

Devon Energy

Anticollision Risk Report

Company:	WESTERN DIVISION	Local Co-ordinate Reference:	Well Thistle Unit 121H
Project:	PBNM	TVD Reference:	1 @ 3746.90ft
Reference Site:	Dzurisin	MD Reference:	1 @ 3746.90ft
Site Error:	0.00	North Reference:	Grid
Reference Well:	Thistle Unit 121H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000 US Production
Reference Design:	Plan 1	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)	Tool Name	Description
0.00	17,625.14	Plan 1 (Wellbore #1)	MWD	MWD - Standard

Summary		Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Site Name							
Offset Well - Wellbore - Design							
Dzurisin							
Thistle Unit 105H - Wellbore #1 - Plan 1		3,500.01	3,500.51	29.95	14.49	1.938 CC	
Thistle Unit 105H - Wellbore #1 - Plan 1		3,600.00	3,600.50	30.25	14.36	1.904 ES, SF	
Thistle Unit 108H - Wellbore #1 - Plan 1		3,466.63	3,466.73	63.59	48.28	4.154 CC	
Thistle Unit 108H - Wellbore #1 - Plan 1		3,500.00	3,500.00	63.59	48.13	4.114 ES	
Thistle Unit 108H - Wellbore #1 - Plan 1		17,626.12	17,144.06	970.39	541.95	2.265 SF	
Thistle Unit 119H - Wellbore #1 - Plan 1		3,500.00	3,499.00	50.02	34.57	3,237 CC, ES	
Thistle Unit 119H - Wellbore #1 - Plan 1		17,626.12	17,620.43	889.89	422.71	1.905 SF	

Offset Design													Dzurisin - Thistle Unit 105H - Wellbore #1 - Plan 1		Offset Site Error:	0.00 ft
Survey Program: 0-MWD															Offset Well Error:	0.00 ft
Reference Depth (ft)	Vertical Depth (ft)	Offset Depth (ft)	Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (")	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Risked Separation Factor	Probability of Collision	Warning			
0.00	0.00	0.50	0.50	0.00	0.00	179.52	29.95									
100.00	100.00	100.50	100.50	0.09	0.09	179.52	29.95	29.78	0.17	173.058	0					
200.00	200.00	200.50	200.50	0.31	0.31	179.52	29.95	29.33	0.62	48.106	0					
300.00	300.00	300.50	300.50	0.54	0.54	179.52	29.95	28.88	1.07	27.936	0					
400.00	400.00	400.50	400.50	0.76	0.76	179.52	29.95	28.43	1.52	19.683	0					
500.00	500.00	500.50	500.50	0.99	0.99	179.52	29.95	27.98	1.97	15.194	0					
600.00	600.00	600.50	600.50	1.21	1.21	179.52	29.95	27.53	2.42	12.373	0					
700.00	700.00	700.50	700.50	1.43	1.44	179.52	29.95	27.08	2.87	10.435	0					
800.00	800.00	800.50	800.50	1.66	1.66	179.52	29.95	26.63	3.32	9.022	0					
900.00	900.00	900.50	900.50	1.88	1.89	179.52	29.95	26.18	3.77	7.946	0					
1,000.00	1,000.00	1,000.50	1,000.50	2.11	2.11	179.52	29.95	25.73	4.22	7.099	0					
1,100.00	1,100.00	1,100.50	1,100.50	2.33	2.33	179.52	29.95	25.28	4.67	6.416	0					
1,200.00	1,200.00	1,200.50	1,200.50	2.56	2.56	179.52	29.95	24.83	5.12	5.852	0					
1,300.00	1,300.00	1,300.50	1,300.50	2.78	2.78	179.52	29.95	24.38	5.57	5.380	0					
1,400.00	1,400.00	1,400.50	1,400.50	3.01	3.01	179.52	29.95	23.93	6.02	4.978	0					
1,500.00	1,500.00	1,500.50	1,500.50	3.23	3.23	179.52	29.95	23.48	6.47	4.632	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 121H
Well Error: 0.00
Reference Wellbore: Wellbore #1
Reference Design: Plan 1

Local Co-ordinate Reference: Well Thistle Unit 121H
TVD Reference: 1 @ 3746.90ft
MD Reference: 1 @ 3746.90ft
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													Offset Site Error: 0.00 ft			
Survey Program: 0-MWD		Dzurisin - Thistle Unit 105H - Wellbore #1 - Plan 1													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				
1,600.00	1,600.00	1,600.50	1,600.50	3.46	3.46	179.52	29.95	23.04	6.92	4.331	0					
1,700.00	1,700.00	1,700.50	1,700.50	3.68	3.68	179.52	29.95	22.59	7.37	4.066	0					
1,800.00	1,800.00	1,800.50	1,800.50	3.91	3.91	179.52	29.95	22.14	7.82	3.832	0					
1,900.00	1,900.00	1,900.50	1,900.50	4.13	4.13	179.52	29.95	21.69	8.26	3.624	0					
2,000.00	2,000.00	2,000.50	2,000.50	4.36	4.36	179.52	29.95	21.24	8.71	3.437	0					
2,100.00	2,100.00	2,100.50	2,100.50	4.58	4.58	179.52	29.95	20.79	9.16	3.268	0					
2,200.00	2,200.00	2,200.50	2,200.50	4.81	4.81	179.52	29.95	20.34	9.61	3.116	0					
2,300.00	2,300.00	2,300.50	2,300.50	5.03	5.03	179.52	29.95	19.89	10.06	2.976	0					
2,400.00	2,400.00	2,400.50	2,400.50	5.26	5.26	179.52	29.95	19.44	10.51	2.849	0					
2,500.00	2,500.00	2,500.50	2,500.50	5.48	5.48	179.52	29.95	18.99	10.96	2.732	0					
2,600.00	2,600.00	2,600.50	2,600.50	5.71	5.71	179.52	29.95	18.54	11.41	2.625	0					
2,700.00	2,700.00	2,700.50	2,700.50	5.93	5.93	179.52	29.95	18.09	11.86	2.525	0					
2,800.00	2,800.00	2,800.50	2,800.50	6.15	6.16	179.52	29.95	17.64	12.31	2.433	0					
2,900.00	2,900.00	2,900.50	2,900.50	6.38	6.38	179.52	29.95	17.19	12.76	2.347	0					
3,000.00	3,000.00	3,000.50	3,000.50	6.60	6.61	179.52	29.95	16.74	13.21	2.267	0					
3,100.00	3,100.00	3,100.50	3,100.50	6.83	6.83	179.52	29.95	16.29	13.66	2.193	0					
3,200.00	3,200.00	3,200.50	3,200.50	7.05	7.05	179.52	29.95	15.84	14.11	2.123	0					
3,300.00	3,300.00	3,300.50	3,300.50	7.28	7.28	179.52	29.95	15.39	14.56	2.057	0					
3,400.00	3,400.00	3,400.50	3,400.50	7.50	7.50	179.52	29.95	14.94	15.01	1.996	0					
3,500.00	3,500.00	3,500.50	3,500.50	7.73	7.73	179.52	29.95	14.49	15.46	1.938	0					
3,500.01	3,500.01	3,500.51	3,500.51	7.73	7.73	179.52	29.95	14.49	15.46	1.938	0					
3,600.00	3,600.00	3,600.50	3,600.50	7.94	7.94	-110.35	30.25	14.36	15.88	1.904	0		CC			
3,700.00	3,699.96	3,700.50	3,700.46	8.16	8.14	-110.03	31.14	14.85	16.30	1.911	0		ES, SF			
3,800.00	3,799.86	3,800.49	3,800.35	8.37	8.35	-109.54	32.64	15.92	16.72	1.952	0					
3,900.00	3,899.68	3,900.46	3,900.13	8.59	8.56	-108.92	34.73	17.58	17.15	2.025	0					
4,000.00	3,999.37	4,000.41	3,999.77	8.82	8.79	-108.24	37.42	19.81	17.61	2.125	0					
4,100.00	4,098.99	4,100.36	4,099.34	9.06	9.03	-107.62	40.42	22.34	18.09	2.235	0					
4,200.00	4,198.60	4,200.31	4,198.92	9.31	9.27	-107.09	43.42	24.85	18.57	2.338	0					
4,300.00	4,298.22	4,300.27	4,298.49	9.56	9.52	-106.63	46.43	27.35	19.08	2.434	0					
4,400.00	4,397.84	4,400.22	4,398.06	9.82	9.77	-106.22	49.43	29.85	19.59	2.524	0					
4,500.00	4,497.46	4,500.18	4,497.64	10.09	10.04	-105.86	52.44	32.33	20.11	2.608	0					
4,600.00	4,597.08	4,600.13	4,597.21	10.36	10.30	-105.54	55.46	34.81	20.64	2.686	0					
4,700.00	4,696.70	4,700.08	4,696.79	10.63	10.57	-105.25	58.47	37.28	21.19	2.760	0					
4,800.00	4,796.32	4,800.04	4,796.36	10.91	10.85	-104.99	61.48	39.75	21.73	2.829	0					
4,900.00	4,895.94	4,899.99	4,895.93	11.19	11.13	-104.75	64.50	42.21	22.29	2.893	0					
5,000.00	4,995.56	4,999.95	4,995.51	11.47	11.41	-104.54	67.51	44.66	22.86	2.954	0					
5,100.00	5,095.18	5,099.90	5,095.08	11.76	11.70	-104.34	70.53	47.10	23.43	3.011	0					
5,200.00	5,194.80	5,199.86	5,194.66	12.05	11.99	-104.16	73.55	49.55	24.00	3.064	0					
5,300.00	5,294.42	5,299.81	5,294.23	12.34	12.28	-104.00	76.57	51.98	24.59	3.114	0					
5,400.00	5,394.04	5,399.76	5,393.80	12.64	12.58	-103.84	79.59	54.41	25.17	3.162	0					
5,500.00	5,493.66	5,499.72	5,493.38	12.93	12.87	-103.70	82.61	56.84	25.77	3.206	0					
5,600.00	5,593.28	5,599.67	5,592.95	13.23	13.18	-103.57	85.63	59.26	26.36	3.248	0					
5,700.00	5,692.90	5,699.63	5,692.52	13.54	13.48	-103.45	88.65	61.68	26.96	3.288	0					
5,800.00	5,792.52	5,799.58	5,792.10	13.84	13.78	-103.33	91.67	64.10	27.57	3.325	0					
5,900.00	5,892.14	5,899.54	5,891.67	14.15	14.09	-103.22	94.69	66.51	28.18	3.360	0					
6,000.00	5,991.76	5,999.49	5,991.25	14.46	14.40	-103.12	97.71	68.92	28.79	3.394	0					
6,100.00	6,091.37	6,099.44	6,090.82	14.77	14.71	-103.03	100.74	71.33	29.41	3.426	0					
6,200.00	6,190.99	6,199.40	6,190.39	15.08	15.02	-102.94	103.76	73.73	30.03	3.456	0					
6,300.00	6,290.61	6,299.35	6,289.97	15.39	15.34	-102.85	106.78	76.13	30.65	3.484	0					
6,400.00	6,390.23	6,399.31	6,389.54	15.70	15.65	-102.77	109.80	78.53	31.27	3.511	0					
6,500.00	6,489.85	6,499.26	6,489.12	16.02	15.97	-102.70	112.83	80.93	31.90	3.537	0					
6,600.00	6,589.47	6,599.21	6,588.69	16.34	16.29	-102.63	115.85	83.32	32.53	3.562	0					
6,700.00	6,689.09	6,699.17	6,688.26	16.65	16.61	-102.56	118.87	85.71	33.16	3.585	0					
6,800.00	6,788.71	6,799.12	6,787.84	16.97	16.93	-102.50	121.90	88.10	33.79	3.607	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 121H
Well Error: 0.00
Reference Wellbore: Wellbore #1
Reference Design: Plan 1

