

WESTERN DIVISION

PBNM

Dzurisin

Thistle Unit 119H

Wellbore #1

Plan: Plan 1

Standard Planning Report

01 August, 2016

HOBBS & CO.
MAR 22 2017
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Devon Energy

Planning Report

Database: EDM r5000 US Production
Company: WESTERN DIVISION
Project: PBNM
Site: Dzurisin
Well: Thistle Unit 119H
Wellbore: Wellbore #1
Design: Plan 1

Local Co-ordinate Reference: Well Thistle Unit 119H
TVD Reference: 1 @ 3745.90ft
MD Reference: 1 @ 3745.90ft
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Project	PBNM		
Map System:	Flat Earth	System Datum:	Mean Sea Level
Geo Datum:	WGS 1984		
Map Zone:	No Conversions		

Site	Dzurisin		
Site Position:		Northing:	429,922.27 usft
From:	Map	Easting:	725,391.41 usft
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "
		Latitude:	0.000000
		Longitude:	0.000000
		Grid Convergence:	

Well	Thistle Unit 119H					
Well Position	+N/-S	42,584.19 ft	Northing:	472,506.37 usft	Latitude:	0.000000
	+E/-W	51,391.84 ft	Easting:	776,783.15 usft	Longitude:	0.000000
Position Uncertainty	0.00 ft		Wellhead Elevation:	0.00 ft	Ground Level:	3,722.40 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	User Defined	7/28/2016	0.00	0.00	0

Design	Plan 1			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(ft)	(ft)	(ft)	(°)
	0.00	0.00	0.00	176.95

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	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	
4,000.00	5.00	70.00	3,999.37	7.46	20.49	1.00	1.00	0.00	70.00	
8,000.00	5.00	70.00	7,984.14	126.69	348.09	0.00	0.00	0.00	0.00	
9,000.00	0.00	0.00	8,982.88	141.61	389.06	0.50	-0.50	0.00	180.00	
9,579.00	0.00	0.00	9,561.88	141.61	389.06	0.00	0.00	0.00	0.00	
10,321.92	89.15	179.88	10,039.29	-328.77	390.08	12.00	12.00	0.00	179.88	Thistle Unit 119H BHL
10,334.31	89.15	179.88	10,039.47	-341.16	390.11	0.04	0.04	0.00	-0.06	
17,603.46	89.15	179.88	10,146.75	-7,609.51	405.85	0.00	0.00	0.00	0.00	
17,620.43	89.15	179.88	10,147.00	-7,626.48	405.89	0.04	-0.03	0.02	136.88	Thistle Unit 119H BHL

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North Reference: Grid
Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	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
3,600.00	1.00	70.00	3,600.00	0.30	0.82	-0.25	1.00	1.00	0.00
3,700.00	2.00	70.00	3,699.96	1.19	3.28	-1.02	1.00	1.00	0.00
3,800.00	3.00	70.00	3,799.86	2.69	7.38	-2.29	1.00	1.00	0.00
3,900.00	4.00	70.00	3,899.68	4.77	13.12	-4.07	1.00	1.00	0.00
4,000.00	5.00	70.00	3,999.37	7.46	20.49	-6.36	1.00	1.00	0.00
4,100.00	5.00	70.00	4,098.99	10.44	28.68	-8.90	0.00	0.00	0.00
4,200.00	5.00	70.00	4,198.60	13.42	36.87	-11.44	0.00	0.00	0.00
4,300.00	5.00	70.00	4,298.22	16.40	45.06	-13.98	0.00	0.00	0.00
4,400.00	5.00	70.00	4,397.84	19.38	53.25	-16.52	0.00	0.00	0.00
4,500.00	5.00	70.00	4,497.46	22.36	61.44	-19.06	0.00	0.00	0.00
4,600.00	5.00	70.00	4,597.08	25.34	69.63	-21.61	0.00	0.00	0.00
4,700.00	5.00	70.00	4,696.70	28.32	77.82	-24.15	0.00	0.00	0.00
4,800.00	5.00	70.00	4,796.32	31.30	86.01	-26.69	0.00	0.00	0.00
4,900.00	5.00	70.00	4,895.94	34.29	94.20	-29.23	0.00	0.00	0.00
5,000.00	5.00	70.00	4,995.56	37.27	102.39	-31.77	0.00	0.00	0.00
5,100.00	5.00	70.00	5,095.18	40.25	110.58	-34.31	0.00	0.00	0.00
5,200.00	5.00	70.00	5,194.80	43.23	118.77	-36.85	0.00	0.00	0.00
5,300.00	5.00	70.00	5,294.42	46.21	126.96	-39.40	0.00	0.00	0.00

