

HOBBS OCD

APR 26 2017

RECEIVED

WESTERN DIVISION

PBNM

Dzurisin

Seawolf 1-12 Fed 86H

Wellbore #1

Plan: Plan 1

Standard Planning Report

29 August, 2016

Devon Energy

Planning Report

Database: EDM r5000 US Production
 Company: WESTERN DIVISION
 Project: PBNM
 Site: Dzurisin
 Well: Seawolf 1-12 Fed 86H
 Wellbore: Wellbore #1
 Design: Plan 1

Local Co-ordinate Reference: Well Seawolf 1-12 Fed 86H
 TVD Reference: 1 @ 3348.40ft
 MD Reference: 1 @ 3348.40ft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature

Project	PBNM		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	Dzurisin				
Site Position:		Northing:	429,922.27 usft	Latitude:	32.180535
From:	Map	Easting:	725,391.41 usft	Longitude:	-103.738424
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "	Grid Convergence:	0.32 °

Well	Seawolf 1-12 Fed 86H				
Well Position	+N/-S -36,427.91 ft	Northing:	393,494.43 usft	Latitude:	32.079185
	+E/-W 67,871.27 ft	Easting:	793,262.54 usft	Longitude:	-103.519953
Position Uncertainty	0.00 ft	Wellhead Elevation:	0.00 ft	Ground Level:	3,324.90 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	12/31/2009	7.72	60.12	48,712

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	177.46	

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	90.00	3,999.37	0.00	21.80	1.00	1.00	0.00	90.00	
8,300.00	5.00	90.00	8,283.00	0.00	396.57	0.00	0.00	0.00	0.00	
9,300.00	0.00	0.00	9,281.73	0.00	440.18	0.50	-0.50	0.00	180.00	
12,249.80	0.00	0.00	12,231.53	0.00	440.18	0.00	0.00	0.00	0.00	
13,001.30	90.18	179.97	12,709.00	-478.97	440.40	12.00	12.00	0.00	179.97	Seawolf 1-12 Fed 86H
13,002.20	90.18	179.97	12,708.99	-479.87	440.40	0.01	-0.01	0.00	176.08	
22,520.24	90.18	179.97	12,679.11	-9,997.86	444.81	0.00	0.00	0.00	0.00	
22,554.58	90.18	179.97	12,679.00	-10,032.20	444.83	0.01	0.00	-0.01	-88.50	Seawolf 1-12 Fed 86H

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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	90.00	3,600.00	0.00	0.87	0.04	1.00	1.00	0.00
3,700.00	2.00	90.00	3,699.96	0.00	3.49	0.15	1.00	1.00	0.00
3,800.00	3.00	90.00	3,799.86	0.00	7.85	0.35	1.00	1.00	0.00
3,900.00	4.00	90.00	3,899.68	0.00	13.96	0.62	1.00	1.00	0.00
4,000.00	5.00	90.00	3,999.37	0.00	21.80	0.97	1.00	1.00	0.00
4,100.00	5.00	90.00	4,098.99	0.00	30.52	1.35	0.00	0.00	0.00
4,200.00	5.00	90.00	4,198.60	0.00	39.23	1.74	0.00	0.00	0.00
4,300.00	5.00	90.00	4,298.22	0.00	47.95	2.12	0.00	0.00	0.00
4,400.00	5.00	90.00	4,397.84	0.00	56.67	2.51	0.00	0.00	0.00
4,500.00	5.00	90.00	4,497.46	0.00	65.38	2.90	0.00	0.00	0.00
4,600.00	5.00	90.00	4,597.08	0.00	74.10	3.28	0.00	0.00	0.00
4,700.00	5.00	90.00	4,696.70	0.00	82.81	3.67	0.00	0.00	0.00
4,800.00	5.00	90.00	4,796.32	0.00	91.53	4.05	0.00	0.00	0.00
4,900.00	5.00	90.00	4,895.94	0.00	100.24	4.44	0.00	0.00	0.00
5,000.00	5.00	90.00	4,995.56	0.00	108.96	4.83	0.00	0.00	0.00
5,100.00	5.00	90.00	5,095.18	0.00	117.67	5.21	0.00	0.00	0.00
5,200.00	5.00	90.00	5,194.80	0.00	126.39	5.60	0.00	0.00	0.00
5,300.00	5.00	90.00	5,294.42	0.00	135.11	5.98	0.00	0.00	0.00

