

WESTERN DIVISION

PBNM

Dzurisin

Thistle Unit 159H

Wellbore #1

Plan: Plan 1

Standard Planning Report

02 August, 2016

Devon Energy

Planning Report

Database: EDM r5000 US Production
 Company: WESTERN DIVISION
 Project: PBNM
 Site: Dzurisin
 Well: Thistle Unit 159H
 Wellbore: Wellbore #1
 Design: Plan 1

Local Co-ordinate Reference: Well Thistle Unit 159H
 TVD Reference: 1 @ 3677.00ft
 MD Reference: 1 @ 3677.00ft
 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 159H					
Well Position	+N/-S	27,160.94 ft	Northing:	457,083.16 usft	Latitude:	0.000000
	+E/-W	50,468.50 ft	Easting:	775,859.81 usft	Longitude:	0.000000
Position Uncertainty		0.00 ft	Wellhead Elevation:	0.00 ft	Ground Level:	3,653.50 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 (ft)	+E/-W (ft)	Direction (°)	
	0.00	0.00	0.00	356.68	

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	260.00	3,999.37	-3.79	-21.47	1.00	1.00	0.00	260.00	
8,500.00	5.00	260.00	8,482.24	-71.89	-407.71	0.00	0.00	0.00	0.00	
9,500.00	0.00	0.00	9,480.97	-79.46	-450.66	0.50	-0.50	0.00	180.00	
9,575.00	0.00	0.00	9,555.97	-79.46	-450.66	0.00	0.00	0.00	0.00	
10,324.09	89.89	0.00	10,033.44	397.09	-450.63	12.00	12.00	0.00	0.00	Thistle Unit 159H BHL
10,356.31	89.89	0.00	10,033.50	429.31	-450.63	0.01	-0.01	0.00	179.84	
17,650.41	89.89	0.00	10,047.91	7,723.40	-450.25	0.00	0.00	0.00	0.00	
17,694.27	89.89	0.00	10,048.00	7,767.26	-450.25	0.01	0.01	-0.01	-42.71	Thistle Unit 159H BHL

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Local Co-ordinate Reference: Well Thistle Unit 159H
TVD Reference: 1 @ 3677.00ft
MD Reference: 1 @ 3677.00ft
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	260.00	3,600.00	-0.15	-0.86	-0.10	1.00	1.00	0.00
3,700.00	2.00	260.00	3,699.96	-0.61	-3.44	-0.41	1.00	1.00	0.00
3,800.00	3.00	260.00	3,799.86	-1.36	-7.73	-0.91	1.00	1.00	0.00
3,900.00	4.00	260.00	3,899.68	-2.42	-13.74	-1.62	1.00	1.00	0.00
4,000.00	5.00	260.00	3,999.37	-3.79	-21.47	-2.54	1.00	1.00	0.00
4,100.00	5.00	260.00	4,098.99	-5.30	-30.05	-3.55	0.00	0.00	0.00
4,200.00	5.00	260.00	4,198.60	-6.81	-38.64	-4.57	0.00	0.00	0.00
4,300.00	5.00	260.00	4,298.22	-8.33	-47.22	-5.58	0.00	0.00	0.00
4,400.00	5.00	260.00	4,397.84	-9.84	-55.80	-6.59	0.00	0.00	0.00
4,500.00	5.00	260.00	4,497.46	-11.35	-64.39	-7.61	0.00	0.00	0.00
4,600.00	5.00	260.00	4,597.08	-12.87	-72.97	-8.62	0.00	0.00	0.00
4,700.00	5.00	260.00	4,696.70	-14.38	-81.55	-9.64	0.00	0.00	0.00
4,800.00	5.00	260.00	4,796.32	-15.89	-90.14	-10.65	0.00	0.00	0.00
4,900.00	5.00	260.00	4,895.94	-17.41	-98.72	-11.66	0.00	0.00	0.00
5,000.00	5.00	260.00	4,995.56	-18.92	-107.30	-12.68	0.00	0.00	0.00
5,100.00	5.00	260.00	5,095.18	-20.43	-115.89	-13.69	0.00	0.00	0.00
5,200.00	5.00	260.00	5,194.80	-21.95	-124.47	-14.71	0.00	0.00	0.00
5,300.00	5.00	260.00	5,294.42	-23.46	-133.05	-15.72	0.00	0.00	0.00

