

WESTERN DIVISION

PBNM

Dzurisin

Thistle Unit 115H

Wellbore #1

Plan: Plan 1

Standard Planning Report

20 June, 2016

Devon Energy
Planning Report

Database:	EDM r5000 US Production	Local Co-ordinate Reference:	Well Thistle Unit 115H
Company:	WESTERN DIVISION	TVD Reference:	1 @ 3738.00ft
Project:	PBNM	MD Reference:	1 @ 3738.00ft
Site:	Dzurisin	North Reference:	Grid
Well:	Thistle Unit 115H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan 1		

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 115H					
Well Position	+N/-S	42,589.30 ft	Northing:	472,511.48 usft	Latitude:	0.000000
	+E/-W	55,721.27 ft	Easting:	781,112.57 usft	Longitude:	0.000000
Position Uncertainty		0.00 ft	Wellhead Elevation:	0.00 ft	Ground Level:	3,714.50 ft

Wellbore		Wellbore #1			
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	User Defined	6/20/2016	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	182.65

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	
5,450.00	0.00	0.00	5,450.00	0.00	0.00	0.00	0.00	0.00	0.00	
5,950.00	5.00	270.00	5,949.37	0.00	-21.80	1.00	1.00	0.00	270.00	
9,275.63	5.00	270.00	9,262.34	0.00	-311.65	0.00	0.00	0.00	0.00	
10,023.31	89.72	180.00	9,738.00	-475.14	-353.06	12.00	11.33	-12.04	-90.02	
10,029.55	89.72	180.00	9,738.03	-481.38	-353.06	0.04	-0.02	-0.04	-111.29	
17,153.12	89.72	180.00	9,772.97	-7,604.87	-352.74	0.00	0.00	0.00	0.00	
17,159.36	89.72	180.00	9,773.00	-7,611.11	-352.74	0.04	0.02	0.04	68.71	Thistle Unit 115H BHL

Devon Energy

Planning Report

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Company:	WESTERN DIVISION	TVD Reference:	1 @ 3738.00ft
Project:	PBNM	MD Reference:	1 @ 3738.00ft
Site:	Dzurisin	North Reference:	Grid
Well:	Thistle Unit 115H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan 1		

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	0.00	0.00	3,600.00	0.00	0.00	0.00	0.00	0.00	0.00
3,700.00	0.00	0.00	3,700.00	0.00	0.00	0.00	0.00	0.00	0.00
3,800.00	0.00	0.00	3,800.00	0.00	0.00	0.00	0.00	0.00	0.00
3,900.00	0.00	0.00	3,900.00	0.00	0.00	0.00	0.00	0.00	0.00
4,000.00	0.00	0.00	4,000.00	0.00	0.00	0.00	0.00	0.00	0.00
4,100.00	0.00	0.00	4,100.00	0.00	0.00	0.00	0.00	0.00	0.00
4,200.00	0.00	0.00	4,200.00	0.00	0.00	0.00	0.00	0.00	0.00
4,300.00	0.00	0.00	4,300.00	0.00	0.00	0.00	0.00	0.00	0.00
4,400.00	0.00	0.00	4,400.00	0.00	0.00	0.00	0.00	0.00	0.00
4,500.00	0.00	0.00	4,500.00	0.00	0.00	0.00	0.00	0.00	0.00
4,600.00	0.00	0.00	4,600.00	0.00	0.00	0.00	0.00	0.00	0.00
4,700.00	0.00	0.00	4,700.00	0.00	0.00	0.00	0.00	0.00	0.00
4,800.00	0.00	0.00	4,800.00	0.00	0.00	0.00	0.00	0.00	0.00
4,900.00	0.00	0.00	4,900.00	0.00	0.00	0.00	0.00	0.00	0.00
5,000.00	0.00	0.00	5,000.00	0.00	0.00	0.00	0.00	0.00	0.00
5,100.00	0.00	0.00	5,100.00	0.00	0.00	0.00	0.00	0.00	0.00
5,200.00	0.00	0.00	5,200.00	0.00	0.00	0.00	0.00	0.00	0.00
5,300.00	0.00	0.00	5,300.00	0.00	0.00	0.00	0.00	0.00	0.00

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Planning Report

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Project: PBNM
Site: Dzurisin
Well: Thistle Unit 115H
Wellbore: Wellbore #1
Design: Plan 1