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Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,400.00	5.00	70.00	5,394.04	49.19	135.15	-41.94	0.00	0.00	0.00
5,500.00	5.00	70.00	5,493.66	52.17	143.34	-44.48	0.00	0.00	0.00
5,600.00	5.00	70.00	5,593.28	55.15	151.53	-47.02	0.00	0.00	0.00
5,700.00	5.00	70.00	5,692.90	58.13	159.72	-49.56	0.00	0.00	0.00
5,800.00	5.00	70.00	5,792.52	61.11	167.91	-52.10	0.00	0.00	0.00
5,900.00	5.00	70.00	5,892.14	64.09	176.10	-54.64	0.00	0.00	0.00
6,000.00	5.00	70.00	5,991.76	67.08	184.29	-57.19	0.00	0.00	0.00
6,100.00	5.00	70.00	6,091.37	70.06	192.48	-59.73	0.00	0.00	0.00
6,200.00	5.00	70.00	6,190.99	73.04	200.67	-62.27	0.00	0.00	0.00
6,300.00	5.00	70.00	6,290.61	76.02	208.86	-64.81	0.00	0.00	0.00
6,400.00	5.00	70.00	6,390.23	79.00	217.05	-67.35	0.00	0.00	0.00
6,500.00	5.00	70.00	6,489.85	81.98	225.24	-69.89	0.00	0.00	0.00
6,600.00	5.00	70.00	6,589.47	84.96	233.43	-72.43	0.00	0.00	0.00
6,700.00	5.00	70.00	6,689.09	87.94	241.62	-74.98	0.00	0.00	0.00
6,800.00	5.00	70.00	6,788.71	90.92	249.81	-77.52	0.00	0.00	0.00
6,900.00	5.00	70.00	6,888.33	93.90	258.00	-80.06	0.00	0.00	0.00
7,000.00	5.00	70.00	6,987.95	96.88	266.19	-82.60	0.00	0.00	0.00
7,100.00	5.00	70.00	7,087.57	99.86	274.38	-85.14	0.00	0.00	0.00
7,200.00	5.00	70.00	7,187.19	102.85	282.57	-87.68	0.00	0.00	0.00
7,300.00	5.00	70.00	7,286.81	105.83	290.76	-90.22	0.00	0.00	0.00
7,400.00	5.00	70.00	7,386.43	108.81	298.95	-92.77	0.00	0.00	0.00
7,500.00	5.00	70.00	7,486.05	111.79	307.14	-95.31	0.00	0.00	0.00
7,600.00	5.00	70.00	7,585.67	114.77	315.33	-97.85	0.00	0.00	0.00
7,700.00	5.00	70.00	7,685.29	117.75	323.52	-100.39	0.00	0.00	0.00
7,800.00	5.00	70.00	7,784.91	120.73	331.71	-102.93	0.00	0.00	0.00
7,900.00	5.00	70.00	7,884.53	123.71	339.90	-105.47	0.00	0.00	0.00
8,000.00	5.00	70.00	7,984.14	126.69	348.09	-108.01	0.00	0.00	0.00
8,100.00	4.50	70.00	8,083.80	129.53	355.87	-110.43	0.50	-0.50	0.00
8,200.00	4.00	70.00	8,183.53	132.06	362.83	-112.59	0.50	-0.50	0.00
8,300.00	3.50	70.00	8,283.31	134.30	368.98	-114.50	0.50	-0.50	0.00
8,400.00	3.00	70.00	8,383.15	136.24	374.30	-116.15	0.50	-0.50	0.00
8,500.00	2.50	70.00	8,483.03	137.88	378.81	-117.55	0.50	-0.50	0.00
8,600.00	2.00	70.00	8,582.96	139.22	382.50	-118.69	0.50	-0.50	0.00
8,700.00	1.50	70.00	8,682.91	140.26	385.37	-119.58	0.50	-0.50	0.00
8,800.00	1.00	70.00	8,782.89	141.01	387.42	-120.22	0.50	-0.50	0.00
8,900.00	0.50	70.00	8,882.88	141.46	388.65	-120.60	0.50	-0.50	0.00
9,000.00	0.00	0.00	8,982.88	141.61	389.06	-120.73	0.50	-0.50	0.00
9,100.00	0.00	0.00	9,082.88	141.61	389.06	-120.73	0.00	0.00	0.00
9,200.00	0.00	0.00	9,182.88	141.61	389.06	-120.73	0.00	0.00	0.00
9,300.00	0.00	0.00	9,282.88	141.61	389.06	-120.73	0.00	0.00	0.00
9,400.00	0.00	0.00	9,382.88	141.61	389.06	-120.73	0.00	0.00	0.00
9,500.00	0.00	0.00	9,482.88	141.61	389.06	-120.73	0.00	0.00	0.00
9,579.00	0.00	0.00	9,561.88	141.61	389.06	-120.73	0.00	0.00	0.00
9,600.00	2.52	179.88	9,582.87	141.15	389.06	-120.27	12.00	12.00	0.00
9,625.00	5.52	179.88	9,607.80	139.39	389.07	-118.52	12.00	12.00	0.00
9,650.00	8.52	179.88	9,632.61	136.34	389.07	-115.47	12.00	12.00	0.00
9,675.00	11.52	179.88	9,657.23	131.99	389.08	-111.12	12.00	12.00	0.00
9,700.00	14.52	179.88	9,681.58	126.36	389.10	-105.50	12.00	12.00	0.00
9,725.00	17.52	179.88	9,705.61	119.46	389.11	-98.61	12.00	12.00	0.00
9,750.00	20.52	179.88	9,729.24	111.31	389.13	-90.47	12.00	12.00	0.00
9,775.00	23.52	179.88	9,752.42	101.94	389.15	-81.11	12.00	12.00	0.00
9,800.00	26.52	179.88	9,775.07	91.37	389.17	-70.56	12.00	12.00	0.00
9,825.00	29.52	179.88	9,797.14	79.62	389.20	-58.83	12.00	12.00	0.00
9,850.00	32.52	179.88	9,818.56	66.74	389.22	-45.96	12.00	12.00	0.00

