

WESTERN DIVISION

PBNM

Dzurisin

Thistle Unit 157H

Wellbore #1

Plan: Plan 1

Standard Planning Report

01 August, 2016

Devon Energy

Planning Report

Database: EDM r5000 US Production
 Company: WESTERN DIVISION
 Project: PBNM
 Site: Dzurisin
 Well: Thistle Unit 157H
 Wellbore: Wellbore #1
 Design: Plan 1

Local Co-ordinate Reference: Well Thistle Unit 157H
 TVD Reference: 1 @ 3684.20ft
 MD Reference: 1 @ 3684.20ft
 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
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 157H		
Well Position	+N/-S	27,337.94 ft	Northing:
	+E/-W	48,311.20 ft	Easting:
Position Uncertainty	0.00 ft	Wellhead Elevation:	0.00 ft
		Latitude:	0.000000
		Longitude:	0.000000
		Ground Level:	3,660.70 ft

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

Design	Plan 1		
Audit Notes:			
Version:	Phase:	PROTOTYPE	Tie On Depth:
			0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(ft)	(ft)	(ft)
	0.00	0.00	0.00
			Direction
			(°)
			359.53

Plan Sections										
Measured Depth	Inclination	Azimuth	Vertical Depth	+N/-S	+E/-W	Dogleg Rate	Build Rate	Turn Rate	TFO	Target
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(°/100usft)	(°/100usft)	(°/100usft)	(°)	
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	180.00	3,999.37	-21.80	0.00	1.00	1.00	0.00	180.00	
6,200.00	5.00	180.00	6,190.99	-213.55	0.00	0.00	0.00	0.00	0.00	
7,200.00	0.00	0.00	7,189.73	-257.15	0.00	0.50	-0.50	0.00	180.00	
9,591.00	0.00	0.00	9,580.73	-257.15	0.00	0.00	0.00	0.00	0.00	
10,343.67	90.32	359.54	10,058.18	222.97	-3.87	12.00	12.00	0.00	359.54	Thistle Unit 157H BHL
10,359.90	90.32	359.54	10,058.09	239.20	-4.00	0.03	-0.03	0.00	-179.99	
19,999.11	90.32	359.54	10,005.09	9,877.95	-81.63	0.00	0.00	0.00	0.00	
20,016.05	90.32	359.54	10,005.00	9,894.89	-81.77	0.03	0.03	0.01	16.63	Thistle Unit 157H BHL

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Wellbore #: Wellbore #1
Design: Plan 1

