



Professional Directional Planning Report



Database:	WellPlanner1	Local Co-ordinate Reference:	Well Catapult WA #6H
Company:	Marathon Oil	TVD Reference:	Well @ 3242.00usft (GL: 3217' + KB: 25' (Prec594))
Project:	Eddy County, NM	MD Reference:	Well @ 3242.00usft (GL: 3217' + KB: 25' (Prec594))
Site:	Catapult-Airport Pad	North Reference:	Grid
Well:	Catapult WA #6H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Prelim Plan B		

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	Catapult-Airport Pad				
Site Position:		Northing:	488,120.19 usft	Latitude:	32.341925
From:	Map	Easting:	528,313.43 usft	Longitude:	-104.241657
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.05 °

Well	Catapult WA #6H					
Well Position	+N/-S	0.00 usft	Northing:	488,120.19 usft	Latitude:	32.341925
	+E/-W	0.00 usft	Easting:	528,313.43 usft	Longitude:	-104.241657
Position Uncertainty	0.00 usft		Wellhead Elevation:		Ground Level:	3,217.00 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	4/17/2018	7.37	60.07	48,010.30

Design	Prelim Plan B			
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	180.13

Plan Survey Tool Program		Date 8/21/2018			
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.00	1,150.00 Prelim Plan B (OH)	MWD+IFR1 OWSG MWD + IFR1	NM OIL CONSERVATION ARTESIA DISTRICT SEP 10 2018 RECEIVED	
2	1,150.00	5,400.00 Prelim Plan B (OH)	MWD+IFR1 OWSG MWD + IFR1		
3	5,400.00	10,000.00 Prelim Plan B (OH)	MWD+IFR1 OWSG MWD + IFR1		
4	10,000.00	13,981.25 Prelim Plan B (OH)	MWD+IFR1 OWSG MWD + IFR1		

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Project:	Eddy County, NM	MD Reference:	Well @ 3242.00usft (GL: 3217' + KB: 25' (Prec594))
Site:	Catapult-Airport Pad	North Reference:	Grid
Well:	Catapult WA #6H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Prelim Plan B		

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	
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,300.00	2.00	0.00	1,299.84	13.96	0.00	0.25	0.25	0.00	0.00	
1,800.47	2.00	0.00	1,800.00	31.43	0.00	0.00	0.00	0.00	0.00	
2,340.32	10.00	108.29	2,337.18	26.12	44.65	2.00	1.48	20.06	118.31	
4,183.55	10.00	108.29	4,152.39	-74.34	348.65	0.00	0.00	0.00	0.00	
4,683.70	0.00	0.00	4,650.00	-88.00	390.00	2.00	-2.00	0.00	180.00	
8,392.70	0.00	0.00	8,359.00	-88.00	390.00	0.00	0.00	0.00	0.00	[CatTB#6H]KOP
9,299.71	90.70	180.13	8,931.92	-667.96	388.73	10.00	10.00	-19.83	180.13	
13,936.25	90.70	180.13	8,875.21	-5,304.15	378.62	0.00	0.00	0.00	0.00	[CatTB#6H]LTP/BHL
13,981.25	90.70	180.13	8,874.66	-5,349.15	378.52	0.00	0.00	0.00	0.00	

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Company: Marathon Oil

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TVD Reference: Well @ 3242.00usft (GL: 3217' + KB: 25' (Prec594))

Project: Eddy County, NM

MD Reference: Well @ 3242.00usft (GL: 3217' + KB: 25' (Prec594))