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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)
5,400.00	5.00	260.00	5,394.04	-24.97	-141.64	-16.74	0.00	0.00	0.00
5,500.00	5.00	260.00	5,493.66	-26.49	-150.22	-17.75	0.00	0.00	0.00
5,600.00	5.00	260.00	5,593.28	-28.00	-158.80	-18.76	0.00	0.00	0.00
5,700.00	5.00	260.00	5,692.90	-29.51	-167.39	-19.78	0.00	0.00	0.00
5,800.00	5.00	260.00	5,792.52	-31.03	-175.97	-20.79	0.00	0.00	0.00
5,900.00	5.00	260.00	5,892.14	-32.54	-184.55	-21.81	0.00	0.00	0.00
6,000.00	5.00	260.00	5,991.76	-34.05	-193.13	-22.82	0.00	0.00	0.00
6,100.00	5.00	260.00	6,091.37	-35.57	-201.72	-23.84	0.00	0.00	0.00
6,200.00	5.00	260.00	6,190.99	-37.08	-210.30	-24.85	0.00	0.00	0.00
6,300.00	5.00	260.00	6,290.61	-38.60	-218.88	-25.86	0.00	0.00	0.00
6,400.00	5.00	260.00	6,390.23	-40.11	-227.47	-26.88	0.00	0.00	0.00
6,500.00	5.00	260.00	6,489.85	-41.62	-236.05	-27.89	0.00	0.00	0.00
6,600.00	5.00	260.00	6,589.47	-43.14	-244.63	-28.91	0.00	0.00	0.00
6,700.00	5.00	260.00	6,689.09	-44.65	-253.22	-29.92	0.00	0.00	0.00
6,800.00	5.00	260.00	6,788.71	-46.16	-261.80	-30.93	0.00	0.00	0.00
6,900.00	5.00	260.00	6,888.33	-47.68	-270.38	-31.95	0.00	0.00	0.00
7,000.00	5.00	260.00	6,987.95	-49.19	-278.97	-32.96	0.00	0.00	0.00
7,100.00	5.00	260.00	7,087.57	-50.70	-287.55	-33.98	0.00	0.00	0.00
7,200.00	5.00	260.00	7,187.19	-52.22	-296.13	-34.99	0.00	0.00	0.00
7,300.00	5.00	260.00	7,286.81	-53.73	-304.72	-36.01	0.00	0.00	0.00
7,400.00	5.00	260.00	7,386.43	-55.24	-313.30	-37.02	0.00	0.00	0.00
7,500.00	5.00	260.00	7,486.05	-56.76	-321.88	-38.03	0.00	0.00	0.00
7,600.00	5.00	260.00	7,585.67	-58.27	-330.47	-39.05	0.00	0.00	0.00
7,700.00	5.00	260.00	7,685.29	-59.78	-339.05	-40.06	0.00	0.00	0.00
7,800.00	5.00	260.00	7,784.91	-61.30	-347.63	-41.08	0.00	0.00	0.00
7,900.00	5.00	260.00	7,884.53	-62.81	-356.21	-42.09	0.00	0.00	0.00
8,000.00	5.00	260.00	7,984.14	-64.32	-364.80	-43.10	0.00	0.00	0.00
8,100.00	5.00	260.00	8,083.76	-65.84	-373.38	-44.12	0.00	0.00	0.00
8,200.00	5.00	260.00	8,183.38	-67.35	-381.96	-45.13	0.00	0.00	0.00
8,300.00	5.00	260.00	8,283.00	-68.86	-390.55	-46.15	0.00	0.00	0.00
8,400.00	5.00	260.00	8,382.62	-70.38	-399.13	-47.16	0.00	0.00	0.00
8,500.00	5.00	260.00	8,482.24	-71.89	-407.71	-48.18	0.00	0.00	0.00
8,600.00	4.50	260.00	8,581.90	-73.33	-415.87	-49.14	0.50	-0.50	0.00
8,700.00	4.00	260.00	8,681.62	-74.62	-423.17	-50.00	0.50	-0.50	0.00
8,800.00	3.50	260.00	8,781.41	-75.75	-429.61	-50.76	0.50	-0.50	0.00
8,900.00	3.00	260.00	8,881.25	-76.74	-435.19	-51.42	0.50	-0.50	0.00
