

WESTERN DIVISION

PBNM

Dzurisin

Thistle Unit 156H

Wellbore #1

Plan: Plan 1

HOBBS OCD
FEB 13 2017
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Standard Planning Report

12 July, 2016

Devon Energy

Planning Report

Database: EDM r5000 US Production
 Company: WESTERN DIVISION
 Project: PBNM
 Site: Dzurisin
 Well: Thistle Unit 156H
 Wellbore: Wellbore #1
 Design: Plan 1

Local Co-ordinate Reference: Well Thistle Unit 156H
 TVD Reference: 1 @ 3674.20ft
 MD Reference: 1 @ 3674.20ft
 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	Latitude:	0.000000
From:	Map	Easting:	725,391.41 usft	Longitude:	0.000000
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "	Grid Convergence:	

Well	Thistle Unit 156H					
Well Position	+N/-S	27,140.75 ft	Northing:	457,062.97 usft	Latitude:	0.000000
	+E/-W	51,374.55 ft	Easting:	776,765.86 usft	Longitude:	0.000000
Position Uncertainty	0.00 ft		Wellhead Elevation:	0.00 ft	Ground Level:	3,650.70 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	User Defined	7/12/2016	0.00	0.00	0

Design	Plan 1				
Audit Notes:					
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.00	
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.00	0.00	0.00	356.57	

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	300.00	3,999.37	10.90	-18.88	1.00	1.00	0.00	300.00	
8,000.00	5.00	300.00	7,984.14	185.21	-320.80	0.00	0.00	0.00	0.00	
9,000.00	0.00	0.00	8,982.88	207.02	-358.56	0.50	-0.50	0.00	180.00	
9,215.00	0.00	0.00	9,197.88	207.02	-358.56	0.00	0.00	0.00	0.00	
9,966.34	90.16	359.18	9,675.34	685.77	-365.37	12.00	12.00	0.00	359.18	Thistle Unit 156H BHI
10,006.23	90.16	359.18	9,675.23	725.66	-365.94	0.01	0.01	0.00	0.31	
17,011.05	90.16	359.18	9,655.18	7,729.74	-465.59	0.00	0.00	0.00	0.00	
17,073.98	90.16	359.18	9,655.00	7,792.67	-466.49	0.01	-0.01	-0.01	-129.34	Thistle Unit 156H BHI

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 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	300.00	3,600.00	0.44	-0.76	0.48	1.00	1.00	0.00
3,700.00	2.00	300.00	3,699.96	1.75	-3.02	1.92	1.00	1.00	0.00
3,800.00	3.00	300.00	3,799.86	3.93	-6.80	4.33	1.00	1.00	0.00
3,900.00	4.00	300.00	3,899.68	6.98	-12.09	7.69	1.00	1.00	0.00
4,000.00	5.00	300.00	3,999.37	10.90	-18.88	12.01	1.00	1.00	0.00
4,100.00	5.00	300.00	4,098.99	15.26	-26.43	16.81	0.00	0.00	0.00
4,200.00	5.00	300.00	4,198.60	19.62	-33.98	21.61	0.00	0.00	0.00
4,300.00	5.00	300.00	4,298.22	23.97	-41.53	26.41	0.00	0.00	0.00
4,400.00	5.00	300.00	4,397.84	28.33	-49.07	31.21	0.00	0.00	0.00
4,500.00	5.00	300.00	4,497.46	32.69	-56.62	36.02	0.00	0.00	0.00
4,600.00	5.00	300.00	4,597.08	37.05	-64.17	40.82	0.00	0.00	0.00
4,700.00	5.00	300.00	4,696.70	41.41	-71.72	45.62	0.00	0.00	0.00
4,800.00	5.00	300.00	4,796.32	45.76	-79.27	50.42	0.00	0.00	0.00
4,900.00	5.00	300.00	4,895.94	50.12	-86.81	55.22	0.00	0.00	0.00
5,000.00	5.00	300.00	4,995.56	54.48	-94.36	60.02	0.00	0.00	0.00
5,100.00	5.00	300.00	5,095.18	58.84	-101.91	64.82	0.00	0.00	0.00
5,200.00	5.00	300.00	5,194.80	63.19	-109.46	69.62	0.00	0.00	0.00
5,300.00	5.00	300.00	5,294.42	67.55	-117.00	74.42	0.00	0.00	0.00