Site: Catapult-Airport Pad

North Reference: Grid

Well: Catapult WA #6H

Survey Calculation Method: Minimum Curvature

Wellbore: OH

Design: Prelim Plan B

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
[CatTB#6H]FTP									
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	0.25	0.00	600.00	0.22	0.00	-0.22	0.25	0.25	0.00
700.00	0.50	0.00	700.00	0.87	0.00	-0.87	0.25	0.25	0.00
800.00	0.75	0.00	799.99	1.96	0.00	-1.96	0.25	0.25	0.00
900.00	1.00	0.00	899.98	3.49	0.00	-3.49	0.25	0.25	0.00
1,000.00	1.25	0.00	999.96	5.45	0.00	-5.45	0.25	0.25	0.00
1,100.00	1.50	0.00	1,099.93	7.85	0.00	-7.85	0.25	0.25	0.00
1,200.00	1.75	0.00	1,199.89	10.69	0.00	-10.69	0.25	0.25	0.00
1,300.00	2.00	0.00	1,299.84	13.96	0.00	-13.96	0.25	0.25	0.00
1,400.00	2.00	0.00	1,399.78	17.45	0.00	-17.45	0.00	0.00	0.00
1,500.00	2.00	0.00	1,499.72	20.94	0.00	-20.94	0.00	0.00	0.00
1,600.00	2.00	0.00	1,599.65	24.43	0.00	-24.43	0.00	0.00	0.00
1,700.00	2.00	0.00	1,699.59	27.92	0.00	-27.92	0.00	0.00	0.00
1,800.47	2.00	0.00	1,800.00	31.43	0.00	-31.43	0.00	0.00	0.00
1,900.00	2.05	58.94	1,899.48	34.08	1.52	-34.08	2.00	0.05	59.22
2,000.00	3.51	88.29	1,999.36	35.09	6.12	-35.11	2.00	1.47	29.34
2,100.00	5.34	99.12	2,099.06	34.45	13.77	-34.48	2.00	1.83	10.83
2,200.00	7.26	104.36	2,198.46	32.14	24.49	-32.20	2.00	1.92	5.23
2,300.00	9.21	107.39	2,297.42	28.18	38.25	-28.27	2.00	1.95	3.04
2,340.32	10.00	108.29	2,337.18	26.12	44.65	-26.22	2.00	1.97	2.21
2,400.00	10.00	108.29	2,395.95	22.87	54.49	-22.99	0.00	0.00	0.00
2,500.00	10.00	108.29	2,494.43	17.42	70.99	-17.58	0.00	0.00	0.00
2,600.00	10.00	108.29	2,592.91	11.97	87.48	-12.17	0.00	0.00	0.00
2,700.00	10.00	108.29	2,691.39	6.52	103.97	-6.75	0.00	0.00	0.00
2,800.00	10.00	108.29	2,789.87	1.07	120.46	-1.34	0.00	0.00	0.00
2,900.00	10.00	108.29	2,888.35	-4.38	136.96	4.07	0.00	0.00	0.00
3,000.00	10.00	108.29	2,986.83	-9.83	153.45	9.48	0.00	0.00	0.00
3,100.00	10.00	108.29	3,085.31	-15.28	169.94	14.90	0.00	0.00	0.00
3,200.00	10.00	108.29	3,183.79	-20.73	186.44	20.31	0.00	0.00	0.00
3,300.00	10.00	108.29	3,282.27	-26.18	202.93	25.72	0.00	0.00	0.00
3,400.00	10.00	108.29	3,380.75	-31.63	219.42	31.13	0.00	0.00	0.00