Local Co-ordinate Reference: Well Thistle Unit 121H
TVD Reference: 1 @ 3746.90ft
MD Reference: 1 @ 3746.90ft
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 105H - 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	Riskd Separation Factor	Probability of Collision		
6,900.00	6,888.33	6,899.08	6,887.41	17.29	17.25	-102.43	124.92	90.49	34.43	3.628	0			
7,000.00	6,987.95	6,999.03	6,986.98	17.61	17.57	-102.38	127.94	92.88	35.07	3.649	0			
7,100.00	7,087.57	7,098.99	7,086.56	17.93	17.89	-102.32	130.97	95.26	35.71	3.668	0			
7,200.00	7,187.19	7,198.94	7,186.13	18.25	18.22	-102.27	133.99	97.64	36.35	3.686	0			
7,300.00	7,286.81	7,298.89	7,285.71	18.58	18.54	-102.22	137.02	100.03	36.99	3.704	0			
7,400.00	7,386.43	7,398.85	7,385.28	18.90	18.87	-102.17	140.04	102.41	37.63	3.721	0			
7,500.00	7,486.05	7,498.80	7,484.85	19.23	19.20	-102.12	143.06	104.78	38.28	3.737	0			
7,600.00	7,585.67	7,598.76	7,584.43	19.55	19.52	-102.08	146.09	107.16	38.93	3.753	0			
7,700.00	7,685.29	7,698.71	7,684.00	19.88	19.85	-102.03	149.11	109.54	39.58	3.768	0			
7,800.00	7,784.91	7,798.66	7,783.58	20.20	20.18	-101.99	152.14	111.91	40.23	3.782	0			
7,900.00	7,884.53	7,898.62	7,883.15	20.53	20.51	-101.95	155.16	114.29	40.88	3.796	0			
8,000.00	7,984.14	7,998.57	7,982.72	20.86	20.84	-101.91	158.19	116.66	41.53	3.809	0			
8,100.00	8,083.80	8,098.72	8,082.53	21.12	21.11	-101.89	161.06	119.01	42.06	3.830	0			
8,200.00	8,183.53	8,198.89	8,182.42	21.32	21.30	-101.87	163.64	121.18	42.46	3.854	0			
8,300.00	8,283.31	8,299.07	8,282.38	21.52	21.50	-101.85	165.91	123.06	42.85	3.872	0			
8,400.00	8,383.15	8,399.25	8,382.40	21.71	21.69	-101.83	167.88	124.64	43.23	3.883	0			
8,500.00	8,483.03	8,499.45	8,482.48	21.90	21.88	-101.82	169.54	125.93	43.61	3.888	0			
8,600.00	8,582.96	8,599.65	8,582.61	22.08	22.07	-101.81	170.91	126.93	43.98	3.886	0			
8,700.00	8,682.91	8,699.86	8,682.77	22.26	22.25	-101.81	171.97	127.63	44.34	3.879	0			
8,800.00	8,782.89	8,800.07	8,782.96	22.43	22.42	-101.80	172.72	128.04	44.68	3.865	0			
8,900.00	8,882.88	8,900.29	8,883.16	22.60	22.59	-101.80	173.18	128.16	45.02	3.847	0			
9,000.00	8,982.88	9,000.50	8,983.38	22.76	22.75	-171.80	173.33	127.98	45.34	3.823	0			
9,100.00	9,082.88	9,100.50	9,083.38	22.93	22.92	-171.80	173.33	127.64	45.69	3.794	0			
9,200.00	9,182.88	9,200.50	9,183.38	23.12	23.11	-171.80	173.33	127.26	46.07	3.762	0			
9,236.49	9,219.36	9,236.99	9,219.86	23.19	23.18	-171.80	173.33	127.12	46.21	3.751	0			
9,300.00	9,282.88	9,287.88	9,270.72	23.31	23.27	-171.86	175.05	128.63	46.42	3.771	0			
9,400.00	9,382.88	9,359.69	9,341.68	23.51	23.39	-172.32	189.73	143.01	46.72	4.061	0			
9,500.00	9,482.88	9,425.00	9,404.18	23.70	23.51	-173.01	218.57	171.58	46.99	4.651	0			
9,578.00	9,560.88	9,475.00	9,449.96	23.85	23.61	-173.62	249.85	202.65	47.20	5.293	0			
9,600.00	9,582.87	9,487.84	9,461.36	23.89	23.64	5.77	259.48	212.27	47.20	5.497	0			
9,625.00	9,607.80	9,500.00	9,472.01	23.92	23.67	5.51	269.98	222.86	47.12	5.730	0			
9,650.00	9,632.60	9,517.00	9,486.63	23.95	23.71	5.23	279.96	233.01	46.95	5.963	0			
9,675.00	9,657.21	9,531.50	9,498.85	23.98	23.74	5.01	289.45	242.76	46.69	6.200	0			
9,700.00	9,681.55	9,550.00	9,514.09	24.00	23.79	4.79	298.49	252.14	46.35	6.441	0			
9,725.00	9,705.56	9,560.35	9,522.44	24.02	23.82	4.64	306.91	261.00	45.91	6.685	0			
9,750.00	9,729.18	9,575.00	9,534.02	24.04	23.86	4.48	314.86	269.47	45.39	6.936	0			
9,775.00	9,752.33	9,589.05	9,544.86	24.06	23.90	4.34	322.28	277.48	44.80	7.193	0			
9,800.00	9,774.96	9,600.00	9,553.13	24.07	23.93	4.23	329.20	285.07	44.13	7.459	0			
9,825.00	9,797.01	9,617.61	9,566.07	24.08	23.99	4.11	335.52	292.12	43.40	7.731	0			
9,850.00	9,818.40	9,631.86	9,576.21	24.09	24.04	4.01	341.33	298.72	42.60	8.012	0			
9,875.00	9,839.09	9,650.00	9,588.69	24.10	24.11	3.91	346.62	304.87	41.75	8.302	0			
9,900.00	9,859.02	9,660.27	9,595.53	24.12	24.15	3.85	351.29	310.45	40.84	8.602	0			
9,925.00	9,878.13	9,675.00	9,605.04	24.13	24.21	3.78	355.44	315.55	39.89	8.910	0			
9,950.00	9,896.37	9,688.62	9,613.52	24.14	24.27	3.73	359.03	320.12	38.91	9.228	0			
9,975.00	9,913.69	9,700.00	9,620.38	24.16	24.32	3.69	362.07	324.18	37.89	9.555	0			
10,000.00	9,930.04	9,716.91	9,630.16	24.18	24.41	3.64	364.52	327.65	36.87	9.886	0			
10,025.00	9,945.38	9,731.04	9,637.96	24.20	24.49	3.61	366.42	330.58	35.84	10.223	0			
10,050.00	9,959.67	9,750.00	9,647.86	24.23	24.60	3.59	367.81	332.98	34.83	10.561	0			
10,075.00	9,972.86	9,759.28	9,652.48	24.27	24.65	3.57	368.52	334.69	33.83	10.895	0			
10,100.00	9,984.93	9,775.00	9,659.93	24.31	24.76	3.56	368.72	335.85	32.87	11.219	0			
10,125.00	9,995.83	9,787.52	9,665.54	24.37	24.85	3.56	368.34	336.39	31.96	11.526	0			
10,150.00	10,005.54	9,800.00	9,670.83	24.45	24.94	3.57	367.41	336.29	31.12	11.808	0			
10,175.00	10,014.04	9,815.77	9,677.10	24.54	25.06	3.58	365.89	335.53	30.36	12.051	0			
10,200.00	10,021.29	9,825.00	9,680.54	24.66	25.14	3.60	363.88	334.17	29.70	12.251	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 121H
Well Error: 0.00
Reference Wellbore: Wellbore #1
Reference Design: Plan 1