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5,400.00	5.00	300.00	5,394.04	71.91	-124.55	79.22	0.00	0.00	0.00
5,500.00	5.00	300.00	5,493.66	76.27	-132.10	84.03	0.00	0.00	0.00
5,600.00	5.00	300.00	5,593.28	80.63	-139.65	88.83	0.00	0.00	0.00
5,700.00	5.00	300.00	5,692.90	84.98	-147.20	93.63	0.00	0.00	0.00
5,800.00	5.00	300.00	5,792.52	89.34	-154.74	98.43	0.00	0.00	0.00
5,900.00	5.00	300.00	5,892.14	93.70	-162.29	103.23	0.00	0.00	0.00
6,000.00	5.00	300.00	5,991.76	98.06	-169.84	108.03	0.00	0.00	0.00
6,100.00	5.00	300.00	6,091.37	102.41	-177.39	112.83	0.00	0.00	0.00
6,200.00	5.00	300.00	6,190.99	106.77	-184.94	117.63	0.00	0.00	0.00
6,300.00	5.00	300.00	6,290.61	111.13	-192.48	122.43	0.00	0.00	0.00
6,400.00	5.00	300.00	6,390.23	115.49	-200.03	127.23	0.00	0.00	0.00
6,500.00	5.00	300.00	6,489.85	119.85	-207.58	132.04	0.00	0.00	0.00
6,600.00	5.00	300.00	6,589.47	124.20	-215.13	136.84	0.00	0.00	0.00
6,700.00	5.00	300.00	6,689.09	128.56	-222.68	141.64	0.00	0.00	0.00
6,800.00	5.00	300.00	6,788.71	132.92	-230.22	146.44	0.00	0.00	0.00
6,900.00	5.00	300.00	6,888.33	137.28	-237.77	151.24	0.00	0.00	0.00
7,000.00	5.00	300.00	6,987.95	141.64	-245.32	156.04	0.00	0.00	0.00
7,100.00	5.00	300.00	7,087.57	145.99	-252.87	160.84	0.00	0.00	0.00
7,200.00	5.00	300.00	7,187.19	150.35	-260.41	165.64	0.00	0.00	0.00
7,300.00	5.00	300.00	7,286.81	154.71	-267.96	170.44	0.00	0.00	0.00
7,400.00	5.00	300.00	7,386.43	159.07	-275.51	175.25	0.00	0.00	0.00
7,500.00	5.00	300.00	7,486.05	163.42	-283.06	180.05	0.00	0.00	0.00
7,600.00	5.00	300.00	7,585.67	167.78	-290.61	184.85	0.00	0.00	0.00
7,700.00	5.00	300.00	7,685.29	172.14	-298.15	189.65	0.00	0.00	0.00
7,800.00	5.00	300.00	7,784.91	176.50	-305.70	194.45	0.00	0.00	0.00
7,900.00	5.00	300.00	7,884.53	180.86	-313.25	199.25	0.00	0.00	0.00
8,000.00	5.00	300.00	7,984.14	185.21	-320.80	204.05	0.00	0.00	0.00
8,100.00	4.50	300.00	8,083.80	189.35	-327.97	208.61	0.50	-0.50	0.00
8,200.00	4.00	300.00	8,183.53	193.06	-334.39	212.70	0.50	-0.50	0.00
8,300.00	3.50	300.00	8,283.31	196.33	-340.05	216.30	0.50	-0.50	0.00
8,400.00	3.00	300.00	8,383.15	199.16	-344.96	219.42	0.50	-0.50	0.00
8,500.00	2.50	300.00	8,483.03	201.56	-349.12	222.06	0.50	-0.50	0.00
8,600.00	2.00	300.00	8,582.96	203.53	-352.52	224.23	0.50	-0.50	0.00
8,700.00	1.50	300.00	8,682.91	205.05	-355.16	225.91	0.50	-0.50	0.00
8,800.00	1.00	300.00	8,782.89	206.14	-357.05	227.11	0.50	-0.50	0.00
8,900.00	0.50	300.00	8,882.88	206.80	-358.18	227.83	0.50	-0.50	0.00
9,000.00	0.00	0.00	8,982.88	207.02	-358.56	228.07	0.50	-0.50	0.00
9,100.00	0.00	0.00	9,082.88	207.02	-358.56	228.07	0.00	0.00	0.00