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5,400.00	5.00	90.00	5,394.04	0.00	143.82	6.37	0.00	0.00	0.00
5,500.00	5.00	90.00	5,493.66	0.00	152.54	6.76	0.00	0.00	0.00
5,600.00	5.00	90.00	5,593.28	0.00	161.25	7.14	0.00	0.00	0.00
5,700.00	5.00	90.00	5,692.90	0.00	169.97	7.53	0.00	0.00	0.00
5,800.00	5.00	90.00	5,792.52	0.00	178.68	7.92	0.00	0.00	0.00
5,900.00	5.00	90.00	5,892.14	0.00	187.40	8.30	0.00	0.00	0.00
6,000.00	5.00	90.00	5,991.76	0.00	196.11	8.69	0.00	0.00	0.00
6,100.00	5.00	90.00	6,091.37	0.00	204.83	9.07	0.00	0.00	0.00
6,200.00	5.00	90.00	6,190.99	0.00	213.55	9.46	0.00	0.00	0.00
6,300.00	5.00	90.00	6,290.61	0.00	222.26	9.85	0.00	0.00	0.00
6,400.00	5.00	90.00	6,390.23	0.00	230.98	10.23	0.00	0.00	0.00
6,500.00	5.00	90.00	6,489.85	0.00	239.69	10.62	0.00	0.00	0.00
6,600.00	5.00	90.00	6,589.47	0.00	248.41	11.00	0.00	0.00	0.00
6,700.00	5.00	90.00	6,689.09	0.00	257.12	11.39	0.00	0.00	0.00
6,800.00	5.00	90.00	6,788.71	0.00	265.84	11.78	0.00	0.00	0.00
6,900.00	5.00	90.00	6,888.33	0.00	274.55	12.16	0.00	0.00	0.00
7,000.00	5.00	90.00	6,987.95	0.00	283.27	12.55	0.00	0.00	0.00
7,100.00	5.00	90.00	7,087.57	0.00	291.99	12.93	0.00	0.00	0.00
7,200.00	5.00	90.00	7,187.19	0.00	300.70	13.32	0.00	0.00	0.00
7,300.00	5.00	90.00	7,286.81	0.00	309.42	13.71	0.00	0.00	0.00
7,400.00	5.00	90.00	7,386.43	0.00	318.13	14.09	0.00	0.00	0.00
7,500.00	5.00	90.00	7,486.05	0.00	326.85	14.48	0.00	0.00	0.00
7,600.00	5.00	90.00	7,585.67	0.00	335.56	14.86	0.00	0.00	0.00
7,700.00	5.00	90.00	7,685.29	0.00	344.28	15.25	0.00	0.00	0.00
7,800.00	5.00	90.00	7,784.91	0.00	352.99	15.64	0.00	0.00	0.00
7,900.00	5.00	90.00	7,884.53	0.00	361.71	16.02	0.00	0.00	0.00
8,000.00	5.00	90.00	7,984.14	0.00	370.43	16.41	0.00	0.00	0.00
8,100.00	5.00	90.00	8,083.76	0.00	379.14	16.79	0.00	0.00	0.00
8,200.00	5.00	90.00	8,183.38	0.00	387.86	17.18	0.00	0.00	0.00
8,300.00	5.00	90.00	8,283.00	0.00	396.57	17.57	0.00	0.00	0.00
8,400.00	4.50	90.00	8,382.66	0.00	404.85	17.93	0.50	-0.50	0.00
8,500.00	4.00	90.00	8,482.38	0.00	412.26	18.26	0.50	-0.50	0.00
8,600.00	3.50	90.00	8,582.17	0.00	418.80	18.55	0.50	-0.50	0.00
8,700.00	3.00	90.00	8,682.01	0.00	424.47	18.80	0.50	-0.50	0.00
8,800.00	2.50	90.00	8,781.89	0.00	429.27	19.02	0.50	-0.50	0.00
8,900.00	2.00	90.00	8,881.82	0.00	433.20	19.19	0.50	-0.50	0.00
9,000.00	1.50	90.00	8,981.77	0.00	436.25	19.32	0.50	-0.50	0.00
9,100.00	1.00	90.00	9,081.74	0.00	438.43	19.42	0.50	-0.50	0.00
9,200.00	0.50	90.00	9,181.74	0.00	439.74	19.48	0.50	-0.50	0.00
9,300.00	0.00	0.00	9,281.73	0.00	440.18	19.50	0.50	-0.50	0.00
9,400.00	0.00	0.00	9,381.73	0.00	440.18	19.50	0.00	0.00	0.00
9,500.00	0.00	0.00	9,481.73	0.00	440.18	19.50	0.00	0.00	0.00
9,600.00	0.00	0.00	9,581.73	0.00	440.18	19.50	0.00	0.00	0.00
9,700.00	0.00	0.00	9,681.73	0.00	440.18	19.50	0.00	0.00	0.00
9,800.00	0.00	0.00	9,781.73	0.00	440.18	19.50	0.00	0.00	0.00
9,900.00	0.00	0.00	9,881.73	0.00	440.18	19.50	0.00	0.00	0.00
10,000.00	0.00	0.00	9,981.73	0.00	440.18	19.50	0.00	0.00	0.00
10,100.00	0.00	0.00	10,081.73	0.00	440.18	19.50	0.00	0.00	0.00
10,200.00	0.00	0.00	10,181.73	0.00	440.18	19.50	0.00	0.00	0.00
10,300.00	0.00	0.00	10,281.73	0.00	440.18	19.50	0.00	0.00	0.00
10,400.00	0.00	0.00	10,381.73	0.00	440.18	19.50	0.00	0.00	0.00
10,500.00	0.00	0.00	10,481.73	0.00	440.18	19.50	0.00	0.00	0.00
10,600.00	0.00	0.00	10,581.73	0.00	440.18	19.50	0.00	0.00	0.00
10,700.00	0.00	0.00	10,681.73	0.00	440.18	19.50	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)
10,800.00	0.00	0.00	10,781.73	0.00	440.18	19.50	0.00	0.00	0.00
10,900.00	0.00	0.00	10,881.73	0.00	440.18	19.50	0.00	0.00	0.00
11,000.00	0.00	0.00	10,981.73	0.00	440.18	19.50	0.00	0.00	0.00
11,100.00	0.00	0.00	11,081.73	0.00	440.18	19.50	0.00	0.00	0.00
11,200.00	0.00	0.00	11,181.73	0.00	440.18	19.50	0.00	0.00	0.00
11,300.00	0.00	0.00	11,281.73	0.00	440.18	19.50	0.00	0.00	0.00
11,400.00	0.00	0.00	11,381.73	0.00	440.18	19.50	0.00	0.00	0.00
11,500.00	0.00	0.00	11,481.73	0.00	440.18	19.50	0.00	0.00	0.00
11,600.00	0.00	0.00	11,581.73	0.00	440.18	19.50	0.00	0.00	0.00
11,700.00	0.00	0.00	11,681.73	0.00	440.18	19.50	0.00	0.00	0.00
11,800.00	0.00	0.00	11,781.73	0.00	440.18	19.50	0.00	0.00	0.00
11,900.00	0.00	0.00	11,881.73	0.00	440.18	19.50	0.00	0.00	0.00
12,000.00	0.00	0.00	11,981.73	0.00	440.18	19.50	0.00	0.00	0.00
12,100.00	0.00	0.00	12,081.73	0.00	440.18	19.50	0.00	0.00	0.00
12,200.00	0.00	0.00	12,181.73	0.00	440.18	19.50	0.00	0.00	0.00
12,249.80	0.00	0.00	12,231.53	0.00	440.18	19.50	0.00	0.00	0.00
12,275.00	3.02	179.97	12,256.72	-0.66	440.18	20.16	12.00	12.00	0.00
12,300.00	6.02	179.97	12,281.64	-2.64	440.18	22.13	12.00	12.00	0.00
12,325.00	9.02	179.97	12,306.42	-5.91	440.18	25.40	12.00	12.00	0.00
12,350.00	12.02	179.97	12,331.00	-10.48	440.18	29.96	12.00	12.00	0.00
12,375.00	15.02	179.97	12,355.30	-16.32	440.19	35.80	12.00	12.00	0.00
12,400.00	18.02	179.97	12,379.27	-23.43	440.19	42.91	12.00	12.00	0.00
12,425.00	21.02	179.97	12,402.83	-31.78	440.19	51.25	12.00	12.00	0.00
12,450.00	24.02	179.97	12,425.92	-41.36	440.20	60.82	12.00	12.00	0.00
12,475.00	27.02	179.97	12,448.48	-52.13	440.20	71.58	12.00	12.00	0.00
12,500.00	30.02	179.97	12,470.44	-64.07	440.21	83.50	12.00	12.00	0.00
12,525.00	33.02	179.97	12,491.75	-77.14	440.21	96.56	12.00	12.00	0.00
12,550.00	36.02	179.97	12,512.34	-91.31	440.22	110.72	12.00	12.00	0.00
12,575.00	39.02	179.97	12,532.17	-106.53	440.23	125.93	12.00	12.00	0.00
12,600.00	42.02	179.97	12,551.17	-122.77	440.23	142.15	12.00	12.00	0.00
12,625.00	45.02	179.97	12,569.29	-139.99	440.24	159.35	12.00	12.00	0.00
12,650.00	48.02	179.97	12,586.49	-158.13	440.25	177.47	12.00	12.00	0.00
12,675.00	51.02	179.97	12,602.72	-177.14	440.26	196.47	12.00	12.00	0.00
12,700.00	54.02	179.97	12,617.93	-196.98	440.27	216.29	12.00	12.00	0.00
12,725.00	57.02	179.97	12,632.08	-217.59	440.28	236.88	12.00	12.00	0.00
12,750.00	60.02	179.97	12,645.13	-238.91	440.29	258.17	12.00	12.00	0.00
12,775.00	63.02	179.97	12,657.05	-260.88	440.30	280.13	12.00	12.00	0.00
12,800.00	66.02	179.97	12,667.80	-283.44	440.31	302.67	12.00	12.00	0.00
12,825.00	69.02	179.97	12,677.36	-306.54	440.32	325.75	12.00	12.00	0.00
12,850.00	72.02	179.97	12,685.69	-330.11	440.33	349.29	12.00	12.00	0.00
12,875.00	75.02	179.97	12,692.78	-354.08	440.34	373.24	12.00	12.00	0.00
12,900.00	78.02	179.97	12,698.61	-378.39	440.35	397.52	12.00	12.00	0.00
12,925.00	81.02	179.97	12,703.15	-402.97	440.36	422.08	12.00	12.00	0.00
12,950.00	84.02	179.97	12,706.41	-427.75	440.38	446.84	12.00	12.00	0.00
12,975.00	87.02	179.97	12,708.36	-452.68	440.39	471.74	12.00	12.00	0.00
13,001.30	90.18	179.97	12,709.00	-478.97	440.40	498.00	12.00	12.00	0.00
13,002.20	90.18	179.97	12,708.99	-479.87	440.40	498.91	0.01	-0.01	0.00
13,100.00	90.18	179.97	12,708.69	-577.66	440.45	596.61	0.00	0.00	0.00
13,200.00	90.18	179.97	12,708.37	-677.66	440.49	696.51	0.00	0.00	0.00
13,300.00	90.18	179.97	12,708.06	-777.66	440.54	796.41	0.00	0.00	0.00
13,400.00	90.18	179.97	12,707.75	-877.66	440.59	896.32	0.00	0.00	0.00
13,500.00	90.18	179.97	12,707.43	-977.66	440.63	996.22	0.00	0.00	0.00
13,600.00	90.18	179.97	12,707.12	-1,077.66	440.68	1,096.12	0.00	0.00	0.00
13,700.00	90.18	179.97	12,706.80	-1,177.66	440.72	1,196.03	0.00	0.00	0.00

Devon Energy

Planning Report

Database: EDM r5000 US Production
Company: WESTERN DIVISION
Project: PBNM
Site: Dzurisin
Well: Seawolf 1-12 Fed 86H
Wellbore: Wellbore #1
Design: Plan 1

