

Devon Energy

Anticollision Risk Report

Company: WESTERN DIVISION
Project: PBNM
Reference Site: Dzurisin
Site Error: 0.00
Reference Well: Thistle Unit 157H
Well Error: 0.00
Reference Wellbore: Wellbore #1
Reference 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
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	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 10,000.00ft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma	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 8/1/2016	
From (ft)	To (ft)	Survey (Wellbore)
0.00	20,016.05	Plan 1 (Wellbore #1)
		Tool Name
		MWD
		Description
		MWD - Standard

Summary						
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						
Thistle Unit 152H - Wellbore #1 - Plan 1	1,966.40	1,967.20	49.97	41.41	5.835 CC	
Thistle Unit 152H - Wellbore #1 - Plan 1	2,000.00	2,000.79	49.97	41.26	5.734 ES	
Thistle Unit 152H - Wellbore #1 - Plan 1	20,016.05	19,763.27	890.99	286.41	1.474 Level 3 , SF	
Thistle Unit 153H - Wellbore #1 - Plan 1	3,500.00	3,500.00	29.97	14.51	1.939 CC, ES, SF	

Offset Design												
Dzurisin - Thistle Unit 152H - Wellbore #1 - Plan 1												
Survey Program: 0-MWD												
Reference	Offset	Semi Major Axis		Distance				Minimum Separation	Separation Factor	Riskd 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)				
0.00	0.00	0.80	0.80	0.00	0.00	-90.26	49.97					
100.00	100.00	100.80	100.80	0.09	0.09	-90.26	49.97	49.80	0.17	287.610	0	
200.00	200.00	200.80	200.80	0.31	0.31	-90.26	49.97	49.35	0.62	80.174	0	
300.00	300.00	300.80	300.80	0.54	0.54	-90.26	49.97	48.90	1.07	46.579	0	
400.00	400.00	400.80	400.80	0.76	0.76	-90.26	49.97	48.45	1.52	32.825	0	
500.00	500.00	500.80	500.80	0.99	0.99	-90.26	49.97	48.00	1.97	25.342	0	
600.00	600.00	600.80	600.80	1.21	1.21	-90.26	49.97	47.55	2.42	20.637	0	
700.00	700.00	700.80	700.80	1.43	1.44	-90.26	49.97	47.10	2.87	17.406	0	
800.00	800.00	800.80	800.80	1.66	1.66	-90.26	49.97	46.65	3.32	15.049	0	
900.00	900.00	900.80	900.80	1.88	1.89	-90.26	49.97	46.20	3.77	13.255	0	
1,000.00	1,000.00	1,000.80	1,000.80	2.11	2.11	-90.26	49.97	45.75	4.22	11.843	0	
1,100.00	1,100.00	1,100.80	1,100.80	2.33	2.34	-90.26	49.97	45.30	4.67	10.702	0	
1,200.00	1,200.00	1,200.80	1,200.80	2.56	2.56	-90.26	49.97	44.85	5.12	9.763	0	
1,300.00	1,300.00	1,300.80	1,300.80	2.78	2.78	-90.26	49.97	44.40	5.57	8.974	0	
1,400.00	1,400.00	1,400.80	1,400.80	3.01	3.01	-90.26	49.97	43.95	6.02	8.304	0	
1,500.00	1,500.00	1,500.80	1,500.80	3.23	3.23	-90.26	49.97	43.50	6.47	7.727	0	
1,600.00	1,600.00	1,600.80	1,600.80	3.46	3.46	-90.26	49.97	43.05	6.92	7.225	0	
1,700.00	1,700.00	1,700.80	1,700.80	3.68	3.68	-90.26	49.97	42.60	7.37	6.784	0	

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

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Local Co-ordinate Reference: Well Thistle Unit 157H
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Database: EDM r5000 US Production
Offset TVD Reference: Offset Datum

Offset Design Dzurisin - Thistle Unit 152H - 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	Risk Separation Factor	Probability of Collision	
1,800.00	1,800.00	1,800.80	1,800.80	3.91	3.91	-90.26	49.97	42.15	7.82	6.394	0		
1,900.00	1,900.00	1,900.80	1,900.80	4.13	4.13	-90.26	49.97	41.71	8.27	6.046	0		
1,966.40	1,966.40	1,967.20	1,967.20	4.28	4.28	-90.26	49.97	41.41	8.56	5.835	0		CC
2,000.00	2,000.00	2,000.79	2,000.79	4.36	4.36	-90.26	49.97	41.26	8.71	5.734	0		ES
2,100.00	2,100.00	2,100.00	2,099.99	4.58	4.57	-90.26	50.85	41.70	9.15	5.558	0		
2,200.00	2,200.00	2,198.98	2,198.94	4.81	4.77	-90.25	53.46	43.89	9.57	5.586	0		
2,300.00	2,300.00	2,297.93	2,297.80	5.03	4.98	-90.23	57.79	47.80	9.99	5.784	0		
2,400.00	2,400.00	2,396.70	2,396.38	5.26	5.20	-90.21	63.85	53.43	10.42	6.129	0		
2,500.00	2,500.00	2,495.23	2,494.62	5.48	5.43	-90.18	71.63	60.78	10.84	6.605	0		
2,600.00	2,600.00	2,593.47	2,592.41	5.71	5.68	-90.16	81.11	69.84	11.27	7.195	0		
2,700.00	2,700.00	2,691.37	2,689.69	5.93	5.95	-90.14	92.30	80.60	11.70	7.887	0		
2,800.00	2,800.00	2,790.48	2,788.07	6.15	6.25	-90.13	104.48	92.35	12.14	8.609	0		
2,900.00	2,900.00	2,889.74	2,886.58	6.38	6.57	-90.11	116.67	104.10	12.57	9.280	0		
3,000.00	3,000.00	2,988.99	2,985.10	6.60	6.90	-90.10	128.86	115.85	13.01	9.905	0		
3,100.00	3,100.00	3,088.25	3,083.61	6.83	7.24	-90.09	141.04	127.60	13.45	10.488	0		
3,200.00	3,200.00	3,187.50	3,182.13	7.05	7.58	-90.09	153.23	139.34	13.89	11.033	0		
3,300.00	3,300.00	3,286.75	3,280.64	7.28	7.94	-90.08	165.42	151.09	14.33	11.544	0		
3,400.00	3,400.00	3,386.01	3,379.16	7.50	8.30	-90.07	177.60	162.83	14.77	12.022	0		
3,500.00	3,500.00	3,485.26	3,477.67	7.73	8.67	-90.07	189.79	174.57	15.22	12.472	0		
3,600.00	3,600.00	3,584.51	3,576.18	7.92	9.05	90.06	201.98	186.35	15.63	12.921	0		
3,700.00	3,699.96	3,683.73	3,674.66	8.09	9.43	90.63	214.19	198.17	16.02	13.370	0		
3,800.00	3,799.86	3,782.89	3,773.08	8.26	9.81	91.57	226.46	210.05	16.41	13.798	0		
3,900.00	3,899.68	3,881.96	3,871.41	8.44	10.20	92.82	238.89	222.08	16.82	14.207	0		
4,000.00	3,999.37	3,980.91	3,969.62	8.61	10.59	94.33	251.58	234.34	17.23	14.600	0		
4,100.00	4,098.99	4,079.78	4,067.76	8.80	10.99	95.99	264.53	246.86	17.66	14.975	0		
4,200.00	4,198.60	4,178.66	4,165.90	9.00	11.38	97.50	277.68	259.57	18.11	15.330	0		
4,300.00	4,298.22	4,277.54	4,264.04	9.21	11.78	98.87	291.01	272.43	18.58	15.665	0		
4,400.00	4,397.84	4,376.41	4,362.18	9.43	12.18	100.13	304.49	285.43	19.05	15.981	0		
4,500.00	4,497.46	4,475.29	4,460.32	9.66	12.58	101.27	318.10	298.55	19.54	16.279	0		
4,600.00	4,597.08	4,574.17	4,558.46	9.89	12.99	102.32	331.82	311.78	20.04	16.559	0		
4,700.00	4,696.70	4,673.05	4,656.60	10.14	13.39	103.29	345.64	325.10	20.55	16.822	0		
4,800.00	4,796.32	4,771.92	4,754.74	10.39	13.80	104.19	359.56	338.49	21.06	17.070	0		
4,900.00	4,895.94	4,870.80	4,852.88	10.64	14.21	105.01	373.55	351.96	21.59	17.303	0		
5,000.00	4,995.56	4,969.68	4,951.02	10.90	14.62	105.78	387.62	365.49	22.12	17.522	0		
5,100.00	5,095.18	5,068.55	5,049.16	11.17	15.03	106.49	401.75	379.08	22.66	17.728	0		
5,200.00	5,194.80	5,167.43	5,147.30	11.44	15.44	107.16	415.93	392.72	23.21	17.923	0		
5,300.00	5,294.42	5,266.31	5,245.44	11.71	15.86	107.78	430.17	406.41	23.76	18.106	0		
5,400.00	5,394.04	5,365.18	5,343.58	11.99	16.27	108.36	444.45	420.14	24.31	18.279	0		
5,500.00	5,493.66	5,464.06	5,441.72	12.28	16.69	108.91	458.78	433.90	24.88	18.443	0		
5,600.00	5,593.28	5,562.94	5,539.86	12.56	17.10	109.42	473.14	447.70	25.44	18.597	0		
5,700.00	5,692.90	5,661.81	5,638.00	12.86	17.52	109.90	487.54	461.53	26.01	18.743	0		
5,800.00	5,792.52	5,760.69	5,736.14	13.15	17.94	110.36	501.97	475.39	26.59	18.881	0		
5,900.00	5,892.14	5,859.57	5,834.28	13.45	18.36	110.79	516.43	489.27	27.16	19.012	0		
6,000.00	5,991.76	5,958.45	5,932.42	13.75	18.77	111.19	530.92	503.17	27.74	19.137	0		
6,100.00	6,091.37	6,057.32	6,030.56	14.05	19.19	111.58	545.43	517.10	28.33	19.255	0		
6,200.00	6,190.99	6,156.20	6,128.70	14.35	19.61	111.94	559.96	531.05	28.91	19.367	0		
6,300.00	6,290.65	6,255.11	6,226.87	14.62	20.03	112.31	574.36	544.88	29.48	19.485	0		
6,400.00	6,390.38	6,354.09	6,325.12	14.85	20.45	112.59	588.43	558.43	30.00	19.613	0		
6,500.00	6,490.16	6,453.14	6,423.42	15.08	20.87	112.78	602.18	571.66	30.52	19.729	0		
6,600.00	6,590.00	6,552.23	6,521.78	15.30	21.30	112.88	615.60	584.56	31.03	19.837	0		
6,700.00	6,689.88	6,651.37	6,620.18	15.53	21.72	112.91	628.68	597.14	31.53	19.936	0		
6,800.00	6,789.81	6,750.55	6,718.62	15.74	22.14	112.87	641.42	609.39	32.03	20.028	0		
6,900.00	6,889.76	6,849.76	6,817.08	15.95	22.57	112.75	653.83	621.32	32.51	20.113	0		
7,000.00	6,989.74	6,948.99	6,915.58	16.16	22.99	112.58	665.91	632.94	32.98	20.194	0		