Local Co-ordinate Reference: Well Thistle Unit 115H
TVD Reference: 1 @ 3738.00ft
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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)
5,400.00	0.00	0.00	5,400.00	0.00	0.00	0.00	0.00	0.00	0.00
5,450.00	0.00	0.00	5,450.00	0.00	0.00	0.00	0.00	0.00	0.00
5,500.00	0.50	270.00	5,500.00	0.00	-0.22	0.01	1.00	1.00	0.00
5,600.00	1.50	270.00	5,599.98	0.00	-1.96	0.09	1.00	1.00	0.00
5,700.00	2.50	270.00	5,699.92	0.00	-5.45	0.25	1.00	1.00	0.00
5,800.00	3.50	270.00	5,799.78	0.00	-10.69	0.49	1.00	1.00	0.00
5,900.00	4.50	270.00	5,899.54	0.00	-17.66	0.82	1.00	1.00	0.00
5,950.00	5.00	270.00	5,949.37	0.00	-21.80	1.01	1.00	1.00	0.00
6,000.00	5.00	270.00	5,999.18	0.00	-26.16	1.21	0.00	0.00	0.00
6,100.00	5.00	270.00	6,098.79	0.00	-34.88	1.61	0.00	0.00	0.00
6,200.00	5.00	270.00	6,198.41	0.00	-43.59	2.02	0.00	0.00	0.00
6,300.00	5.00	270.00	6,298.03	0.00	-52.31	2.42	0.00	0.00	0.00
6,400.00	5.00	270.00	6,397.65	0.00	-61.02	2.83	0.00	0.00	0.00
6,500.00	5.00	270.00	6,497.27	0.00	-69.74	3.23	0.00	0.00	0.00
6,600.00	5.00	270.00	6,596.89	0.00	-78.45	3.63	0.00	0.00	0.00
6,700.00	5.00	270.00	6,696.51	0.00	-87.17	4.04	0.00	0.00	0.00
6,800.00	5.00	270.00	6,796.13	0.00	-95.89	4.44	0.00	0.00	0.00
6,900.00	5.00	270.00	6,895.75	0.00	-104.60	4.84	0.00	0.00	0.00
7,000.00	5.00	270.00	6,995.37	0.00	-113.32	5.25	0.00	0.00	0.00
7,100.00	5.00	270.00	7,094.99	0.00	-122.03	5.65	0.00	0.00	0.00
7,200.00	5.00	270.00	7,194.61	0.00	-130.75	6.05	0.00	0.00	0.00
7,300.00	5.00	270.00	7,294.23	0.00	-139.46	6.46	0.00	0.00	0.00
7,400.00	5.00	270.00	7,393.85	0.00	-148.18	6.86	0.00	0.00	0.00
7,500.00	5.00	270.00	7,493.47	0.00	-156.89	7.26	0.00	0.00	0.00
7,600.00	5.00	270.00	7,593.09	0.00	-165.61	7.67	0.00	0.00	0.00
7,700.00	5.00	270.00	7,692.71	0.00	-174.33	8.07	0.00	0.00	0.00
7,800.00	5.00	270.00	7,792.33	0.00	-183.04	8.47	0.00	0.00	0.00
7,900.00	5.00	270.00	7,891.95	0.00	-191.76	8.88	0.00	0.00	0.00
8,000.00	5.00	270.00	7,991.56	0.00	-200.47	9.28	0.00	0.00	0.00
8,100.00	5.00	270.00	8,091.18	0.00	-209.19	9.68	0.00	0.00	0.00
8,200.00	5.00	270.00	8,190.80	0.00	-217.90	10.09	0.00	0.00	0.00
8,300.00	5.00	270.00	8,290.42	0.00	-226.62	10.49	0.00	0.00	0.00
8,400.00	5.00	270.00	8,390.04	0.00	-235.33	10.90	0.00	0.00	0.00
8,500.00	5.00	270.00	8,489.66	0.00	-244.05	11.30	0.00	0.00	0.00
8,600.00	5.00	270.00	8,589.28	0.00	-252.77	11.70	0.00	0.00	0.00
8,700.00	5.00	270.00	8,688.90	0.00	-261.48	12.11	0.00	0.00	0.00
8,800.00	5.00	270.00	8,788.52	0.00	-270.20	12.51	0.00	0.00	0.00
8,900.00	5.00	270.00	8,888.14	0.00	-278.91	12.91	0.00	0.00	0.00
9,000.00	5.00	270.00	8,987.76	0.00	-287.63	13.32	0.00	0.00	0.00
9,100.00	5.00	270.00	9,087.38	0.00	-296.34	13.72	0.00	0.00	0.00
9,200.00	5.00	270.00	9,187.00	0.00	-305.06	14.12	0.00	0.00	0.00
9,275.63	5.00	270.00	9,262.34	0.00	-311.65	14.43	0.00	0.00	0.00
9,300.00	5.79	239.62	9,286.61	-0.62	-313.77	15.15	12.00	3.24	-124.67
9,325.00	7.74	220.01	9,311.44	-2.55	-315.94	17.17	12.00	7.82	-78.42
9,350.00	10.22	209.01	9,336.13	-5.78	-318.10	20.50	12.00	9.89	-44.00
9,375.00	12.91	202.41	9,360.62	-10.30	-320.24	25.12	12.00	10.79	-26.43
9,400.00	15.72	198.09	9,384.84	-16.11	-322.36	31.01	12.00	11.22	-17.28
9,425.00	18.58	195.06	9,408.73	-23.17	-324.45	38.17	12.00	11.46	-12.11
9,450.00	21.49	192.82	9,432.21	-31.49	-326.50	46.57	12.00	11.60	-8.96
9,475.00	24.41	191.09	9,455.23	-41.02	-328.51	56.19	12.00	11.70	-6.91
9,500.00	27.35	189.71	9,477.72	-51.75	-330.47	67.00	12.00	11.76	-5.51
9,525.00	30.30	188.59	9,499.62	-63.65	-332.38	78.97	12.00	11.80	-4.51
9,550.00	33.26	187.64	9,520.87	-76.69	-334.24	92.08	12.00	11.83	-3.78
9,575.00	36.22	186.84	9,541.42	-90.82	-336.03	106.28	12.00	11.86	-3.23