Local Co-ordinate Reference: Well Seawolf 1-12 Fed 86H
TVD Reference: 1 @ 3348.40ft
MD Reference: 1 @ 3348.40ft
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	90.18	179.97	12,706.49	-1,277.66	440.77	1,295.93	0.00	0.00	0.00
13,900.00	90.18	179.97	12,706.18	-1,377.66	440.82	1,395.83	0.00	0.00	0.00
14,000.00	90.18	179.97	12,705.86	-1,477.66	440.86	1,495.74	0.00	0.00	0.00
14,100.00	90.18	179.97	12,705.55	-1,577.66	440.91	1,595.64	0.00	0.00	0.00
14,200.00	90.18	179.97	12,705.23	-1,677.66	440.96	1,695.54	0.00	0.00	0.00
14,300.00	90.18	179.97	12,704.92	-1,777.66	441.00	1,795.45	0.00	0.00	0.00
14,400.00	90.18	179.97	12,704.61	-1,877.66	441.05	1,895.35	0.00	0.00	0.00
14,500.00	90.18	179.97	12,704.29	-1,977.66	441.10	1,995.25	0.00	0.00	0.00
14,600.00	90.18	179.97	12,703.98	-2,077.66	441.14	2,095.16	0.00	0.00	0.00
14,700.00	90.18	179.97	12,703.66	-2,177.66	441.19	2,195.06	0.00	0.00	0.00
14,800.00	90.18	179.97	12,703.35	-2,277.66	441.23	2,294.96	0.00	0.00	0.00
14,900.00	90.18	179.97	12,703.04	-2,377.65	441.28	2,394.87	0.00	0.00	0.00
15,000.00	90.18	179.97	12,702.72	-2,477.65	441.33	2,494.77	0.00	0.00	0.00
15,100.00	90.18	179.97	12,702.41	-2,577.65	441.37	2,594.67	0.00	0.00	0.00
15,200.00	90.18	179.97	12,702.09	-2,677.65	441.42	2,694.58	0.00	0.00	0.00
15,300.00	90.18	179.97	12,701.78	-2,777.65	441.47	2,794.48	0.00	0.00	0.00
15,400.00	90.18	179.97	12,701.47	-2,877.65	441.51	2,894.39	0.00	0.00	0.00
15,500.00	90.18	179.97	12,701.15	-2,977.65	441.56	2,994.29	0.00	0.00	0.00
15,600.00	90.18	179.97	12,700.84	-3,077.65	441.61	3,094.19	0.00	0.00	0.00
15,700.00	90.18	179.97	12,700.52	-3,177.65	441.65	3,194.10	0.00	0.00	0.00
15,800.00	90.18	179.97	12,700.21	-3,277.65	441.70	3,294.00	0.00	0.00	0.00
15,900.00	90.18	179.97	12,699.90	-3,377.65	441.74	3,393.90	0.00	0.00	0.00
16,000.00	90.18	179.97	12,699.58	-3,477.65	441.79	3,493.81	0.00	0.00	0.00
16,100.00	90.18	179.97	12,699.27	-3,577.65	441.84	3,593.71	0.00	0.00	0.00
16,200.00	90.18	179.97	12,698.95	-3,677.65	441.88	3,693.61	0.00	0.00	0.00
16,300.00	90.18	179.97	12,698.64	-3,777.65	441.93	3,793.52	0.00	0.00	0.00
16,400.00	90.18	179.97	12,698.33	-3,877.65	441.98	3,893.42	0.00	0.00	0.00
16,500.00	90.18	179.97	12,698.01	-3,977.65	442.02	3,993.32	0.00	0.00	0.00
16,600.00	90.18	179.97	12,697.70	-4,077.65	442.07	4,093.23	0.00	0.00	0.00
16,700.00	90.18	179.97	12,697.38	-4,177.65	442.12	4,193.13	0.00	0.00	0.00
16,800.00	90.18	179.97	12,697.07	-4,277.65	442.16	4,293.03	0.00	0.00	0.00
16,900.00	90.18	179.97	12,696.76	-4,377.64	442.21	4,392.94	0.00	0.00	0.00
17,000.00	90.18	179.97	12,696.44	-4,477.64	442.25	4,492.84	0.00	0.00	0.00
17,100.00	90.18	179.97	12,696.13	-4,577.64	442.30	4,592.74	0.00	0.00	0.00
17,200.00	90.18	179.97	12,695.81	-4,677.64	442.35	4,692.65	0.00	0.00	0.00
17,300.00	90.18	179.97	12,695.50	-4,777.64	442.39	4,792.55	0.00	0.00	0.00
17,400.00	90.18	179.97	12,695.19	-4,877.64	442.44	4,892.45	0.00	0.00	0.00
17,500.00	90.18	179.97	12,694.87	-4,977.64	442.49	4,992.36	0.00	0.00	0.00
17,600.00	90.18	179.97	12,694.56	-5,077.64	442.53	5,092.26	0.00	0.00	0.00
17,700.00	90.18	179.97	12,694.24	-5,177.64	442.58	5,192.16	0.00	0.00	0.00
17,800.00	90.18	179.97	12,693.93	-5,277.64	442.63	5,292.07	0.00	0.00	0.00
17,900.00	90.18	179.97	12,693.62	-5,377.64	442.67	5,391.97	0.00	0.00	0.00
18,000.00	90.18	179.97	12,693.30	-5,477.64	442.72	5,491.87	0.00	0.00	0.00
18,100.00	90.18	179.97	12,692.99	-5,577.64	442.76	5,591.78	0.00	0.00	0.00
18,200.00	90.18	179.97	12,692.67	-5,677.64	442.81	5,691.68	0.00	0.00	0.00
18,300.00	90.18	179.97	12,692.36	-5,777.64	442.86	5,791.58	0.00	0.00	0.00
18,400.00	90.18	179.97	12,692.05	-5,877.64	442.90	5,891.49	0.00	0.00	0.00
18,500.00	90.18	179.97	12,691.73	-5,977.64	442.95	5,991.39	0.00	0.00	0.00
18,600.00	90.18	179.97	12,691.42	-6,077.64	443.00	6,091.29	0.00	0.00	0.00
18,700.00	90.18	179.97	12,691.10	-6,177.64	443.04	6,191.20	0.00	0.00	0.00
18,800.00	90.18	179.97	12,690.79	-6,277.64	443.09	6,291.10	0.00	0.00	0.00
18,900.00	90.18	179.97	12,690.48	-6,377.63	443.14	6,391.00	0.00	0.00	0.00
19,000.00	90.18	179.97	12,690.16	-6,477.63	443.18	6,490.91	0.00	0.00	0.00
19,100.00	90.18	179.97	12,689.85	-6,577.63	443.23	6,590.81	0.00	0.00	0.00

Devon Energy

Planning Report

Database: EDM r5000 US Production
 Company: WESTERN DIVISION
 Project: PBNM
 Site: Dzurisin
 Well: Seawolf 1-12 Fed 86H
 Wellbore: Wellbore #1
 Design: Plan 1

Local Co-ordinate Reference: Well Seawolf 1-12 Fed 86H
 TVD Reference: 1 @ 3348.40ft
 MD Reference: 1 @ 3348.40ft
 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)
19,200.00	90.18	179.97	12,689.53	-6,677.63	443.27	6,690.71	0.00	0.00	0.00
19,300.00	90.18	179.97	12,689.22	-6,777.63	443.32	6,790.62	0.00	0.00	0.00
19,400.00	90.18	179.97	12,688.91	-6,877.63	443.37	6,890.52	0.00	0.00	0.00
19,500.00	90.18	179.97	12,688.59	-6,977.63	443.41	6,990.42	0.00	0.00	0.00
19,600.00	90.18	179.97	12,688.28	-7,077.63	443.46	7,090.33	0.00	0.00	0.00
19,700.00	90.18	179.97	12,687.96	-7,177.63	443.51	7,190.23	0.00	0.00	0.00
19,800.00	90.18	179.97	12,687.65	-7,277.63	443.55	7,290.13	0.00	0.00	0.00
19,900.00	90.18	179.97	12,687.34	-7,377.63	443.60	7,390.04	0.00	0.00	0.00
20,000.00	90.18	179.97	12,687.02	-7,477.63	443.65	7,489.94	0.00	0.00	0.00
20,100.00	90.18	179.97	12,686.71	-7,577.63	443.69	7,589.84	0.00	0.00	0.00
20,200.00	90.18	179.97	12,686.39	-7,677.63	443.74	7,689.75	0.00	0.00	0.00
20,300.00	90.18	179.97	12,686.08	-7,777.63	443.78	7,789.65	0.00	0.00	0.00
20,400.00	90.18	179.97	12,685.77	-7,877.63	443.83	7,889.55	0.00	0.00	0.00
20,500.00	90.18	179.97	12,685.45	-7,977.63	443.88	7,989.46	0.00	0.00	0.00
20,600.00	90.18	179.97	12,685.14	-8,077.63	443.92	8,089.36	0.00	0.00	0.00
20,700.00	90.18	179.97	12,684.82	-8,177.63	443.97	8,189.27	0.00	0.00	0.00
20,800.00	90.18	179.97	12,684.51	-8,277.63	444.02	8,289.17	0.00	0.00	0.00
20,900.00	90.18	179.97	12,684.20	-8,377.62	444.06	8,389.07	0.00	0.00	0.00
21,000.00	90.18	179.97	12,683.88	-8,477.62	444.11	8,488.98	0.00	0.00	0.00
21,100.00	90.18	179.97	12,683.57	-8,577.62	444.16	8,588.88	0.00	0.00	0.00
21,200.00	90.18	179.97	12,683.25	-8,677.62	444.20	8,688.78	0.00	0.00	0.00
21,300.00	90.18	179.97	12,682.94	-8,777.62	444.25	8,788.69	0.00	0.00	0.00
21,400.00	90.18	179.97	12,682.63	-8,877.62	444.29	8,888.59	0.00	0.00	0.00
21,500.00	90.18	179.97	12,682.31	-8,977.62	444.34	8,988.49	0.00	0.00	0.00
21,600.00	90.18	179.97	12,682.00	-9,077.62	444.39	9,088.40	0.00	0.00	0.00
21,700.00	90.18	179.97	12,681.68	-9,177.62	444.43	9,188.30	0.00	0.00	0.00
21,800.00	90.18	179.97	12,681.37	-9,277.62	444.48	9,288.20	0.00	0.00	0.00
21,900.00	90.18	179.97	12,681.06	-9,377.62	444.53	9,388.11	0.00	0.00	0.00
22,000.00	90.18	179.97	12,680.74	-9,477.62	444.57	9,488.01	0.00	0.00	0.00
22,100.00	90.18	179.97	12,680.43	-9,577.62	444.62	9,587.91	0.00	0.00	0.00
22,200.00	90.18	179.97	12,680.11	-9,677.62	444.67	9,687.82	0.00	0.00	0.00
22,300.00	90.18	179.97	12,679.80	-9,777.62	444.71	9,787.72	0.00	0.00	0.00
22,400.00	90.18	179.97	12,679.49	-9,877.62	444.76	9,887.62	0.00	0.00	0.00
22,500.00	90.18	179.97	12,679.17	-9,977.62	444.80	9,987.53	0.00	0.00	0.00
22,520.24	90.18	179.97	12,679.11	-9,997.86	444.81	10,007.75	0.00	0.00	0.00
22,554.58	90.18	179.97	12,679.00	-10,032.20	444.83	10,042.06	0.01	0.00	-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									
Seawolf 1-12 Fed 86H B	0.00	0.00	12,679.00	-10,032.20	444.83	383,462.25	793,707.37	32.051600	-103.518761
- plan hits target center									
- Point									

Devon Energy

Anticollision Risk Report

Company: WESTERN DIVISION
 Project: PBNM
 Reference Site: Dzurisin
 Site Error: 0.00
 Reference Well: Seawolf 1-12 Fed 86H
 Well Error: 0.00
 Reference Wellbore: Wellbore #1
 Reference Design: Plan 1

Local Co-ordinate Reference: Well Seawolf 1-12 Fed 86H
 TVD Reference: 1 @ 3348.40ft
 MD Reference: 1 @ 3348.40ft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Output errors are at: 2.00 sigma
 Database: EDM r5000 US Production
 Offset TVD Reference: Offset Datum