9,000.00	2.50	260.00	8,981.13	-77.57	-439.92	-51.98	0.50	-0.50	0.00
9,100.00	2.00	260.00	9,081.05	-78.25	-443.78	-52.44	0.50	-0.50	0.00
9,200.00	1.50	260.00	9,181.01	-78.78	-446.79	-52.79	0.50	-0.50	0.00
9,300.00	1.00	260.00	9,280.98	-79.16	-448.94	-53.05	0.50	-0.50	0.00
9,400.00	0.50	260.00	9,380.97	-79.39	-450.23	-53.20	0.50	-0.50	0.00
9,500.00	0.00	0.00	9,480.97	-79.46	-450.66	-53.25	0.50	-0.50	0.00
9,575.00	0.00	0.00	9,555.97	-79.46	-450.66	-53.25	0.00	0.00	0.00
9,600.00	3.00	0.00	9,580.96	-78.81	-450.66	-52.60	12.00	12.00	0.00
9,625.00	6.00	0.00	9,605.88	-76.85	-450.66	-50.64	12.00	12.00	0.00
9,650.00	9.00	0.00	9,630.67	-73.58	-450.66	-47.38	12.00	12.00	0.00
9,675.00	12.00	0.00	9,655.24	-69.03	-450.66	-42.83	12.00	12.00	0.00
9,700.00	15.00	0.00	9,679.55	-63.19	-450.66	-37.01	12.00	12.00	0.00
9,725.00	18.00	0.00	9,703.52	-56.09	-450.66	-29.92	12.00	12.00	0.00
9,750.00	21.00	0.00	9,727.08	-47.75	-450.66	-21.59	12.00	12.00	0.00
9,775.00	24.00	0.00	9,750.18	-38.18	-450.65	-12.04	12.00	12.00	0.00
9,800.00	27.00	0.00	9,772.74	-27.42	-450.65	-1.30	12.00	12.00	0.00
9,825.00	30.00	0.00	9,794.71	-15.49	-450.65	10.61	12.00	12.00	0.00
9,850.00	33.00	0.00	9,816.02	-2.43	-450.65	23.65	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	36.00	0.00	9,836.62	11.72	-450.65	37.78	12.00	12.00	0.00
9,900.00	39.00	0.00	9,856.45	26.94	-450.65	52.98	12.00	12.00	0.00
9,925.00	42.00	0.00	9,875.46	43.18	-450.65	69.18	12.00	12.00	0.00
9,950.00	45.00	0.00	9,893.59	60.38	-450.65	86.36	12.00	12.00	0.00
9,975.00	48.00	0.00	9,910.80	78.52	-450.65	104.46	12.00	12.00	0.00
10,000.00	51.00	0.00	9,927.03	97.52	-450.65	123.44	12.00	12.00	0.00
10,025.00	54.00	0.00	9,942.25	117.35	-450.65	143.24	12.00	12.00	0.00
10,050.00	57.00	0.00	9,956.41	137.96	-450.65	163.80	12.00	12.00	0.00
10,075.00	60.00	0.00	9,969.47	159.27	-450.64	185.08	12.00	12.00	0.00
10,100.00	63.00	0.00	9,981.40	181.24	-450.64	207.01	12.00	12.00	0.00
10,125.00	66.00	0.00	9,992.16	203.80	-450.64	229.54	12.00	12.00	0.00
10,150.00	69.00	0.00	10,001.73	226.89	-450.64	252.59	12.00	12.00	0.00
10,175.00	72.00	0.00	10,010.07	250.46	-450.64	276.12	12.00	12.00	0.00
10,200.00	75.00	0.00	10,017.17	274.42	-450.64	300.04	12.00	12.00	0.00
10,225.00	78.00	0.00	10,023.00	298.73	-450.64	324.31	12.00	12.00	0.00
10,250.00	81.00	0.00	10,027.56	323.31	-450.64	348.85	12.00	12.00	0.00
10,275.00	84.00	0.00	10,030.82	348.09	-450.63	373.59	12.00	12.00	0.00
10,300.00	87.00	0.00	10,032.78	373.01	-450.63	398.47	12.00	12.00	0.00
10,324.09	89.89	0.00	10,033.44	397.09	-450.63	422.50	12.00	12.00	0.00