3,500.00	10.00	108.29	3,479.23	-37.08	235.91	36.55	0.00	0.00	0.00
3,600.00	10.00	108.29	3,577.71	-42.53	252.41	41.96	0.00	0.00	0.00
3,700.00	10.00	108.29	3,676.19	-47.98	268.90	47.37	0.00	0.00	0.00
3,800.00	10.00	108.29	3,774.67	-53.43	285.39	52.78	0.00	0.00	0.00
3,900.00	10.00	108.29	3,873.15	-58.88	301.89	58.20	0.00	0.00	0.00
4,000.00	10.00	108.29	3,971.63	-64.33	318.38	63.61	0.00	0.00	0.00
4,100.00	10.00	108.29	4,070.11	-69.78	334.87	69.02	0.00	0.00	0.00
4,183.55	10.00	108.29	4,152.39	-74.34	348.65	73.54	0.00	0.00	0.00
4,200.00	9.67	108.29	4,168.59	-75.22	351.32	74.42	2.00	-2.00	0.00
4,300.00	7.67	108.29	4,267.45	-79.95	365.64	79.12	2.00	-2.00	0.00
4,400.00	5.67	108.29	4,366.76	-83.60	376.67	82.74	2.00	-2.00	0.00
4,500.00	3.67	108.29	4,466.43	-86.15	384.41	85.28	2.00	-2.00	0.00
4,600.00	1.67	108.29	4,566.31	-87.62	388.84	86.73	2.00	-2.00	0.00
4,683.70	0.00	0.00	4,650.00	-88.00	390.00	87.11	2.00	-2.00	0.00
4,700.00	0.00	0.00	4,666.30	-88.00	390.00	87.11	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)
4,800.00	0.00	0.00	4,766.30	-88.00	390.00	87.11	0.00	0.00	0.00
4,900.00	0.00	0.00	4,866.30	-88.00	390.00	87.11	0.00	0.00	0.00
5,000.00	0.00	0.00	4,966.30	-88.00	390.00	87.11	0.00	0.00	0.00
5,100.00	0.00	0.00	5,066.30	-88.00	390.00	87.11	0.00	0.00	0.00
5,200.00	0.00	0.00	5,166.30	-88.00	390.00	87.11	0.00	0.00	0.00
5,300.00	0.00	0.00	5,266.30	-88.00	390.00	87.11	0.00	0.00	0.00
5,400.00	0.00	0.00	5,366.30	-88.00	390.00	87.11	0.00	0.00	0.00
5,500.00	0.00	0.00	5,466.30	-88.00	390.00	87.11	0.00	0.00	0.00
5,600.00	0.00	0.00	5,566.30	-88.00	390.00	87.11	0.00	0.00	0.00
5,700.00	0.00	0.00	5,666.30	-88.00	390.00	87.11	0.00	0.00	0.00
5,800.00	0.00	0.00	5,766.30	-88.00	390.00	87.11	0.00	0.00	0.00
5,900.00	0.00	0.00	5,866.30	-88.00	390.00	87.11	0.00	0.00	0.00
6,000.00	0.00	0.00	5,966.30	-88.00	390.00	87.11	0.00	0.00	0.00
6,100.00	0.00	0.00	6,066.30	-88.00	390.00	87.11	0.00	0.00	0.00
6,200.00	0.00	0.00	6,166.30	-88.00	390.00	87.11	0.00	0.00	0.00
6,300.00	0.00	0.00	6,266.30	-88.00	390.00	87.11	0.00	0.00	0.00
6,400.00	0.00	0.00	6,366.30	-88.00	390.00	87.11	0.00	0.00	0.00
6,500.00	0.00	0.00	6,466.30	-88.00	390.00	87.11	0.00	0.00	0.00