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Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
9,875.00	35.52	179.88	9,839.28	52.76	389.25	-32.00	12.00	12.00	0.00
9,900.00	38.52	179.88	9,859.24	37.71	389.29	-16.96	12.00	12.00	0.00
9,925.00	41.52	179.88	9,878.38	21.63	389.32	-0.91	12.00	12.00	0.00
9,950.00	44.52	179.88	9,896.65	4.58	389.36	16.12	12.00	12.00	0.00
9,975.00	47.52	179.88	9,914.01	-13.41	389.40	34.09	12.00	12.00	0.00
10,000.00	50.52	179.88	9,930.41	-32.28	389.44	52.93	12.00	12.00	0.00
10,025.00	53.52	179.88	9,945.79	-51.98	389.48	72.61	12.00	12.00	0.00
10,050.00	56.52	179.88	9,960.12	-72.47	389.53	93.06	12.00	12.00	0.00
10,075.00	59.52	179.88	9,973.36	-93.67	389.57	114.24	12.00	12.00	0.00
10,100.00	62.52	179.88	9,985.47	-115.54	389.62	136.08	12.00	12.00	0.00
10,125.00	65.52	179.88	9,996.42	-138.01	389.67	158.52	12.00	12.00	0.00
10,150.00	68.52	179.88	10,006.18	-161.02	389.72	181.50	12.00	12.00	0.00
10,175.00	71.52	179.88	10,014.72	-184.51	389.77	204.97	12.00	12.00	0.00
10,200.00	74.52	179.88	10,022.02	-208.42	389.82	228.84	12.00	12.00	0.00
10,225.00	77.52	179.88	10,028.06	-232.68	389.87	253.07	12.00	12.00	0.00
10,250.00	80.52	179.88	10,032.82	-257.22	389.93	277.58	12.00	12.00	0.00
10,275.00	83.52	179.88	10,036.29	-281.97	389.98	302.30	12.00	12.00	0.00
10,300.00	86.52	179.88	10,038.46	-306.87	390.03	327.17	12.00	12.00	0.00
10,321.92	89.15	179.88	10,039.29	-328.77	390.08	349.04	12.00	12.00	0.00
10,334.31	89.15	179.88	10,039.47	-341.16	390.11	361.41	0.04	0.04	0.00
10,400.00	89.15	179.88	10,040.44	-406.85	390.25	427.01	0.00	0.00	0.00
10,500.00	89.15	179.88	10,041.92	-506.84	390.47	526.87	0.00	0.00	0.00
10,600.00	89.15	179.88	10,043.39	-606.83	390.68	626.73	0.00	0.00	0.00
10,700.00	89.15	179.88	10,044.87	-706.81	390.90	726.59	0.00	0.00	0.00
10,800.00	89.15	179.88	10,046.35	-806.80	391.12	826.45	0.00	0.00	0.00
10,900.00	89.15	179.88	10,047.82	-906.79	391.33	926.31	0.00	0.00	0.00
11,000.00	89.15	179.88	10,049.30	-1,006.78	391.55	1,026.17	0.00	0.00	0.00