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TVD Reference: 1 @ 3684.20ft
MD Reference: 1 @ 3684.20ft
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)
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	180.00	3,600.00	-0.87	0.00	-0.87	1.00	1.00	0.00
3,700.00	2.00	180.00	3,699.96	-3.49	0.00	-3.49	1.00	1.00	0.00
3,800.00	3.00	180.00	3,799.86	-7.85	0.00	-7.85	1.00	1.00	0.00
3,900.00	4.00	180.00	3,899.68	-13.96	0.00	-13.96	1.00	1.00	0.00
4,000.00	5.00	180.00	3,999.37	-21.80	0.00	-21.80	1.00	1.00	0.00
4,100.00	5.00	180.00	4,098.99	-30.52	0.00	-30.52	0.00	0.00	0.00
4,200.00	5.00	180.00	4,198.60	-39.23	0.00	-39.23	0.00	0.00	0.00
4,300.00	5.00	180.00	4,298.22	-47.95	0.00	-47.95	0.00	0.00	0.00
4,400.00	5.00	180.00	4,397.84	-56.67	0.00	-56.66	0.00	0.00	0.00
4,500.00	5.00	180.00	4,497.46	-65.38	0.00	-65.38	0.00	0.00	0.00
4,600.00	5.00	180.00	4,597.08	-74.10	0.00	-74.09	0.00	0.00	0.00
4,700.00	5.00	180.00	4,696.70	-82.81	0.00	-82.81	0.00	0.00	0.00
4,800.00	5.00	180.00	4,796.32	-91.53	0.00	-91.52	0.00	0.00	0.00
4,900.00	5.00	180.00	4,895.94	-100.24	0.00	-100.24	0.00	0.00	0.00
5,000.00	5.00	180.00	4,995.56	-108.96	0.00	-108.95	0.00	0.00	0.00
5,100.00	5.00	180.00	5,095.18	-117.67	0.00	-117.67	0.00	0.00	0.00
5,200.00	5.00	180.00	5,194.80	-126.39	0.00	-126.39	0.00	0.00	0.00
5,300.00	5.00	180.00	5,294.42	-135.11	0.00	-135.10	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	180.00	5,394.04	-143.82	0.00	-143.82	0.00	0.00	0.00
5,500.00	5.00	180.00	5,493.66	-152.54	0.00	-152.53	0.00	0.00	0.00
5,600.00	5.00	180.00	5,593.28	-161.25	0.00	-161.25	0.00	0.00	0.00
5,700.00	5.00	180.00	5,692.90	-169.97	0.00	-169.96	0.00	0.00	0.00
5,800.00	5.00	180.00	5,792.52	-178.68	0.00	-178.68	0.00	0.00	0.00
5,900.00	5.00	180.00	5,892.14	-187.40	0.00	-187.39	0.00	0.00	0.00
6,000.00	5.00	180.00	5,991.76	-196.11	0.00	-196.11	0.00	0.00	0.00
6,100.00	5.00	180.00	6,091.37	-204.83	0.00	-204.82	0.00	0.00	0.00
6,200.00	5.00	180.00	6,190.99	-213.55	0.00	-213.54	0.00	0.00	0.00
6,300.00	4.50	180.00	6,290.65	-221.83	0.00	-221.82	0.50	-0.50	0.00
6,400.00	4.00	180.00	6,390.38	-229.24	0.00	-229.23	0.50	-0.50	0.00
6,500.00	3.50	180.00	6,490.16	-235.78	0.00	-235.77	0.50	-0.50	0.00
6,600.00	3.00	180.00	6,590.00	-241.45	0.00	-241.44	0.50	-0.50	0.00
6,700.00	2.50	180.00	6,689.88	-246.24	0.00	-246.24	0.50	-0.50	0.00
6,800.00	2.00	180.00	6,789.81	-250.17	0.00	-250.16	0.50	-0.50	0.00
6,900.00	1.50	180.00	6,889.76	-253.22	0.00	-253.22	0.50	-0.50	0.00
7,000.00	1.00	180.00	6,989.74	-255.41	0.00	-255.40	0.50	-0.50	0.00
7,100.00	0.50	180.00	7,089.73	-256.71	0.00	-256.71	0.50	-0.50	0.00
7,200.00	0.00	0.00	7,189.73	-257.15	0.00	-257.14	0.50	-0.50	0.00
7,300.00	0.00	0.00	7,289.73	-257.15	0.00	-257.14	0.00	0.00	0.00
7,400.00	0.00	0.00	7,389.73	-257.15	0.00	-257.14	0.00	0.00	0.00
7,500.00	0.00	0.00	7,489.73	-257.15	0.00	-257.14	0.00	0.00	0.00
7,600.00	0.00	0.00	7,589.73	-257.15	0.00	-257.14	0.00	0.00	0.00
7,700.00	0.00	0.00	7,689.73	-257.15	0.00	-257.14	0.00	0.00	0.00