10,356.31	89.89	0.00	10,033.50	429.31	-450.63	454.67	0.01	-0.01	0.00
10,400.00	89.89	0.00	10,033.59	473.00	-450.63	498.29	0.00	0.00	0.00
10,500.00	89.89	0.00	10,033.78	573.00	-450.62	598.12	0.00	0.00	0.00
10,600.00	89.89	0.00	10,033.98	673.00	-450.62	697.95	0.00	0.00	0.00
10,700.00	89.89	0.00	10,034.18	773.00	-450.61	797.78	0.00	0.00	0.00
10,800.00	89.89	0.00	10,034.38	873.00	-450.61	897.61	0.00	0.00	0.00
10,900.00	89.89	0.00	10,034.58	973.00	-450.60	997.45	0.00	0.00	0.00
11,000.00	89.89	0.00	10,034.77	1,073.00	-450.60	1,097.28	0.00	0.00	0.00
11,100.00	89.89	0.00	10,034.97	1,173.00	-450.59	1,197.11	0.00	0.00	0.00
11,200.00	89.89	0.00	10,035.17	1,273.00	-450.59	1,296.94	0.00	0.00	0.00
11,300.00	89.89	0.00	10,035.37	1,373.00	-450.58	1,396.77	0.00	0.00	0.00
11,400.00	89.89	0.00	10,035.56	1,473.00	-450.58	1,496.61	0.00	0.00	0.00
11,500.00	89.89	0.00	10,035.76	1,573.00	-450.57	1,596.44	0.00	0.00	0.00
11,600.00	89.89	0.00	10,035.96	1,673.00	-450.57	1,696.27	0.00	0.00	0.00
11,700.00	89.89	0.00	10,036.16	1,773.00	-450.56	1,796.10	0.00	0.00	0.00
11,800.00	89.89	0.00	10,036.35	1,873.00	-450.56	1,895.93	0.00	0.00	0.00
11,900.00	89.89	0.00	10,036.55	1,973.00	-450.55	1,995.77	0.00	0.00	0.00
12,000.00	89.89	0.00	10,036.75	2,073.00	-450.55	2,095.60	0.00	0.00	0.00
12,100.00	89.89	0.00	10,036.95	2,173.00	-450.54	2,195.43	0.00	0.00	0.00
12,200.00	89.89	0.00	10,037.14	2,273.00	-450.54	2,295.26	0.00	0.00	0.00
12,300.00	89.89	0.00	10,037.34	2,373.00	-450.53	2,395.09	0.00	0.00	0.00
12,400.00	89.89	0.00	10,037.54	2,473.00	-450.52	2,494.92	0.00	0.00	0.00
12,500.00	89.89	0.00	10,037.74	2,573.00	-450.52	2,594.76	0.00	0.00	0.00
12,600.00	89.89	0.00	10,037.93	2,673.00	-450.51	2,694.59	0.00	0.00	0.00
12,700.00	89.89	0.00	10,038.13	2,773.00	-450.51	2,794.42	0.00	0.00	0.00
12,800.00	89.89	0.00	10,038.33	2,873.00	-450.50	2,894.25	0.00	0.00	0.00
12,900.00	89.89	0.00	10,038.53	2,973.00	-450.50	2,994.08	0.00	0.00	0.00
13,000.00	89.89	0.00	10,038.73	3,073.00	-450.49	3,093.92	0.00	0.00	0.00
13,100.00	89.89	0.00	10,038.92	3,173.00	-450.49	3,193.75	0.00	0.00	0.00
13,200.00	89.89	0.00	10,039.12	3,273.00	-450.48	3,293.58	0.00	0.00	0.00
13,300.00	89.89	0.00	10,039.32	3,373.00	-450.48	3,393.41	0.00	0.00	0.00
13,400.00	89.89	0.00	10,039.52	3,473.00	-450.47	3,493.24	0.00	0.00	0.00
13,500.00	89.89	0.00	10,039.71	3,573.00	-450.47	3,593.08	0.00	0.00	0.00
13,600.00	89.89	0.00	10,039.91	3,672.99	-450.46	3,692.91	0.00	0.00	0.00
13,700.00	89.89	0.00	10,040.11	3,772.99	-450.46	3,792.74	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 159H
Wellbore: Wellbore #1
Design: Plan 1