Local Co-ordinate Reference: Well Thistle Unit 121H
TVD Reference: 1 @ 3746.90ft
MD Reference: 1 @ 3746.90ft
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 105H - 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	
10,225.00	10,027.27	9,844.05	9,687.13	24.80	25.30	3.63	361.18	332.01	29.17	12.381	0		
10,250.00	10,031.98	9,858.20	9,691.55	24.98	25.44	3.67	357.98	329.21	28.76	12.445	0		
10,275.00	10,035.40	9,875.00	9,696.29	25.18	25.60	3.72	354.23	325.72	28.50	12.427	0		
10,300.00	10,037.52	9,886.55	9,699.21	25.42	25.72	3.77	349.89	321.50	28.39	12.326	0		
10,321.50	10,038.30	9,900.00	9,702.27	25.65	25.87	3.82	345.73	317.32	28.41	12.167	0		
10,343.33	10,038.59	9,911.24	9,704.55	25.86	26.00	3.84	341.58	313.11	28.47	11.997	0		
10,400.00	10,039.37	9,944.13	9,709.72	26.43	26.40	3.88	333.44	304.81	28.63	11.647	0		
10,488.53	10,040.58	9,996.41	9,713.30	27.75	27.11	3.88	328.57	299.66	28.91	11.366	0		
10,500.00	10,040.73	10,004.04	9,713.34	27.93	27.22	3.88	328.64	299.70	28.95	11.353	0		
10,600.00	10,042.10	10,104.03	9,713.55	29.71	28.82	3.81	329.78	300.39	29.39	11.222	0		
10,700.00	10,043.46	10,204.02	9,713.76	31.71	30.67	3.74	330.91	301.02	29.89	11.070	0		
10,800.00	10,044.83	10,304.01	9,713.96	33.87	32.71	3.68	332.05	301.59	30.46	10.900	0		
10,900.00	10,046.19	10,404.00	9,714.17	36.16	34.91	3.61	333.19	302.09	31.09	10.715	0		
11,000.00	10,047.56	10,504.00	9,714.37	38.56	37.24	3.55	334.33	302.54	31.78	10.519	0		
11,100.00	10,048.92	10,603.99	9,714.58	41.04	39.67	3.48	335.46	302.94	32.52	10.315	0		
11,200.00	10,050.29	10,703.98	9,714.79	43.60	42.18	3.42	336.60	303.29	33.31	10.104	0		
11,300.00	10,051.65	10,803.98	9,714.99	46.22	44.75	3.35	337.74	303.59	34.15	9.891	0		
11,400.00	10,053.02	10,903.97	9,715.20	48.88	47.39	3.29	338.88	303.86	35.02	9.676	0		
11,500.00	10,054.38	11,003.96	9,715.40	51.59	50.07	3.22	340.02	304.08	35.94	9.461	0		
11,600.00	10,055.75	11,103.95	9,715.61	54.33	52.79	3.16	341.16	304.27	36.89	9.249	0		
11,700.00	10,057.12	11,203.95	9,715.81	57.10	55.54	3.10	342.30	304.43	37.87	9.039	0		
11,800.00	10,058.48	11,303.94	9,716.02	59.90	58.33	3.03	343.44	304.56	38.88	8.833	0		
11,900.00	10,059.85	11,403.93	9,716.22	62.72	61.13	2.97	344.58	304.66	39.92	8.632	0		
12,000.00	10,061.21	11,503.93	9,716.43	65.56	63.96	2.91	345.73	304.74	40.98	8.436	0		
12,100.00	10,062.58	11,603.92	9,716.64	68.42	66.81	2.85	346.87	304.80	42.07	8.245	0		
12,200.00	10,063.94	11,703.91	9,716.84	71.29	69.67	2.79	348.01	304.83	43.18	8.060	0		
12,300.00	10,065.31	11,803.90	9,717.05	74.18	72.55	2.73	349.15	304.85	44.31	7.880	0		
12,400.00	10,066.67	11,903.90	9,717.25	77.08	75.44	2.67	350.30	304.85	45.45	7.707	0		
12,500.00	10,068.04	12,003.89	9,717.46	79.98	78.35	2.61	351.44	304.83	46.61	7.539	0		
12,600.00	10,069.40	12,103.88	9,717.66	82.90	81.26	2.55	352.59	304.79	47.79	7.378	0		
12,700.00	10,070.77	12,203.87	9,717.87	85.83	84.18	2.49	353.73	304.75	48.98	7.222	0		
12,800.00	10,072.13	12,303.87	9,718.08	88.76	87.11	2.43	354.88	304.69	50.19	7.071	0		
12,900.00	10,073.50	12,403.86	9,718.28	91.70	90.05	2.37	356.02	304.62	51.40	6.926	0		
13,000.00	10,074.86	12,503.85	9,718.49	94.65	92.99	2.32	357.17	304.54	52.63	6.786	0		
13,100.00	10,076.23	12,603.85	9,718.69	97.60	95.94	2.26	358.31	304.44	53.87	6.652	0		
13,200.00	10,077.59	12,703.84	9,718.90	100.56	98.90	2.20	359.46	304.34	55.12	6.522	0		
13,300.00	10,078.96	12,803.83	9,719.10	103.52	101.86	2.15	360.61	304.23	56.37	6.397	0		
13,400.00	10,080.32	12,903.82	9,719.31	106.49	104.82	2.09	361.75	304.11	57.64	6.276	0		
13,500.00	10,081.69	13,003.82	9,719.52	109.46	107.79	2.03	362.90	303.99	58.91	6.160	0		
13,600.00	10,083.05	13,103.81	9,719.72	112.43	110.76	1.98	364.05	303.86	60.19	6.048	0		
13,700.00	10,084.42	13,203.80	9,719.93	115.41	113.74	1.92	365.20	303.72	61.48	5.940	0		
13,800.00	10,085.78	13,303.80	9,720.13	118.39	116.72	1.87	366.34	303.57	62.77	5.836	0		
13,900.00	10,087.15	13,403.79	9,720.34	121.38	119.70	1.81	367.49	303.42	64.07	5.736	0		
14,000.00	10,088.51	13,503.78	9,720.54	124.36	122.69	1.76	368.64	303.26	65.38	5.639	0		
14,100.00	10,089.88	13,603.77	9,720.75	127.35	125.67	1.70	369.79	303.10	66.69	5.545	0		
14,200.00	10,091.24	13,703.77	9,720.96	130.34	128.66	1.65	370.94	302.93	68.01	5.454	0		
14,300.00	10,092.61	13,803.76	9,721.16	133.34	131.66	1.60	372.09	302.76	69.33	5.367	0		
14,400.00	10,093.97	13,903.75	9,721.37	136.33	134.65	1.55	373.24	302.59	70.65	5.283	0		
14,500.00	10,095.34	14,003.75	9,721.57	139.33	137.65	1.49	374.39	302.41	71.99	5.201	0		
14,600.00	10,096.70	14,103.74	9,721.78	142.33	140.65	1.44	375.54	302.22	73.32	5.122	0		
14,700.00	10,098.07	14,203.73	9,721.98	145.33	143.65	1.39	376.70	302.04	74.66	5.046	0		
14,800.00	10,099.43	14,303.72	9,722.19	148.33	146.65	1.34	377.85	301.84	76.00	4.971	0		
14,900.00	10,100.80	14,403.72	9,722.40	151.34	149.65	1.29	379.00	301.65	77.35	4.900	0		
15,000.00	10,102.16	14,503.71	9,722.60	154.34	152.66	1.23	380.15	301.45	78.70	4.830	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 121H
Well Error: 0.00
Reference Wellbore: Wellbore #1
Reference Design: Plan 1

Local Co-ordinate Reference: Well Thistle Unit 121H
TVD Reference: 1 @ 3746.90ft
MD Reference: 1 @ 3746.90ft
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 105H - 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	Riskd Separation Factor	Probability of Collision		
15,100.00	10,103.53	14,603.70	9,722.81	157.35	155.66	1.18	381.30	301.25	80.05	4.763	0			
15,200.00	10,104.89	14,703.69	9,723.01	160.36	158.67	1.13	382.46	301.05	81.41	4.698	0			
15,300.00	10,106.26	14,803.69	9,723.22	163.37	161.68	1.08	383.61	300.84	82.77	4.635	0			
15,400.00	10,107.62	14,903.68	9,723.42	166.38	164.69	1.03	384.76	300.63	84.14	4.573	0			
15,500.00	10,108.99	15,003.67	9,723.63	169.39	167.70	0.98	385.92	300.42	85.50	4.514	0			
15,600.00	10,110.36	15,103.67	9,723.84	172.40	170.71	0.94	387.07	300.20	86.87	4.456	0			
15,700.00	10,111.72	15,203.66	9,724.04	175.41	173.72	0.89	388.23	299.98	88.24	4.399	0			
15,800.00	10,113.09	15,303.65	9,724.25	178.43	176.74	0.84	389.38	299.76	89.62	4.345	0			
15,900.00	10,114.45	15,403.64	9,724.45	181.44	179.75	0.79	390.54	299.54	91.00	4.292	0			
16,000.00	10,115.82	15,503.64	9,724.66	184.46	182.77	0.74	391.69	299.31	92.38	4.240	0			
16,100.00	10,117.18	15,603.63	9,724.86	187.48	185.78	0.69	392.85	299.08	93.76	4.190	0			
16,200.00	10,118.55	15,703.62	9,725.07	190.49	188.80	0.65	394.00	298.85	95.15	4.141	0			
16,300.00	10,119.91	15,803.62	9,725.28	193.51	191.82	0.60	395.16	298.62	96.54	4.093	0			
16,400.00	10,121.28	15,903.61	9,725.48	196.53	194.84	0.55	396.31	298.39	97.93	4.047	0			
16,500.00	10,122.64	16,003.60	9,725.69	199.55	197.86	0.51	397.47	298.15	99.32	4.002	0			
16,600.00	10,124.01	16,103.59	9,725.89	202.57	200.88	0.46	398.63	297.91	100.72	3.958	0			
16,700.00	10,125.37	16,203.59	9,726.10	205.59	203.90	0.41	399.78	297.67	102.11	3.915	0			
16,800.00	10,126.74	16,303.58	9,726.30	208.61	206.92	0.37	400.94	297.43	103.52	3.873	0			
16,900.00	10,128.10	16,403.57	9,726.51	211.63	209.94	0.32	402.10	297.18	104.92	3.833	0			
17,000.00	10,129.47	16,503.56	9,726.72	214.65	212.96	0.28	403.26	296.93	106.32	3.793	0			
17,100.00	10,130.83	16,603.56	9,726.92	217.68	215.98	0.23	404.41	296.68	107.73	3.754	0			
17,200.00	10,132.20	16,703.55	9,727.13	220.70	219.01	0.19	405.57	296.43	109.14	3.716	0			
17,300.00	10,133.56	16,803.54	9,727.33	223.72	222.03	0.14	406.73	296.18	110.55	3.679	0			
17,400.00	10,134.93	16,903.54	9,727.54	226.75	225.05	0.10	407.89	295.92	111.97	3.643	0			
17,500.00	10,136.29	17,003.53	9,727.74	229.77	228.08	0.05	409.05	295.67	113.38	3.608	0			
17,602.95	10,137.70	17,106.47	9,727.96	232.88	231.15	0.01	410.24	295.40	114.84	3.572	0			
17,625.14	10,138.00	17,127.81	9,728.00	233.55	231.62	0.00	410.50	295.35	115.15	3.565	0			
17,626.12	10,138.01	17,127.81	9,728.00	233.58	231.62	0.00	410.51	295.36	115.15	3.565	0			

Devon Energy

Anticollision Risk Report

Company: WESTERN DIVISION
Project: PBNM
Reference Site: Dzurisin
Site Error: 0.00
Reference Well: Thistle Unit 121H
Well Error: 0.00
Reference Wellbore: Wellbore #1
Reference Design: Plan 1