6,600.00	0.00	0.00	6,566.30	-88.00	390.00	87.11	0.00	0.00	0.00
6,700.00	0.00	0.00	6,666.30	-88.00	390.00	87.11	0.00	0.00	0.00
6,800.00	0.00	0.00	6,766.30	-88.00	390.00	87.11	0.00	0.00	0.00
6,900.00	0.00	0.00	6,866.30	-88.00	390.00	87.11	0.00	0.00	0.00
7,000.00	0.00	0.00	6,966.30	-88.00	390.00	87.11	0.00	0.00	0.00
7,100.00	0.00	0.00	7,066.30	-88.00	390.00	87.11	0.00	0.00	0.00
7,200.00	0.00	0.00	7,166.30	-88.00	390.00	87.11	0.00	0.00	0.00
7,300.00	0.00	0.00	7,266.30	-88.00	390.00	87.11	0.00	0.00	0.00
7,400.00	0.00	0.00	7,366.30	-88.00	390.00	87.11	0.00	0.00	0.00
7,500.00	0.00	0.00	7,466.30	-88.00	390.00	87.11	0.00	0.00	0.00
7,600.00	0.00	0.00	7,566.30	-88.00	390.00	87.11	0.00	0.00	0.00
7,700.00	0.00	0.00	7,666.30	-88.00	390.00	87.11	0.00	0.00	0.00
7,800.00	0.00	0.00	7,766.30	-88.00	390.00	87.11	0.00	0.00	0.00
7,900.00	0.00	0.00	7,866.30	-88.00	390.00	87.11	0.00	0.00	0.00
8,000.00	0.00	0.00	7,966.30	-88.00	390.00	87.11	0.00	0.00	0.00
8,100.00	0.00	0.00	8,066.30	-88.00	390.00	87.11	0.00	0.00	0.00
8,200.00	0.00	0.00	8,166.30	-88.00	390.00	87.11	0.00	0.00	0.00
8,300.00	0.00	0.00	8,266.30	-88.00	390.00	87.11	0.00	0.00	0.00
8,392.70	0.00	0.00	8,359.00	-88.00	390.00	87.11	0.00	0.00	0.00
[CatTB#6H]KOP									
8,400.00	0.73	180.13	8,366.30	-88.05	390.00	87.16	10.00	10.00	0.00
8,450.00	5.73	180.13	8,416.20	-90.86	389.99	89.98	10.00	10.00	0.00
8,500.00	10.73	180.13	8,465.67	-98.02	389.98	97.13	10.00	10.00	0.00
8,550.00	15.73	180.13	8,514.33	-109.46	389.95	108.57	10.00	10.00	0.00
8,600.00	20.73	180.13	8,561.81	-125.09	389.92	124.21	10.00	10.00	0.00
8,650.00	25.73	180.13	8,607.74	-144.81	389.88	143.92	10.00	10.00	0.00
8,700.00	30.73	180.13	8,651.78	-168.45	389.82	167.57	10.00	10.00	0.00
8,750.00	35.73	180.13	8,693.59	-195.84	389.76	194.96	10.00	10.00	0.00
8,800.00	40.73	180.13	8,732.85	-226.77	389.70	225.89	10.00	10.00	0.00
8,850.00	45.73	180.13	8,769.27	-261.01	389.62	260.12	10.00	10.00	0.00
8,900.00	50.73	180.13	8,802.57	-298.29	389.54	297.40	10.00	10.00	0.00
8,950.00	55.73	180.13	8,832.49	-338.33	389.45	337.44	10.00	10.00	0.00
9,000.00	60.73	180.13	8,858.81	-380.82	389.36	379.94	10.00	10.00	0.00
9,050.00	65.73	180.13	8,881.32	-425.45	389.26	424.57	10.00	10.00	0.00