7,800.00	0.00	0.00	7,789.73	-257.15	0.00	-257.14	0.00	0.00	0.00
7,900.00	0.00	0.00	7,889.73	-257.15	0.00	-257.14	0.00	0.00	0.00
8,000.00	0.00	0.00	7,989.73	-257.15	0.00	-257.14	0.00	0.00	0.00
8,100.00	0.00	0.00	8,089.73	-257.15	0.00	-257.14	0.00	0.00	0.00
8,200.00	0.00	0.00	8,189.73	-257.15	0.00	-257.14	0.00	0.00	0.00
8,300.00	0.00	0.00	8,289.73	-257.15	0.00	-257.14	0.00	0.00	0.00
8,400.00	0.00	0.00	8,389.73	-257.15	0.00	-257.14	0.00	0.00	0.00
8,500.00	0.00	0.00	8,489.73	-257.15	0.00	-257.14	0.00	0.00	0.00
8,600.00	0.00	0.00	8,589.73	-257.15	0.00	-257.14	0.00	0.00	0.00
8,700.00	0.00	0.00	8,689.73	-257.15	0.00	-257.14	0.00	0.00	0.00
8,800.00	0.00	0.00	8,789.73	-257.15	0.00	-257.14	0.00	0.00	0.00
8,900.00	0.00	0.00	8,889.73	-257.15	0.00	-257.14	0.00	0.00	0.00
9,000.00	0.00	0.00	8,989.73	-257.15	0.00	-257.14	0.00	0.00	0.00
9,100.00	0.00	0.00	9,089.73	-257.15	0.00	-257.14	0.00	0.00	0.00
9,200.00	0.00	0.00	9,189.73	-257.15	0.00	-257.14	0.00	0.00	0.00
9,300.00	0.00	0.00	9,289.73	-257.15	0.00	-257.14	0.00	0.00	0.00
9,400.00	0.00	0.00	9,389.73	-257.15	0.00	-257.14	0.00	0.00	0.00
9,500.00	0.00	0.00	9,489.73	-257.15	0.00	-257.14	0.00	0.00	0.00
9,591.00	0.00	0.00	9,580.73	-257.15	0.00	-257.14	0.00	0.00	0.00
9,600.00	1.08	359.54	9,589.72	-257.07	0.00	-257.06	12.00	12.00	0.00
9,625.00	4.08	359.54	9,614.70	-255.94	-0.01	-255.93	12.00	12.00	0.00
9,650.00	7.08	359.54	9,639.58	-253.51	-0.03	-253.50	12.00	12.00	0.00
9,675.00	10.08	359.54	9,664.29	-249.78	-0.06	-249.77	12.00	12.00	0.00
9,700.00	13.08	359.54	9,688.78	-244.76	-0.10	-244.75	12.00	12.00	0.00
9,725.00	16.08	359.54	9,712.97	-238.47	-0.15	-238.46	12.00	12.00	0.00
9,750.00	19.08	359.54	9,736.80	-230.92	-0.21	-230.91	12.00	12.00	0.00
9,775.00	22.08	359.54	9,760.20	-222.13	-0.28	-222.12	12.00	12.00	0.00
9,800.00	25.08	359.54	9,783.11	-212.14	-0.36	-212.13	12.00	12.00	0.00
9,825.00	28.08	359.54	9,805.47	-200.95	-0.45	-200.94	12.00	12.00	0.00
9,850.00	31.08	359.54	9,827.21	-188.61	-0.55	-188.60	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	34.08	359.54	9,848.27	-175.15	-0.66	-175.14	12.00	12.00	0.00
9,900.00	37.08	359.54	9,868.60	-160.61	-0.78	-160.60	12.00	12.00	0.00
9,925.00	40.08	359.54	9,888.14	-145.02	-0.90	-145.01	12.00	12.00	0.00
9,950.00	43.08	359.54	9,906.84	-128.43	-1.04	-128.42	12.00	12.00	0.00
9,975.00	46.08	359.54	9,924.65	-110.89	-1.18	-110.87	12.00	12.00	0.00
10,000.00	49.08	359.54	9,941.51	-92.43	-1.33	-92.42	12.00	12.00	0.00
10,025.00	52.08	359.54	9,957.38	-73.12	-1.48	-73.11	12.00	12.00	0.00
10,050.00	55.08	359.54	9,972.22	-53.01	-1.64	-52.99	12.00	12.00	0.00
10,075.00	58.08	359.54	9,985.99	-32.15	-1.81	-32.13	12.00	12.00	0.00
10,100.00	61.08	359.54	9,998.65	-10.59	-1.99	-10.57	12.00	12.00	0.00
10,125.00	64.08	359.54	10,010.16	11.60	-2.16	11.61	12.00	12.00	0.00
10,150.00	67.08	359.54	10,020.49	34.36	-2.35	34.38	12.00	12.00	0.00
10,175.00	70.08	359.54	10,029.62	57.63	-2.54	57.65	12.00	12.00	0.00
10,200.00	73.08	359.54	10,037.52	81.34	-2.73	81.36	12.00	12.00	0.00