Local Co-ordinate Reference: Well Thistle Unit 121H
TVD Reference: 1 @ 3746.90ft
MD Reference: 1 @ 3746.90ft
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 108H - 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	
0.00	0.00	0.10	0.10	0.00	0.00	117.79	63.59						
100.00	100.00	100.10	100.10	0.09	0.09	117.79	63.59	63.41	0.17	369.320	0		
200.00	200.00	200.10	200.10	0.31	0.31	117.79	63.59	62.96	0.62	102.277	0		
300.00	300.00	300.10	300.10	0.54	0.54	117.79	63.59	62.51	1.07	59.358	0		
400.00	400.00	400.10	400.10	0.76	0.76	117.79	63.59	62.07	1.52	41.812	0		
500.00	500.00	500.10	500.10	0.99	0.99	117.79	63.59	61.62	1.97	32.272	0		
600.00	600.00	600.10	600.10	1.21	1.21	117.79	63.59	61.17	2.42	26.277	0		
700.00	700.00	700.10	700.10	1.43	1.43	117.79	63.59	60.72	2.87	22.160	0		
800.00	800.00	800.10	800.10	1.66	1.66	117.79	63.59	60.27	3.32	19.159	0		
900.00	900.00	900.10	900.10	1.88	1.88	117.79	63.59	59.82	3.77	16.873	0		
1,000.00	1,000.00	1,000.10	1,000.10	2.11	2.11	117.79	63.59	59.37	4.22	15.075	0		
1,100.00	1,100.00	1,100.10	1,100.10	2.33	2.33	117.79	63.59	58.92	4.67	13.623	0		
1,200.00	1,200.00	1,200.10	1,200.10	2.56	2.56	117.79	63.59	58.47	5.12	12.426	0		
1,300.00	1,300.00	1,300.10	1,300.10	2.78	2.78	117.79	63.59	58.02	5.57	11.423	0		
1,400.00	1,400.00	1,400.10	1,400.10	3.01	3.01	117.79	63.59	57.57	6.02	10.569	0		
1,500.00	1,500.00	1,500.10	1,500.10	3.23	3.23	117.79	63.59	57.12	6.47	9.835	0		
1,600.00	1,600.00	1,600.10	1,600.10	3.46	3.46	117.79	63.59	56.67	6.92	9.195	0		
1,700.00	1,700.00	1,700.10	1,700.10	3.68	3.68	117.79	63.59	56.22	7.36	8.634	0		
1,800.00	1,800.00	1,800.10	1,800.10	3.91	3.91	117.79	63.59	55.77	7.81	8.137	0		
1,900.00	1,900.00	1,900.10	1,900.10	4.13	4.13	117.79	63.59	55.32	8.26	7.695	0		
2,000.00	2,000.00	2,000.10	2,000.10	4.36	4.36	117.79	63.59	54.87	8.71	7.298	0		
2,100.00	2,100.00	2,100.10	2,100.10	4.58	4.58	117.79	63.59	54.42	9.16	6.940	0		
2,200.00	2,200.00	2,200.10	2,200.10	4.81	4.81	117.79	63.59	53.97	9.61	6.615	0		
2,300.00	2,300.00	2,300.10	2,300.10	5.03	5.03	117.79	63.59	53.52	10.06	6.320	0		
2,400.00	2,400.00	2,400.10	2,400.10	5.26	5.26	117.79	63.59	53.07	10.51	6.049	0		
2,500.00	2,500.00	2,500.10	2,500.10	5.48	5.48	117.79	63.59	52.63	10.96	5.801	0		
2,600.00	2,600.00	2,600.10	2,600.10	5.71	5.71	117.79	63.59	52.18	11.41	5.573	0		
2,700.00	2,700.00	2,700.10	2,700.10	5.93	5.93	117.79	63.59	51.73	11.86	5.361	0		
2,800.00	2,800.00	2,800.10	2,800.10	6.15	6.15	117.79	63.59	51.28	12.31	5.166	0		
2,900.00	2,900.00	2,900.10	2,900.10	6.38	6.38	117.79	63.59	50.83	12.76	4.984	0		
3,000.00	3,000.00	3,000.10	3,000.10	6.60	6.60	117.79	63.59	50.38	13.21	4.814	0		
3,100.00	3,100.00	3,100.10	3,100.10	6.83	6.83	117.79	63.59	49.93	13.66	4.656	0		
3,200.00	3,200.00	3,200.10	3,200.10	7.05	7.05	117.79	63.59	49.48	14.11	4.507	0		
3,300.00	3,300.00	3,300.10	3,300.10	7.28	7.28	117.79	63.59	49.03	14.56	4.368	0		
3,400.00	3,400.00	3,400.10	3,400.10	7.50	7.50	117.79	63.59	48.58	15.01	4.237	0		
3,466.63	3,466.63	3,466.73	3,466.73	7.65	7.65	117.79	63.59	48.28	15.31	4.154	0		CC
3,500.00	3,500.00	3,500.00	3,500.00	7.73	7.73	117.79	63.59	48.13	15.46	4.114	0		ES
3,600.00	3,600.00	3,599.10	3,599.09	7.94	7.94	-172.66	65.22	49.34	15.88	4.107	0		
3,700.00	3,699.96	3,697.92	3,697.88	8.16	8.14	-173.89	70.13	53.86	16.27	4.309	0		
3,800.00	3,799.86	3,796.40	3,796.27	8.37	8.34	-175.59	78.37	61.70	16.67	4.702	0		
3,900.00	3,899.68	3,894.37	3,894.06	8.59	8.55	-177.44	89.97	72.92	17.06	5.275	0		
4,000.00	3,999.37	3,991.65	3,991.05	8.82	8.77	-179.22	104.96	87.52	17.44	6.017	0		
4,100.00	4,098.99	4,090.04	4,089.06	9.06	9.00	179.28	121.80	103.95	17.85	6.823	0		
4,200.00	4,198.60	4,188.56	4,187.21	9.31	9.24	178.13	138.71	120.45	18.26	7.595	0		
4,300.00	4,298.22	4,287.09	4,285.36	9.56	9.49	177.24	155.67	136.99	18.68	8.335	0		
4,400.00	4,397.84	4,385.62	4,383.52	9.82	9.74	176.52	172.65	153.56	19.09	9.044	0		
4,500.00	4,497.46	4,484.14	4,481.67	10.09	9.99	175.93	189.65	170.14	19.51	9.722	0		
4,600.00	4,497.08	4,582.67	4,579.82	10.36	10.26	175.44	206.67	186.75	19.93	10.372	0		
4,700.00	4,496.70	4,681.20	4,677.97	10.63	10.52	175.02	223.71	203.36	20.35	10.994	0		
4,800.00	4,496.32	4,779.72	4,776.12	10.91	10.79	174.66	240.75	219.98	20.77	11.591	0		
4,900.00	4,495.94	4,878.25	4,874.27	11.19	11.07	174.35	257.80	236.61	21.19	12.164	0		
5,000.00	4,495.56	4,976.78	4,972.43	11.47	11.35	174.08	274.86	253.24	21.62	12.713	0		
5,100.00	5,095.18	5,075.30	5,070.58	11.76	11.63	173.84	291.92	269.87	22.05	13.240	0		
5,200.00	5,194.80	5,173.83	5,168.73	12.05	11.91	173.62	308.99	286.51	22.48	13.747	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 121H
Well Error: 0.00
Reference Wellbore: Wellbore #1
Reference Design: Plan 1

Local Co-ordinate Reference: Well Thistle Unit 121H
TVD Reference: 1 @ 3746.90ft
MD Reference: 1 @ 3746.90ft
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 108H - 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	
5,300.00	5,294.42	5,272.36	5,266.88	12.34	12.20	173.43	326.06	303.15	22.91	14.234	0			
5,400.00	5,394.04	5,370.88	5,365.03	12.64	12.49	173.26	343.13	319.79	23.34	14.702	0			
5,500.00	5,493.66	5,469.41	5,463.18	12.93	12.78	173.10	360.21	336.44	23.77	15.153	0			
5,600.00	5,593.28	5,567.94	5,561.34	13.23	13.08	172.96	377.29	353.08	24.21	15.587	0			
5,700.00	5,692.90	5,666.46	5,659.49	13.54	13.38	172.83	394.37	369.73	24.64	16.005	0			
5,800.00	5,792.52	5,764.99	5,757.64	13.84	13.68	172.71	411.45	386.37	25.08	16.407	0			
5,900.00	5,892.14	5,863.52	5,855.79	14.15	13.98	172.60	428.54	403.02	25.51	16.796	0			
6,000.00	5,991.76	5,962.04	5,953.94	14.46	14.28	172.50	445.62	419.67	25.95	17.170	0			
6,100.00	6,091.37	6,060.57	6,052.09	14.77	14.59	172.40	462.71	436.32	26.39	17.532	0			
6,200.00	6,190.99	6,159.10	6,150.25	15.08	14.90	172.32	479.80	452.97	26.83	17.881	0			
6,300.00	6,290.61	6,257.62	6,248.40	15.39	15.21	172.24	496.89	469.61	27.27	18.219	0			
6,400.00	6,390.23	6,356.15	6,346.55	15.70	15.52	172.16	513.98	486.26	27.71	18.545	0			
6,500.00	6,489.85	6,454.68	6,444.70	16.02	15.83	172.09	531.07	502.91	28.16	18.861	0			
6,600.00	6,589.47	6,553.20	6,542.85	16.34	16.14	172.02	548.16	519.56	28.60	19.166	0			
6,700.00	6,689.09	6,651.73	6,641.00	16.65	16.45	171.96	565.25	536.21	29.04	19.462	0			
6,800.00	6,788.71	6,750.26	6,739.16	16.97	16.77	171.90	582.35	552.86	29.49	19.748	0			
6,900.00	6,888.33	6,848.78	6,837.31	17.29	17.09	171.85	599.44	569.51	29.93	20.025	0			
7,000.00	6,987.95	6,947.31	6,935.46	17.61	17.40	171.80	616.53	586.15	30.38	20.294	0			
7,100.00	7,087.57	7,045.84	7,033.61	17.93	17.72	171.75	633.63	602.80	30.83	20.554	0			
7,200.00	7,187.19	7,144.36	7,131.76	18.25	18.04	171.70	650.72	619.45	31.27	20.807	0			
7,300.00	7,286.81	7,242.89	7,229.91	18.58	18.36	171.65	667.82	636.10	31.72	21.052	0			
7,400.00	7,386.43	7,341.42	7,328.07	18.90	18.68	171.61	684.92	652.75	32.17	21.291	0			
7,500.00	7,486.05	7,439.94	7,426.22	19.23	19.00	171.57	702.01	669.39	32.62	21.522	0			
7,600.00	7,585.67	7,538.47	7,524.37	19.55	19.33	171.53	719.11	686.04	33.07	21.746	0			
7,700.00	7,685.29	7,637.00	7,622.52	19.88	19.65	171.50	736.21	702.69	33.52	21.965	0			
7,800.00	7,784.91	7,735.52	7,720.67	20.20	19.97	171.46	753.30	719.34	33.97	22.177	0			
7,900.00	7,884.53	7,834.05	7,818.82	20.53	20.30	171.43	770.40	735.98	34.42	22.383	0			
8,000.00	7,984.14	7,932.57	7,916.98	20.86	20.62	171.40	787.50	752.63	34.87	22.584	0			
8,100.00	8,083.80	8,033.48	8,017.50	21.12	20.93	171.37	804.13	768.81	35.32	22.768	0			
8,200.00	8,183.53	8,139.71	8,123.39	21.32	21.19	171.35	819.22	783.48	35.74	22.922	0			
8,300.00	8,283.31	8,246.35	8,229.77	21.52	21.40	171.33	832.55	796.40	36.15	23.031	0			
8,400.00	8,383.15	8,353.35	8,336.57	21.71	21.61	171.31	844.12	807.57	36.56	23.091	0			
8,500.00	8,483.03	8,460.66	8,443.74	21.90	21.81	171.30	853.93	816.96	36.96	23.103	0			
8,600.00	8,582.96	8,568.24	8,551.22	22.08	22.01	171.29	861.95	824.59	37.36	23.069	0			
8,700.00	8,682.91	8,676.02	8,658.94	22.26	22.20	171.28	868.20	830.44	37.77	22.989	0			
8,800.00	8,782.89	8,783.96	8,766.85	22.43	22.39	171.28	872.67	834.51	38.16	22.867	0			
8,900.00	8,882.88	8,892.01	8,874.89	22.60	22.58	171.27	875.35	836.79	38.56	22.702	0			
9,000.00	8,982.88	9,000.10	8,982.98	22.76	22.75	101.27	876.24	837.30	38.95	22.498	0			
9,100.00	9,082.88	9,100.10	9,082.98	22.93	22.92	101.27	876.24	836.89	39.35	22.269	0			
9,200.00	9,182.88	9,200.10	9,182.98	23.12	23.11	101.27	876.24	836.46	39.78	22.029	0			
9,255.51	9,238.39	9,255.61	9,238.49	23.23	23.22	101.27	876.24	836.23	40.02	21.897	0			
9,300.00	9,282.88	9,293.51	9,276.38	23.31	23.29	101.29	876.34	836.15	40.19	21.805	0			
9,400.00	9,382.88	9,366.18	9,348.50	23.51	23.41	101.83	878.64	838.12	40.52	21.683	0			
9,500.00	9,482.88	9,434.84	9,414.75	23.70	23.53	102.96	884.39	843.56	40.83	21.660	0			
9,578.00	9,560.88	9,484.15	9,460.40	23.85	23.62	104.13	891.76	850.70	41.06	21.716	0			
9,600.00	9,582.87	9,500.00	9,474.64	23.89	23.66	-75.50	894.25	853.11	41.13	21.741	0			
9,625.00	9,607.80	9,512.46	9,485.67	23.92	23.68	-74.86	897.04	855.85	41.19	21.778	0			
9,650.00	9,632.60	9,525.00	9,496.61	23.95	23.71	-74.25	899.81	858.57	41.24	21.820	0			
9,675.00	9,657.21	9,542.32	9,511.45	23.98	23.75	-73.55	902.51	861.22	41.29	21.860	0			
9,700.00	9,681.55	9,557.17	9,523.90	24.00	23.79	-72.94	905.15	863.82	41.32	21.905	0			
9,725.00	9,705.56	9,575.00	9,538.52	24.02	23.83	-72.30	907.71	866.35	41.35	21.950	0			
9,750.00	9,729.18	9,586.71	9,547.91	24.04	23.86	-71.81	910.15	868.78	41.37	22.000	0			
9,775.00	9,752.33	9,600.00	9,558.35	24.06	23.90	-71.32	912.49	871.11	41.38	22.051	0			
9,800.00	9,774.96	9,616.09	9,570.69	24.07	23.95	-70.83	914.70	873.31	41.39	22.098	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 121H
Well Error: 0.00
Reference Wellbore: Wellbore #1
Reference Design: Plan 1