Reference	Plan 1
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria
Interpolation Method:	Stations Interval 100.00ft
Depth Range:	Unlimited
Results Limited by:	Maximum center-center distance of 10,000.00ft
Warning Levels Evaluated at:	2.00 Sigma
Error Model:	ISCWSA
Scan Method:	Closest Approach 3D
Error Surface:	Combined Covariances
Casing Method:	Not applied

Risk Settings	
Vertical Depth for Analysis:	ft (Below TVD Reference Datum)
Level of Acceptable Risk (1 in):	
Minimum Separation:	0 ft

Survey Tool Program		Date	8/26/2016		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.00	22,553.98	Plan 1 (Wellbore #1)	MWD	MWD - Standard	

Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Dzurisin						
Seawolf 1-12 Fed 85H - Wellbore #1 - Plan 1	3,500.00	3,499.80	49.97	39.04	4.572 CC, ES	
Seawolf 1-12 Fed 85H - Wellbore #1 - Plan 1	22,554.58	22,531.14	903.95	642.94	3.463 SF	

Offset Design													Offset Site Error: 0.00 ft	
Survey Program: 0-MWD													Offset Well Error: 0.00 ft	
Reference		Offset		Semi Major Axis		Distance						Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (")	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Riskd Separation Factor		Probability of Collision	
0.00	0.00	0.00	0.00	0.00	0.00	-90.33	49.97					0		
100.00	100.00	99.80	99.80	0.09	0.09	-90.33	49.97	49.85	0.12	411.409	0			
200.00	200.00	199.80	199.80	0.31	0.31	-90.33	49.97	49.53	0.44	113.794	0			
300.00	300.00	299.80	299.80	0.54	0.54	-90.33	49.97	49.21	0.76	66.012	0			
400.00	400.00	399.80	399.80	0.76	0.76	-90.33	49.97	48.90	1.07	46.490	0			
500.00	500.00	499.80	499.80	0.99	0.98	-90.33	49.97	48.58	1.39	35.880	0			
600.00	600.00	599.80	599.80	1.21	1.21	-90.33	49.97	48.26	1.71	29.212	0			
700.00	700.00	699.80	699.80	1.43	1.43	-90.33	49.97	47.94	2.03	24.635	0			
800.00	800.00	799.80	799.80	1.66	1.66	-90.33	49.97	47.62	2.35	21.297	0			
900.00	900.00	899.80	899.80	1.88	1.88	-90.33	49.97	47.31	2.66	18.756	0			
1,000.00	1,000.00	999.80	999.80	2.11	2.11	-90.33	49.97	46.99	2.98	16.757	0			
1,100.00	1,100.00	1,099.80	1,099.80	2.33	2.33	-90.33	49.97	46.67	3.30	15.143	0			
1,200.00	1,200.00	1,199.80	1,199.80	2.56	2.56	-90.33	49.97	46.35	3.62	13.813	0			
1,300.00	1,300.00	1,299.80	1,299.80	2.78	2.78	-90.33	49.97	46.04	3.94	12.697	0			
1,400.00	1,400.00	1,399.80	1,399.80	3.01	3.01	-90.33	49.97	45.72	4.25	11.748	0			
1,500.00	1,500.00	1,499.80	1,499.80	3.23	3.23	-90.33	49.97	45.40	4.57	10.931	0			
1,600.00	1,600.00	1,599.80	1,599.80	3.46	3.46	-90.33	49.97	45.08	4.89	10.221	0			
1,700.00	1,700.00	1,699.80	1,699.80	3.68	3.68	-90.33	49.97	44.76	5.21	9.597	0			
1,800.00	1,800.00	1,799.80	1,799.80	3.91	3.91	-90.33	49.97	44.45	5.53	9.045	0			
1,900.00	1,900.00	1,899.80	1,899.80	4.13	4.13	-90.33	49.97	44.13	5.84	8.552	0			
2,000.00	2,000.00	1,999.80	1,999.80	4.36	4.36	-90.33	49.97	43.81	6.16	8.111	0			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Devon Energy

Anticollision Risk Report

Company: WESTERN DIVISION
 Project: PBNM
 Reference Site: Dzurisin
 Site Error: 0.00
 Reference Well: Seawolf 1-12 Fed 86H
 Well Error: 0.00
 Reference Wellbore: Wellbore #1
 Reference Design: Plan 1

Local Co-ordinate Reference: Well Seawolf 1-12 Fed 86H
 TVD Reference: 1 @ 3348.40ft
 MD Reference: 1 @ 3348.40ft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Output errors are at: 2.00 sigma
 Database: EDM r5000 US Production
 Offset TVD Reference: Offset Datum

Offset Design Dzurisin - Seawolf 1-12 Fed 85H - Wellbore #1 - Plan 1													Offset Site Error:	0.00 ft
Survey Program: 0-MWD													Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis		Distance					Risked Separation Factor	Probability of Collision	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor				
2,100.00	2,100.00	2,099.80	2,099.80	4.58	4.58	-90.33	49.97	43.49	6.48	7.713	0	CC, ES		
2,200.00	2,200.00	2,199.80	2,199.80	4.81	4.81	-90.33	49.97	43.17	6.80	7.352	0			
2,300.00	2,300.00	2,299.80	2,299.80	5.03	5.03	-90.33	49.97	42.86	7.11	7.024	0			
2,400.00	2,400.00	2,399.80	2,399.80	5.26	5.26	-90.33	49.97	42.54	7.43	6.724	0			
2,500.00	2,500.00	2,499.80	2,499.80	5.48	5.48	-90.33	49.97	42.22	7.75	6.448	0			
2,600.00	2,600.00	2,599.80	2,599.80	5.71	5.70	-90.33	49.97	41.90	8.07	6.194	0			
2,700.00	2,700.00	2,699.80	2,699.80	5.93	5.93	-90.33	49.97	41.59	8.39	5.959	0			
2,800.00	2,800.00	2,799.80	2,799.80	6.15	6.15	-90.33	49.97	41.27	8.70	5.741	0			
2,900.00	2,900.00	2,899.80	2,899.80	6.38	6.38	-90.33	49.97	40.95	9.02	5.539	0			
3,000.00	3,000.00	2,999.80	2,999.80	6.60	6.60	-90.33	49.97	40.63	9.34	5.351	0			
3,100.00	3,100.00	3,099.80	3,099.80	6.83	6.83	-90.33	49.97	40.31	9.66	5.174	0			
3,200.00	3,200.00	3,199.80	3,199.80	7.05	7.05	-90.33	49.97	40.00	9.98	5.010	0			
3,300.00	3,300.00	3,299.80	3,299.80	7.28	7.28	-90.33	49.97	39.68	10.29	4.855	0			
3,400.00	3,400.00	3,399.80	3,399.80	7.50	7.50	-90.33	49.97	39.36	10.61	4.709	0			
3,500.00	3,500.00	3,499.80	3,499.80	7.73	7.73	-90.33	49.97	39.04	10.93	4.572	0			
3,600.00	3,600.00	3,599.80	3,599.80	7.94	7.95	179.67	50.84	39.61	11.24	4.525	0			
3,700.00	3,699.96	3,699.76	3,699.76	8.14	8.18	179.69	53.46	41.93	11.53	4.635	0			
3,800.00	3,799.86	3,799.66	3,799.66	8.34	8.40	179.71	57.82	45.99	11.83	4.886	0			
3,900.00	3,899.68	3,899.48	3,899.48	8.54	8.63	179.74	63.93	51.79	12.13	5.269	0			
4,000.00	3,999.37	3,999.17	3,999.17	8.75	8.85	179.77	71.77	59.34	12.43	5.772	0			
4,100.00	4,098.99	4,098.79	4,098.79	8.96	9.07	179.79	80.49	67.75	12.74	6.320	0			
4,200.00	4,198.60	4,198.40	4,198.40	9.18	9.30	179.81	89.20	76.17	13.04	6.842	0			
4,300.00	4,298.22	4,298.02	4,298.02	9.40	9.52	179.83	97.92	84.58	13.34	7.340	0			
4,400.00	4,397.84	4,397.64	4,397.64	9.62	9.75	179.84	106.64	92.99	13.64	7.815	0			
4,500.00	4,497.46	4,497.26	4,497.26	9.84	9.97	179.86	115.35	101.40	13.95	8.269	0			
4,600.00	4,597.08	4,596.88	4,596.88	10.07	10.19	179.87	124.07	109.81	14.25	8.703	0			
4,700.00	4,696.70	4,696.50	4,696.50	10.30	10.42	179.87	132.78	118.22	14.56	9.119	0			
4,800.00	4,796.32	4,796.12	4,796.12	10.53	10.64	179.88	141.50	126.63	14.87	9.517	0			
4,900.00	4,895.94	4,895.74	4,895.74	10.77	10.87	179.89	150.21	135.04	15.18	9.898	0			
5,000.00	4,995.56	4,995.36	4,995.36	11.00	11.09	179.90	158.93	143.44	15.48	10.264	0			
5,100.00	5,095.18	5,094.98	5,094.98	11.24	11.31	179.90	167.64	151.85	15.79	10.615	0			
5,200.00	5,194.80	5,194.60	5,194.60	11.48	11.54	179.91	176.36	160.26	16.10	10.952	0			
5,300.00	5,294.42	5,294.22	5,294.22	11.72	11.76	179.91	185.08	168.66	16.41	11.277	0			
5,400.00	5,394.04	5,393.84	5,393.84	11.96	11.98	179.91	193.79	177.07	16.72	11.588	0			
5,500.00	5,493.66	5,493.46	5,493.46	12.20	12.21	179.92	202.51	185.47	17.03	11.889	0			
5,600.00	5,593.28	5,591.39	5,591.39	12.44	12.42	179.92	211.59	194.26	17.33	12.209	0			
5,700.00	5,692.90	5,689.05	5,689.04	12.69	12.61	179.92	221.53	203.91	17.62	12.574	0			
5,800.00	5,792.52	5,786.54	5,786.51	12.94	12.80	179.93	232.31	214.41	17.90	12.976	0			
5,900.00	5,892.14	5,883.84	5,883.77	13.18	13.00	179.93	243.93	225.75	18.19	13.412	0			
6,000.00	5,991.76	5,980.94	5,980.80	13.43	13.19	179.93	256.40	237.93	18.47	13.881	0			
6,100.00	6,091.37	6,077.83	6,077.58	13.68	13.39	179.94	269.71	250.95	18.75	14.381	0			
6,200.00	6,190.99	6,174.49	6,174.10	13.93	13.59	179.94	283.85	264.81	19.04	14.910	0			
6,300.00	6,290.61	6,270.91	6,270.33	14.18	13.79	179.94	298.83	279.51	19.32	15.467	0			
6,400.00	6,390.23	6,367.08	6,366.25	14.44	13.99	179.95	314.64	295.03	19.60	16.052	0			
6,500.00	6,489.85	6,462.98	6,461.85	14.69	14.19	179.95	331.27	311.39	19.88	16.662	0			
6,600.00	6,589.47	6,560.39	6,558.89	14.94	14.40	179.95	348.57	328.40	20.17	17.280	0			
6,700.00	6,689.09	6,658.87	6,657.00	15.20	14.61	179.95	365.94	345.47	20.47	17.876	0			
6,800.00	6,788.71	6,757.35	6,755.10	15.45	14.83	179.96	383.30	362.53	20.77	18.455	0			
6,900.00	6,888.33	6,855.83	6,853.21	15.71	15.04	179.96	400.67	379.60	21.07	19.017	0			
7,000.00	6,987.95	6,954.31	6,951.32	15.96	15.26	179.96	418.03	396.66	21.37	19.562	0			
7,100.00	7,087.57	7,052.79	7,049.42	16.22	15.48	179.96	435.40	413.73	21.67	20.091	0			
7,200.00	7,187.19	7,151.28	7,147.53	16.48	15.70	179.96	452.76	430.79	21.97	20.605	0			
7,300.00	7,286.81	7,249.76	7,245.63	16.74	15.93	179.96	470.13	447.85	22.28	21.105	0			
7,400.00	7,386.43	7,348.24	7,343.74	16.99	16.15	179.97	487.49	464.91	22.58	21.590	0			

