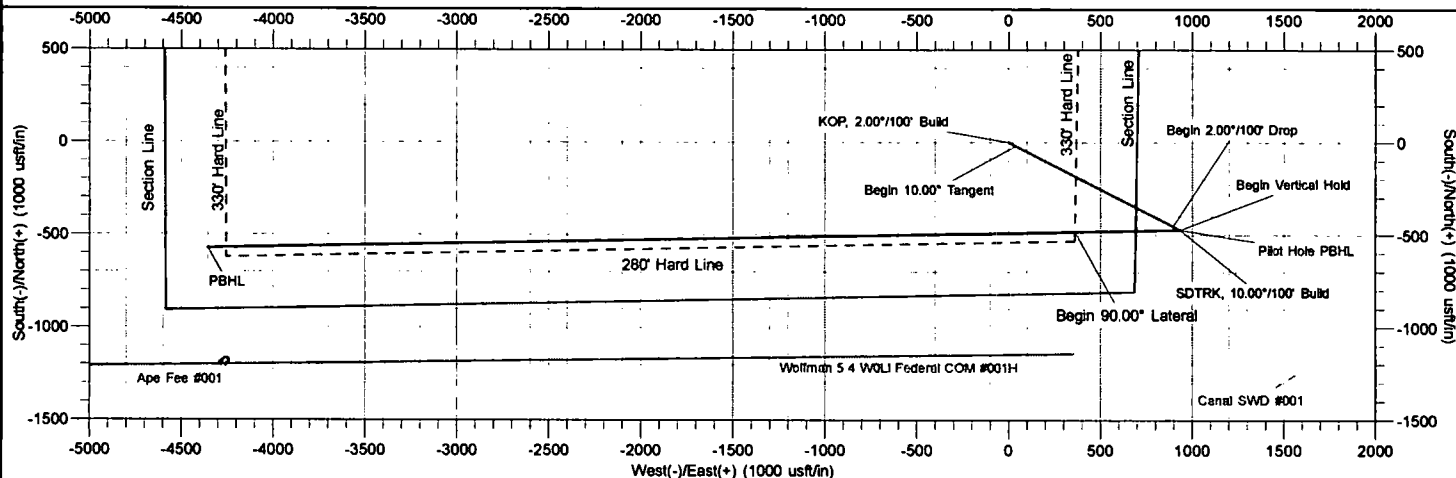
MS Directional

ANNOTATIONS

MD	Inc	Azi	TVD	+N/-S	+E/-W	VSect	Departure	Annotation
2200.00	0.00	0.00	2200.00	0.00	0.00	0.00	0.00	KOP, 2.00°/100' Build
2700.23	10.00	116.76	2697.69	-19.61	38.90	-38.51	43.56	Begin 10.00° Tangent
8223.84	10.00	116.76	8137.31	-451.62	895.75	-886.84	1003.16	Begin 2.00°/100' Drop
8724.07	0.00	0.00	8635.00	-471.23	934.65	-925.35	1046.73	Begin Vertical Hold
9989.07	0.00	0.00	9900.00	-471.23	934.65	-925.35	1046.73	Pilot Hole PBHL

ANNOTATIONS

MD	Inc	Azi	TVD	+N/-S	+E/-W	VSect	Departure	Annotation
9157.11	0.00	0.00	9068.04	-471.23	934.65	-925.35	0.00	SDTRK, 10.00°/100' Build
10057.11	90.00	268.89	9641.00	-482.30	381.80	-352.39	572.96	Begin 90.00° Lateral
14774.79	90.00	268.89	9641.00	-573.40	-4355.00	4365.29	5290.64	PBHL



T G M

Azimuths to Grid North
True North: -0.08°
Magnetic North: 7.10°

Magnetic Field
Strength: 47864.1nT
Dip Angle: 60.00°
Date: 10/10/2018
Model: BGGM2018

US State Plane 1983
New Mexico Eastern Zone

Created By: HLH
Date: 9:11, October 05 2018
Plan: Design #3

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 MS Energy are at the sole risk and responsibility of the customer. MS Energy is not responsible for the accuracy of this schematic or the information contained herein.