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Wellbore:	OH		
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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)
9,100.00	70.73	180.13	8,899.86	-471.87	389.16	470.98	10.00	10.00	0.00
9,150.00	75.73	180.13	8,914.28	-519.73	389.06	518.84	10.00	10.00	0.00
9,200.00	80.73	180.13	8,924.48	-568.66	388.95	567.78	10.00	10.00	0.00
9,250.00	85.73	180.13	8,930.37	-618.30	388.84	617.41	10.00	10.00	0.00
9,299.71	90.70	180.13	8,931.92	-667.96	388.73	667.08	10.00	10.00	0.00
9,400.00	90.70	180.13	8,930.69	-768.25	388.52	767.36	0.00	0.00	0.00
9,500.00	90.70	180.13	8,929.47	-868.24	388.30	867.36	0.00	0.00	0.00
9,600.00	90.70	180.13	8,928.24	-968.23	388.08	967.35	0.00	0.00	0.00
9,700.00	90.70	180.13	8,927.02	-1,068.22	387.86	1,067.34	0.00	0.00	0.00
9,800.00	90.70	180.13	8,925.80	-1,168.22	387.64	1,167.33	0.00	0.00	0.00
9,900.00	90.70	180.13	8,924.57	-1,268.21	387.43	1,267.33	0.00	0.00	0.00
10,000.00	90.70	180.13	8,923.35	-1,368.20	387.21	1,367.32	0.00	0.00	0.00
10,100.00	90.70	180.13	8,922.13	-1,468.19	386.99	1,467.31	0.00	0.00	0.00
10,200.00	90.70	180.13	8,920.90	-1,568.19	386.77	1,567.30	0.00	0.00	0.00
10,300.00	90.70	180.13	8,919.68	-1,668.18	386.55	1,667.30	0.00	0.00	0.00
10,400.00	90.70	180.13	8,918.46	-1,768.17	386.33	1,767.29	0.00	0.00	0.00
10,500.00	90.70	180.13	8,917.24	-1,868.16	386.12	1,867.28	0.00	0.00	0.00
10,600.00	90.70	180.13	8,916.01	-1,968.16	385.90	1,967.27	0.00	0.00	0.00
10,700.00	90.70	180.13	8,914.79	-2,068.15	385.68	2,067.27	0.00	0.00	0.00
10,800.00	90.70	180.13	8,913.57	-2,168.14	385.46	2,167.26	0.00	0.00	0.00
10,900.00	90.70	180.13	8,912.34	-2,268.13	385.24	2,267.25	0.00	0.00	0.00
11,000.00	90.70	180.13	8,911.12	-2,368.12	385.03	2,367.24	0.00	0.00	0.00
11,100.00	90.70	180.13	8,909.90	-2,468.12	384.81	2,467.24	0.00	0.00	0.00
11,200.00	90.70	180.13	8,908.67	-2,568.11	384.59	2,567.23	0.00	0.00	0.00
11,300.00	90.70	180.13	8,907.45	-2,668.10	384.37	2,667.22	0.00	0.00	0.00
11,400.00	90.70	180.13	8,906.23	-2,768.09	384.15	2,767.21	0.00	0.00	0.00
11,500.00	90.70	180.13	8,905.01	-2,868.09	383.93	2,867.21	0.00	0.00	0.00
11,600.00	90.70	180.13	8,903.78	-2,968.08	383.72	2,967.20	0.00	0.00	0.00
11,700.00	90.70	180.13	8,902.56	-3,068.07	383.50	3,067.19	0.00	0.00	0.00
11,800.00	90.70	180.13	8,901.34	-3,168.06	383.28	3,167.18	0.00	0.00	0.00
11,900.00	90.70	180.13	8,900.11	-3,268.05	383.06	3,267.18	0.00	0.00	0.00
12,000.00	90.70	180.13	8,898.89	-3,368.05	382.84	3,367.17	0.00	0.00	0.00
12,100.00	90.70	180.13	8,897.67	-3,468.04	382.63	3,467.16	0.00	0.00	0.00
12,200.00	90.70	180.13	8,896.44	-3,568.03	382.41	3,567.15	0.00	0.00	0.00
12,300.00	90.70	180.13	8,895.22	-3,668.02	382.19	3,667.15	0.00	0.00	0.00
12,400.00	90.70	180.13	8,894.00	-3,768.02	381.97	3,767.14	0.00	0.00	0.00
12,500.00	90.70	180.13	8,892.78	-3,868.01	381.75	3,867.13	0.00	0.00	0.00
12,600.00	90.70	180.13	8,891.55	-3,968.00	381.54	3,967.12	0.00	0.00	0.00
12,700.00	90.70	180.13	8,890.33	-4,067.99	381.32	4,067.12	0.00	0.00	0.00
12,800.00	90.70	180.13	8,889.11	-4,167.99	381.10	4,167.11	0.00	0.00	0.00
12,900.00	90.70	180.13	8,887.88	-4,267.98	380.88	4,267.10	0.00	0.00	0.00
13,000.00	90.70	180.13	8,886.66	-4,367.97	380.66	4,367.10	0.00	0.00	0.00
13,100.00	90.70	180.13	8,885.44	-4,467.96	380.44	4,467.09	0.00	0.00	0.00
13,200.00	90.70	180.13	8,884.21	-4,567.95	380.23	4,567.08	0.00	0.00	0.00
13,300.00	90.70	180.13	8,882.99	-4,667.95	380.01	4,667.07	0.00	0.00	0.00
13,400.00	90.70	180.13	8,881.77	-4,767.94	379.79	4,767.07	0.00	0.00	0.00
13,500.00	90.70	180.13	8,880.55	-4,867.93	379.57	4,867.06	0.00	0.00	0.00
13,600.00	90.70	180.13	8,879.32	-4,967.92	379.35	4,967.05	0.00	0.00	0.00
13,700.00	90.70	180.13	8,878.10	-5,067.92	379.14	5,067.04	0.00	0.00	0.00
13,800.00	90.70	180.13	8,876.88	-5,167.91	378.92	5,167.04	0.00	0.00	0.00
13,900.00	90.70	180.13	8,875.65	-5,267.90	378.70	5,267.03	0.00	0.00	0.00
13,936.25	90.70	180.13	8,875.21	-5,304.15	378.62	5,303.28	0.00	0.00	0.00