11,100.00	89.15	179.88	10,050.77	-1,106.77	391.77	1,126.03	0.00	0.00	0.00
11,200.00	89.15	179.88	10,052.25	-1,206.76	391.98	1,225.89	0.00	0.00	0.00
11,300.00	89.15	179.88	10,053.72	-1,306.75	392.20	1,325.74	0.00	0.00	0.00
11,400.00	89.15	179.88	10,055.20	-1,406.74	392.42	1,425.60	0.00	0.00	0.00
11,500.00	89.15	179.88	10,056.68	-1,506.73	392.63	1,525.46	0.00	0.00	0.00
11,600.00	89.15	179.88	10,058.15	-1,606.71	392.85	1,625.32	0.00	0.00	0.00
11,700.00	89.15	179.88	10,059.63	-1,706.70	393.07	1,725.18	0.00	0.00	0.00
11,800.00	89.15	179.88	10,061.10	-1,806.69	393.28	1,825.04	0.00	0.00	0.00
11,900.00	89.15	179.88	10,062.58	-1,906.68	393.50	1,924.90	0.00	0.00	0.00
12,000.00	89.15	179.88	10,064.05	-2,006.67	393.72	2,024.76	0.00	0.00	0.00
12,100.00	89.15	179.88	10,065.53	-2,106.66	393.93	2,124.62	0.00	0.00	0.00
12,200.00	89.15	179.88	10,067.01	-2,206.65	394.15	2,224.48	0.00	0.00	0.00
12,300.00	89.15	179.88	10,068.48	-2,306.64	394.37	2,324.34	0.00	0.00	0.00
12,400.00	89.15	179.88	10,069.96	-2,406.63	394.58	2,424.19	0.00	0.00	0.00
12,500.00	89.15	179.88	10,071.43	-2,506.61	394.80	2,524.05	0.00	0.00	0.00
12,600.00	89.15	179.88	10,072.91	-2,606.60	395.02	2,623.91	0.00	0.00	0.00
12,700.00	89.15	179.88	10,074.38	-2,706.59	395.23	2,723.77	0.00	0.00	0.00
12,800.00	89.15	179.88	10,075.86	-2,806.58	395.45	2,823.63	0.00	0.00	0.00
12,900.00	89.15	179.88	10,077.34	-2,906.57	395.67	2,923.49	0.00	0.00	0.00
13,000.00	89.15	179.88	10,078.81	-3,006.56	395.88	3,023.35	0.00	0.00	0.00
13,100.00	89.15	179.88	10,080.29	-3,106.55	396.10	3,123.21	0.00	0.00	0.00
13,200.00	89.15	179.88	10,081.76	-3,206.54	396.32	3,223.07	0.00	0.00	0.00
13,300.00	89.15	179.88	10,083.24	-3,306.53	396.53	3,322.93	0.00	0.00	0.00
13,400.00	89.15	179.88	10,084.72	-3,406.51	396.75	3,422.79	0.00	0.00	0.00
13,500.00	89.15	179.88	10,086.19	-3,506.50	396.97	3,522.64	0.00	0.00	0.00
13,600.00	89.15	179.88	10,087.67	-3,606.49	397.18	3,622.50	0.00	0.00	0.00
13,700.00	89.15	179.88	10,089.14	-3,706.48	397.40	3,722.36	0.00	0.00	0.00