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Devon Energy

Anticollision Risk Report

Company: WESTERN DIVISION
Project: PBNM
Reference Site: Dzurisin
Site Error: 0.00
Reference Well: Seawolf 1-12 Fed 86H
Well Error: 0.00
Reference Wellbore: Wellbore #1
Reference Design: Plan 1

Local Co-ordinate Reference: Well Seawolf 1-12 Fed 86H
TVD Reference: 1 @ 3348.40ft
MD Reference: 1 @ 3348.40ft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: EDM r5000 US Production
Offset TVD Reference: Offset Datum

Offset Design Dzurisin - Seawolf 1-12 Fed 85H - Wellbore #1 - Plan 1													Offset Site Error:	0.00 ft	
Survey Program: 0-MWD														Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis		Distance						Risked Separation Factor	Probability of Collision	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor					
7,500.00	7,486.05	7,446.72	7,441.85	17.25	16.38	179.97	504.86	481.97	22.88	22.062	0				
7,600.00	7,585.67	7,545.20	7,539.95	17.51	16.61	179.97	522.22	499.03	23.19	22.521	0				
7,700.00	7,685.29	7,643.68	7,638.06	17.77	16.83	179.97	539.59	516.09	23.49	22.968	0				
7,800.00	7,784.91	7,742.16	7,736.16	18.03	17.06	179.97	556.95	533.15	23.80	23.402	0				
7,900.00	7,884.53	7,840.64	7,834.27	18.29	17.30	179.97	574.32	550.21	24.11	23.825	0				
8,000.00	7,984.14	7,939.12	7,932.38	18.55	17.53	179.97	591.68	567.27	24.41	24.236	0				
8,100.00	8,083.76	8,037.60	8,030.48	18.81	17.76	179.97	609.05	584.33	24.72	24.637	0				
8,200.00	8,183.38	8,136.08	8,128.59	19.08	18.00	179.97	626.41	601.38	25.03	25.028	0				
8,300.00	8,283.00	8,234.56	8,226.69	19.34	18.23	179.97	643.78	618.44	25.34	25.408	0				
8,400.00	8,382.66	8,333.12	8,324.87	19.57	18.47	179.97	660.71	635.08	25.63	25.775	0				
8,500.00	8,482.38	8,431.82	8,423.20	19.78	18.71	179.98	676.78	650.87	25.92	26.111	0				
8,600.00	8,582.17	8,530.65	8,521.66	19.99	18.94	179.98	692.00	665.79	26.20	26.407	0				
8,700.00	8,682.01	8,629.62	8,620.25	20.19	19.18	179.98	706.35	679.85	26.49	26.664	0				
8,800.00	8,781.89	8,728.71	8,718.96	20.39	19.43	179.98	719.83	693.05	26.78	26.882	0				
8,900.00	8,881.82	8,827.91	8,817.78	20.58	19.67	179.98	732.45	705.39	27.06	27.063	0				
9,000.00	8,981.77	8,927.21	8,916.71	20.78	19.91	179.98	744.20	716.85	27.35	27.208	0				
9,100.00	9,081.74	9,026.62	9,015.73	20.96	20.16	179.98	755.09	727.45	27.64	27.319	0				
9,200.00	9,181.74	9,126.11	9,114.85	21.15	20.40	179.98	765.11	737.18	27.93	27.396	0				
9,300.00	9,281.73	9,225.69	9,214.05	21.33	20.65	-90.02	774.26	746.04	28.22	27.440	0				
9,400.00	9,381.73	9,325.31	9,313.29	21.52	20.90	-90.02	782.98	754.46	28.51	27.460	0				
9,500.00	9,481.73	9,424.93	9,412.53	21.72	21.14	-90.02	791.69	762.87	28.82	27.471	0				
9,600.00	9,581.73	9,524.55	9,511.77	21.92	21.39	-90.02	800.41	771.28	29.12	27.482	0				
9,700.00	9,681.73	9,624.17	9,611.01	22.13	21.64	-90.02	809.12	779.69	29.43	27.492	0				
9,800.00	9,781.73	9,723.79	9,710.26	22.33	21.89	-90.02	817.84	788.10	29.74	27.502	0				
9,900.00	9,881.73	9,823.41	9,809.50	22.53	22.14	-90.02	826.55	796.51	30.05	27.510	0				
10,000.00	9,981.73	9,923.03	9,908.74	22.74	22.39	-90.02	835.27	804.92	30.35	27.519	0				
10,100.00	10,081.73	10,022.65	10,007.98	22.94	22.64	-90.02	843.98	813.32	30.66	27.527	0				
10,200.00	10,181.73	10,122.27	10,107.22	23.15	22.89	-90.02	852.70	821.73	30.97	27.534	0				
10,300.00	10,281.73	10,221.89	10,206.46	23.36	23.15	-90.02	861.42	830.14	31.28	27.542	0				
10,400.00	10,381.73	10,321.51	10,305.70	23.56	23.40	-90.02	870.13	838.55	31.59	27.548	0				
10,500.00	10,481.73	10,421.13	10,404.94	23.77	23.65	-90.02	878.85	846.95	31.89	27.555	0				
10,600.00	10,581.73	10,522.49	10,505.92	23.97	23.91	-90.02	887.54	855.33	32.21	27.557	0				
10,700.00	10,681.73	10,630.57	10,613.65	24.18	24.15	-90.02	895.59	863.06	32.53	27.531	0				
10,800.00	10,781.73	10,738.81	10,721.62	24.39	24.37	-90.02	902.70	869.86	32.84	27.485	0				
10,900.00	10,881.73	10,847.19	10,829.79	24.60	24.59	-90.02	908.87	875.71	33.15	27.413	0				
11,000.00	10,981.73	10,955.69	10,938.13	24.81	24.81	-90.02	914.09	880.62	33.46	27.315	0				
11,100.00	11,081.73	11,064.28	11,046.62	25.01	25.03	-90.02	918.36	884.59	33.77	27.192	0				
11,200.00	11,181.73	11,172.95	11,155.23	25.22	25.24	-90.02	921.69	887.61	34.08	27.044	0				
11,300.00	11,281.73	11,281.68	11,263.93	25.43	25.45	-90.02	924.07	889.68	34.39	26.873	0				
11,400.00	11,381.73	11,390.44	11,372.69	25.64	25.65	-90.02	925.50	890.81	34.69	26.678	0				
11,500.00	11,481.73	11,499.23	11,481.47	25.85	25.85	-90.02	925.98	890.99	34.99	26.462	0				
11,600.00	11,581.73	11,599.29	11,581.53	26.06	26.04	-90.02	925.98	890.69	35.29	26.240	0				
11,700.00	11,681.73	11,699.29	11,681.53	26.27	26.25	-90.02	925.98	890.39	35.60	26.014	0				
11,800.00	11,781.73	11,799.29	11,781.53	26.48	26.46	-90.02	925.98	890.08	35.90	25.791	0				
11,900.00	11,881.73	11,899.29	11,881.53	26.69	26.67	-90.02	925.98	889.77	36.21	25.572	0				
12,000.00	11,981.73	11,999.29	11,981.53	26.90	26.88	-90.02	925.98	889.46	36.52	25.357	0				
12,100.00	12,081.73	12,099.29	12,081.53	27.11	27.09	-90.02	925.98	889.16	36.83	25.145	0				
12,200.00	12,181.73	12,199.29	12,181.53	27.32	27.30	-90.02	925.98	888.85	37.13	24.937	0				
12,249.80	12,231.53	12,249.18	12,231.41	27.43	27.40	-90.06	925.98	888.70	37.28	24.836	0				
12,275.00	12,256.72	12,274.40	12,256.55	27.48	27.45	89.89	925.98	888.63	37.35	24.790	0				
12,300.00	12,281.64	12,299.34	12,281.27	27.52	27.50	89.81	925.97	888.56	37.42	24.747	0				
12,325.00	12,306.42	12,324.22	12,305.73	27.57	27.54	89.73	925.97	888.49	37.48	24.705	0				
12,350.00	12,331.00	12,349.03	12,329.85	27.62	27.59	89.65	925.96	888.42	37.54	24.663	0				
12,375.00	12,355.30	12,373.77	12,353.58	27.66	27.63	89.57	925.96	888.35	37.61	24.621	0				