9,200.00	0.00	0.00	9,182.88	207.02	-358.56	228.07	0.00	0.00	0.00
9,215.00	0.00	0.00	9,197.88	207.02	-358.56	228.07	0.00	0.00	0.00
9,225.00	1.20	359.18	9,207.88	207.12	-358.56	228.18	12.00	12.00	0.00
9,250.00	4.20	359.18	9,232.84	208.30	-358.58	229.35	12.00	12.00	0.00
9,275.00	7.20	359.18	9,257.72	210.78	-358.62	231.83	12.00	12.00	0.00
9,300.00	10.20	359.18	9,282.43	214.56	-358.67	235.61	12.00	12.00	0.00
9,325.00	13.20	359.18	9,306.91	219.63	-358.74	240.67	12.00	12.00	0.00
9,350.00	16.20	359.18	9,331.08	225.97	-358.83	247.01	12.00	12.00	0.00
9,375.00	19.20	359.18	9,354.90	233.57	-358.94	254.60	12.00	12.00	0.00
9,400.00	22.20	359.18	9,378.28	242.41	-359.07	263.43	12.00	12.00	0.00
9,425.00	25.20	359.18	9,401.17	252.45	-359.21	273.47	12.00	12.00	0.00
9,450.00	28.20	359.18	9,423.50	263.68	-359.37	284.69	12.00	12.00	0.00
9,475.00	31.20	359.18	9,445.22	276.07	-359.54	297.06	12.00	12.00	0.00
9,500.00	34.20	359.18	9,466.25	289.57	-359.74	310.55	12.00	12.00	0.00
9,525.00	37.20	359.18	9,486.55	304.16	-359.94	325.12	12.00	12.00	0.00
9,550.00	40.20	359.18	9,506.06	319.78	-360.17	340.73	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)
9,575.00	43.20	359.18	9,524.72	336.41	-360.40	357.35	12.00	12.00	0.00
9,600.00	46.20	359.18	9,542.49	353.99	-360.65	374.91	12.00	12.00	0.00
9,625.00	49.20	359.18	9,559.31	372.48	-360.92	393.38	12.00	12.00	0.00
9,650.00	52.20	359.18	9,575.15	391.82	-361.19	412.70	12.00	12.00	0.00
9,675.00	55.20	359.18	9,589.95	411.96	-361.48	432.83	12.00	12.00	0.00
9,700.00	58.20	359.18	9,603.67	432.85	-361.77	453.70	12.00	12.00	0.00
9,725.00	61.20	359.18	9,616.28	454.43	-362.08	475.26	12.00	12.00	0.00
9,750.00	64.20	359.18	9,627.75	476.65	-362.40	497.45	12.00	12.00	0.00
9,775.00	67.20	359.18	9,638.03	499.43	-362.72	520.21	12.00	12.00	0.00
9,800.00	70.20	359.18	9,647.11	522.71	-363.05	543.47	12.00	12.00	0.00
9,825.00	73.20	359.18	9,654.96	546.44	-363.39	567.18	12.00	12.00	0.00
9,850.00	76.20	359.18	9,661.56	570.55	-363.73	591.27	12.00	12.00	0.00
9,875.00	79.20	359.18	9,666.88	594.97	-364.08	615.67	12.00	12.00	0.00
9,900.00	82.20	359.18	9,670.92	619.64	-364.43	640.31	12.00	12.00	0.00
9,925.00	85.20	359.18	9,673.67	644.48	-364.79	665.13	12.00	12.00	0.00
9,950.00	88.20	359.18	9,675.11	669.44	-365.14	690.06	12.00	12.00	0.00
9,966.34	90.16	359.18	9,675.34	685.77	-365.37	706.37	12.00	12.00	0.00
10,006.23	90.16	359.18	9,675.23	725.66	-365.94	746.23	0.01	0.01	0.00
10,100.00	90.16	359.18	9,674.96	819.42	-367.27	839.90	0.00	0.00	0.00
10,200.00	90.16	359.18	9,674.67	919.41	-368.70	939.80	0.00	0.00	0.00