Devon Energy
Planning Report

Database: EDM r5000 US Production
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Project: PBNM
Site: Dzurisin
Well: Thistle Unit 115H
Wellbore: Wellbore #1
Design: Plan 1

Local Co-ordinate Reference: Well Thistle Unit 115H
TVD Reference: 1 @ 3738.00ft
MD Reference: 1 @ 3738.00ft
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)
9,600.00	39.19	186.14	9,561.19	-106.01	-337.75	121.53	12.00	11.88	-2.80
9,625.00	42.16	185.52	9,580.15	-122.22	-339.40	137.80	12.00	11.89	-2.46
9,650.00	45.14	184.97	9,598.24	-139.40	-340.98	155.04	12.00	11.90	-2.20
9,675.00	48.12	184.47	9,615.40	-157.51	-342.47	173.20	12.00	11.91	-1.98
9,700.00	51.10	184.02	9,631.60	-176.50	-343.88	192.23	12.00	11.92	-1.80
9,725.00	54.08	183.61	9,646.79	-196.31	-345.20	212.08	12.00	11.93	-1.66
9,750.00	57.06	183.22	9,660.92	-216.89	-346.43	232.70	12.00	11.93	-1.54
9,775.00	60.05	182.87	9,673.96	-238.19	-347.56	254.02	12.00	11.94	-1.44
9,800.00	63.03	182.53	9,685.87	-260.14	-348.59	276.00	12.00	11.94	-1.35
9,825.00	66.02	182.21	9,696.62	-282.69	-349.52	298.56	12.00	11.94	-1.28
9,850.00	69.01	181.90	9,706.18	-305.77	-350.35	321.66	12.00	11.95	-1.23
9,875.00	71.99	181.61	9,714.53	-329.32	-351.07	345.22	12.00	11.95	-1.18
9,900.00	74.98	181.32	9,721.63	-353.28	-351.68	369.18	12.00	11.95	-1.14
9,925.00	77.97	181.04	9,727.48	-377.58	-352.18	393.48	12.00	11.95	-1.11
9,950.00	80.96	180.77	9,732.05	-402.15	-352.57	418.04	12.00	11.95	-1.08
9,975.00	83.95	180.51	9,735.33	-426.93	-352.85	442.81	12.00	11.95	-1.06
10,000.00	86.93	180.24	9,737.32	-451.85	-353.01	467.71	12.00	11.95	-1.05
10,023.31	89.72	180.00	9,738.00	-475.14	-353.06	490.98	12.00	11.95	-1.05
10,029.55	89.72	180.00	9,738.03	-481.38	-353.06	497.21	0.04	-0.02	-0.04
10,100.00	89.72	180.00	9,738.38	-551.83	-353.06	567.59	0.00	0.00	0.00
10,200.00	89.72	180.00	9,738.87	-651.83	-353.05	667.48	0.00	0.00	0.00
10,300.00	89.72	180.00	9,739.36	-751.83	-353.05	767.37	0.00	0.00	0.00
10,400.00	89.72	180.00	9,739.85	-851.83	-353.05	867.26	0.00	0.00	0.00
10,500.00	89.72	180.00	9,740.34	-951.83	-353.04	967.15	0.00	0.00	0.00
10,600.00	89.72	180.00	9,740.83	-1,051.83	-353.04	1,067.04	0.00	0.00	0.00
10,700.00	89.72	180.00	9,741.32	-1,151.83	-353.03	1,166.94	0.00	0.00	0.00
10,800.00	89.72	180.00	9,741.81	-1,251.82	-353.03	1,266.83	0.00	0.00	0.00