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Devon Energy

Anticollision Risk Report

Company: WESTERN DIVISION
Project: PBNM
Reference Site: Dzurisin
Site Error: 0.00
Reference Well: Seawolf 1-12 Fed 86H
Well Error: 0.00
Reference Wellbore: Wellbore #1
Reference Design: Plan 1

Local Co-ordinate Reference: Well Seawolf 1-12 Fed 86H
TVD Reference: 1 @ 3348.40ft
MD Reference: 1 @ 3348.40ft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: EDM r5000 US Production
Offset TVD Reference: Offset Datum

Offset Design Dzurisin - Seawolf 1-12 Fed 85H - Wellbore #1 - Plan 1													Offset Site Error:	0.00 ft
Survey Program: 0-MWD													Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis		Distance					Risked Separation Factor	Probability of Collision	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor				
12,400.00	12,379.27	12,398.45	12,376.86	27.71	27.68	89.50	925.95	888.28	37.67	24.580	0			
12,425.00	12,402.83	12,423.07	12,399.62	27.75	27.72	89.42	925.94	888.21	37.73	24.539	0			
12,450.00	12,425.92	12,447.62	12,421.81	27.80	27.77	89.35	925.93	888.13	37.80	24.497	0			
12,475.00	12,448.48	12,472.12	12,443.38	27.85	27.81	89.28	925.92	888.06	37.86	24.455	0			
12,500.00	12,470.44	12,496.56	12,464.28	27.89	27.86	89.21	925.90	887.98	37.93	24.413	0			
12,525.00	12,491.75	12,520.94	12,484.46	27.94	27.90	89.14	925.89	887.89	37.99	24.369	0			
12,550.00	12,512.34	12,545.27	12,503.87	27.99	27.95	89.08	925.87	887.81	38.07	24.323	0			
12,575.00	12,532.17	12,569.54	12,522.47	28.04	28.00	89.01	925.86	887.72	38.14	24.276	0			
12,600.00	12,551.17	12,593.76	12,540.22	28.09	28.04	88.96	925.84	887.62	38.22	24.227	0			
12,625.00	12,569.29	12,617.94	12,557.08	28.14	28.09	88.90	925.82	887.52	38.30	24.175	0			
12,650.00	12,586.49	12,642.07	12,573.01	28.19	28.15	88.85	925.79	887.41	38.38	24.120	0			
12,675.00	12,602.72	12,666.16	12,587.98	28.25	28.20	88.79	925.77	887.29	38.47	24.063	0			
12,700.00	12,617.93	12,690.21	12,601.95	28.31	28.26	88.75	925.74	887.17	38.57	24.002	0			
12,725.00	12,632.08	12,714.22	12,614.90	28.38	28.32	88.70	925.71	887.04	38.67	23.937	0			
12,750.00	12,645.13	12,738.19	12,626.81	28.44	28.38	88.66	925.68	886.90	38.78	23.869	0			
12,775.00	12,657.05	12,762.13	12,637.64	28.52	28.45	88.63	925.65	886.75	38.90	23.796	0			
12,800.00	12,667.80	12,786.04	12,647.37	28.59	28.53	88.59	925.61	886.59	39.02	23.720	0			
12,825.00	12,677.36	12,809.92	12,655.99	28.68	28.61	88.56	925.58	886.42	39.15	23.640	0			
12,850.00	12,685.69	12,833.78	12,663.48	28.77	28.69	88.54	925.54	886.25	39.29	23.556	0			
12,875.00	12,692.78	12,857.62	12,669.82	28.86	28.78	88.52	925.50	886.06	39.44	23.468	0			
12,900.00	12,698.61	12,881.43	12,675.00	28.96	28.88	88.50	925.45	885.86	39.59	23.376	0			
12,925.00	12,703.15	12,905.23	12,679.02	29.07	28.98	88.48	925.41	885.66	39.75	23.280	0			
12,950.00	12,706.41	12,929.02	12,681.86	29.18	29.09	88.47	925.36	885.44	39.92	23.181	0			
12,975.00	12,708.36	12,952.80	12,683.52	29.30	29.20	88.47	925.31	885.22	40.09	23.079	0			
13,001.30	12,709.00	12,977.93	12,684.00	29.43	29.33	88.46	925.25	884.97	40.28	22.969	0			
13,002.20	12,708.99	12,978.83	12,684.00	29.44	29.33	88.46	925.25	884.96	40.29	22.965	0			
13,100.00	12,708.69	13,076.63	12,683.79	29.96	29.88	88.47	925.03	883.96	41.07	22.521	0			
13,200.00	12,708.37	13,176.63	12,683.58	30.61	30.55	88.48	924.81	882.78	42.04	22.001	0			
13,300.00	12,708.06	13,276.63	12,683.38	31.36	31.30	88.48	924.59	881.46	43.13	21.437	0			
13,400.00	12,707.75	13,376.63	12,683.17	32.19	32.15	88.49	924.36	880.02	44.35	20.843	0			
13,500.00	12,707.43	13,476.63	12,682.96	33.10	33.07	88.50	924.14	878.46	45.68	20.231	0			
13,600.00	12,707.12	13,576.63	12,682.75	34.09	34.07	88.50	923.92	876.80	47.12	19.609	0			
13,700.00	12,706.80	13,676.63	12,682.54	35.14	35.13	88.51	923.69	875.05	48.65	18.988	0			
13,800.00	12,706.49	13,776.63	12,682.33	36.26	36.26	88.51	923.47	873.21	50.26	18.373	0			
13,900.00	12,706.18	13,876.63	12,682.12	37.43	37.44	88.52	923.25	871.29	51.96	17.769	0			
14,000.00	12,705.86	13,976.63	12,681.91	38.65	38.67	88.53	923.02	869.30	53.72	17.181	0			
14,100.00	12,705.55	14,076.63	12,681.70	39.92	39.94	88.53	922.80	867.25	55.55	16.612	0			
14,200.00	12,705.23	14,176.63	12,681.49	41.23	41.26	88.54	922.58	865.14	57.44	16.062	0			
14,300.00	12,704.92	14,276.63	12,681.28	42.58	42.62	88.54	922.35	862.98	59.38	15.534	0			
14,400.00	12,704.61	14,376.63	12,681.07	43.96	44.00	88.55	922.13	860.77	61.36	15.027	0			
14,500.00	12,704.29	14,476.63	12,680.86	45.37	45.42	88.56	921.91	858.51	63.39	14.543	0			
14,600.00	12,703.98	14,576.63	12,680.65	46.81	46.87	88.56	921.68	856.22	65.46	14.080	0			
14,700.00	12,703.66	14,676.63	12,680.45	48.28	48.35	88.57	921.46	853.90	67.56	13.638	0			
14,800.00	12,703.35	14,776.63	12,680.24	49.77	49.84	88.58	921.24	851.54	69.70	13.217	0			
14,900.00	12,703.04	14,876.63	12,680.03	51.29	51.36	88.58	921.01	849.15	71.86	12.816	0			
15,000.00	12,702.72	14,976.62	12,679.82	52.82	52.90	88.59	920.79	846.73	74.06	12.434	0			
15,100.00	12,702.41	15,076.62	12,679.61	54.37	54.45	88.59	920.57	844.30	76.27	12.070	0			
15,200.00	12,702.09	15,176.62	12,679.40	55.94	56.02	88.60	920.34	841.83	78.51	11.723	0			
15,300.00	12,701.78	15,276.62	12,679.19	57.52	57.61	88.61	920.12	839.35	80.77	11.392	0			
15,400.00	12,701.47	15,376.62	12,678.98	59.12	59.21	88.61	919.90	836.85	83.05	11.077	0			
15,500.00	12,701.15	15,476.62	12,678.77	60.73	60.82	88.62	919.67	834.33	85.34	10.777	0			
15,600.00	12,700.84	15,576.62	12,678.56	62.35	62.45	88.62	919.45	831.80	87.65	10.490	0			
15,700.00	12,700.52	15,676.62	12,678.35	63.98	64.09	88.63	919.23	829.25	89.98	10.216	0			
15,800.00	12,700.21	15,776.62	12,678.14	65.62	65.73	88.64	919.00	826.69	92.32	9.955	0			

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Devon Energy

Anticollision Risk Report

Company: WESTERN DIVISION
Project: PBNM
Reference Site: Dzurisin
Site Error: 0.00
Reference Well: Seawolf 1-12 Fed 86H
Well Error: 0.00
Reference Wellbore: Wellbore #1
Reference Design: Plan 1