Local Co-ordinate Reference: Well Thistle Unit 159H
TVD Reference: 1 @ 3677.00ft
MD Reference: 1 @ 3677.00ft
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	89.89	0.00	10,040.31	3,872.99	-450.45	3,892.57	0.00	0.00	0.00
13,900.00	89.89	0.00	10,040.50	3,972.99	-450.45	3,992.40	0.00	0.00	0.00
14,000.00	89.89	0.00	10,040.70	4,072.99	-450.44	4,092.24	0.00	0.00	0.00
14,100.00	89.89	0.00	10,040.90	4,172.99	-450.44	4,192.07	0.00	0.00	0.00
14,200.00	89.89	0.00	10,041.10	4,272.99	-450.43	4,291.90	0.00	0.00	0.00
14,300.00	89.89	0.00	10,041.29	4,372.99	-450.43	4,391.73	0.00	0.00	0.00
14,400.00	89.89	0.00	10,041.49	4,472.99	-450.42	4,491.56	0.00	0.00	0.00
14,500.00	89.89	0.00	10,041.69	4,572.99	-450.42	4,591.40	0.00	0.00	0.00
14,600.00	89.89	0.00	10,041.89	4,672.99	-450.41	4,691.23	0.00	0.00	0.00
14,700.00	89.89	0.00	10,042.08	4,772.99	-450.41	4,791.06	0.00	0.00	0.00
14,800.00	89.89	0.00	10,042.28	4,872.99	-450.40	4,890.89	0.00	0.00	0.00
14,900.00	89.89	0.00	10,042.48	4,972.99	-450.39	4,990.72	0.00	0.00	0.00
15,000.00	89.89	0.00	10,042.68	5,072.99	-450.39	5,090.55	0.00	0.00	0.00
15,100.00	89.89	0.00	10,042.87	5,172.99	-450.38	5,190.39	0.00	0.00	0.00
15,200.00	89.89	0.00	10,043.07	5,272.99	-450.38	5,290.22	0.00	0.00	0.00
15,300.00	89.89	0.00	10,043.27	5,372.99	-450.37	5,390.05	0.00	0.00	0.00
15,400.00	89.89	0.00	10,043.47	5,472.99	-450.37	5,489.88	0.00	0.00	0.00
15,500.00	89.89	0.00	10,043.67	5,572.99	-450.36	5,589.71	0.00	0.00	0.00
15,600.00	89.89	0.00	10,043.86	5,672.99	-450.36	5,689.55	0.00	0.00	0.00
15,700.00	89.89	0.00	10,044.06	5,772.99	-450.35	5,789.38	0.00	0.00	0.00
15,800.00	89.89	0.00	10,044.26	5,872.99	-450.35	5,889.21	0.00	0.00	0.00
15,900.00	89.89	0.00	10,044.46	5,972.99	-450.34	5,989.04	0.00	0.00	0.00
16,000.00	89.89	0.00	10,044.65	6,072.99	-450.34	6,088.87	0.00	0.00	0.00
16,100.00	89.89	0.00	10,044.85	6,172.99	-450.33	6,188.71	0.00	0.00	0.00
16,200.00	89.89	0.00	10,045.05	6,272.99	-450.33	6,288.54	0.00	0.00	0.00
16,300.00	89.89	0.00	10,045.25	6,372.99	-450.32	6,388.37	0.00	0.00	0.00
16,400.00	89.89	0.00	10,045.44	6,472.99	-450.32	6,488.20	0.00	0.00	0.00
16,500.00	89.89	0.00	10,045.64	6,572.99	-450.31	6,588.03	0.00	0.00	0.00
16,600.00	89.89	0.00	10,045.84	6,672.99	-450.31	6,687.87	0.00	0.00	0.00
16,700.00	89.89	0.00	10,046.04	6,772.99	-450.30	6,787.70	0.00	0.00	0.00
16,800.00	89.89	0.00	10,046.23	6,872.99	-450.30	6,887.53	0.00	0.00	0.00
16,900.00	89.89	0.00	10,046.43	6,972.99	-450.29	6,987.36	0.00	0.00	0.00
17,000.00	89.89	0.00	10,046.63	7,072.99	-450.29	7,087.19	0.00	0.00	0.00
17,100.00	89.89	0.00	10,046.83	7,172.99	-450.28	7,187.02	0.00	0.00	0.00
17,200.00	89.89	0.00	10,047.02	7,272.99	-450.28	7,286.86	0.00	0.00	0.00
17,300.00	89.89	0.00	10,047.22	7,372.99	-450.27	7,386.69	0.00	0.00	0.00
17,400.00	89.89	0.00	10,047.42	7,472.99	-450.27	7,486.52	0.00	0.00	0.00
17,500.00	89.89	0.00	10,047.62	7,572.99	-450.26	7,586.35	0.00	0.00	0.00
17,600.00	89.89	0.00	10,047.82	7,672.99	-450.25	7,686.18	0.00	0.00	0.00
17,650.41	89.89	0.00	10,047.91	7,723.40	-450.25	7,736.51	0.00	0.00	0.00
17,694.27	89.89	0.00	10,048.00	7,767.26	-450.25	7,780.29	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 159H BHL	0.00	0.00	10,048.00	7,767.26	-450.25	464,850.40	775,409.56	0.000000	0.000000
- plan hits target center									
- Point									