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

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Site Error: 0.00
Reference Well: Thistle Unit 157H
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Reference Wellbore: Wellbore #1
Reference Design: Plan 1

Local Co-ordinate Reference: Well Thistle Unit 157H
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Offset Design Dzurisin - Thistle Unit 152H - Wellbore #1 - Plan 1

Survey Program: 0-MWD

Offset Site Error: 0.00 ft

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				
7,100.00	7,089.73	7,048.23	7,014.08	16.36	23.42	112.34	677.68	644.25	33.43	20.269	0			
7,200.00	7,189.73	7,147.49	7,112.60	16.55	23.84	-67.96	689.14	655.22	33.92	20.316	0			
7,300.00	7,289.73	7,246.74	7,211.11	16.74	24.27	-68.34	700.46	666.11	34.35	20.392	0			
7,400.00	7,389.73	7,346.00	7,309.62	16.93	24.69	-68.70	711.81	677.03	34.78	20.465	0			
7,500.00	7,489.73	7,445.25	7,408.14	17.13	25.12	-69.05	723.19	687.98	35.21	20.537	0			
7,600.00	7,589.73	7,544.50	7,506.65	17.32	25.54	-69.39	734.60	698.95	35.65	20.608	0			
7,700.00	7,689.73	7,643.76	7,605.17	17.51	25.97	-69.72	746.03	709.95	36.08	20.678	0			
7,800.00	7,789.73	7,743.01	7,703.68	17.71	26.39	-70.04	757.48	720.97	36.51	20.747	0			
7,900.00	7,889.73	7,842.27	7,802.20	17.91	26.82	-70.35	768.96	732.01	36.94	20.815	0			
8,000.00	7,989.73	7,941.52	7,900.71	18.10	27.25	-70.65	780.45	743.08	37.38	20.881	0			
8,100.00	8,089.73	8,040.78	7,999.23	18.30	27.67	-70.94	791.97	754.16	37.81	20.947	0			
8,200.00	8,189.73	8,140.03	8,097.74	18.50	28.10	-71.22	803.51	765.27	38.24	21.011	0			
8,300.00	8,289.73	8,239.29	8,196.26	18.70	28.53	-71.50	815.06	776.39	38.68	21.074	0			
8,400.00	8,389.73	8,338.54	8,294.77	18.89	28.95	-71.77	826.64	787.53	39.11	21.136	0			
8,500.00	8,489.73	8,437.80	8,393.29	19.09	29.38	-72.03	838.23	798.69	39.55	21.197	0			
8,600.00	8,589.73	8,541.12	8,495.85	19.29	29.78	-72.29	849.75	809.78	39.97	21.258	0			
8,700.00	8,689.73	8,651.51	8,605.57	19.50	30.08	-72.54	860.26	819.89	40.37	21.310	0			
8,800.00	8,789.73	8,762.21	8,715.75	19.70	30.31	-72.75	869.50	828.75	40.75	21.339	0			
8,900.00	8,889.73	8,873.18	8,826.34	19.90	30.52	-72.93	877.46	836.33	41.13	21.336	0			
9,000.00	8,989.73	8,984.39	8,937.27	20.10	30.73	-73.07	884.13	842.62	41.51	21.300	0			
9,100.00	9,089.73	9,095.78	9,048.49	20.30	30.92	-73.19	889.50	847.61	41.89	21.233	0			
9,200.00	9,189.73	9,207.33	9,159.93	20.51	31.09	-73.28	893.58	851.30	42.28	21.135	0			
9,300.00	9,289.73	9,318.98	9,271.54	20.71	31.25	-73.34	896.35	853.68	42.67	21.008	0			
9,400.00	9,389.73	9,430.70	9,383.24	20.91	31.40	-73.37	897.81	854.76	43.06	20.852	0			
9,500.00	9,489.73	9,537.98	9,490.53	21.12	31.54	-73.38	898.07	854.62	43.45	20.669	0			
9,549.82	9,539.54	9,587.80	9,540.34	21.22	31.60	-73.38	898.07	854.42	43.64	20.577	0			
9,591.00	9,580.73	9,620.39	9,572.92	21.31	31.65	-73.36	898.18	854.39	43.79	20.511	0			
9,600.00	9,589.72	9,625.00	9,577.54	21.32	31.66	-72.88	898.26	854.49	43.77	20.523	0			
9,625.00	9,614.70	9,642.18	9,594.68	21.37	31.68	-72.85	898.38	854.53	43.85	20.489	0			
9,650.00	9,639.58	9,658.20	9,610.63	21.40	31.70	-72.86	898.37	854.47	43.90	20.464	0			
9,675.00	9,664.29	9,675.00	9,627.29	21.43	31.73	-72.90	898.22	854.29	43.93	20.447	0			
9,700.00	9,688.78	9,690.25	9,642.34	21.46	31.75	-72.97	897.93	854.00	43.93	20.440	0			
9,725.00	9,712.97	9,706.29	9,658.08	21.47	31.77	-73.07	897.52	853.60	43.91	20.438	0			
9,750.00	9,736.80	9,725.00	9,676.28	21.48	31.80	-73.23	896.97	853.09	43.88	20.442	0			
9,775.00	9,760.20	9,738.43	9,689.24	21.49	31.82	-73.38	896.29	852.47	43.83	20.451	0			
9,800.00	9,783.11	9,754.54	9,704.65	21.49	31.84	-73.59	895.49	851.73	43.76	20.461	0			
9,825.00	9,805.47	9,775.00	9,723.97	21.50	31.87	-73.87	894.59	850.89	43.70	20.472	0			
9,850.00	9,827.21	9,786.84	9,735.02	21.50	31.89	-74.10	893.54	849.91	43.63	20.481	0			
9,875.00	9,848.27	9,800.00	9,747.17	21.50	31.91	-74.37	892.41	848.85	43.56	20.487	0			
9,900.00	9,868.60	9,819.31	9,764.73	21.51	31.94	-74.74	891.16	847.66	43.50	20.486	0			
9,925.00	9,888.14	9,835.63	9,779.30	21.53	31.96	-75.10	889.83	846.38	43.45	20.477	0			
9,950.00	9,906.84	9,850.00	9,791.93	21.55	31.99	-75.46	888.42	845.00	43.42	20.460	0			
9,975.00	9,924.65	9,868.43	9,807.81	21.59	32.02	-75.92	886.92	843.50	43.42	20.427	0			
10,000.00	9,941.51	9,884.93	9,821.71	21.63	32.04	-76.37	885.37	841.93	43.44	20.381	0			
10,025.00	9,957.38	9,900.00	9,834.13	21.69	32.07	-76.82	883.76	840.27	43.49	20.322	0			
10,050.00	9,972.22	9,918.18	9,848.74	21.77	32.10	-77.35	882.10	838.52	43.58	20.242	0			
10,075.00	9,985.99	9,934.93	9,861.84	21.86	32.13	-77.87	880.41	836.71	43.70	20.146	0			
10,100.00	9,998.65	9,950.00	9,873.30	21.97	32.16	-78.39	878.71	834.85	43.86	20.036	0			
10,125.00	10,010.16	9,968.76	9,887.12	22.10	32.20	-79.00	876.99	832.92	44.07	19.900	0			
10,150.00	10,020.49	9,985.86	9,899.28	22.25	32.23	-79.60	875.28	830.96	44.32	19.750	0			
10,175.00	10,029.62	10,000.00	9,909.00	22.43	32.27	-80.14	873.60	829.01	44.58	19.594	0			
10,200.00	10,037.52	10,020.44	9,922.51	22.62	32.31	-80.84	871.93	826.99	44.93	19.404	0			
10,225.00	10,044.17	10,037.96	9,933.56	22.84	32.36	-81.50	870.32	825.01	45.30	19.210	0			
10,250.00	10,049.55	10,055.65	9,944.20	23.08	32.40	-82.16	868.76	823.05	45.71	19.005	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: Thistle Unit 157H
Well Error: 0.00
Reference Wellbore: Wellbore #1
Reference 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
Output errors are at 2.00 sigma
Database: EDM r5000 US Production
Offset TVD Reference: Offset Datum