Devon Energy

Planning Report

Database: EDM r5000 US Production
 Company: WESTERN DIVISION
 Project: PBNM
 Site: Dzurisin
 Well: Thistle Unit 119H
 Wellbore: Wellbore #1
 Design: Plan 1

Local Co-ordinate Reference: Well Thistle Unit 119H
 TVD Reference: 1 @ 3745.90ft
 MD Reference: 1 @ 3745.90ft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
13,800.00	89.15	179.88	10,090.62	-3,806.47	397.62	3,822.22	0.00	0.00	0.00
13,900.00	89.15	179.88	10,092.09	-3,906.46	397.83	3,922.08	0.00	0.00	0.00
14,000.00	89.15	179.88	10,093.57	-4,006.45	398.05	4,021.94	0.00	0.00	0.00
14,100.00	89.15	179.88	10,095.05	-4,106.44	398.27	4,121.80	0.00	0.00	0.00
14,200.00	89.15	179.88	10,096.52	-4,206.43	398.48	4,221.66	0.00	0.00	0.00
14,300.00	89.15	179.88	10,098.00	-4,306.41	398.70	4,321.52	0.00	0.00	0.00
14,400.00	89.15	179.88	10,099.47	-4,406.40	398.92	4,421.38	0.00	0.00	0.00
14,500.00	89.15	179.88	10,100.95	-4,506.39	399.13	4,521.24	0.00	0.00	0.00
14,600.00	89.15	179.88	10,102.42	-4,606.38	399.35	4,621.09	0.00	0.00	0.00
14,700.00	89.15	179.88	10,103.90	-4,706.37	399.57	4,720.95	0.00	0.00	0.00
14,800.00	89.15	179.88	10,105.38	-4,806.36	399.78	4,820.81	0.00	0.00	0.00
14,900.00	89.15	179.88	10,106.85	-4,906.35	400.00	4,920.67	0.00	0.00	0.00
15,000.00	89.15	179.88	10,108.33	-5,006.34	400.21	5,020.53	0.00	0.00	0.00
15,100.00	89.15	179.88	10,109.80	-5,106.32	400.43	5,120.39	0.00	0.00	0.00
15,200.00	89.15	179.88	10,111.28	-5,206.31	400.65	5,220.25	0.00	0.00	0.00
15,300.00	89.15	179.88	10,112.76	-5,306.30	400.86	5,320.11	0.00	0.00	0.00
15,400.00	89.15	179.88	10,114.23	-5,406.29	401.08	5,419.97	0.00	0.00	0.00
15,500.00	89.15	179.88	10,115.71	-5,506.28	401.30	5,519.83	0.00	0.00	0.00
15,600.00	89.15	179.88	10,117.18	-5,606.27	401.51	5,619.69	0.00	0.00	0.00
15,700.00	89.15	179.88	10,118.66	-5,706.26	401.73	5,719.54	0.00	0.00	0.00
15,800.00	89.15	179.88	10,120.13	-5,806.25	401.95	5,819.40	0.00	0.00	0.00
15,900.00	89.15	179.88	10,121.61	-5,906.24	402.16	5,919.26	0.00	0.00	0.00
16,000.00	89.15	179.88	10,123.09	-6,006.22	402.38	6,019.12	0.00	0.00	0.00
16,100.00	89.15	179.88	10,124.56	-6,106.21	402.60	6,118.98	0.00	0.00	0.00
16,200.00	89.15	179.88	10,126.04	-6,206.20	402.81	6,218.84	0.00	0.00	0.00
16,300.00	89.15	179.88	10,127.51	-6,306.19	403.03	6,318.70	0.00	0.00	0.00
16,400.00	89.15	179.88	10,128.99	-6,406.18	403.25	6,418.56	0.00	0.00	0.00
16,500.00	89.15	179.88	10,130.46	-6,506.17	403.46	6,518.42	0.00	0.00	0.00
16,600.00	89.15	179.88	10,131.94	-6,606.16	403.68	6,618.28	0.00	0.00	0.00
16,700.00	89.15	179.88	10,133.42	-6,706.15	403.90	6,718.14	0.00	0.00	0.00
16,800.00	89.15	179.88	10,134.89	-6,806.14	404.11	6,817.99	0.00	0.00	0.00
16,900.00	89.15	179.88	10,136.37	-6,906.12	404.33	6,917.85	0.00	0.00	0.00
17,000.00	89.15	179.88	10,137.84	-7,006.11	404.55	7,017.71	0.00	0.00	0.00
17,100.00	89.15	179.88	10,139.32	-7,106.10	404.76	7,117.57	0.00	0.00	0.00
17,200.00	89.15	179.88	10,140.79	-7,206.09	404.98	7,217.43	0.00	0.00	0.00
17,300.00	89.15	179.88	10,142.27	-7,306.08	405.20	7,317.29	0.00	0.00	0.00
17,400.00	89.15	179.88	10,143.75	-7,406.07	405.41	7,417.15	0.00	0.00	0.00
17,500.00	89.15	179.88	10,145.22	-7,506.06	405.63	7,517.01	0.00	0.00	0.00
17,603.46	89.15	179.88	10,146.75	-7,609.51	405.85	7,620.32	0.00	0.00	0.00
17,620.43	89.15	179.88	10,147.00	-7,626.48	405.89	7,637.27	0.04	-0.03	0.02

Design Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
Thistle Unit 119H BHL	0.00	0.00	10,147.00	-7,626.48	405.89	464,879.91	777,189.04	0.000000	0.000000
- plan hits target center									
- Point									