10,225.00	76.08	359.54	10,044.17	105.44	-2.92	105.46	12.00	12.00	0.00
10,250.00	79.08	359.54	10,049.55	129.85	-3.12	129.87	12.00	12.00	0.00
10,275.00	82.08	359.54	10,053.64	154.51	-3.32	154.53	12.00	12.00	0.00
10,300.00	85.08	359.54	10,056.43	179.35	-3.52	179.37	12.00	12.00	0.00
10,325.00	88.08	359.54	10,057.92	204.30	-3.72	204.33	12.00	12.00	0.00
10,343.67	90.32	359.54	10,058.18	222.97	-3.87	222.99	12.00	12.00	0.00
10,359.90	90.32	359.54	10,058.09	239.20	-4.00	239.22	0.03	-0.03	0.00
10,400.00	90.32	359.54	10,057.87	279.30	-4.32	279.32	0.00	0.00	0.00
10,500.00	90.32	359.54	10,057.32	379.29	-5.13	379.32	0.00	0.00	0.00
10,600.00	90.32	359.54	10,056.77	479.29	-5.93	479.32	0.00	0.00	0.00
10,700.00	90.32	359.54	10,056.22	579.28	-6.74	579.32	0.00	0.00	0.00
10,800.00	90.32	359.54	10,055.67	679.28	-7.54	679.32	0.00	0.00	0.00
10,900.00	90.32	359.54	10,055.12	779.27	-8.35	779.31	0.00	0.00	0.00
11,000.00	90.32	359.54	10,054.57	879.27	-9.15	879.31	0.00	0.00	0.00
11,100.00	90.32	359.54	10,054.02	979.26	-9.96	979.31	0.00	0.00	0.00
11,200.00	90.32	359.54	10,053.47	1,079.26	-10.76	1,079.31	0.00	0.00	0.00
11,300.00	90.32	359.54	10,052.92	1,179.25	-11.57	1,179.31	0.00	0.00	0.00
11,400.00	90.32	359.54	10,052.37	1,279.25	-12.38	1,279.31	0.00	0.00	0.00
11,500.00	90.32	359.54	10,051.83	1,379.24	-13.18	1,379.30	0.00	0.00	0.00
11,600.00	90.32	359.54	10,051.28	1,479.24	-13.99	1,479.30	0.00	0.00	0.00
11,700.00	90.32	359.54	10,050.73	1,579.23	-14.79	1,579.30	0.00	0.00	0.00
11,800.00	90.32	359.54	10,050.18	1,679.23	-15.60	1,679.30	0.00	0.00	0.00
11,900.00	90.32	359.54	10,049.63	1,779.22	-16.40	1,779.30	0.00	0.00	0.00
12,000.00	90.32	359.54	10,049.08	1,879.22	-17.21	1,879.30	0.00	0.00	0.00
12,100.00	90.32	359.54	10,048.53	1,979.21	-18.01	1,979.30	0.00	0.00	0.00
12,200.00	90.32	359.54	10,047.98	2,079.21	-18.82	2,079.29	0.00	0.00	0.00
12,300.00	90.32	359.54	10,047.43	2,179.20	-19.62	2,179.29	0.00	0.00	0.00
12,400.00	90.32	359.54	10,046.88	2,279.20	-20.43	2,279.29	0.00	0.00	0.00
12,500.00	90.32	359.54	10,046.33	2,379.20	-21.23	2,379.29	0.00	0.00	0.00
12,600.00	90.32	359.54	10,045.78	2,479.19	-22.04	2,479.29	0.00	0.00	0.00
12,700.00	90.32	359.54	10,045.23	2,579.19	-22.85	2,579.29	0.00	0.00	0.00
12,800.00	90.32	359.54	10,044.68	2,679.18	-23.65	2,679.28	0.00	0.00	0.00
12,900.00	90.32	359.54	10,044.13	2,779.18	-24.46	2,779.28	0.00	0.00	0.00
13,000.00	90.32	359.54	10,043.58	2,879.17	-25.26	2,879.28	0.00	0.00	0.00
13,100.00	90.32	359.54	10,043.03	2,979.17	-26.07	2,979.28	0.00	0.00	0.00
13,200.00	90.32	359.54	10,042.48	3,079.16	-26.87	3,079.28	0.00	0.00	0.00
13,300.00	90.32	359.54	10,041.93	3,179.16	-27.68	3,179.28	0.00	0.00	0.00
13,400.00	90.32	359.54	10,041.38	3,279.15	-28.48	3,279.28	0.00	0.00	0.00
13,500.00	90.32	359.54	10,040.83	3,379.15	-29.29	3,379.27	0.00	0.00	0.00
13,600.00	90.32	359.54	10,040.28	3,479.14	-30.09	3,479.27	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 157H
 Wellbore: Wellbore #1
 Design: Plan 1