10,900.00	89.72	180.00	9,742.30	-1,351.82	-353.02	1,366.72	0.00	0.00	0.00
11,000.00	89.72	180.00	9,742.79	-1,451.82	-353.02	1,466.61	0.00	0.00	0.00
11,100.00	89.72	180.00	9,743.28	-1,551.82	-353.01	1,566.50	0.00	0.00	0.00
11,200.00	89.72	180.00	9,743.77	-1,651.82	-353.01	1,666.39	0.00	0.00	0.00
11,300.00	89.72	180.00	9,744.26	-1,751.82	-353.00	1,766.28	0.00	0.00	0.00
11,400.00	89.72	180.00	9,744.75	-1,851.82	-353.00	1,866.17	0.00	0.00	0.00
11,500.00	89.72	180.00	9,745.24	-1,951.82	-353.00	1,966.07	0.00	0.00	0.00
11,600.00	89.72	180.00	9,745.73	-2,051.82	-352.99	2,065.96	0.00	0.00	0.00
11,700.00	89.72	180.00	9,746.22	-2,151.81	-352.99	2,165.85	0.00	0.00	0.00
11,800.00	89.72	180.00	9,746.72	-2,251.81	-352.98	2,265.74	0.00	0.00	0.00
11,900.00	89.72	180.00	9,747.21	-2,351.81	-352.98	2,365.63	0.00	0.00	0.00
12,000.00	89.72	180.00	9,747.70	-2,451.81	-352.97	2,465.52	0.00	0.00	0.00
12,100.00	89.72	180.00	9,748.19	-2,551.81	-352.97	2,565.41	0.00	0.00	0.00
12,200.00	89.72	180.00	9,748.68	-2,651.81	-352.96	2,665.31	0.00	0.00	0.00
12,300.00	89.72	180.00	9,749.17	-2,751.81	-352.96	2,765.20	0.00	0.00	0.00
12,400.00	89.72	180.00	9,749.66	-2,851.81	-352.96	2,865.09	0.00	0.00	0.00
12,500.00	89.72	180.00	9,750.15	-2,951.80	-352.95	2,964.98	0.00	0.00	0.00
12,600.00	89.72	180.00	9,750.64	-3,051.80	-352.95	3,064.87	0.00	0.00	0.00
12,700.00	89.72	180.00	9,751.13	-3,151.80	-352.94	3,164.76	0.00	0.00	0.00
12,800.00	89.72	180.00	9,751.62	-3,251.80	-352.94	3,264.65	0.00	0.00	0.00
12,900.00	89.72	180.00	9,752.11	-3,351.80	-352.93	3,364.55	0.00	0.00	0.00
13,000.00	89.72	180.00	9,752.60	-3,451.80	-352.93	3,464.44	0.00	0.00	0.00
13,100.00	89.72	180.00	9,753.09	-3,551.80	-352.92	3,564.33	0.00	0.00	0.00
13,200.00	89.72	180.00	9,753.58	-3,651.80	-352.92	3,664.22	0.00	0.00	0.00
13,300.00	89.72	180.00	9,754.07	-3,751.79	-352.91	3,764.11	0.00	0.00	0.00
13,400.00	89.72	180.00	9,754.56	-3,851.79	-352.91	3,864.00	0.00	0.00	0.00
13,500.00	89.72	180.00	9,755.05	-3,951.79	-352.91	3,963.89	0.00	0.00	0.00

Devon Energy

Planning Report

Database:	EDM r5000 US Production	Local Co-ordinate Reference:	Well Thistle Unit 115H
Company:	WESTERN DIVISION	TVD Reference:	1 @ 3738.00ft
Project:	PBNM	MD Reference:	1 @ 3738.00ft
Site:	Dzurisin	North Reference:	Grid
Well:	Thistle Unit 115H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan 1		