10,300.00	90.16	359.18	9,674.39	1,019.40	-370.12	1,039.69	0.00	0.00	0.00
10,400.00	90.16	359.18	9,674.10	1,119.39	-371.54	1,139.59	0.00	0.00	0.00
10,500.00	90.16	359.18	9,673.81	1,219.38	-372.97	1,239.48	0.00	0.00	0.00
10,600.00	90.16	359.18	9,673.53	1,319.36	-374.39	1,339.38	0.00	0.00	0.00
10,700.00	90.16	359.18	9,673.24	1,419.35	-375.81	1,439.27	0.00	0.00	0.00
10,800.00	90.16	359.18	9,672.96	1,519.34	-377.23	1,539.17	0.00	0.00	0.00
10,900.00	90.16	359.18	9,672.67	1,619.33	-378.66	1,639.07	0.00	0.00	0.00
11,000.00	90.16	359.18	9,672.38	1,719.32	-380.08	1,738.96	0.00	0.00	0.00
11,100.00	90.16	359.18	9,672.10	1,819.31	-381.50	1,838.86	0.00	0.00	0.00
11,200.00	90.16	359.18	9,671.81	1,919.30	-382.92	1,938.75	0.00	0.00	0.00
11,300.00	90.16	359.18	9,671.52	2,019.29	-384.35	2,038.65	0.00	0.00	0.00
11,400.00	90.16	359.18	9,671.24	2,119.28	-385.77	2,138.55	0.00	0.00	0.00
11,500.00	90.16	359.18	9,670.95	2,219.27	-387.19	2,238.44	0.00	0.00	0.00
11,600.00	90.16	359.18	9,670.67	2,319.26	-388.61	2,338.34	0.00	0.00	0.00
11,700.00	90.16	359.18	9,670.38	2,419.25	-390.04	2,438.23	0.00	0.00	0.00
11,800.00	90.16	359.18	9,670.09	2,519.24	-391.46	2,538.13	0.00	0.00	0.00
11,900.00	90.16	359.18	9,669.81	2,619.23	-392.88	2,638.02	0.00	0.00	0.00
12,000.00	90.16	359.18	9,669.52	2,719.22	-394.30	2,737.92	0.00	0.00	0.00
12,100.00	90.16	359.18	9,669.23	2,819.21	-395.73	2,837.82	0.00	0.00	0.00
12,200.00	90.16	359.18	9,668.95	2,919.20	-397.15	2,937.71	0.00	0.00	0.00
12,300.00	90.16	359.18	9,668.66	3,019.19	-398.57	3,037.61	0.00	0.00	0.00
12,400.00	90.16	359.18	9,668.38	3,119.18	-400.00	3,137.50	0.00	0.00	0.00
12,500.00	90.16	359.18	9,668.09	3,219.16	-401.42	3,237.40	0.00	0.00	0.00
12,600.00	90.16	359.18	9,667.80	3,319.15	-402.84	3,337.30	0.00	0.00	0.00
12,700.00	90.16	359.18	9,667.52	3,419.14	-404.26	3,437.19	0.00	0.00	0.00
12,800.00	90.16	359.18	9,667.23	3,519.13	-405.69	3,537.09	0.00	0.00	0.00
12,900.00	90.16	359.18	9,666.94	3,619.12	-407.11	3,636.98	0.00	0.00	0.00
13,000.00	90.16	359.18	9,666.66	3,719.11	-408.53	3,736.88	0.00	0.00	0.00
13,100.00	90.16	359.18	9,666.37	3,819.10	-409.95	3,836.77	0.00	0.00	0.00
13,200.00	90.16	359.18	9,666.09	3,919.09	-411.38	3,936.67	0.00	0.00	0.00
13,300.00	90.16	359.18	9,665.80	4,019.08	-412.80	4,036.57	0.00	0.00	0.00
13,400.00	90.16	359.18	9,665.51	4,119.07	-414.22	4,136.46	0.00	0.00	0.00
13,500.00	90.16	359.18	9,665.23	4,219.06	-415.64	4,236.36	0.00	0.00	0.00
13,600.00	90.16	359.18	9,664.94	4,319.05	-417.07	4,336.25	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 156H
 Wellbore: Wellbore #1
 Design: Plan 1