Local Co-ordinate Reference: Well Seawolf 1-12 Fed 86H
TVD Reference: 1 @ 3348.40ft
MD Reference: 1 @ 3348.40ft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: EDM r5000 US Production
Offset TVD Reference: Offset Datum

Offset Design Dzurisin - Seawolf 1-12 Fed 85H - Wellbore #1 - Plan 1													Offset Site Error: 0.00 ft
Survey Program: 0-MWD													Offset Well Error: 0.00 ft
Reference		Offset		Semi Major Axis		Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Risked Separation Factor	Probability of Collision	
15,900.00	12,699.90	15,876.62	12,677.93	67.27	67.39	88.64	918.78	824.11	94.67	9.705	0		
16,000.00	12,699.58	15,976.62	12,677.73	68.93	69.05	88.65	918.56	821.53	97.03	9.467	0		
16,100.00	12,699.27	16,076.62	12,677.52	70.60	70.72	88.66	918.33	818.93	99.40	9.238	0		
16,200.00	12,698.95	16,176.62	12,677.31	72.28	72.40	88.66	918.11	816.32	101.79	9.020	0		
16,300.00	12,698.64	16,276.62	12,677.10	73.96	74.09	88.67	917.89	813.71	104.18	8.810	0		
16,400.00	12,698.33	16,376.62	12,676.89	75.65	75.78	88.67	917.67	811.08	106.59	8.610	0		
16,500.00	12,698.01	16,476.62	12,676.68	77.35	77.48	88.68	917.44	808.45	109.00	8.417	0		
16,600.00	12,697.70	16,576.62	12,676.47	79.05	79.18	88.69	917.22	805.80	111.41	8.233	0		
16,700.00	12,697.38	16,676.62	12,676.26	80.76	80.89	88.69	917.00	803.16	113.84	8.055	0		
16,800.00	12,697.07	16,776.62	12,676.05	82.47	82.61	88.70	916.77	800.50	116.27	7.885	0		
16,900.00	12,696.76	16,876.62	12,675.84	84.19	84.32	88.71	916.55	797.84	118.71	7.721	0		
17,000.00	12,696.44	16,976.62	12,675.63	85.91	86.05	88.71	916.33	795.17	121.15	7.563	0		
17,100.00	12,696.13	17,076.62	12,675.42	87.64	87.78	88.72	916.10	792.50	123.60	7.412	0		
17,200.00	12,695.81	17,176.62	12,675.21	89.36	89.51	88.72	915.88	789.82	126.06	7.265	0		
17,300.00	12,695.50	17,276.62	12,675.00	91.10	91.24	88.73	915.66	787.14	128.52	7.125	0		
17,400.00	12,695.19	17,376.62	12,674.80	92.83	92.98	88.74	915.43	784.45	130.98	6.989	0		
17,500.00	12,694.87	17,476.62	12,674.59	94.58	94.72	88.74	915.21	781.76	133.45	6.858	0		
17,600.00	12,694.56	17,576.62	12,674.38	96.32	96.47	88.75	914.99	779.06	135.93	6.731	0		
17,700.00	12,694.24	17,676.62	12,674.17	98.06	98.22	88.76	914.77	776.36	138.40	6.609	0		
17,800.00	12,693.93	17,776.62	12,673.96	99.81	99.97	88.76	914.54	773.66	140.89	6.491	0		
17,900.00	12,693.62	17,876.62	12,673.75	101.57	101.72	88.77	914.32	770.95	143.37	6.377	0		
18,000.00	12,693.30	17,976.62	12,673.54	103.32	103.48	88.77	914.10	768.24	145.86	6.267	0		
18,100.00	12,692.99	18,076.62	12,673.33	105.08	105.24	88.78	913.87	765.52	148.35	6.160	0		
18,200.00	12,692.67	18,176.62	12,673.12	106.84	107.00	88.79	913.65	762.81	150.84	6.057	0		
18,300.00	12,692.36	18,276.62	12,672.91	108.60	108.76	88.79	913.43	760.09	153.34	5.957	0		
18,400.00	12,692.05	18,376.61	12,672.70	110.36	110.52	88.80	913.20	757.36	155.84	5.860	0		
18,500.00	12,691.73	18,476.61	12,672.49	112.13	112.29	88.81	912.98	754.64	158.34	5.766	0		
18,600.00	12,691.42	18,576.61	12,672.28	113.89	114.06	88.81	912.76	751.91	160.85	5.675	0		
18,700.00	12,691.10	18,676.61	12,672.07	115.66	115.83	88.82	912.54	749.18	163.36	5.586	0		
18,800.00	12,690.79	18,776.61	12,671.87	117.43	117.60	88.82	912.31	746.45	165.87	5.500	0		
18,900.00	12,690.48	18,876.61	12,671.66	119.21	119.37	88.83	912.09	743.71	168.38	5.417	0		
19,000.00	12,690.16	18,976.61	12,671.45	120.98	121.15	88.84	911.87	740.98	170.89	5.336	0		
19,100.00	12,689.85	19,076.61	12,671.24	122.75	122.93	88.84	911.64	738.24	173.41	5.257	0		
19,200.00	12,689.53	19,176.61	12,671.03	124.53	124.71	88.85	911.42	735.50	175.93	5.181	0		
19,300.00	12,689.22	19,276.61	12,670.82	126.31	126.48	88.86	911.20	732.75	178.45	5.106	0		
19,400.00	12,688.91	19,376.61	12,670.61	128.09	128.27	88.86	910.98	730.01	180.97	5.034	0		
19,500.00	12,688.59	19,476.61	12,670.40	129.87	130.05	88.87	910.75	727.26	183.49	4.964	0		
19,600.00	12,688.28	19,576.61	12,670.19	131.65	131.83	88.87	910.53	724.52	186.01	4.895	0		
19,700.00	12,687.96	19,676.61	12,669.98	133.44	133.62	88.88	910.31	721.77	188.54	4.828	0		
19,800.00	12,687.65	19,776.61	12,669.77	135.22	135.40	88.89	910.09	719.02	191.07	4.763	0		
19,900.00	12,687.34	19,876.61	12,669.56	137.01	137.19	88.89	909.86	716.26	193.60	4.700	0		
20,000.00	12,687.02	19,976.61	12,669.35	138.79	138.97	88.90	909.64	713.51	196.13	4.638	0		
20,100.00	12,686.71	20,076.61	12,669.14	140.58	140.76	88.91	909.42	710.76	198.66	4.578	0		
20,200.00	12,686.39	20,176.61	12,668.94	142.37	142.55	88.91	909.19	708.00	201.19	4.519	0		
20,300.00	12,686.08	20,276.61	12,668.73	144.16	144.34	88.92	908.97	705.24	203.73	4.462	0		
20,400.00	12,685.77	20,376.61	12,668.52	145.95	146.13	88.93	908.75	702.49	206.26	4.406	0		
20,500.00	12,685.45	20,476.61	12,668.31	147.74	147.93	88.93	908.53	699.73	208.80	4.351	0		
20,600.00	12,685.14	20,576.61	12,668.10	149.53	149.72	88.94	908.30	696.97	211.34	4.298	0		
20,700.00	12,684.82	20,676.61	12,667.89	151.32	151.51	88.94	908.08	694.20	213.88	4.246	0		
20,800.00	12,684.51	20,776.61	12,667.68	153.12	153.31	88.95	907.86	691.44	216.42	4.195	0		
20,900.00	12,684.20	20,876.61	12,667.47	154.91	155.10	88.96	907.64	688.68	218.96	4.145	0		
21,000.00	12,683.88	20,976.61	12,667.26	156.70	156.90	88.96	907.41	685.91	221.50	4.097	0		
21,100.00	12,683.57	21,076.61	12,667.05	158.50	158.70	88.97	907.19	683.15	224.04	4.049	0		
21,200.00	12,683.25	21,176.61	12,666.84	160.30	160.49	88.98	906.97	680.38	226.59	4.003	0		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Devon Energy

Anticollision Risk Report

Company: WESTERN DIVISION
Project: PBNM
Reference Site: Dzurisin
Site Error: 0.00
Reference Well: Seawolf 1-12 Fed 86H
Well Error: 0.00
Reference Wellbore: Wellbore #1
Reference Design: Plan 1

Local Co-ordinate Reference: Well Seawolf 1-12 Fed 86H
TVD Reference: 1 @ 3348.40ft
MD Reference: 1 @ 3348.40ft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: EDM r5000 US Production
Offset TVD Reference: Offset Datum