Offset Design Dzurisin - Thistle Unit 152H - 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	
10,275.00	10,053.64	10,075.00	9,955.23	23.34	32.46	-82.88	867.29	821.12	46.17	18.786	0		
10,300.00	10,056.43	10,091.59	9,964.17	23.62	32.51	-83.53	865.90	819.27	46.63	18.569	0		
10,325.00	10,057.92	10,109.88	9,973.46	23.92	32.57	-84.24	864.61	817.48	47.14	18.343	0		
10,343.67	10,058.18	10,125.00	9,980.67	24.15	32.62	-84.81	863.73	816.19	47.54	18.167	0		
10,359.90	10,058.09	10,135.92	9,985.62	24.25	32.66	-85.14	863.04	815.28	47.76	18.070	0		
10,400.00	10,057.87	10,167.50	9,998.66	24.53	32.79	-86.01	861.75	813.36	48.38	17.811	0		
10,500.00	10,057.32	10,253.93	10,024.35	26.09	33.22	-87.75	860.31	809.28	51.03	16.859	0		
10,556.36	10,057.01	10,306.29	10,032.53	27.10	33.56	-88.32	860.17	807.36	52.81	16.289	0		
10,600.00	10,056.77	10,347.77	10,034.95	27.89	33.88	-88.49	860.23	805.98	54.25	15.857	0		
10,700.00	10,056.22	10,447.25	10,034.29	29.90	34.77	-88.48	860.55	802.74	57.81	14.887	0		
10,800.00	10,055.67	10,547.24	10,033.49	32.06	35.95	-88.47	860.87	798.97	61.90	13.908	0		
10,900.00	10,055.12	10,647.24	10,032.69	34.36	37.40	-88.45	861.19	794.90	66.30	12.990	0		
11,000.00	10,054.57	10,747.24	10,031.90	36.77	39.08	-88.44	861.52	790.57	70.95	12.143	0		
11,100.00	10,054.02	10,847.24	10,031.10	39.27	40.97	-88.42	861.84	786.04	75.80	11.370	0		
11,200.00	10,053.47	10,947.24	10,030.30	41.84	43.02	-88.41	862.17	781.35	80.82	10.668	0		
11,300.00	10,052.92	11,047.24	10,029.50	44.46	45.22	-88.39	862.49	776.52	85.97	10.032	0		
11,400.00	10,052.37	11,147.24	10,028.71	47.14	47.53	-88.37	862.82	771.57	91.24	9.456	0		
11,500.00	10,051.83	11,247.24	10,027.91	49.86	49.94	-88.36	863.14	766.53	96.61	8.935	0		
11,600.00	10,051.28	11,347.24	10,027.11	52.61	52.42	-88.34	863.46	761.41	102.05	8.461	0		
11,700.00	10,050.73	11,447.24	10,026.32	55.40	54.97	-88.33	863.79	756.22	107.56	8.030	0		
11,800.00	10,050.18	11,547.24	10,025.52	58.21	57.57	-88.31	864.11	750.98	113.13	7.638	0		
11,900.00	10,049.63	11,647.24	10,024.72	61.04	60.22	-88.30	864.44	745.68	118.75	7.279	0		
12,000.00	10,049.08	11,747.23	10,023.93	63.89	62.91	-88.28	864.76	740.34	124.42	6.950	0		
12,100.00	10,048.53	11,847.23	10,023.13	66.76	65.63	-88.26	865.09	734.97	130.12	6.648	0		
12,200.00	10,047.98	11,947.23	10,022.33	69.64	68.38	-88.25	865.41	729.56	135.85	6.370	0		
12,300.00	10,047.43	12,047.23	10,021.53	72.53	71.15	-88.23	865.74	724.12	141.61	6.113	0		
12,400.00	10,046.88	12,147.23	10,020.74	75.44	73.95	-88.22	866.06	718.66	147.40	5.876	0		
12,500.00	10,046.33	12,247.23	10,019.94	78.35	76.77	-88.20	866.39	713.18	153.21	5.655	0		
12,600.00	10,045.78	12,347.23	10,019.14	81.28	79.60	-88.19	866.71	707.67	159.04	5.450	0		
12,700.00	10,045.23	12,447.23	10,018.35	84.21	82.45	-88.17	867.04	702.15	164.89	5.258	0		
12,800.00	10,044.68	12,547.23	10,017.55	87.15	85.31	-88.15	867.36	696.61	170.75	5.080	0		
12,900.00	10,044.13	12,647.23	10,016.75	90.10	88.19	-88.14	867.69	691.06	176.63	4.913	0		
13,000.00	10,043.58	12,747.23	10,015.95	93.05	91.08	-88.12	868.01	685.50	182.52	4.756	0		
13,100.00	10,043.03	12,847.23	10,015.16	96.01	93.97	-88.11	868.34	679.92	188.42	4.609	0		
13,200.00	10,042.48	12,947.22	10,014.36	98.98	96.88	-88.09	868.66	674.33	194.33	4.470	0		
13,300.00	10,041.93	13,047.22	10,013.56	101.94	99.79	-88.08	868.99	668.74	200.25	4.339	0		
13,400.00	10,041.38	13,147.22	10,012.77	104.92	102.71	-88.06	869.31	663.13	206.18	4.216	0		
13,500.00	10,040.83	13,247.22	10,011.97	107.89	105.64	-88.04	869.64	657.52	212.12	4.100	0		
13,600.00	10,040.28	13,347.22	10,011.17	110.87	108.58	-88.03	869.97	651.90	218.07	3.989	0		
13,700.00	10,039.73	13,447.22	10,010.38	113.85	111.52	-88.01	870.29	646.27	224.02	3.885	0		
13,800.00	10,039.18	13,547.22	10,009.58	116.84	114.46	-88.00	870.62	640.64	229.98	3.786	0		
13,900.00	10,038.63	13,647.22	10,008.78	119.83	117.41	-87.98	870.94	635.00	235.95	3.691	0		
14,000.00	10,038.08	13,747.22	10,007.98	122.82	120.37	-87.97	871.27	629.35	241.92	3.602	0		
14,100.00	10,037.53	13,847.22	10,007.19	125.81	123.33	-87.95	871.59	623.70	247.89	3.516	0		
14,200.00	10,036.98	13,947.22	10,006.39	128.81	126.29	-87.94	871.92	618.05	253.87	3.435	0		
14,300.00	10,036.43	14,047.22	10,005.59	131.80	129.26	-87.92	872.25	612.39	259.86	3.357	0		
14,400.00	10,035.88	14,147.22	10,004.80	134.80	132.23	-87.90	872.57	606.73	265.84	3.282	0		
14,500.00	10,035.33	14,247.21	10,004.00	137.81	135.20	-87.89	872.90	601.06	271.83	3.211	0		
14,600.00	10,034.78	14,347.21	10,003.20	140.81	138.18	-87.87	873.23	595.40	277.83	3.143	0		
14,700.00	10,034.23	14,447.21	10,002.41	143.81	141.16	-87.86	873.55	589.72	283.83	3.078	0		
14,800.00	10,033.68	14,547.21	10,001.61	146.82	144.14	-87.84	873.88	584.05	289.83	3.015	0		
14,900.00	10,033.13	14,647.21	10,000.81	149.82	147.12	-87.83	874.21	578.37	295.83	2.955	0		
15,000.00	10,032.58	14,747.21	10,000.01	152.83	150.11	-87.81	874.53	572.69	301.84	2.897	0		
15,100.00	10,032.03	14,847.21	9,999.22	155.84	153.10	-87.80	874.86	567.01	307.85	2.842	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: Thistle Unit 157H
Well Error: 0.00
Reference Wellbore: Wellbore #1
Reference 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
Output errors are at 2.00 sigma
Database: EDM r5000 US Production
Offset TVD Reference: Offset Datum