Local Co-ordinate Reference: Well Thistle Unit 121H
TVD Reference: 1 @ 3746.90ft
MD Reference: 1 @ 3746.90ft
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 108H - 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	
9,825.00	9,797.01	9,630.73	9,581.60	24.08	23.99	-70.39	916.78	875.38	41.40	22.144	0		
9,850.00	9,818.40	9,650.00	9,595.49	24.09	24.06	-69.93	918.72	877.31	41.42	22.183	0		
9,875.00	9,839.09	9,659.91	9,602.43	24.10	24.09	-69.62	920.47	879.05	41.42	22.224	0		
9,900.00	9,859.02	9,675.00	9,612.70	24.12	24.15	-69.29	922.07	880.64	41.43	22.254	0		
9,925.00	9,878.13	9,689.01	9,621.92	24.13	24.21	-69.01	923.49	882.03	41.46	22.275	0		
9,950.00	9,896.37	9,700.00	9,628.94	24.14	24.25	-68.78	924.74	883.26	41.48	22.292	0		
9,975.00	9,913.69	9,718.03	9,640.01	24.16	24.33	-68.55	925.78	884.23	41.55	22.279	0		
10,000.00	9,930.04	9,732.52	9,648.52	24.18	24.40	-68.39	926.64	885.01	41.63	22.258	0		
10,025.00	9,945.38	9,750.00	9,658.31	24.20	24.50	-68.25	927.31	885.56	41.75	22.211	0		
10,050.00	9,959.67	9,761.48	9,664.45	24.23	24.56	-68.18	927.76	885.89	41.87	22.159	0		
10,075.00	9,972.86	9,775.00	9,671.37	24.27	24.64	-68.14	928.02	885.99	42.03	22.082	0		
10,100.00	9,984.93	9,790.42	9,678.87	24.31	24.74	-68.13	928.07	885.83	42.24	21.972	0		
10,125.00	9,995.83	9,800.00	9,683.30	24.37	24.80	-68.16	927.94	885.50	42.44	21.866	0		
10,150.00	10,005.54	9,819.38	9,691.74	24.45	24.94	-68.25	927.57	884.80	42.77	21.690	0		
10,175.00	10,014.04	9,833.86	9,697.59	24.54	25.05	-68.37	927.01	883.92	43.09	21.511	0		
10,200.00	10,021.29	9,850.00	9,703.63	24.66	25.18	-68.54	926.26	882.78	43.48	21.301	0		
10,225.00	10,027.27	9,862.86	9,708.08	24.80	25.29	-68.73	925.31	881.42	43.89	21.084	0		
10,250.00	10,031.98	9,875.00	9,711.97	24.98	25.40	-68.95	924.18	879.86	44.32	20.853	0		
10,275.00	10,035.40	9,891.93	9,716.92	25.18	25.57	-69.26	922.86	878.00	44.86	20.571	0		
10,300.00	10,037.52	9,906.49	9,720.71	25.42	25.72	-69.58	921.36	875.95	45.41	20.288	0		
10,321.50	10,038.30	9,919.03	9,723.63	25.65	25.85	-69.88	919.94	874.02	45.92	20.033	0		
10,343.33	10,038.59	9,931.84	9,726.28	25.86	25.99	-70.03	918.55	872.25	46.30	19.839	0		
10,400.00	10,039.37	9,965.66	9,731.66	26.43	26.40	-70.32	915.92	868.58	47.35	19.345	0		
10,478.40	10,040.44	10,013.26	9,735.20	27.59	27.04	-70.50	914.61	865.29	49.32	18.544	0		
10,500.00	10,040.73	10,028.04	9,735.35	27.93	27.25	-70.49	914.70	864.81	49.89	18.334	0		
10,600.00	10,042.10	10,128.01	9,735.57	29.71	28.86	-70.43	915.45	862.07	53.38	17.151	0		
10,700.00	10,043.46	10,228.00	9,735.79	31.71	30.71	-70.37	916.20	858.99	57.21	16.016	0		
10,800.00	10,044.83	10,328.00	9,736.01	33.87	32.75	-70.32	916.95	855.62	61.33	14.951	0		
10,900.00	10,046.19	10,427.99	9,736.23	36.16	34.95	-70.26	917.70	852.00	65.70	13.969	0		
11,000.00	10,047.56	10,527.98	9,736.45	38.56	37.28	-70.20	918.45	848.20	70.25	13.074	0		
11,100.00	10,048.92	10,627.98	9,736.67	41.04	39.70	-70.14	919.21	844.24	74.97	12.261	0		
11,200.00	10,050.29	10,727.97	9,736.89	43.60	42.21	-70.08	919.96	840.15	79.81	11.527	0		
11,300.00	10,051.65	10,827.96	9,737.11	46.22	44.79	-70.02	920.71	835.96	84.76	10.863	0		
11,400.00	10,053.02	10,927.95	9,737.33	48.88	47.42	-69.96	921.47	831.68	89.79	10.262	0		
11,500.00	10,054.38	11,027.95	9,737.55	51.59	50.10	-69.90	922.23	827.33	94.90	9.718	0		
11,600.00	10,055.75	11,127.94	9,737.77	54.33	52.82	-69.85	922.99	822.92	100.07	9.224	0		
11,700.00	10,057.12	11,227.93	9,737.99	57.10	55.57	-69.79	923.74	818.46	105.29	8.774	0		
11,800.00	10,058.48	11,327.92	9,738.21	59.90	58.36	-69.73	924.50	813.95	110.55	8.363	0		
11,900.00	10,059.85	11,427.92	9,738.43	62.72	61.16	-69.67	925.26	809.42	115.85	7.987	0		
12,000.00	10,061.21	11,527.91	9,738.65	65.56	63.99	-69.61	926.03	804.85	121.18	7.642	0		
12,100.00	10,062.58	11,627.90	9,738.87	68.42	66.84	-69.55	926.79	800.25	126.54	7.324	0		
12,200.00	10,063.94	11,727.90	9,739.09	71.29	69.70	-69.50	927.55	795.64	131.92	7.031	0		
12,300.00	10,065.31	11,827.89	9,739.31	74.18	72.58	-69.44	928.32	791.00	137.32	6.760	0		
12,400.00	10,066.67	11,927.88	9,739.53	77.08	75.47	-69.38	929.08	786.35	142.74	6.509	0		
12,500.00	10,068.04	12,027.87	9,739.75	79.98	78.37	-69.32	929.85	781.68	148.17	6.276	0		
12,600.00	10,069.40	12,127.87	9,739.97	82.90	81.28	-69.27	930.62	777.00	153.61	6.058	0		
12,700.00	10,070.77	12,227.86	9,740.19	85.83	84.21	-69.21	931.39	772.32	159.07	5.855	0		
12,800.00	10,072.13	12,327.85	9,740.41	88.76	87.14	-69.15	932.15	767.62	164.53	5.665	0		
12,900.00	10,073.50	12,427.84	9,740.63	91.70	90.07	-69.09	932.92	762.92	170.01	5.488	0		
13,000.00	10,074.86	12,527.84	9,740.85	94.65	93.02	-69.04	933.70	758.21	175.49	5.321	0		
13,100.00	10,076.23	12,627.83	9,741.07	97.60	95.96	-68.98	934.47	753.50	180.97	5.164	0		
13,200.00	10,077.59	12,727.82	9,741.29	100.56	98.92	-68.92	935.24	748.78	186.46	5.016	0		
13,300.00	10,078.96	12,827.81	9,741.51	103.52	101.88	-68.87	936.02	744.06	191.96	4.876	0		
13,400.00	10,080.32	12,927.81	9,741.73	106.49	104.84	-68.81	936.79	739.33	197.46	4.744	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 121H
Well Error: 0.00
Reference Wellbore: Wellbore #1
Reference Design: Plan 1