Local Co-ordinate Reference: Well Thistle Unit 157H
 TVD Reference: 1 @ 3684.20ft
 MD Reference: 1 @ 3684.20ft
 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	90.32	359.54	10,039.73	3,579.14	-30.90	3,579.27	0.00	0.00	0.00
13,800.00	90.32	359.54	10,039.18	3,679.13	-31.71	3,679.27	0.00	0.00	0.00
13,900.00	90.32	359.54	10,038.63	3,779.13	-32.51	3,779.27	0.00	0.00	0.00
14,000.00	90.32	359.54	10,038.08	3,879.12	-33.32	3,879.27	0.00	0.00	0.00
14,100.00	90.32	359.54	10,037.53	3,979.12	-34.12	3,979.27	0.00	0.00	0.00
14,200.00	90.32	359.54	10,036.98	4,079.11	-34.93	4,079.26	0.00	0.00	0.00
14,300.00	90.32	359.54	10,036.43	4,179.11	-35.73	4,179.26	0.00	0.00	0.00
14,400.00	90.32	359.54	10,035.88	4,279.10	-36.54	4,279.26	0.00	0.00	0.00
14,500.00	90.32	359.54	10,035.33	4,379.10	-37.34	4,379.26	0.00	0.00	0.00
14,600.00	90.32	359.54	10,034.78	4,479.10	-38.15	4,479.26	0.00	0.00	0.00
14,700.00	90.32	359.54	10,034.23	4,579.09	-38.95	4,579.26	0.00	0.00	0.00
14,800.00	90.32	359.54	10,033.68	4,679.09	-39.76	4,679.25	0.00	0.00	0.00
14,900.00	90.32	359.54	10,033.13	4,779.08	-40.56	4,779.25	0.00	0.00	0.00
15,000.00	90.32	359.54	10,032.58	4,879.08	-41.37	4,879.25	0.00	0.00	0.00
15,100.00	90.32	359.54	10,032.03	4,979.07	-42.18	4,979.25	0.00	0.00	0.00
15,200.00	90.32	359.54	10,031.48	5,079.07	-42.98	5,079.25	0.00	0.00	0.00
15,300.00	90.32	359.54	10,030.93	5,179.06	-43.79	5,179.25	0.00	0.00	0.00
15,400.00	90.32	359.54	10,030.38	5,279.06	-44.59	5,279.25	0.00	0.00	0.00
15,500.00	90.32	359.54	10,029.83	5,379.05	-45.40	5,379.24	0.00	0.00	0.00
15,600.00	90.32	359.54	10,029.28	5,479.05	-46.20	5,479.24	0.00	0.00	0.00
15,700.00	90.32	359.54	10,028.73	5,579.04	-47.01	5,579.24	0.00	0.00	0.00
15,800.00	90.32	359.54	10,028.18	5,679.04	-47.81	5,679.24	0.00	0.00	0.00
15,900.00	90.32	359.54	10,027.63	5,779.03	-48.62	5,779.24	0.00	0.00	0.00
16,000.00	90.32	359.54	10,027.08	5,879.03	-49.42	5,879.24	0.00	0.00	0.00
16,100.00	90.32	359.54	10,026.53	5,979.02	-50.23	5,979.24	0.00	0.00	0.00
16,200.00	90.32	359.54	10,025.98	6,079.02	-51.04	6,079.23	0.00	0.00	0.00
16,300.00	90.32	359.54	10,025.43	6,179.01	-51.84	6,179.23	0.00	0.00	0.00
16,400.00	90.32	359.54	10,024.88	6,279.01	-52.65	6,279.23	0.00	0.00	0.00
16,500.00	90.32	359.54	10,024.33	6,379.01	-53.45	6,379.23	0.00	0.00	0.00
16,600.00	90.32	359.54	10,023.78	6,479.00	-54.26	6,479.23	0.00	0.00	0.00
16,700.00	90.32	359.54	10,023.23	6,579.00	-55.06	6,579.23	0.00	0.00	0.00
16,800.00	90.32	359.54	10,022.68	6,678.99	-55.87	6,679.22	0.00	0.00	0.00
16,900.00	90.32	359.54	10,022.13	6,778.99	-56.67	6,779.22	0.00	0.00	0.00
17,000.00	90.32	359.54	10,021.58	6,878.98	-57.48	6,879.22	0.00	0.00	0.00
17,100.00	90.32	359.54	10,021.03	6,978.98	-58.28	6,979.22	0.00	0.00	0.00
17,200.00	90.32	359.54	10,020.48	7,078.97	-59.09	7,079.22	0.00	0.00	0.00
17,300.00	90.32	359.54	10,019.93	7,178.97	-59.89	7,179.22	0.00	0.00	0.00
17,400.00	90.32	359.54	10,019.38	7,278.96	-60.70	7,279.22	0.00	0.00	0.00
17,500.00	90.32	359.54	10,018.84	7,378.96	-61.51	7,379.21	0.00	0.00	0.00
17,600.00	90.32	359.54	10,018.29	7,478.95	-62.31	7,479.21	0.00	0.00	0.00
17,700.00	90.32	359.54	10,017.74	7,578.95	-63.12	7,579.21	0.00	0.00	0.00
17,800.00	90.32	359.54	10,017.19	7,678.94	-63.92	7,679.21	0.00	0.00	0.00
17,900.00	90.32	359.54	10,016.64	7,778.94	-64.73	7,779.21	0.00	0.00	0.00
18,000.00	90.32	359.54	10,016.09	7,878.93	-65.53	7,879.21	0.00	0.00	0.00
18,100.00	90.32	359.54	10,015.54	7,978.93	-66.34	7,979.20	0.00	0.00	0.00
18,200.00	90.32	359.54	10,014.99	8,078.92	-67.14	8,079.20	0.00	0.00	0.00
18,300.00	90.32	359.54	10,014.44	8,178.92	-67.95	8,179.20	0.00	0.00	0.00
18,400.00	90.32	359.54	10,013.89	8,278.91	-68.75	8,279.20	0.00	0.00	0.00
18,500.00	90.32	359.54	10,013.34	8,378.91	-69.56	8,379.20	0.00	0.00	0.00
18,600.00	90.32	359.54	10,012.79	8,478.91	-70.37	8,479.20	0.00	0.00	0.00
18,700.00	90.32	359.54	10,012.24	8,578.90	-71.17	8,579.20	0.00	0.00	0.00
18,800.00	90.32	359.54	10,011.69	8,678.90	-71.98	8,679.19	0.00	0.00	0.00
18,900.00	90.32	359.54	10,011.14	8,778.89	-72.78	8,779.19	0.00	0.00	0.00
19,000.00	90.32	359.54	10,010.59	8,878.89	-73.59	8,879.19	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 157H
Wellbore: Wellbore #1
Design: Plan 1