Offset Design Dzurisin - Thistle Unit 152H - 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	Risk Separation Factor	Probability of Collision	
15,200.00	10,031.48	14,947.21	9,998.42	158.85	156.09	-87.78	875.19	561.32	313.86	2.788	0		
15,300.00	10,030.93	15,047.21	9,997.62	161.87	159.08	-87.77	875.51	555.64	319.87	2.737	0		
15,400.00	10,030.38	15,147.21	9,996.83	164.88	162.07	-87.75	875.84	549.95	325.89	2.688	0		
15,500.00	10,029.83	15,247.21	9,996.03	167.89	165.07	-87.74	876.17	544.26	331.91	2.640	0		
15,600.00	10,029.28	15,347.21	9,995.23	170.91	168.07	-87.72	876.49	538.57	337.93	2.594	0		
15,700.00	10,028.73	15,447.20	9,994.43	173.92	171.07	-87.70	876.82	532.87	343.95	2.549	0		
15,800.00	10,028.18	15,547.20	9,993.64	176.94	174.07	-87.69	877.15	527.18	349.97	2.506	0		
15,900.00	10,027.63	15,647.20	9,992.84	179.96	177.07	-87.67	877.47	521.48	356.00	2.465	0		
16,000.00	10,027.08	15,747.20	9,992.04	182.97	180.07	-87.66	877.80	515.78	362.02	2.425	0		
16,100.00	10,026.53	15,847.20	9,991.25	185.99	183.07	-87.64	878.13	510.08	368.05	2.386	0		
16,200.00	10,025.98	15,947.20	9,990.45	189.01	186.08	-87.63	878.46	504.38	374.08	2.348	0		
16,300.00	10,025.43	16,047.20	9,989.65	192.03	189.09	-87.61	878.78	498.68	380.11	2.312	0		
16,400.00	10,024.88	16,147.20	9,988.86	195.05	192.09	-87.60	879.11	492.97	386.14	2.277	0		
16,500.00	10,024.33	16,247.20	9,988.06	198.07	195.10	-87.58	879.44	487.27	392.17	2.242	0		
16,600.00	10,023.78	16,347.20	9,987.26	201.10	198.11	-87.57	879.77	481.56	398.20	2.209	0		
16,700.00	10,023.23	16,447.20	9,986.46	204.12	201.12	-87.55	880.09	475.86	404.24	2.177	0		
16,800.00	10,022.68	16,547.20	9,985.67	207.14	204.13	-87.54	880.42	470.15	410.27	2.146	0		
16,900.00	10,022.13	16,647.20	9,984.87	210.16	207.15	-87.52	880.75	464.44	416.31	2.116	0		
17,000.00	10,021.58	16,747.19	9,984.07	213.19	210.16	-87.51	881.08	458.73	422.34	2.086	0		
17,100.00	10,021.03	16,847.19	9,983.28	216.21	213.17	-87.49	881.40	453.02	428.38	2.058	0		
17,200.00	10,020.48	16,947.19	9,982.48	219.24	216.19	-87.48	881.73	447.31	434.42	2.030	0		
17,300.00	10,019.93	17,047.19	9,981.68	222.26	219.20	-87.46	882.06	441.60	440.46	2.003	0		
17,400.00	10,019.38	17,147.19	9,980.89	225.29	222.22	-87.45	882.39	435.89	446.50	1.976	0		
17,500.00	10,018.84	17,247.19	9,980.09	228.31	225.23	-87.43	882.72	430.18	452.54	1.951	0		
17,600.00	10,018.29	17,347.19	9,979.29	231.34	228.25	-87.42	883.04	424.47	458.58	1.926	0		
17,700.00	10,017.74	17,447.19	9,978.49	234.36	231.27	-87.40	883.37	418.76	464.62	1.901	0		
17,800.00	10,017.19	17,547.19	9,977.70	237.39	234.29	-87.39	883.70	413.04	470.66	1.878	0		
17,900.00	10,016.64	17,647.19	9,976.90	240.42	237.30	-87.37	884.03	407.33	476.70	1.854	0		
18,000.00	10,016.09	17,747.19	9,976.10	243.45	240.32	-87.36	884.36	401.61	482.74	1.832	0		
18,100.00	10,015.54	17,847.19	9,975.31	246.47	243.34	-87.34	884.69	395.90	488.79	1.810	0		
18,200.00	10,014.99	17,947.18	9,974.51	249.50	246.36	-87.33	885.02	390.18	494.83	1.789	0		
18,300.00	10,014.44	18,047.18	9,973.71	252.53	249.38	-87.31	885.34	384.47	500.88	1.768	0		
18,400.00	10,013.89	18,147.18	9,972.92	255.56	252.41	-87.30	885.67	378.75	506.92	1.747	0		
18,500.00	10,013.34	18,247.18	9,972.12	258.59	255.43	-87.28	886.00	373.04	512.97	1.727	0		
18,600.00	10,012.79	18,347.18	9,971.32	261.62	258.45	-87.27	886.33	367.32	519.01	1.708	0		
18,700.00	10,012.24	18,447.18	9,970.52	264.65	261.47	-87.25	886.66	361.60	525.06	1.689	0		
18,800.00	10,011.69	18,547.18	9,969.73	267.68	264.49	-87.24	886.99	355.89	531.10	1.670	0		
18,900.00	10,011.14	18,647.18	9,968.93	270.71	267.52	-87.22	887.32	350.17	537.15	1.652	0		
19,000.00	10,010.59	18,747.18	9,968.13	273.74	270.54	-87.21	887.65	344.45	543.19	1.634	0		
19,100.00	10,010.04	18,847.18	9,967.34	276.77	273.57	-87.19	887.98	338.73	549.24	1.617	0		
19,200.00	10,009.49	18,947.18	9,966.54	279.80	276.59	-87.18	888.30	333.02	555.29	1.600	0		
19,300.00	10,008.94	19,047.18	9,965.74	282.83	279.61	-87.16	888.63	327.30	561.34	1.583	0		
19,400.00	10,008.39	19,147.17	9,964.94	285.86	282.64	-87.15	888.96	321.58	567.38	1.567	0		
19,500.00	10,007.84	19,247.17	9,964.15	288.89	285.66	-87.13	889.29	315.86	573.43	1.551	0		
19,600.00	10,007.29	19,347.17	9,963.35	291.92	288.69	-87.12	889.62	310.14	579.48	1.535	0		
19,700.00	10,006.74	19,447.17	9,962.55	294.95	291.72	-87.10	889.95	304.42	585.53	1.520	0		
19,800.00	10,006.19	19,547.17	9,961.76	297.98	294.74	-87.09	890.28	298.71	591.57	1.505	0		
19,900.00	10,005.64	19,647.17	9,960.96	301.02	297.77	-87.07	890.61	292.99	597.62	1.490	0		Level 3
19,999.11	10,005.09	19,746.31	9,960.17	304.02	300.73	-87.06	890.94	287.35	603.58	1.476	0		Level 3
20,016.05	10,005.00	19,763.27	9,960.03	304.53	301.23	-87.05	890.99	286.41	604.58	1.474	0		Level 3, 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: Thistle Unit 157H
Well Error: 0.00
Reference Wellbore: Wellbore #1
Reference 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
Output errors are at 2.00 sigma
Database: EDM r5000 US Production
Offset TVD Reference: Offset Datum