Local Co-ordinate Reference: Well Thistle Unit 121H
TVD Reference: 1 @ 3746.90ft
MD Reference: 1 @ 3746.90ft
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 108H - 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	Riskd Separation Factor	Probability of Collision	
13,500.00	10,081.69	13,027.80	9,741.95	109.46	107.81	-68.75	937.57	734.61	202.96	4.619	0		
13,600.00	10,083.05	13,127.79	9,742.17	112.43	110.79	-68.70	938.34	729.88	208.46	4.501	0		
13,700.00	10,084.42	13,227.79	9,742.39	115.41	113.76	-68.64	939.12	725.15	213.97	4.389	0		
13,800.00	10,085.78	13,327.78	9,742.61	118.39	116.74	-68.58	939.90	720.42	219.48	4.282	0		
13,900.00	10,087.15	13,427.77	9,742.83	121.38	119.72	-68.53	940.68	715.69	224.99	4.181	0		
14,000.00	10,088.51	13,527.76	9,743.05	124.36	122.71	-68.47	941.46	710.96	230.49	4.085	0		
14,100.00	10,089.88	13,627.76	9,743.27	127.35	125.70	-68.41	942.24	706.24	236.00	3.992	0		
14,200.00	10,091.24	13,727.75	9,743.49	130.34	128.69	-68.36	943.02	701.51	241.51	3.905	0		
14,300.00	10,092.61	13,827.74	9,743.71	133.34	131.68	-68.30	943.80	696.78	247.02	3.821	0		
14,400.00	10,093.97	13,927.73	9,743.93	136.33	134.67	-68.25	944.59	692.06	252.53	3.741	0		
14,500.00	10,095.34	14,027.73	9,744.15	139.33	137.67	-68.19	945.37	687.34	258.04	3.664	0		
14,600.00	10,096.70	14,127.72	9,744.37	142.33	140.67	-68.13	946.16	682.62	263.54	3.590	0		
14,700.00	10,098.07	14,227.71	9,744.59	145.33	143.67	-68.08	946.95	677.90	269.05	3.520	0		
14,800.00	10,099.43	14,327.71	9,744.81	148.33	146.67	-68.02	947.73	673.18	274.55	3.452	0		
14,900.00	10,100.80	14,427.70	9,745.03	151.34	149.67	-67.97	948.52	668.47	280.05	3.387	0		
15,000.00	10,102.16	14,527.69	9,745.25	154.34	152.68	-67.91	949.31	663.76	285.55	3.324	0		
15,100.00	10,103.53	14,627.68	9,745.47	157.35	155.68	-67.86	950.10	659.05	291.05	3.264	0		
15,200.00	10,104.89	14,727.68	9,745.69	160.36	158.69	-67.80	950.89	654.35	296.54	3.207	0		
15,300.00	10,106.26	14,827.67	9,745.91	163.37	161.70	-67.75	951.68	649.65	302.04	3.151	0		
15,400.00	10,107.62	14,927.66	9,746.12	166.38	164.71	-67.69	952.48	644.95	307.53	3.097	0		
15,500.00	10,108.99	15,027.65	9,746.34	169.39	167.72	-67.64	953.27	640.25	313.02	3.045	0		
15,600.00	10,110.36	15,127.65	9,746.56	172.40	170.73	-67.58	954.06	635.56	318.50	2.995	0		
15,700.00	10,111.72	15,227.64	9,746.78	175.41	173.74	-67.53	954.86	630.87	323.99	2.947	0		
15,800.00	10,113.09	15,327.63	9,747.00	178.43	176.76	-67.47	955.66	626.19	329.47	2.901	0		
15,900.00	10,114.45	15,427.62	9,747.22	181.44	179.77	-67.42	956.45	621.51	334.95	2.856	0		
16,000.00	10,115.82	15,527.62	9,747.44	184.46	182.79	-67.36	957.25	616.83	340.42	2.812	0		
16,100.00	10,117.18	15,627.61	9,747.66	187.48	185.80	-67.31	958.05	612.16	345.90	2.770	0		
16,200.00	10,118.55	15,727.60	9,747.88	190.49	188.82	-67.26	958.85	607.49	351.36	2.729	0		
16,300.00	10,119.91	15,827.60	9,748.10	193.51	191.84	-67.20	959.65	602.82	356.83	2.689	0		
16,400.00	10,121.28	15,927.59	9,748.32	196.53	194.86	-67.15	960.45	598.16	362.30	2.651	0		
16,500.00	10,122.64	16,027.58	9,748.54	199.55	197.88	-67.09	961.25	593.50	367.76	2.614	0		
16,600.00	10,124.01	16,127.57	9,748.76	202.57	200.90	-67.04	962.06	588.85	373.21	2.578	0		
16,700.00	10,125.37	16,227.57	9,748.98	205.59	203.92	-66.99	962.86	584.20	378.67	2.543	0		
16,800.00	10,126.74	16,327.56	9,749.20	208.61	206.94	-66.93	963.67	579.55	384.12	2.509	0		
16,900.00	10,128.10	16,427.55	9,749.42	211.63	209.96	-66.88	964.47	574.91	389.56	2.476	0		
17,000.00	10,129.47	16,527.54	9,749.64	214.65	212.98	-66.83	965.28	570.27	395.01	2.444	0		
17,100.00	10,130.83	16,627.54	9,749.86	217.68	216.00	-66.77	966.09	565.64	400.45	2.413	0		
17,200.00	10,132.20	16,727.53	9,750.08	220.70	219.02	-66.72	966.89	561.01	405.89	2.382	0		
17,300.00	10,133.56	16,827.52	9,750.30	223.72	222.05	-66.67	967.70	556.38	411.32	2.353	0		
17,400.00	10,134.93	16,927.52	9,750.52	226.75	225.07	-66.61	968.51	551.76	416.75	2.324	0		
17,500.00	10,136.29	17,027.51	9,750.74	229.77	228.10	-66.56	969.32	547.15	422.18	2.296	0		
17,602.95	10,137.70	17,130.48	9,750.97	232.88	230.98	-66.51	970.16	542.60	427.55	2.269	0		
17,625.14	10,138.00	17,144.06	9,751.00	233.55	231.28	-66.50	970.38	541.96	428.42	2.265	0		
17,626.12	10,138.01	17,144.06	9,751.00	233.58	231.28	-66.50	970.39	541.95	428.44	2.265	0		SF

Devon Energy

Anticollision Risk Report

Company: WESTERN DIVISION
Project: PBNM
Reference Site: Dzurisin
Site Error: 0.00
Reference Well: Thistle Unit 121H
Well Error: 0.00
Reference Wellbore: Wellbore #1
Reference Design: Plan 1

Local Co-ordinate Reference: Well Thistle Unit 121H
TVD Reference: 1 @ 3746.90ft
MD Reference: 1 @ 3746.90ft
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 119H - 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
0.00	0.00	0.00	0.00	0.00	0.00	89.62	50.03					0	
100.00	100.00	99.00	99.00	0.09	0.09	89.62	50.02	49.85	0.17	292.374	0		
200.00	200.00	199.00	199.00	0.31	0.31	89.62	50.02	49.40	0.62	80.780	0		
300.00	300.00	299.00	299.00	0.54	0.53	89.62	50.02	48.95	1.07	46.803	0		
400.00	400.00	399.00	399.00	0.76	0.76	89.62	50.02	48.50	1.52	32.946	0		
500.00	500.00	499.00	499.00	0.99	0.98	89.62	50.02	48.05	1.97	25.420	0		
600.00	600.00	599.00	599.00	1.21	1.21	89.62	50.02	47.60	2.42	20.692	0		
700.00	700.00	699.00	699.00	1.43	1.43	89.62	50.02	47.15	2.87	17.448	0		
800.00	800.00	799.00	799.00	1.66	1.66	89.62	50.02	46.70	3.32	15.083	0		
900.00	900.00	899.00	899.00	1.88	1.88	89.62	50.02	46.26	3.77	13.282	0		
1,000.00	1,000.00	999.00	999.00	2.11	2.11	89.62	50.02	45.81	4.22	11.866	0		
1,100.00	1,100.00	1,099.00	1,099.00	2.33	2.33	89.62	50.02	45.36	4.67	10.723	0		
1,200.00	1,200.00	1,199.00	1,199.00	2.56	2.56	89.62	50.02	44.91	5.11	9.780	0		
1,300.00	1,300.00	1,299.00	1,299.00	2.78	2.78	89.62	50.02	44.46	5.56	8.990	0		
1,400.00	1,400.00	1,399.00	1,399.00	3.01	3.01	89.62	50.02	44.01	6.01	8.318	0		
1,500.00	1,500.00	1,499.00	1,499.00	3.23	3.23	89.62	50.02	43.56	6.46	7.739	0		
1,600.00	1,600.00	1,599.00	1,599.00	3.46	3.46	89.62	50.02	43.11	6.91	7.236	0		
1,700.00	1,700.00	1,699.00	1,699.00	3.68	3.68	89.62	50.02	42.66	7.36	6.794	0		
1,800.00	1,800.00	1,799.00	1,799.00	3.91	3.90	89.62	50.02	42.21	7.81	6.403	0		
1,900.00	1,900.00	1,899.00	1,899.00	4.13	4.13	89.62	50.02	41.76	8.26	6.055	0		
2,000.00	2,000.00	1,999.00	1,999.00	4.36	4.35	89.62	50.02	41.31	8.71	5.742	0		
2,100.00	2,100.00	2,099.00	2,099.00	4.58	4.58	89.62	50.02	40.86	9.16	5.461	0		
2,200.00	2,200.00	2,199.00	2,199.00	4.81	4.80	89.62	50.02	40.41	9.61	5.205	0		
2,300.00	2,300.00	2,299.00	2,299.00	5.03	5.03	89.62	50.02	39.96	10.06	4.973	0		
2,400.00	2,400.00	2,399.00	2,399.00	5.26	5.25	89.62	50.02	39.51	10.51	4.760	0		
2,500.00	2,500.00	2,499.00	2,499.00	5.48	5.48	89.62	50.02	39.06	10.96	4.565	0		
2,600.00	2,600.00	2,599.00	2,599.00	5.71	5.70	89.62	50.02	38.61	11.41	4.385	0		
2,700.00	2,700.00	2,699.00	2,699.00	5.93	5.93	89.62	50.02	38.16	11.86	4.219	0		
2,800.00	2,800.00	2,799.00	2,799.00	6.15	6.15	89.62	50.02	37.71	12.31	4.064	0		
2,900.00	2,900.00	2,899.00	2,899.00	6.38	6.38	89.62	50.02	37.26	12.76	3.921	0		
3,000.00	3,000.00	2,999.00	2,999.00	6.60	6.60	89.62	50.02	36.82	13.21	3.788	0		
3,100.00	3,100.00	3,099.00	3,099.00	6.83	6.83	89.62	50.02	36.37	13.66	3.663	0		
3,200.00	3,200.00	3,199.00	3,199.00	7.05	7.05	89.62	50.02	35.92	14.11	3.546	0		
3,300.00	3,300.00	3,299.00	3,299.00	7.28	7.28	89.62	50.02	35.47	14.55	3.437	0		
3,400.00	3,400.00	3,399.00	3,399.00	7.50	7.50	89.62	50.02	35.02	15.00	3.334	0		
3,500.00	3,500.00	3,499.00	3,499.00	7.73	7.73	89.62	50.02	34.57	15.45	3.237	0		CC, ES
3,600.00	3,600.00	3,598.17	3,598.16	7.94	7.94	159.64	51.64	35.76	15.88	3.252	0		
3,700.00	3,699.96	3,697.17	3,697.13	8.16	8.15	159.67	56.52	40.23	16.28	3.471	0		
3,800.00	3,799.86	3,795.85	3,795.72	8.37	8.36	159.70	64.65	47.97	16.69	3.875	0		
3,900.00	3,899.68	3,894.07	3,893.76	8.59	8.58	159.72	76.02	58.94	17.08	4.450	0		
4,000.00	3,999.37	3,991.67	3,991.06	8.82	8.80	159.74	90.61	73.13	17.48	5.184	0		
4,100.00	4,098.99	4,090.20	4,089.22	9.06	9.04	159.77	106.93	89.04	17.89	5.976	0		
4,200.00	4,198.60	4,188.86	4,187.51	9.31	9.28	159.79	123.26	104.94	18.31	6.730	0		
4,300.00	4,298.22	4,287.52	4,285.79	9.56	9.53	159.80	139.58	120.85	18.74	7.450	0		
4,400.00	4,397.84	4,386.18	4,384.07	9.82	9.79	159.82	155.91	136.75	19.16	8.137	0		
4,500.00	4,497.46	4,484.83	4,482.35	10.09	10.05	159.83	172.23	152.64	19.59	8.793	0		
4,600.00	4,597.08	4,583.49	4,580.64	10.36	10.31	159.84	188.56	168.54	20.02	9.419	0		
4,700.00	4,696.70	4,682.15	4,678.92	10.63	10.58	159.84	204.88	184.43	20.45	10.018	0		
4,800.00	4,796.32	4,780.81	4,777.20	10.91	10.85	159.85	221.21	200.32	20.89	10.591	0		
4,900.00	4,895.94	4,879.47	4,875.49	11.19	11.13	159.86	237.53	216.21	21.32	11.140	0		
5,000.00	4,995.56	4,978.13	4,973.77	11.47	11.41	159.86	253.86	232.10	21.76	11.665	0		
5,100.00	5,095.18	5,076.78	5,072.05	11.76	11.69	159.87	270.18	247.98	22.20	12.169	0		
5,200.00	5,194.80	5,175.44	5,170.34	12.05	11.98	159.87	286.51	263.86	22.64	12.652	0		
5,300.00	5,294.42	5,274.10	5,268.62	12.34	12.26	159.87	302.83	279.74	23.09	13.116	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 121H
Well Error: 0.00
Reference Wellbore: Wellbore #1
Reference Design: Plan 1