Offset Design Dzurisin - Seawolf 1-12 Fed 85H - Wellbore #1 - Plan 1												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis		Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Risked Separation Factor		
21,300.00	12,682.94	21,276.61	12,666.63	162.09	162.29	88.98	906.74	677.62	229.13	3.957	0		
21,400.00	12,682.63	21,376.61	12,666.42	163.89	164.09	88.99	906.52	674.85	231.68	3.913	0		
21,500.00	12,682.31	21,476.61	12,666.21	165.69	165.89	89.00	906.30	672.08	234.22	3.869	0		
21,600.00	12,682.00	21,576.61	12,666.01	167.49	167.69	89.00	906.08	669.31	236.77	3.827	0		
21,700.00	12,681.68	21,676.61	12,665.80	169.29	169.49	89.01	905.85	666.54	239.32	3.785	0		
21,800.00	12,681.37	21,776.60	12,665.59	171.09	171.29	89.01	905.63	663.77	241.86	3.744	0		
21,900.00	12,681.06	21,876.60	12,665.38	172.89	173.09	89.02	905.41	661.00	244.41	3.704	0		
22,000.00	12,680.74	21,976.60	12,665.17	174.69	174.89	89.03	905.19	658.22	246.96	3.665	0		
22,100.00	12,680.43	22,076.60	12,664.96	176.49	176.70	89.03	904.96	655.45	249.51	3.627	0		
22,200.00	12,680.11	22,176.60	12,664.75	178.29	178.50	89.04	904.74	652.68	252.06	3.589	0		
22,300.00	12,679.80	22,276.60	12,664.54	180.09	180.30	89.05	904.52	649.90	254.62	3.552	0		
22,400.00	12,679.49	22,376.60	12,664.33	181.90	182.10	89.05	904.30	647.13	257.17	3.516	0		
22,500.00	12,679.17	22,476.60	12,664.12	183.70	183.91	89.06	904.07	644.35	259.72	3.481	0		
22,520.24	12,679.11	22,496.85	12,664.08	184.06	184.27	89.06	904.03	643.79	260.24	3.474	0		
22,554.58	12,679.00	22,531.14	12,664.01	184.59	184.87	89.06	903.95	642.94	261.02	3.463	0	SF	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Devon Energy
Anticollision Risk Report

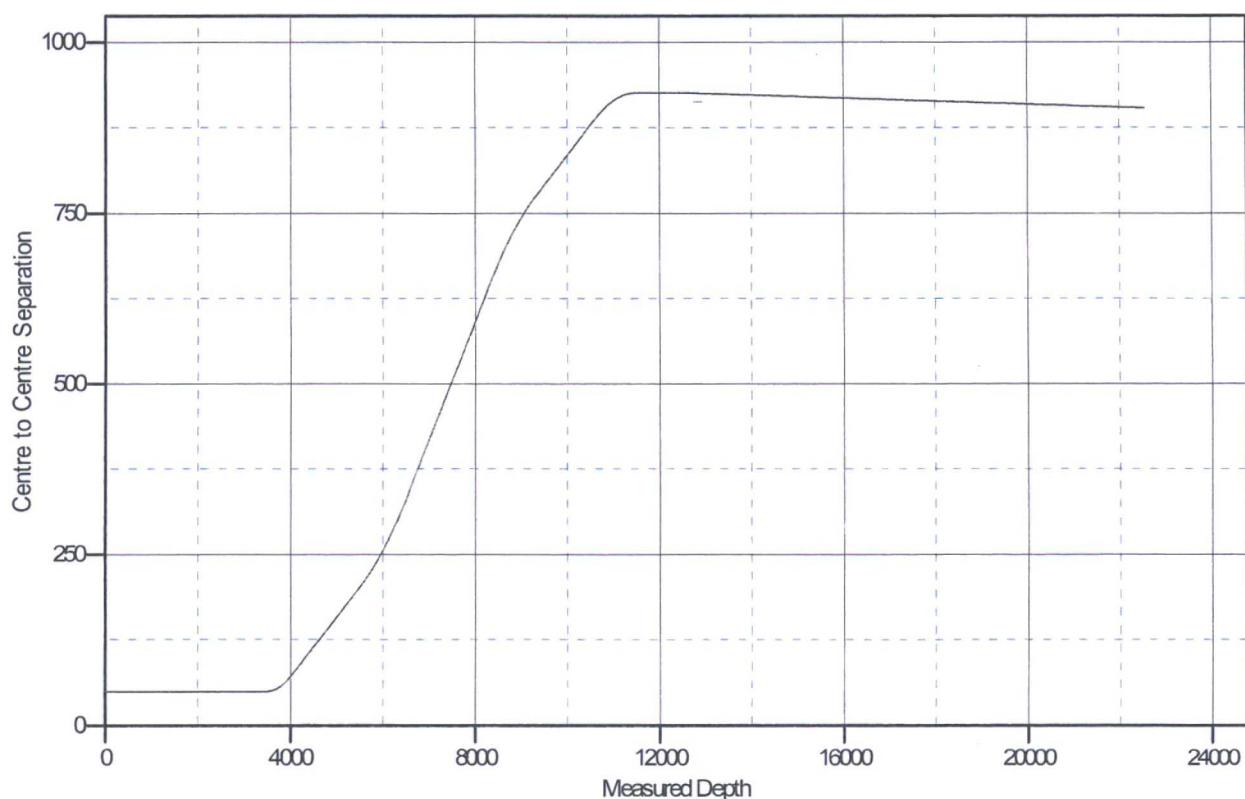
Company: WESTERN DIVISION
Project: PBNM
Reference Site: Dzurisin
Site Error: 0.00
Reference Well: Seawolf 1-12 Fed 86H
Well Error: 0.00
Reference Wellbore: Wellbore #1
Reference Design: Plan 1

Local Co-ordinate Reference: Well Seawolf 1-12 Fed 86H
TVD Reference: 1 @ 3348.40ft
MD Reference: 1 @ 3348.40ft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: EDM r5000 US Production
Offset TVD Reference: Offset Datum

Reference Depths are relative to 1 @ 3348.40ft
Offset Depths are relative to Offset Datum
Central Meridian is -104.333334 °

Coordinates are relative to: Seawolf 1-12 Fed 86H
Coordinate System is US State Plane 1983, New Mexico Eastern Zone
Grid Convergence at Surface is: 0.43°

Ladder Plot



LEGEND

▲ Seawolf 1-12 Fed 85H, Wellbore #1, Plan 1 V0

Devon Energy
Anticollision Risk Report

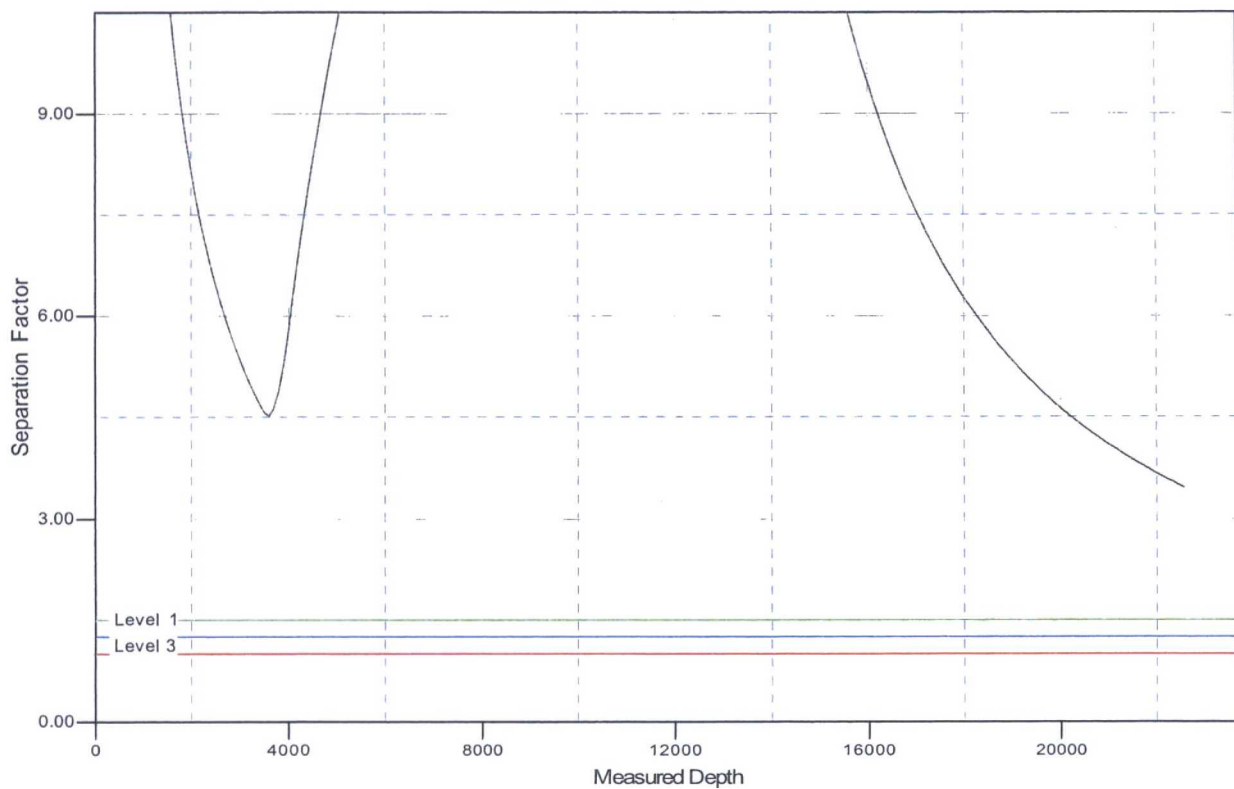
Company: WESTERN DIVISION
Project: PBNM
Reference Site: Dzurisin
Site Error: 0.00
Reference Well: Seawolf 1-12 Fed 86H
Well Error: 0.00
Reference Wellbore: Wellbore #1
Reference Design: Plan 1

Local Co-ordinate Reference: Well Seawolf 1-12 Fed 86H
TVD Reference: 1 @ 3348.40ft
MD Reference: 1 @ 3348.40ft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: EDM r5000 US Production
Offset TVD Reference: Offset Datum

Reference Depths are relative to 1 @ 3348.40ft
Offset Depths are relative to Offset Datum
Central Meridian is -104.333334 °

Coordinates are relative to: Seawolf 1-12 Fed 86H
Coordinate System is US State Plane 1983, New Mexico Eastern Zone
Grid Convergence at Surface is: 0.43°

Separation Factor Plot



LEGEND

▲ Seawolf 1-12 Fed 85H, Wellbore #1, Plan 1 V0