Database:	WellPlanner1	Local Co-ordinate Reference:	Well Catapult WA #6H
Company:	Marathon Oil	TVD Reference:	Well @ 3242.00usft (GL: 3217' + KB: 25' (Prec594))
Project:	Eddy County, NM	MD Reference:	Well @ 3242.00usft (GL: 3217' + KB: 25' (Prec594))
Site:	Catapult-Airport Pad	North Reference:	Grid
Well:	Catapult WA #6H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Prelim Plan B		

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)
[CatTB#6H]LTP/BHL									
13,981.25	90.70	180.13	8,874.66	-5,349.15	378.52	5,348.27	0.00	0.00	0.00



Marathon Oil
Eddy County, NM
Catapult-Airport Pad
Catapult WA #6H
Prelim Plan B
GL: 3217' + KB: 25' (Prec594)

US State Plane 1927 (Exact solution)
NAD 1927 (NADCON CONUS)
Clarke 1866
New Mexico East 3001
Mean Sea Level

RKB Elevation: Well @ 3242.00usft (GL: 3217' + KB: 25' (Prec594))

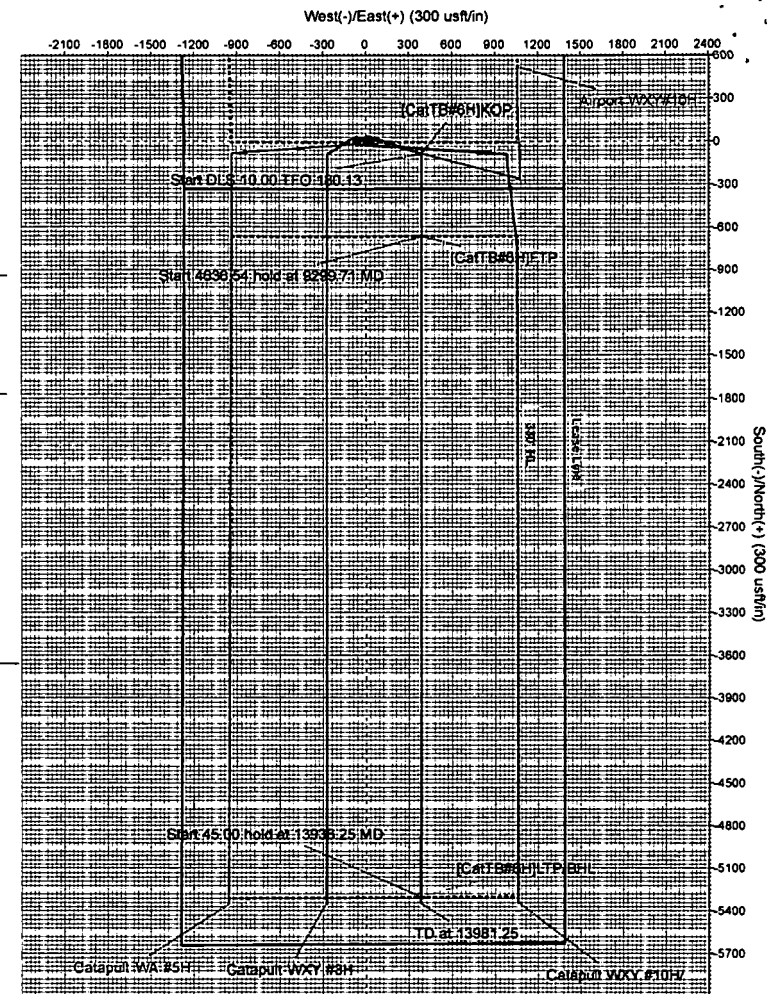
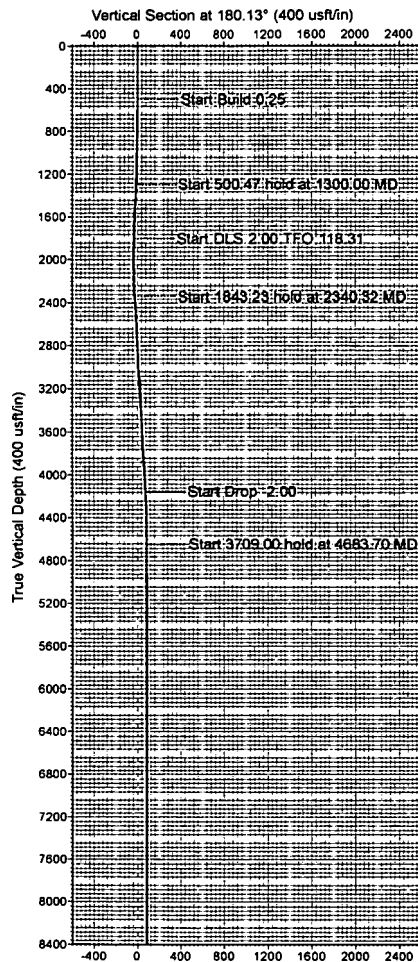
+N-S	+E-W	Northing	Easting	Latitude	Longitude	Spot
0.00	0.00	488120.19	528313.43	32.341925	-104.241656	