Local Co-ordinate Reference: Well Thistle Unit 121H
TVD Reference: 1 @ 3746.90ft
MD Reference: 1 @ 3746.90ft
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 119H - 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)	Reference (ft)	Offset (ft)	Toolface (°)	Centres (ft)	Ellipses (ft)	Separation (ft)	Factor	Separation Factor	of Collision				
5,400.00	5,394.04	5,372.76	5,366.90	12.64	12.56	159.88	319.16	295.62	23.54	13.561	0					
5,500.00	5,493.66	5,471.42	5,465.19	12.93	12.85	159.88	335.48	311.50	23.98	13.989	0					
5,600.00	5,593.28	5,570.08	5,563.47	13.23	13.15	159.88	351.81	327.37	24.43	14.400	0					
5,700.00	5,692.90	5,668.74	5,661.75	13.54	13.44	159.88	368.13	343.25	24.88	14.795	0					
5,800.00	5,792.52	5,767.39	5,760.03	13.84	13.74	159.88	384.46	359.12	25.33	15.176	0					
5,900.00	5,892.14	5,866.05	5,858.32	14.15	14.04	159.89	400.78	374.99	25.79	15.543	0					
6,000.00	5,991.76	5,964.71	5,956.60	14.46	14.35	159.89	417.11	390.87	26.24	15.896	0					
6,100.00	6,091.37	6,063.37	6,054.88	14.77	14.65	159.89	433.43	406.74	26.69	16.237	0					
6,200.00	6,190.99	6,162.03	6,153.17	15.08	14.96	159.89	449.76	422.60	27.15	16.565	0					
6,300.00	6,290.61	6,260.69	6,251.45	15.39	15.27	159.89	466.08	438.47	27.61	16.882	0					
6,400.00	6,390.23	6,359.35	6,349.73	15.70	15.58	159.89	482.41	454.34	28.07	17.189	0					
6,500.00	6,489.85	6,458.00	6,448.02	16.02	15.89	159.89	498.73	470.21	28.52	17.485	0					
6,600.00	6,589.47	6,556.66	6,546.30	16.34	16.20	159.90	515.05	486.07	28.98	17.770	0					
6,700.00	6,689.09	6,655.32	6,644.58	16.65	16.51	159.90	531.38	501.94	29.44	18.047	0					
6,800.00	6,788.71	6,753.98	6,742.87	16.97	16.82	159.90	547.70	517.80	29.91	18.314	0					
6,900.00	6,888.33	6,852.64	6,841.15	17.29	17.14	159.90	564.03	533.66	30.37	18.573	0					
7,000.00	6,987.95	6,951.30	6,939.43	17.61	17.46	159.90	580.35	549.52	30.83	18.824	0					
7,100.00	7,087.57	7,049.95	7,037.71	17.93	17.77	159.90	596.68	565.39	31.29	19.067	0					
7,200.00	7,187.19	7,148.61	7,136.00	18.25	18.09	159.90	613.00	581.25	31.76	19.302	0					
7,300.00	7,286.81	7,247.27	7,234.28	18.58	18.41	159.90	629.33	597.11	32.22	19.531	0					
7,400.00	7,386.43	7,345.93	7,332.56	18.90	18.73	159.90	645.65	612.97	32.69	19.752	0					
7,500.00	7,486.05	7,444.59	7,430.85	19.23	19.05	159.90	661.98	628.82	33.15	19.967	0					
7,600.00	7,585.67	7,543.25	7,529.13	19.55	19.37	159.90	678.30	644.68	33.62	20.175	0					
7,700.00	7,685.29	7,641.91	7,627.41	19.88	19.69	159.90	694.63	660.54	34.09	20.378	0					
7,800.00	7,784.91	7,740.56	7,725.70	20.20	20.01	159.91	710.95	676.40	34.56	20.574	0					
7,900.00	7,884.53	7,839.22	7,823.98	20.53	20.33	159.91	727.28	692.25	35.02	20.765	0					
8,000.00	7,984.14	7,937.88	7,922.26	20.86	20.65	159.91	743.60	708.11	35.49	20.951	0					
8,100.00	8,083.80	8,039.04	8,023.04	21.12	20.96	159.92	759.47	723.51	35.95	21.123	0					
8,200.00	8,183.53	8,144.64	8,128.31	21.32	21.21	159.94	773.83	737.45	36.38	21.271	0					
8,300.00	8,283.31	8,250.61	8,234.02	21.52	21.42	159.95	786.53	749.74	36.79	21.379	0					
8,400.00	8,383.15	8,356.90	8,340.11	21.71	21.63	159.95	797.54	760.35	37.20	21.442	0					
8,500.00	8,483.03	8,463.47	8,446.55	21.90	21.83	159.96	806.88	769.28	37.60	21.460	0					
8,600.00	8,582.96	8,570.28	8,553.26	22.08	22.03	159.97	814.52	776.52	38.00	21.435	0					
8,700.00	8,682.91	8,677.28	8,660.20	22.26	22.22	159.97	820.47	782.08	38.40	21.369	0					
8,800.00	8,782.89	8,784.42	8,767.31	22.43	22.41	159.97	824.73	785.94	38.79	21.263	0					
8,900.00	8,882.88	8,891.65	8,874.53	22.60	22.59	159.98	827.29	788.11	39.17	21.118	0					
9,000.00	8,982.88	8,998.93	8,981.80	22.76	22.76	89.98	828.14	788.59	39.56	20.936	0					
9,100.00	9,082.88	9,099.00	9,081.88	22.93	22.93	89.98	828.14	788.19	39.95	20.728	0					
9,200.00	9,182.88	9,199.00	9,181.88	23.12	23.12	89.98	828.14	787.77	40.38	20.510	0					
9,300.00	9,282.88	9,299.00	9,281.88	23.31	23.31	89.98	828.14	787.34	40.80	20.296	0					
9,400.00	9,382.88	9,399.00	9,381.88	23.51	23.50	89.98	828.14	786.91	41.23	20.086	0					
9,500.00	9,482.88	9,499.00	9,481.88	23.70	23.70	89.98	828.14	786.49	41.66	19.880	0					
9,578.00	9,560.88	9,577.00	9,559.88	23.85	23.85	89.98	828.14	786.15	41.99	19.723	0					
9,600.00	9,582.87	9,598.94	9,581.81	23.89	23.88	-90.36	828.15	786.08	42.07	19.684	0					
9,625.00	9,607.80	9,623.87	9,606.68	23.92	23.92	-90.36	828.16	786.02	42.15	19.649	0					
9,650.00	9,632.60	9,648.81	9,631.44	23.95	23.95	-90.37	828.19	785.98	42.21	19.620	0					
9,675.00	9,657.21	9,673.75	9,656.01	23.98	23.98	-90.37	828.22	785.96	42.26	19.597	0					
9,700.00	9,681.55	9,698.70	9,680.33	24.00	24.00	-90.38	828.27	785.96	42.31	19.578	0					
9,725.00	9,705.56	9,723.65	9,704.33	24.02	24.02	-90.38	828.32	785.98	42.34	19.563	0					
9,750.00	9,729.18	9,748.62	9,727.95	24.04	24.04	-90.38	828.39	786.02	42.37	19.551	0					
9,775.00	9,752.33	9,773.58	9,751.12	24.06	24.06	-90.38	828.46	786.06	42.40	19.540	0					
9,800.00	9,774.96	9,798.56	9,773.78	24.07	24.07	-90.38	828.55	786.12	42.43	19.529	0					
9,825.00	9,797.01	9,823.54	9,795.86	24.08	24.08	-90.37	828.64	786.18	42.46	19.517	0					
9,850.00	9,818.40	9,848.53	9,817.31	24.09	24.09	-90.37	828.74	786.25	42.49	19.502	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 121H
Well Error: 0.00
Reference Wellbore: Wellbore #1
Reference Design: Plan 1