Offset Design Dzurisin - Thistle Unit 153H - 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	Risk Factor	Probability of Collision	
0.00	0.00	0.00	0.00	0.00	0.00	-0.44	29.97				0		
100.00	100.00	100.00	100.00	0.09	0.09	-0.44	29.97	29.80	0.17	174.304	0		
200.00	200.00	200.00	200.00	0.31	0.31	-0.44	29.97	29.35	0.62	48.225	0		
300.00	300.00	300.00	300.00	0.54	0.54	-0.44	29.97	28.90	1.07	27.984	0		
400.00	400.00	400.00	400.00	0.76	0.76	-0.44	29.97	28.45	1.52	19.711	0		
500.00	500.00	500.00	500.00	0.99	0.99	-0.44	29.97	28.00	1.97	15.213	0		
600.00	600.00	600.00	600.00	1.21	1.21	-0.44	29.97	27.55	2.42	12.387	0		
700.00	700.00	700.00	700.00	1.43	1.43	-0.44	29.97	27.10	2.87	10.446	0		
800.00	800.00	800.00	800.00	1.66	1.66	-0.44	29.97	26.65	3.32	9.031	0		
900.00	900.00	900.00	900.00	1.88	1.88	-0.44	29.97	26.20	3.77	7.954	0		
1,000.00	1,000.00	1,000.00	1,000.00	2.11	2.11	-0.44	29.97	25.75	4.22	7.106	0		
1,100.00	1,100.00	1,100.00	1,100.00	2.33	2.33	-0.44	29.97	25.30	4.67	6.422	0		
1,200.00	1,200.00	1,200.00	1,200.00	2.56	2.56	-0.44	29.97	24.85	5.12	5.857	0		
1,300.00	1,300.00	1,300.00	1,300.00	2.78	2.78	-0.44	29.97	24.40	5.57	5.384	0		
1,400.00	1,400.00	1,400.00	1,400.00	3.01	3.01	-0.44	29.97	23.96	6.02	4.982	0		
1,500.00	1,500.00	1,500.00	1,500.00	3.23	3.23	-0.44	29.97	23.51	6.47	4.636	0		
1,600.00	1,600.00	1,600.00	1,600.00	3.46	3.46	-0.44	29.97	23.06	6.91	4.334	0		
1,700.00	1,700.00	1,700.00	1,700.00	3.68	3.68	-0.44	29.97	22.61	7.36	4.070	0		
1,800.00	1,800.00	1,800.00	1,800.00	3.91	3.91	-0.44	29.97	22.16	7.81	3.836	0		
1,900.00	1,900.00	1,900.00	1,900.00	4.13	4.13	-0.44	29.97	21.71	8.26	3.627	0		
2,000.00	2,000.00	2,000.00	2,000.00	4.36	4.36	-0.44	29.97	21.26	8.71	3.440	0		
2,100.00	2,100.00	2,100.00	2,100.00	4.58	4.58	-0.44	29.97	20.81	9.16	3.271	0		
2,200.00	2,200.00	2,200.00	2,200.00	4.81	4.81	-0.44	29.97	20.36	9.61	3.118	0		
2,300.00	2,300.00	2,300.00	2,300.00	5.03	5.03	-0.44	29.97	19.91	10.06	2.979	0		
2,400.00	2,400.00	2,400.00	2,400.00	5.26	5.26	-0.44	29.97	19.46	10.51	2.851	0		
2,500.00	2,500.00	2,500.00	2,500.00	5.48	5.48	-0.44	29.97	19.01	10.96	2.734	0		
2,600.00	2,600.00	2,600.00	2,600.00	5.71	5.71	-0.44	29.97	18.56	11.41	2.627	0		
2,700.00	2,700.00	2,700.00	2,700.00	5.93	5.93	-0.44	29.97	18.11	11.86	2.527	0		
2,800.00	2,800.00	2,800.00	2,800.00	6.15	6.15	-0.44	29.97	17.66	12.31	2.435	0		
2,900.00	2,900.00	2,900.00	2,900.00	6.38	6.38	-0.44	29.97	17.21	12.76	2.349	0		
3,000.00	3,000.00	3,000.00	3,000.00	6.60	6.60	-0.44	29.97	16.76	13.21	2.269	0		
3,100.00	3,100.00	3,100.00	3,100.00	6.83	6.83	-0.44	29.97	16.31	13.66	2.194	0		
3,200.00	3,200.00	3,200.00	3,200.00	7.05	7.05	-0.44	29.97	15.86	14.11	2.124	0		
3,300.00	3,300.00	3,300.00	3,300.00	7.28	7.28	-0.44	29.97	15.41	14.56	2.059	0		
3,400.00	3,400.00	3,400.00	3,400.00	7.50	7.50	-0.44	29.97	14.96	15.01	1.997	0		
3,500.00	3,500.00	3,500.00	3,500.00	7.73	7.73	-0.44	29.97	14.51	15.46	1.939	0		CC, ES, SF
3,600.00	3,600.00	3,600.00	3,600.00	7.92	7.95	179.57	30.84	14.97	15.87	1.943	0		
3,700.00	3,699.96	3,699.96	3,699.96	8.09	8.18	179.61	33.46	17.20	16.26	2.058	0		
3,800.00	3,799.86	3,799.86	3,799.86	8.26	8.40	179.65	37.82	21.18	16.65	2.272	0		
3,900.00	3,899.68	3,899.68	3,899.68	8.44	8.63	179.70	43.93	26.90	17.03	2.580	0		
4,000.00	3,999.37	3,999.37	3,999.37	8.61	8.85	179.74	51.77	34.36	17.41	2.974	0		
4,100.00	4,098.99	4,098.99	4,098.99	8.80	9.07	179.78	60.49	42.68	17.81	3.396	0		
4,200.00	4,198.60	4,198.60	4,198.60	9.00	9.30	179.81	69.20	50.99	18.22	3.799	0		
4,300.00	4,298.22	4,298.22	4,298.22	9.21	9.52	179.83	77.92	59.30	18.62	4.184	0		
4,400.00	4,397.84	4,397.84	4,397.84	9.43	9.75	179.85	86.64	67.60	19.03	4.552	0		
4,500.00	4,497.46	4,497.46	4,497.46	9.66	9.97	179.86	95.35	75.91	19.44	4.904	0		
4,600.00	4,597.08	4,597.08	4,597.08	9.89	10.19	179.87	104.07	84.21	19.86	5.241	0		
4,700.00	4,696.70	4,696.70	4,696.70	10.14	10.42	179.88	112.78	92.51	20.27	5.564	0		
4,800.00	4,796.32	4,796.32	4,796.32	10.39	10.64	179.89	121.50	100.81	20.69	5.873	0		
4,900.00	4,895.94	4,895.94	4,895.94	10.64	10.87	179.90	130.21	109.11	21.11	6.169	0		
5,000.00	4,995.56	4,995.56	4,995.56	10.90	11.09	179.90	138.93	117.40	21.53	6.454	0		
5,100.00	5,095.18	5,095.18	5,095.18	11.17	11.31	179.91	147.64	125.70	21.95	6.727	0		
5,200.00	5,194.80	5,194.80	5,194.80	11.44	11.54	179.92	156.36	133.99	22.37	6.989	0		
5,300.00	5,294.42	5,294.42	5,294.42	11.71	11.76	179.92	165.08	142.28	22.79	7.242	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: Thistle Unit 157H
Well Error: 0.00
Reference Wellbore: Wellbore #1
Reference 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
Output errors are at 2.00 sigma
Database: EDM r5000 US Production
Offset TVD Reference: Offset Datum

Offset Design Dzurisin - Thistle Unit 153H - 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				Minimum Separation (ft)	Separation Factor	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)						
5,400.00	5,394.04	5,394.04	5,394.04	11.99	11.99	179.92	173.79	150.57	23.22	7.484	0			
5,500.00	5,493.66	5,493.66	5,493.66	12.28	12.21	179.93	182.51	158.86	23.65	7.718	0			
5,600.00	5,593.28	5,593.28	5,593.28	12.56	12.43	179.93	191.22	167.15	24.08	7.943	0			
5,700.00	5,692.90	5,692.90	5,692.90	12.86	12.66	179.93	199.94	175.43	24.50	8.159	0			
5,800.00	5,792.52	5,792.52	5,792.52	13.15	12.88	179.94	208.65	183.72	24.93	8.368	0			
5,900.00	5,892.14	5,892.14	5,892.14	13.45	13.10	179.94	217.37	192.00	25.36	8.570	0			
6,000.00	5,991.76	5,991.76	5,991.76	13.75	13.33	179.94	226.08	200.29	25.80	8.764	0			
6,100.00	6,091.37	6,091.37	6,091.37	14.05	13.55	179.94	234.80	208.57	26.23	8.952	0			
6,200.00	6,190.99	6,190.99	6,190.99	14.35	13.78	179.95	243.52	216.85	26.66	9.133	0			
6,300.00	6,290.65	6,290.65	6,290.65	14.62	14.00	179.95	251.80	224.68	27.11	9.287	0			
6,400.00	6,390.38	6,390.38	6,390.38	14.85	14.22	179.95	259.21	231.64	27.57	9.403	0			
6,500.00	6,490.16	6,490.16	6,490.16	15.08	14.45	179.95	265.75	237.73	28.02	9.485	0			
6,600.00	6,590.00	6,590.00	6,590.00	15.30	14.67	179.95	271.42	242.95	28.47	9.534	0			
6,700.00	6,689.88	6,689.88	6,689.88	15.53	14.90	179.95	276.21	247.30	28.92	9.552	0			
6,800.00	6,789.81	6,789.81	6,789.81	15.74	15.12	179.95	280.14	250.78	29.36	9.541	0			
6,900.00	6,889.76	6,889.76	6,889.76	15.95	15.35	179.95	283.19	253.39	29.81	9.501	0			
7,000.00	6,989.74	6,989.74	6,989.74	16.16	15.57	179.95	285.38	255.13	30.25	9.435	0			
7,100.00	7,089.73	7,089.73	7,089.73	16.36	15.80	179.95	286.68	256.00	30.69	9.342	0			
7,200.00	7,189.73	7,189.73	7,189.73	16.55	16.02	-0.05	287.12	256.00	31.12	9.227	0			
7,300.00	7,289.73	7,289.73	7,289.73	16.74	16.25	-0.05	287.12	255.57	31.55	9.101	0			
7,400.00	7,389.73	7,389.73	7,389.73	16.93	16.47	-0.05	287.12	255.13	31.99	8.976	0			
7,500.00	7,489.73	7,489.73	7,489.73	17.13	16.70	-0.05	287.12	254.69	32.43	8.854	0			
7,600.00	7,589.73	7,589.73	7,589.73	17.32	16.92	-0.05	287.12	254.25	32.87	8.736	0			
7,700.00	7,689.73	7,689.73	7,689.73	17.51	17.15	-0.05	287.12	253.82	33.31	8.621	0			
7,800.00	7,789.73	7,789.73	7,789.73	17.71	17.37	-0.05	287.12	253.37	33.75	8.508	0			
7,900.00	7,889.73	7,889.73	7,889.73	17.91	17.59	-0.05	287.12	252.93	34.19	8.399	0			
8,000.00	7,989.73	7,989.73	7,989.73	18.10	17.82	-0.05	287.12	252.49	34.63	8.292	0			
8,100.00	8,089.73	8,089.73	8,089.73	18.30	18.04	-0.05	287.12	252.05	35.07	8.188	0			
8,200.00	8,189.73	8,189.73	8,189.73	18.50	18.27	-0.05	287.12	251.61	35.51	8.086	0			
8,300.00	8,289.73	8,289.73	8,289.73	18.70	18.49	-0.05	287.12	251.17	35.95	7.987	0			
8,400.00	8,389.73	8,389.73	8,389.73	18.89	18.72	-0.05	287.12	250.73	36.39	7.890	0			
8,500.00	8,489.73	8,489.73	8,489.73	19.09	18.94	-0.05	287.12	250.29	36.83	7.795	0			
8,600.00	8,589.73	8,589.73	8,589.73	19.29	19.17	-0.05	287.12	249.85	37.28	7.703	0			
8,700.00	8,689.73	8,689.73	8,689.73	19.50	19.39	-0.05	287.12	249.40	37.72	7.612	0			
8,800.00	8,789.73	8,789.73	8,789.73	19.70	19.62	-0.05	287.12	248.96	38.16	7.524	0			
8,900.00	8,889.73	8,889.73	8,889.73	19.90	19.84	-0.05	287.12	248.52	38.60	7.438	0			
9,000.00	8,989.73	8,989.73	8,989.73	20.10	20.07	-0.05	287.12	248.08	39.04	7.354	0			
9,100.00	9,089.73	9,089.73	9,089.73	20.30	20.29	-0.05	287.12	247.63	39.49	7.271	0			
9,166.08	9,155.81	9,155.81	9,155.81	20.44	20.44	-0.05	287.12	247.34	39.78	7.218	0			
9,200.00	9,189.73	9,188.00	9,188.00	20.51	20.51	-0.05	287.13	247.20	39.93	7.191	0			
9,300.00	9,289.73	9,250.00	9,249.83	20.71	20.65	-0.05	293.86	253.58	40.29	7.295	0			
9,400.00	9,389.73	9,311.17	9,309.81	20.91	20.79	-0.07	313.28	272.64	40.64	7.708	0			
9,500.00	9,489.73	9,367.46	9,363.27	21.12	20.92	-0.09	344.50	303.52	40.98	8.406	0			
9,591.00	9,580.73	9,414.56	9,406.15	21.31	21.01	-0.11	382.08	340.80	41.28	9.255	0			
9,600.00	9,589.72	9,419.01	9,410.10	21.32	21.02	0.34	386.16	344.86	41.30	9.350	0			
9,625.00	9,614.70	9,431.36	9,420.96	21.37	21.05	0.33	397.07	355.77	41.30	9.613	0			
9,650.00	9,639.58	9,443.72	9,431.67	21.40	21.07	0.32	407.38	366.14	41.24	9.879	0			
9,675.00	9,664.29	9,456.09	9,442.22	21.43	21.10	0.31	417.09	375.99	41.10	10.147	0			
9,700.00	9,688.78	9,468.45	9,452.60	21.46	21.12	0.30	426.18	385.28	40.90	10.420	0			
9,725.00	9,712.97	9,475.00	9,458.03	21.47	21.13	0.29	434.73	394.11	40.62	10.701	0			
9,750.00	9,736.80	9,493.19	9,472.83	21.48	21.19	0.28	442.51	402.20	40.30	10.979	0			
9,775.00	9,760.20	9,500.00	9,478.27	21.49	21.21	0.27	449.79	409.89	39.90	11.272	0			
9,800.00	9,783.11	9,517.94	9,492.30	21.49	21.28	0.27	456.31	416.85	39.46	11.563	0			
9,825.00	9,805.47	9,525.00	9,497.71	21.50	21.30	0.26	462.32	423.36	38.95	11.869	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: Thistle Unit 157H
Well Error: 0.00
Reference Wellbore: Wellbore #1
Reference 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
Output errors are at 2.00 sigma
Database: EDM r5000 US Production
Offset TVD Reference: Offset Datum