Local Co-ordinate Reference: Well Thistle Unit 156H
 TVD Reference: 1 @ 3674.20ft
 MD Reference: 1 @ 3674.20ft
 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)
13,700.00	90.16	359.18	9,664.65	4,419.04	-418.49	4,436.15	0.00	0.00	0.00
13,800.00	90.16	359.18	9,664.37	4,519.03	-419.91	4,536.04	0.00	0.00	0.00
13,900.00	90.16	359.18	9,664.08	4,619.02	-421.33	4,635.94	0.00	0.00	0.00
14,000.00	90.16	359.18	9,663.80	4,719.01	-422.76	4,735.84	0.00	0.00	0.00
14,100.00	90.16	359.18	9,663.51	4,819.00	-424.18	4,835.73	0.00	0.00	0.00
14,200.00	90.16	359.18	9,663.22	4,918.99	-425.60	4,935.63	0.00	0.00	0.00
14,300.00	90.16	359.18	9,662.94	5,018.98	-427.02	5,035.52	0.00	0.00	0.00
14,400.00	90.16	359.18	9,662.65	5,118.96	-428.45	5,135.42	0.00	0.00	0.00
14,500.00	90.16	359.18	9,662.37	5,218.95	-429.87	5,235.32	0.00	0.00	0.00
14,600.00	90.16	359.18	9,662.08	5,318.94	-431.29	5,335.21	0.00	0.00	0.00
14,700.00	90.16	359.18	9,661.79	5,418.93	-432.72	5,435.11	0.00	0.00	0.00
14,800.00	90.16	359.18	9,661.51	5,518.92	-434.14	5,535.00	0.00	0.00	0.00
14,900.00	90.16	359.18	9,661.22	5,618.91	-435.56	5,634.90	0.00	0.00	0.00
15,000.00	90.16	359.18	9,660.93	5,718.90	-436.98	5,734.79	0.00	0.00	0.00
15,100.00	90.16	359.18	9,660.65	5,818.89	-438.41	5,834.69	0.00	0.00	0.00
15,200.00	90.16	359.18	9,660.36	5,918.88	-439.83	5,934.59	0.00	0.00	0.00
15,300.00	90.16	359.18	9,660.08	6,018.87	-441.25	6,034.48	0.00	0.00	0.00
15,400.00	90.16	359.18	9,659.79	6,118.86	-442.67	6,134.38	0.00	0.00	0.00
15,500.00	90.16	359.18	9,659.50	6,218.85	-444.10	6,234.27	0.00	0.00	0.00
15,600.00	90.16	359.18	9,659.22	6,318.84	-445.52	6,334.17	0.00	0.00	0.00
15,700.00	90.16	359.18	9,658.93	6,418.83	-446.94	6,434.06	0.00	0.00	0.00
15,800.00	90.16	359.18	9,658.64	6,518.82	-448.36	6,533.96	0.00	0.00	0.00
15,900.00	90.16	359.18	9,658.36	6,618.81	-449.79	6,633.86	0.00	0.00	0.00
16,000.00	90.16	359.18	9,658.07	6,718.80	-451.21	6,733.75	0.00	0.00	0.00
16,100.00	90.16	359.18	9,657.79	6,818.79	-452.63	6,833.65	0.00	0.00	0.00
16,200.00	90.16	359.18	9,657.50	6,918.78	-454.05	6,933.54	0.00	0.00	0.00
16,300.00	90.16	359.18	9,657.21	7,018.76	-455.48	7,033.44	0.00	0.00	0.00
16,400.00	90.16	359.18	9,656.93	7,118.75	-456.90	7,133.34	0.00	0.00	0.00
16,500.00	90.16	359.18	9,656.64	7,218.74	-458.32	7,233.23	0.00	0.00	0.00
16,600.00	90.16	359.18	9,656.35	7,318.73	-459.75	7,333.13	0.00	0.00	0.00
16,700.00	90.16	359.18	9,656.07	7,418.72	-461.17	7,433.02	0.00	0.00	0.00
16,800.00	90.16	359.18	9,655.78	7,518.71	-462.59	7,532.92	0.00	0.00	0.00
16,900.00	90.16	359.18	9,655.50	7,618.70	-464.01	7,632.81	0.00	0.00	0.00
17,000.00	90.16	359.18	9,655.21	7,718.69	-465.44	7,732.71	0.00	0.00	0.00
17,011.05	90.16	359.18	9,655.18	7,729.74	-465.59	7,743.75	0.00	0.00	0.00
17,073.98	90.16	359.18	9,655.00	7,792.67	-466.49	7,806.62	0.01	-0.01	-0.01

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 156H BHL	0.00	0.00	9,655.00	7,792.67	-466.49	464,855.62	776,299.37	0.000000	0.000000
- plan hits target center									
- Point									