SECTION DETAILS

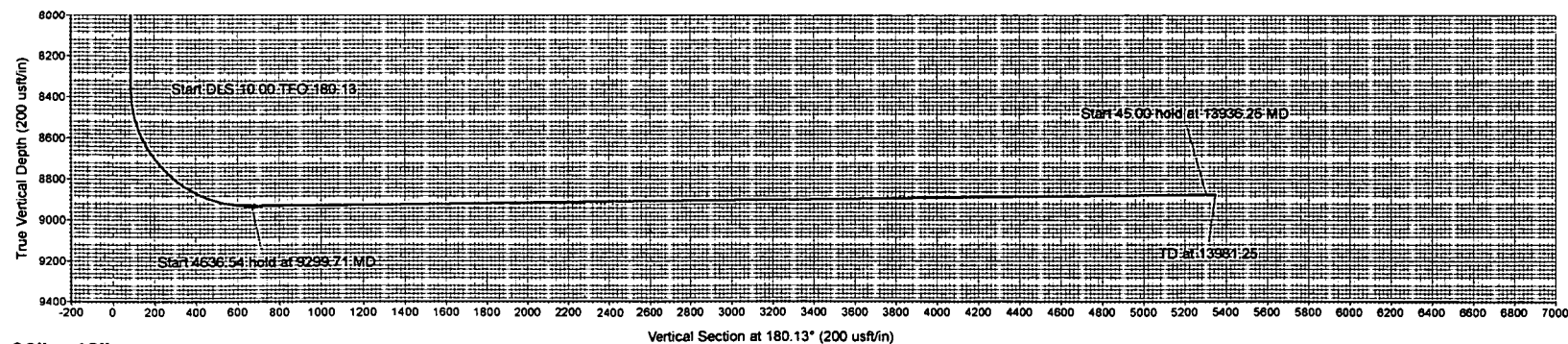
Sec	MD	Inc	Azi	TVD	+N-S	+E-W	Dleg	VSeet
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00
3	1300.00	2.00	0.00	1299.84	13.96	0.00	0.25	-13.96
4	1800.47	2.00	0.00	1800.00	31.43	0.00	0.00	-31.43
5	2340.32	10.00	108.29	2337.18	26.12	44.85	2.00	-26.22
6	4183.55	10.00	108.29	4152.39	-74.34	348.85	0.00	73.54
7	4683.70	0.00	0.00	4650.00	-88.00	390.00	2.00	87.11
8	8392.70	0.00	0.00	8359.00	-88.00	390.00	0.00	87.11
9	9299.71	90.70	180.13	8931.91	-667.96	388.73	10.00	667.08
10	13936.25	90.70	180.13	8875.21	-5304.15	378.62	0.00	5303.28
11	13981.25	90.70	180.13	8874.66	-5349.15	378.52	0.00	5348.27

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N-S	+E-W	Northing	Easting
[CatTB#6H]FTP	0.00	-666.68	388.84	487453.51	528702.27
[CatTB#6H]KOP	8359.00	-88.00	390.00	488032.19	528703.43
[CatTB#6H]LTP/BHL	8875.21	-5304.15	378.62	482816.04	528692.05



Target Line: 8940' TVD @ 0' VS: 90.7° INC



Azimuths to Grid North
True North: -0.05°
Magnetic North: 7.32°
Magnetic Field
Strength: 48010.3nT
Dip Angle: 60.07°
Date: 4/17/2018
Model: HDGM

Azimuth Corrections

Total Magnetic Corr. (M to G): 7.32°

Declination (M to T): 7.37° East