Offset Design Dzurisin - Thistle Unit 153H - 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	Vertical	Measured	Vertical	Reference	Offset	Highside	Between	Between	Minimum	Separation	Risked		Probability	
Depth (ft)	Depth (ft)	Depth (ft)	Depth (ft)	(ft)	(ft)	Toolface (°)	Centres (ft)	Ellipses (ft)	Separation (ft)	Factor	Separation Factor		of Collision	
9,850.00	9,827.21	9,542.69	9,510.96	21.50	21.37	0.26	467.56	429.15	38.41	12.173	0			
9,875.00	9,848.27	9,550.00	9,516.30	21.50	21.40	0.25	472.26	434.46	37.80	12.493	0			
9,900.00	9,868.60	9,567.45	9,528.75	21.51	21.48	0.25	476.21	439.04	37.17	12.811	0			
9,925.00	9,888.14	9,575.00	9,534.00	21.53	21.52	0.25	479.61	443.11	36.49	13.143	0			
9,950.00	9,906.84	9,592.21	9,545.63	21.55	21.61	0.24	482.25	446.45	35.80	13.471	0			
9,975.00	9,924.65	9,600.00	9,550.74	21.59	21.65	0.24	484.33	449.26	35.07	13.810	0			
10,000.00	9,941.51	9,616.98	9,561.55	21.63	21.75	0.24	485.66	451.32	34.35	14.141	0			
10,025.00	9,957.38	9,625.00	9,566.49	21.69	21.80	0.24	486.42	452.82	33.60	14.477	0			
10,050.00	9,972.22	9,641.74	9,576.47	21.77	21.91	0.24	486.43	453.56	32.87	14.799	0			
10,075.00	9,985.99	9,650.00	9,581.21	21.86	21.96	0.24	485.86	453.72	32.14	15.116	0			
10,100.00	9,998.65	9,666.51	9,590.34	21.97	22.09	0.24	484.56	453.11	31.45	15.408	0			
10,125.00	10,010.16	9,675.00	9,594.84	22.10	22.15	0.24	482.67	451.89	30.78	15.682	0			
10,150.00	10,020.49	9,691.27	9,603.12	22.25	22.28	0.24	480.05	449.89	30.16	15.915	0			
10,175.00	10,029.62	9,700.00	9,607.37	22.43	22.35	0.25	476.84	447.25	29.59	16.113	0			
10,200.00	10,037.52	9,716.04	9,614.79	22.62	22.50	0.25	472.92	443.82	29.10	16.252	0			
10,225.00	10,044.17	9,725.00	9,618.74	22.84	22.58	0.25	468.40	439.73	28.67	16.337	0			
10,250.00	10,049.55	9,740.79	9,625.31	23.08	22.74	0.26	463.18	434.85	28.34	16.346	0			
10,275.00	10,053.64	9,750.00	9,628.93	23.34	22.83	0.26	457.37	429.28	28.09	16.285	0			
10,300.00	10,056.43	9,765.54	9,634.66	23.62	23.00	0.27	450.87	422.93	27.94	16.137	0			
10,325.00	10,057.92	9,775.00	9,637.91	23.92	23.10	0.27	443.78	415.88	27.89	15.911	0			
10,343.67	10,058.18	9,787.15	9,641.83	24.15	23.24	0.28	438.03	410.10	27.93	15.684	0			
10,359.90	10,058.09	9,800.00	9,645.66	24.25	23.39	0.28	433.08	405.12	27.97	15.485	0			
10,400.00	10,057.87	9,815.55	9,649.85	24.53	23.58	0.28	421.83	393.78	28.05	15.038	0			
10,500.00	10,057.32	9,868.14	9,660.36	26.09	24.28	0.29	401.25	372.95	28.30	14.179	0			
10,600.00	10,056.77	9,925.00	9,665.29	27.89	25.13	0.29	391.78	363.19	28.60	13.701	0			
10,636.96	10,056.57	9,943.29	9,665.44	28.63	25.42	0.29	391.15	362.44	28.72	13.622	0			
10,700.00	10,056.22	10,006.32	9,664.86	29.90	26.49	0.29	391.38	362.41	28.98	13.507	0			
10,800.00	10,055.67	10,106.32	9,663.95	32.06	28.37	0.28	391.74	362.29	29.45	13.303	0			
10,900.00	10,055.12	10,206.32	9,663.04	34.36	30.43	0.28	392.10	362.12	29.98	13.077	0			
11,000.00	10,054.57	10,306.32	9,662.13	36.77	32.65	0.28	392.46	361.88	30.58	12.833	0			
11,100.00	10,054.02	10,406.32	9,661.22	39.27	34.99	0.27	392.82	361.59	31.24	12.575	0			
11,200.00	10,053.47	10,506.32	9,660.31	41.84	37.43	0.27	393.18	361.24	31.95	12.307	0			
11,300.00	10,052.92	10,606.32	9,659.40	44.46	39.95	0.27	393.54	360.84	32.71	12.032	0			
11,400.00	10,052.37	10,706.32	9,658.49	47.14	42.54	0.26	393.91	360.39	33.52	11.753	0			
11,500.00	10,051.83	10,806.32	9,657.58	49.86	45.19	0.26	394.27	359.90	34.37	11.472	0			
11,600.00	10,051.28	10,906.31	9,656.67	52.61	47.88	0.26	394.63	359.37	35.26	11.192	0			
11,700.00	10,050.73	11,006.31	9,655.76	55.40	50.62	0.25	394.99	358.80	36.19	10.914	0			
11,800.00	10,050.18	11,106.31	9,654.85	58.21	53.38	0.25	395.35	358.19	37.15	10.641	0			
11,900.00	10,049.63	11,206.31	9,653.94	61.04	56.18	0.25	395.71	357.56	38.15	10.372	0			
12,000.00	10,049.08	11,306.31	9,653.03	63.89	59.00	0.24	396.07	356.89	39.18	10.109	0			
12,100.00	10,048.53	11,406.31	9,652.12	66.76	61.84	0.24	396.43	356.20	40.23	9.853	0			
12,200.00	10,047.98	11,506.31	9,651.21	69.64	64.69	0.24	396.79	355.48	41.31	9.605	0			
12,300.00	10,047.43	11,606.31	9,650.29	72.53	67.57	0.24	397.15	354.74	42.42	9.363	0			
12,400.00	10,046.88	11,706.31	9,649.38	75.44	70.46	0.23	397.51	353.97	43.54	9.130	0			
12,500.00	10,046.33	11,806.31	9,648.47	78.35	73.36	0.23	397.87	353.19	44.68	8.904	0			
12,600.00	10,045.78	11,906.31	9,647.56	81.28	76.27	0.23	398.23	352.39	45.85	8.686	0			
12,700.00	10,045.23	12,006.31	9,646.65	84.21	79.19	0.22	398.59	351.57	47.03	8.476	0			
12,800.00	10,044.68	12,106.31	9,645.74	87.15	82.12	0.22	398.95	350.73	48.22	8.273	0			
12,900.00	10,044.13	12,206.31	9,644.83	90.10	85.05	0.22	399.32	349.88	49.43	8.078	0			
13,000.00	10,043.58	12,306.31	9,643.92	93.05	88.00	0.21	399.68	349.02	50.66	7.890	0			
13,100.00	10,043.03	12,406.31	9,643.01	96.01	90.95	0.21	400.04	348.14	51.89	7.709	0			
13,200.00	10,042.48	12,506.30	9,642.10	98.98	93.90	0.21	400.40	347.25	53.14	7.534	0			
13,300.00	10,041.93	12,606.30	9,641.19	101.94	96.86	0.20	400.76	346.36	54.40	7.367	0			
13,400.00	10,041.38	12,706.30	9,640.28	104.92	99.83	0.20	401.12	345.45	55.67	7.205	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: Thistle Unit 157H
Well Error: 0.00
Reference Wellbore: Wellbore #1
Reference 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
Output errors are at 2.00 sigma
Database: EDM r5000 US Production
Offset TVD Reference: Offset Datum