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)
13,600.00	89.72	180.00	9,755.54	-4,051.79	-352.90	4,063.78	0.00	0.00	0.00
13,700.00	89.72	180.00	9,756.03	-4,151.79	-352.90	4,163.68	0.00	0.00	0.00
13,800.00	89.72	180.00	9,756.52	-4,251.79	-352.89	4,263.57	0.00	0.00	0.00
13,900.00	89.72	180.00	9,757.01	-4,351.79	-352.89	4,363.46	0.00	0.00	0.00
14,000.00	89.72	180.00	9,757.51	-4,451.79	-352.88	4,463.35	0.00	0.00	0.00
14,100.00	89.72	180.00	9,758.00	-4,551.79	-352.88	4,563.24	0.00	0.00	0.00
14,200.00	89.72	180.00	9,758.49	-4,651.78	-352.87	4,663.13	0.00	0.00	0.00
14,300.00	89.72	180.00	9,758.98	-4,751.78	-352.87	4,763.02	0.00	0.00	0.00
14,400.00	89.72	180.00	9,759.47	-4,851.78	-352.87	4,862.92	0.00	0.00	0.00
14,500.00	89.72	180.00	9,759.96	-4,951.78	-352.86	4,962.81	0.00	0.00	0.00
14,600.00	89.72	180.00	9,760.45	-5,051.78	-352.86	5,062.70	0.00	0.00	0.00
14,700.00	89.72	180.00	9,760.94	-5,151.78	-352.85	5,162.59	0.00	0.00	0.00
14,800.00	89.72	180.00	9,761.43	-5,251.78	-352.85	5,262.48	0.00	0.00	0.00
14,900.00	89.72	180.00	9,761.92	-5,351.78	-352.84	5,362.37	0.00	0.00	0.00
15,000.00	89.72	180.00	9,762.41	-5,451.77	-352.84	5,462.26	0.00	0.00	0.00
15,100.00	89.72	180.00	9,762.90	-5,551.77	-352.83	5,562.16	0.00	0.00	0.00
15,200.00	89.72	180.00	9,763.39	-5,651.77	-352.83	5,662.05	0.00	0.00	0.00
15,300.00	89.72	180.00	9,763.88	-5,751.77	-352.82	5,761.94	0.00	0.00	0.00
15,400.00	89.72	180.00	9,764.37	-5,851.77	-352.82	5,861.83	0.00	0.00	0.00
15,500.00	89.72	180.00	9,764.86	-5,951.77	-352.82	5,961.72	0.00	0.00	0.00
15,600.00	89.72	180.00	9,765.35	-6,051.77	-352.81	6,061.61	0.00	0.00	0.00
15,700.00	89.72	180.00	9,765.84	-6,151.77	-352.81	6,161.50	0.00	0.00	0.00
15,800.00	89.72	180.00	9,766.33	-6,251.76	-352.80	6,261.39	0.00	0.00	0.00
15,900.00	89.72	180.00	9,766.82	-6,351.76	-352.80	6,361.29	0.00	0.00	0.00
16,000.00	89.72	180.00	9,767.31	-6,451.76	-352.79	6,461.18	0.00	0.00	0.00
16,100.00	89.72	180.00	9,767.80	-6,551.76	-352.79	6,561.07	0.00	0.00	0.00
16,200.00	89.72	180.00	9,768.30	-6,651.76	-352.78	6,660.96	0.00	0.00	0.00
16,300.00	89.72	180.00	9,768.79	-6,751.76	-352.78	6,760.85	0.00	0.00	0.00
16,400.00	89.72	180.00	9,769.28	-6,851.76	-352.77	6,860.74	0.00	0.00	0.00
16,500.00	89.72	180.00	9,769.77	-6,951.76	-352.77	6,960.63	0.00	0.00	0.00
16,600.00	89.72	180.00	9,770.26	-7,051.76	-352.77	7,060.53	0.00	0.00	0.00
16,700.00	89.72	180.00	9,770.75	-7,151.75	-352.76	7,160.42	0.00	0.00	0.00
16,800.00	89.72	180.00	9,771.24	-7,251.75	-352.76	7,260.31	0.00	0.00	0.00
16,900.00	89.72	180.00	9,771.73	-7,351.75	-352.75	7,360.20	0.00	0.00	0.00
17,000.00	89.72	180.00	9,772.22	-7,451.75	-352.75	7,460.09	0.00	0.00	0.00
17,100.00	89.72	180.00	9,772.71	-7,551.75	-352.74	7,559.98	0.00	0.00	0.00

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Thistle Unit 115H BHL	0.00	0.00	9,773.00	-7,611.11	-352.74	464,900.39	780,759.83	0.000000	0.000000
- hit/miss target									
- Shape									
- plan misses target center by 59.36ft at 17100.00ft MD (9772.71 TVD, -7551.75 N, -352.74 E)									
- Point									