Local Co-ordinate Reference: Well Thistle Unit 157H
TVD Reference: 1 @ 3684.20ft
MD Reference: 1 @ 3684.20ft
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)
19,100.00	90.32	359.54	10,010.04	8,978.88	-74.39	8,979.19	0.00	0.00	0.00
19,200.00	90.32	359.54	10,009.49	9,078.88	-75.20	9,079.19	0.00	0.00	0.00
19,300.00	90.32	359.54	10,008.94	9,178.87	-76.00	9,179.19	0.00	0.00	0.00
19,400.00	90.32	359.54	10,008.39	9,278.87	-76.81	9,279.19	0.00	0.00	0.00
19,500.00	90.32	359.54	10,007.84	9,378.86	-77.61	9,379.18	0.00	0.00	0.00
19,600.00	90.32	359.54	10,007.29	9,478.86	-78.42	9,479.18	0.00	0.00	0.00
19,700.00	90.32	359.54	10,006.74	9,578.85	-79.22	9,579.18	0.00	0.00	0.00
19,800.00	90.32	359.54	10,006.19	9,678.85	-80.03	9,679.18	0.00	0.00	0.00
19,900.00	90.32	359.54	10,005.64	9,778.84	-80.84	9,779.18	0.00	0.00	0.00
19,999.11	90.32	359.54	10,005.09	9,877.95	-81.63	9,878.29	0.00	0.00	0.00
20,016.05	90.32	359.54	10,005.00	9,894.89	-81.77	9,895.23	0.03	0.03	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 157H BHL	0.00	0.00	10,005.00	9,894.89	-81.77	467,155.02	773,620.74	0.000000	0.000000
- plan hits target center									
- Point									