Offset Design Dzurisin - Thistle Unit 153H - 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	
13,500.00	10,040.83	12,806.30	9,639.37	107.89	102.80	0.20	401.48	344.53	56.95	7.050	0		
13,600.00	10,040.28	12,906.30	9,638.46	110.87	105.77	0.19	401.84	343.60	58.24	6.900	0		
13,700.00	10,039.73	13,006.30	9,637.55	113.85	108.75	0.19	402.20	342.67	59.53	6.756	0		
13,800.00	10,039.18	13,106.30	9,636.64	116.84	111.73	0.19	402.56	341.72	60.84	6.617	0		
13,900.00	10,038.63	13,206.30	9,635.73	119.83	114.72	0.18	402.92	340.77	62.15	6.483	0		
14,000.00	10,038.08	13,306.30	9,634.82	122.82	117.70	0.18	403.28	339.81	63.47	6.354	0		
14,100.00	10,037.53	13,406.30	9,633.90	125.81	120.69	0.18	403.64	338.85	64.79	6.230	0		
14,200.00	10,036.98	13,506.30	9,632.99	128.81	123.68	0.17	404.00	337.88	66.12	6.110	0		
14,300.00	10,036.43	13,606.30	9,632.08	131.80	126.68	0.17	404.36	336.91	67.46	5.994	0		
14,400.00	10,035.88	13,706.30	9,631.17	134.80	129.68	0.17	404.73	335.93	68.80	5.883	0		
14,500.00	10,035.33	13,806.30	9,630.26	137.81	132.67	0.16	405.09	334.94	70.15	5.775	0		
14,600.00	10,034.78	13,906.30	9,629.35	140.81	135.67	0.16	405.45	333.95	71.50	5.671	0		
14,700.00	10,034.23	14,006.29	9,628.44	143.81	138.68	0.16	405.81	332.95	72.85	5.570	0		
14,800.00	10,033.68	14,106.29	9,627.53	146.82	141.68	0.16	406.17	331.95	74.21	5.473	0		
14,900.00	10,033.13	14,206.29	9,626.62	149.82	144.68	0.15	406.53	330.95	75.58	5.379	0		
15,000.00	10,032.58	14,306.29	9,625.71	152.83	147.69	0.15	406.89	329.94	76.95	5.288	0		
15,100.00	10,032.03	14,406.29	9,624.80	155.84	150.70	0.15	407.25	328.93	78.32	5.200	0		
15,200.00	10,031.48	14,506.29	9,623.89	158.85	153.71	0.14	407.61	327.92	79.69	5.115	0		
15,300.00	10,030.93	14,606.29	9,622.98	161.87	156.72	0.14	407.97	326.90	81.07	5.032	0		
15,400.00	10,030.38	14,706.29	9,622.07	164.88	159.73	0.14	408.33	325.88	82.45	4.952	0		
15,500.00	10,029.83	14,806.29	9,621.16	167.89	162.74	0.13	408.69	324.86	83.83	4.875	0		
15,600.00	10,029.28	14,906.29	9,620.25	170.91	165.76	0.13	409.05	323.83	85.22	4.800	0		
15,700.00	10,028.73	15,006.29	9,619.34	173.92	168.77	0.13	409.41	322.80	86.61	4.727	0		
15,800.00	10,028.18	15,106.29	9,618.42	176.94	171.78	0.12	409.78	321.77	88.00	4.656	0		
15,900.00	10,027.63	15,206.29	9,617.51	179.96	174.80	0.12	410.14	320.74	89.40	4.588	0		
16,000.00	10,027.08	15,306.29	9,616.60	182.97	177.82	0.12	410.50	319.70	90.79	4.521	0		
16,100.00	10,026.53	15,406.29	9,615.69	185.99	180.84	0.12	410.86	318.67	92.19	4.457	0		
16,200.00	10,025.98	15,506.28	9,614.78	189.01	183.85	0.11	411.22	317.63	93.59	4.394	0		
16,300.00	10,025.43	15,606.28	9,613.87	192.03	186.87	0.11	411.58	316.58	94.99	4.333	0		
16,400.00	10,024.88	15,706.28	9,612.96	195.05	189.89	0.11	411.94	315.54	96.40	4.273	0		
16,500.00	10,024.33	15,806.28	9,612.05	198.07	192.91	0.10	412.30	314.49	97.81	4.216	0		
16,600.00	10,023.78	15,906.28	9,611.14	201.10	195.93	0.10	412.66	313.45	99.21	4.159	0		
16,700.00	10,023.23	16,006.28	9,610.23	204.12	198.96	0.10	413.02	312.40	100.62	4.105	0		
16,800.00	10,022.68	16,106.28	9,609.32	207.14	201.98	0.09	413.38	311.35	102.03	4.051	0		
16,900.00	10,022.13	16,206.28	9,608.41	210.16	205.00	0.09	413.74	310.30	103.45	4.000	0		
17,000.00	10,021.58	16,306.28	9,607.50	213.19	208.02	0.09	414.10	309.24	104.86	3.949	0		
17,100.00	10,021.03	16,406.28	9,606.59	216.21	211.05	0.09	414.46	308.19	106.28	3.900	0		
17,200.00	10,020.48	16,506.28	9,605.68	219.24	214.07	0.08	414.83	307.13	107.70	3.852	0		
17,300.00	10,019.93	16,606.28	9,604.77	222.26	217.10	0.08	415.19	306.07	109.11	3.805	0		
17,400.00	10,019.38	16,706.28	9,603.86	225.29	220.12	0.08	415.55	305.01	110.53	3.759	0		
17,500.00	10,018.84	16,806.28	9,602.95	228.31	223.15	0.07	415.91	303.95	111.95	3.715	0		
17,600.00	10,018.29	16,906.28	9,602.03	231.34	226.17	0.07	416.27	302.89	113.38	3.672	0		
17,700.00	10,017.74	17,006.28	9,601.12	234.36	229.20	0.07	416.63	301.83	114.80	3.629	0		
17,800.00	10,017.19	17,106.27	9,600.21	237.39	232.22	0.06	416.99	300.76	116.22	3.588	0		
17,900.00	10,016.64	17,206.27	9,599.30	240.42	235.25	0.06	417.35	299.70	117.65	3.547	0		
18,000.00	10,016.09	17,306.27	9,598.39	243.45	238.28	0.06	417.71	298.63	119.08	3.508	0		
18,100.00	10,015.54	17,406.27	9,597.48	246.47	241.30	0.06	418.07	297.57	120.50	3.469	0		
18,200.00	10,014.99	17,506.27	9,596.57	249.50	244.33	0.05	418.43	296.50	121.93	3.432	0		
18,300.00	10,014.44	17,606.27	9,595.66	252.53	247.36	0.05	418.79	295.43	123.36	3.395	0		
18,400.00	10,013.89	17,706.27	9,594.75	255.56	250.39	0.05	419.15	294.36	124.79	3.359	0		
18,500.00	10,013.34	17,806.27	9,593.84	258.59	253.42	0.04	419.51	293.29	126.22	3.324	0		
18,600.00	10,012.79	17,906.27	9,592.93	261.62	256.45	0.04	419.88	292.22	127.65	3.289	0		
18,700.00	10,012.24	18,006.27	9,592.02	264.65	259.47	0.04	420.24	291.15	129.09	3.255	0		
18,800.00	10,011.69	18,106.27	9,591.11	267.68	262.50	0.03	420.60	290.08	130.52	3.222	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: Thistle Unit 157H
Well Error: 0.00
Reference Wellbore: Wellbore #1
Reference 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
Output errors are at 2.00 sigma
Database: EDM r5000 US Production
Offset TVD Reference: Offset Datum

Offset Design													Dzurisin - Thistle Unit 153H - 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						
18,900.00	10,011.14	18,206.27	9,590.20	270.71	265.53	0.03	420.96	289.00	131.95	3.190	0							
19,000.00	10,010.59	18,306.27	9,589.29	273.74	268.56	0.03	421.32	287.93	133.39	3.159	0							
19,100.00	10,010.04	18,406.27	9,588.38	276.77	271.59	0.03	421.68	286.85	134.82	3.128	0							
19,200.00	10,009.49	18,506.27	9,587.47	279.80	274.62	0.02	422.04	285.78	136.26	3.097	0							
19,300.00	10,008.94	18,606.26	9,586.56	282.83	277.65	0.02	422.40	284.70	137.70	3.068	0							
19,400.00	10,008.39	18,706.26	9,585.64	285.86	280.68	0.02	422.76	283.63	139.13	3.038	0							
19,500.00	10,007.84	18,806.26	9,584.73	288.89	283.72	0.01	423.12	282.55	140.57	3.010	0							
19,600.00	10,007.29	18,906.26	9,583.82	291.92	286.75	0.01	423.48	281.47	142.01	2.982	0							
19,700.00	10,006.74	19,006.26	9,582.91	294.95	289.78	0.01	423.84	280.39	143.45	2.955	0							
19,800.00	10,006.19	19,106.26	9,582.00	297.98	292.81	0.01	424.20	279.31	144.89	2.928	0							
19,900.00	10,005.64	19,206.26	9,581.09	301.02	295.84	0.00	424.56	278.23	146.33	2.901	0							
19,999.11	10,005.09	19,305.37	9,580.19	304.02	298.76	0.00	424.92	277.16	147.76	2.876	0							
20,016.05	10,005.00	19,322.32	9,580.04	304.53	299.05	0.00	424.98	276.98	148.00	2.871	0							

Devon Energy
Anticollision Risk Report

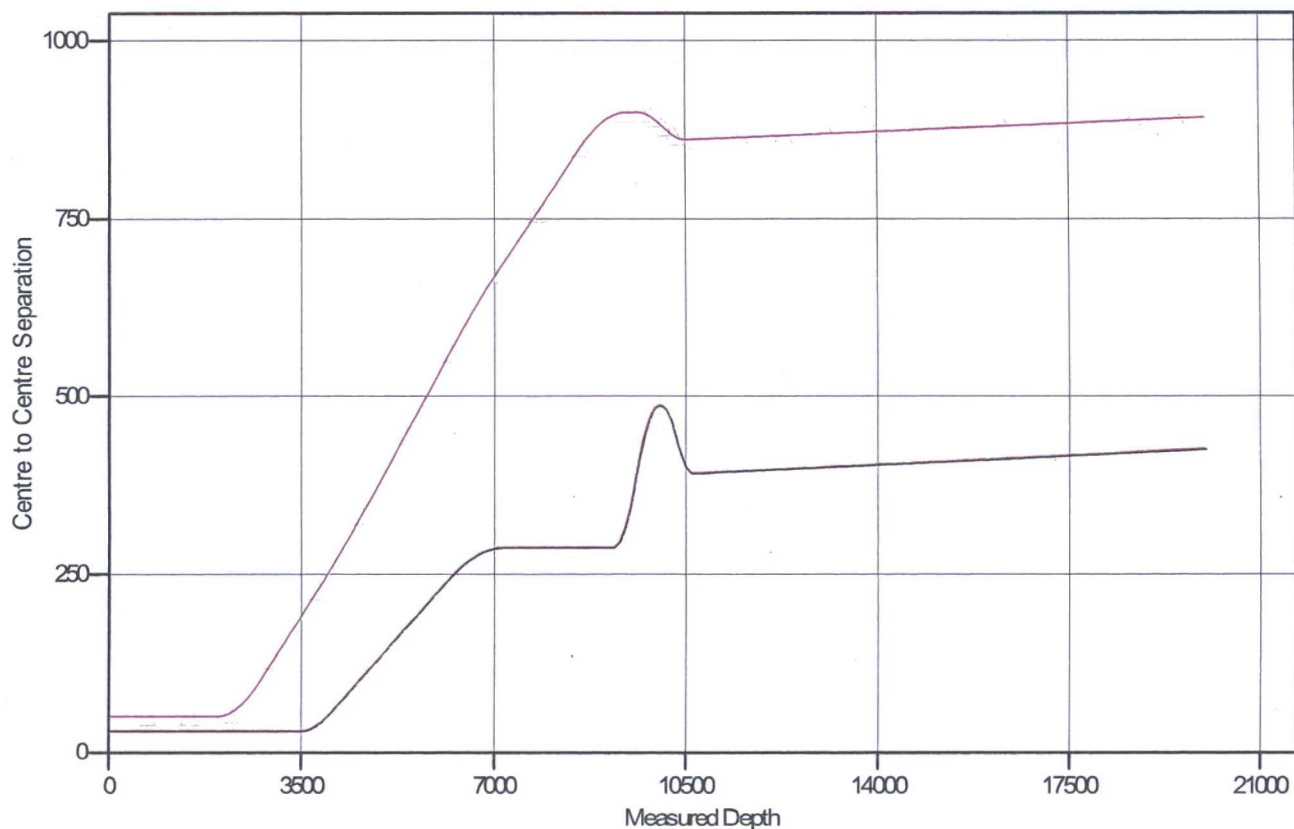
Company: WESTERN DIVISION
Project: PBNM
Reference Site: Dzurisin
Site Error: 0.00
Reference Well: Thistle Unit 157H
Well Error: 0.00
Reference Wellbore: Wellbore #1
Reference Design: Plan 1

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
Output errors are at 2.00 sigma
Database: EDM r5000 US Production
Offset TVD Reference: Offset Datum

Reference Depths are relative to 1 @ 3684.20ft
Offset Depths are relative to Offset Datum
Central Meridian is

Coordinates are relative to: Thistle Unit 157H
Coordinate System is Flat Earth, No Conversions
Grid Convergence at Surface is: 0.00°

Ladder Plot



LEGEND

▲ Thistle Unit 152H, Wellbore #1, Plan 1 V0 ✖ Thistle Unit 153H, Wellbore #1, Plan 1 V0

Devon Energy
Anticollision Risk Report

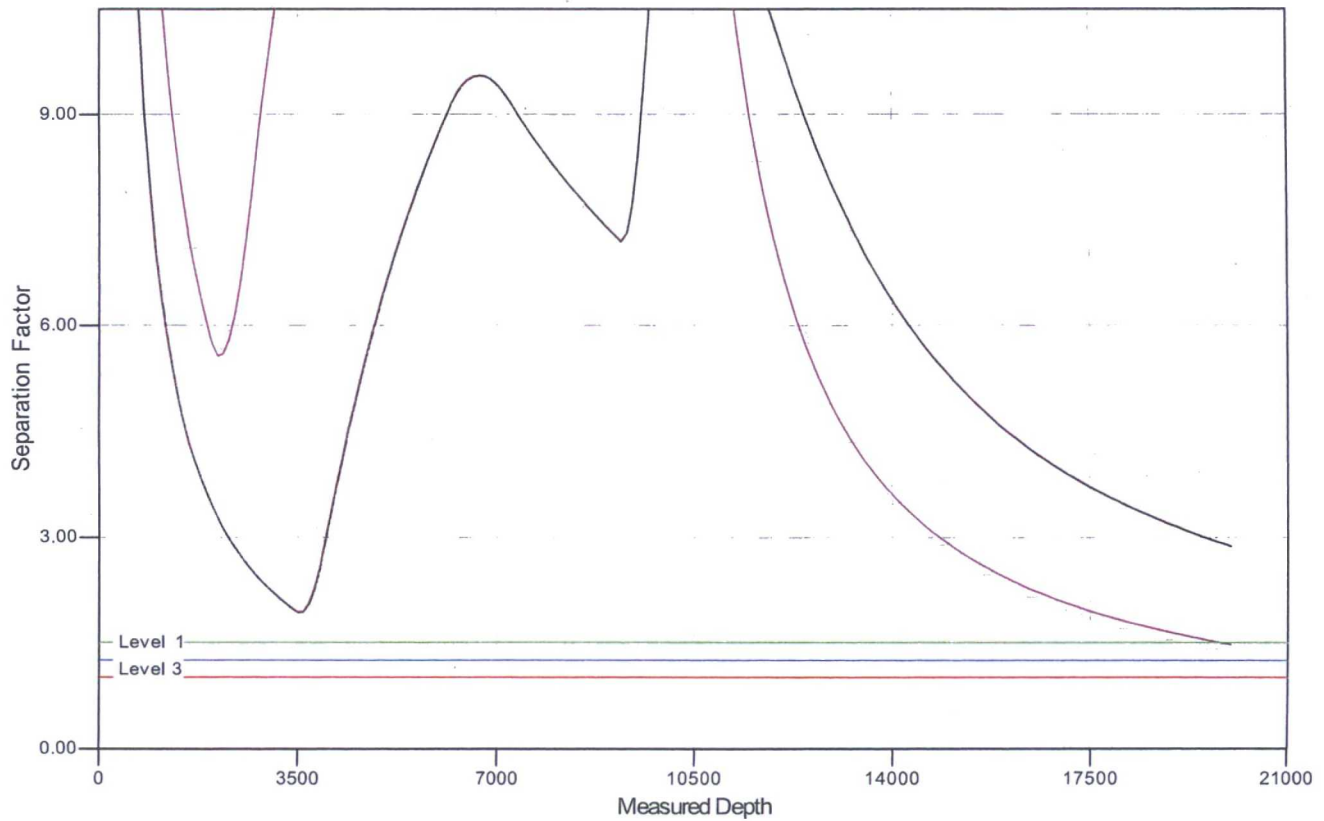
Company: WESTERN DIVISION
Project: PBNM
Reference Site: Dzurisin
Site Error: 0.00
Reference Well: Thistle Unit 157H
Well Error: 0.00
Reference Wellbore: Wellbore #1
Reference Design: Plan 1

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
Output errors are at: 2.00 sigma
Database: EDM r5000 US Production
Offset TVD Reference: Offset Datum

Reference Depths are relative to 1 @ 3684.20ft
Offset Depths are relative to Offset Datum
Central Meridian is

Coordinates are relative to: Thistle Unit 157H
Coordinate System is Flat Earth, No Conversions
Grid Convergence at Surface is: 0.00°

Separation Factor Plot



LEGEND

▲ Thistle Unit 152H, Wellbore #1, Plan 1 V0 ✖ Thistle Unit 153H, Wellbore #1, Plan 1 V0