Local Co-ordinate Reference: Well Thistle Unit 121H
TVD Reference: 1 @ 3746.90ft
MD Reference: 1 @ 3746.90ft
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 119H - 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	
9,875.00	9,839.09	9,873.52	9,838.07	24.10	24.10	-90.37	828.85	786.31	42.54	19.483	0		
9,900.00	9,859.02	9,898.52	9,858.08	24.12	24.11	-90.36	828.97	786.37	42.60	19.458	0		
9,925.00	9,878.13	9,923.53	9,877.28	24.13	24.12	-90.36	829.10	786.42	42.68	19.424	0		
9,950.00	9,896.37	9,948.54	9,895.61	24.14	24.14	-90.35	829.24	786.45	42.79	19.381	0		
9,975.00	9,913.69	9,973.56	9,913.04	24.16	24.15	-90.34	829.38	786.47	42.91	19.327	0		
10,000.00	9,930.04	9,998.59	9,929.51	24.18	24.17	-90.33	829.53	786.46	43.07	19.260	0		
10,025.00	9,945.38	10,023.63	9,944.97	24.20	24.19	-90.32	829.69	786.43	43.26	19.180	0		
10,050.00	9,959.67	10,048.67	9,959.38	24.23	24.22	-90.31	829.85	786.36	43.48	19.084	0		
10,075.00	9,972.86	10,073.71	9,972.70	24.27	24.26	-90.30	830.02	786.27	43.75	18.973	0		
10,100.00	9,984.93	10,098.77	9,984.90	24.31	24.30	-90.28	830.19	786.14	44.05	18.846	0		
10,125.00	9,995.83	10,123.83	9,995.93	24.37	24.36	-90.27	830.37	785.97	44.40	18.703	0		
10,150.00	10,005.54	10,148.89	10,005.77	24.45	24.43	-90.26	830.55	785.77	44.79	18.544	0		
10,175.00	10,014.04	10,173.96	10,014.39	24.54	24.52	-90.24	830.74	785.52	45.22	18.370	0		
10,200.00	10,021.29	10,199.04	10,021.76	24.66	24.63	-90.23	830.93	785.23	45.70	18.182	0		
10,225.00	10,027.27	10,224.12	10,027.87	24.80	24.77	-90.21	831.12	784.90	46.22	17.981	0		
10,250.00	10,031.98	10,249.21	10,032.69	24.98	24.95	-90.19	831.32	784.53	46.79	17.767	0		
10,275.00	10,035.40	10,274.30	10,036.21	25.18	25.15	-90.18	831.51	784.12	47.40	17.544	0		
10,300.00	10,037.52	10,299.40	10,038.42	25.42	25.39	-90.16	831.71	783.67	48.04	17.312	0		
10,321.50	10,038.30	10,320.99	10,039.27	25.65	25.62	-90.14	831.88	783.25	48.63	17.107	0		
10,343.33	10,038.59	10,342.82	10,039.60	25.86	25.87	-90.14	832.05	782.92	49.14	16.933	0		
10,400.00	10,039.37	10,399.49	10,040.43	26.43	26.62	-90.15	832.50	781.95	50.56	16.466	0		
10,500.00	10,040.73	10,499.49	10,041.91	27.93	28.22	-90.16	833.30	779.34	53.96	15.442	0		
10,600.00	10,042.10	10,599.48	10,043.39	29.71	30.07	-90.16	834.09	776.28	57.81	14.429	0		
10,700.00	10,043.46	10,699.48	10,044.86	31.71	32.12	-90.17	834.89	772.87	62.01	13.463	0		
10,800.00	10,044.83	10,799.48	10,046.34	33.87	34.32	-90.18	835.68	769.17	66.51	12.565	0		
10,900.00	10,046.19	10,899.47	10,047.81	36.16	36.65	-90.19	836.47	765.24	71.24	11.742	0		
11,000.00	10,047.56	10,999.47	10,049.29	38.56	39.07	-90.19	837.27	761.11	76.16	10.994	0		
11,100.00	10,048.92	11,099.47	10,050.76	41.04	41.58	-90.20	838.06	756.82	81.24	10.316	0		
11,200.00	10,050.29	11,199.46	10,052.24	43.60	44.15	-90.21	838.85	752.41	86.44	9.704	0		
11,300.00	10,051.65	11,299.46	10,053.72	46.22	46.78	-90.22	839.65	747.89	91.76	9.150	0		
11,400.00	10,053.02	11,399.46	10,055.19	48.88	49.46	-90.22	840.44	743.28	97.16	8.650	0		
11,500.00	10,054.38	11,499.45	10,056.67	51.59	52.17	-90.23	841.23	738.59	102.64	8.196	0		
11,600.00	10,055.75	11,599.45	10,058.14	54.33	54.92	-90.24	842.03	733.84	108.19	7.783	0		
11,700.00	10,057.12	11,699.45	10,059.62	57.10	57.70	-90.24	842.82	729.03	113.79	7.407	0		
11,800.00	10,058.48	11,799.44	10,061.09	59.90	60.51	-90.25	843.61	724.18	119.43	7.064	0		
11,900.00	10,059.85	11,899.44	10,062.57	62.72	63.33	-90.26	844.41	719.29	125.12	6.749	0		
12,000.00	10,061.21	11,999.44	10,064.05	65.56	66.18	-90.27	845.20	714.36	130.84	6.460	0		
12,100.00	10,062.58	12,099.43	10,065.52	68.42	69.04	-90.27	846.00	709.40	136.59	6.194	0		
12,200.00	10,063.94	12,199.43	10,067.00	71.29	71.92	-90.28	846.79	704.42	142.37	5.948	0		
12,300.00	10,065.31	12,299.43	10,068.47	74.18	74.80	-90.29	847.58	699.41	148.18	5.720	0		
12,400.00	10,066.67	12,399.43	10,069.95	77.08	77.71	-90.30	848.38	694.38	154.00	5.509	0		
12,500.00	10,068.04	12,499.42	10,071.42	79.98	80.62	-90.30	849.17	689.33	159.84	5.313	0		
12,600.00	10,069.40	12,599.42	10,072.90	82.90	83.54	-90.31	849.96	684.26	165.70	5.129	0		
12,700.00	10,070.77	12,699.42	10,074.38	85.83	86.46	-90.32	850.76	679.18	171.58	4.958	0		
12,800.00	10,072.13	12,799.41	10,075.85	88.76	89.40	-90.32	851.55	674.08	177.47	4.798	0		
12,900.00	10,073.50	12,899.41	10,077.33	91.70	92.34	-90.33	852.35	668.98	183.37	4.648	0		
13,000.00	10,074.86	12,999.41	10,078.80	94.65	95.29	-90.34	853.14	663.86	189.28	4.507	0		
13,100.00	10,076.23	13,099.40	10,080.28	97.60	98.24	-90.35	853.93	658.73	195.21	4.375	0		
13,200.00	10,077.59	13,199.40	10,081.75	100.56	101.20	-90.35	854.73	653.59	201.14	4.249	0		
13,300.00	10,078.96	13,299.40	10,083.23	103.52	104.16	-90.36	855.52	648.44	207.08	4.131	0		
13,400.00	10,080.32	13,399.39	10,084.71	106.49	107.13	-90.37	856.32	643.29	213.03	4.020	0		
13,500.00	10,081.69	13,499.39	10,086.18	109.46	110.10	-90.37	857.11	638.13	218.98	3.914	0		
13,600.00	10,083.05	13,599.39	10,087.66	112.43	113.08	-90.38	857.90	632.96	224.95	3.814	0		
13,700.00	10,084.42	13,699.38	10,089.13	115.41	116.06	-90.39	858.70	627.78	230.91	3.719	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 121H
Well Error: 0.00
Reference Wellbore: Wellbore #1
Reference Design: Plan 1

Local Co-ordinate Reference: Well Thistle Unit 121H
TVD Reference: 1 @ 3746.90ft
MD Reference: 1 @ 3746.90ft
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												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Dzurisin - Thistle Unit 119H - Wellbore #1 - Plan 1													
Reference		Offset		Semi Major Axis		Distance							
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	Warning
13,800.00	10,085.78	13,799.38	10,090.61	118.39	119.04	-90.39	859.49	622.60	236.89	3.628	0		
13,900.00	10,087.15	13,899.38	10,092.09	121.38	122.02	-90.40	860.29	617.42	242.87	3.542	0		
14,000.00	10,088.51	13,999.37	10,093.56	124.36	125.01	-90.41	861.08	612.23	248.85	3.460	0		
14,100.00	10,089.88	14,099.37	10,095.04	127.35	128.00	-90.42	861.87	607.03	254.84	3.382	0		
14,200.00	10,091.24	14,199.37	10,096.51	130.34	130.99	-90.42	862.67	601.83	260.83	3.307	0		
14,300.00	10,092.61	14,299.36	10,097.99	133.34	133.98	-90.43	863.46	596.63	266.83	3.236	0		
14,400.00	10,093.97	14,399.36	10,099.46	136.33	136.98	-90.44	864.26	591.43	272.83	3.168	0		
14,500.00	10,095.34	14,499.36	10,100.94	139.33	139.98	-90.44	865.05	586.22	278.83	3.102	0		
14,600.00	10,096.70	14,599.35	10,102.42	142.33	142.98	-90.45	865.84	581.00	284.84	3.040	0		
14,700.00	10,098.07	14,699.35	10,103.89	145.33	145.98	-90.46	866.64	575.79	290.85	2.980	0		
14,800.00	10,099.43	14,799.35	10,105.37	148.33	148.98	-90.46	867.43	570.57	296.86	2.922	0		
14,900.00	10,100.80	14,899.35	10,106.84	151.34	151.98	-90.47	868.23	565.35	302.88	2.867	0		
15,000.00	10,102.16	14,999.34	10,108.32	154.34	154.99	-90.48	869.02	560.13	308.89	2.813	0		
15,100.00	10,103.53	15,099.34	10,109.79	157.35	158.00	-90.48	869.81	554.90	314.91	2.762	0		
15,200.00	10,104.89	15,199.34	10,111.27	160.36	161.00	-90.49	870.61	549.67	320.93	2.713	0		
15,300.00	10,106.26	15,299.33	10,112.75	163.37	164.01	-90.50	871.40	544.44	326.96	2.665	0		
15,400.00	10,107.62	15,399.33	10,114.22	166.38	167.02	-90.51	872.20	539.21	332.98	2.619	0		
15,500.00	10,108.99	15,499.33	10,115.70	169.39	170.04	-90.51	872.99	533.98	339.01	2.575	0		
15,600.00	10,110.36	15,599.32	10,117.17	172.40	173.05	-90.52	873.78	528.74	345.04	2.532	0		
15,700.00	10,111.72	15,699.32	10,118.65	175.41	176.06	-90.53	874.58	523.51	351.07	2.491	0		
15,800.00	10,113.09	15,799.32	10,120.12	178.43	179.08	-90.53	875.37	518.27	357.11	2.451	0		
15,900.00	10,114.45	15,899.31	10,121.60	181.44	182.09	-90.54	876.17	513.03	363.14	2.413	0		
16,000.00	10,115.82	15,999.31	10,123.08	184.46	185.11	-90.55	876.96	507.78	369.18	2.375	0		
16,100.00	10,117.18	16,099.31	10,124.55	187.48	188.12	-90.55	877.76	502.54	375.21	2.339	0		
16,200.00	10,118.55	16,199.30	10,126.03	190.49	191.14	-90.56	878.55	497.30	381.25	2.304	0		
16,300.00	10,119.91	16,299.30	10,127.50	193.51	194.16	-90.57	879.34	492.05	387.29	2.270	0		
16,400.00	10,121.28	16,399.30	10,128.98	196.53	197.18	-90.57	880.14	486.81	393.33	2.238	0		
16,500.00	10,122.64	16,499.29	10,130.45	199.55	200.20	-90.58	880.93	481.56	399.37	2.206	0		
16,600.00	10,124.01	16,599.29	10,131.93	202.57	203.22	-90.59	881.73	476.31	405.42	2.175	0		
16,700.00	10,125.37	16,699.29	10,133.41	205.59	206.24	-90.59	882.52	471.06	411.46	2.145	0		
16,800.00	10,126.74	16,799.28	10,134.88	208.61	209.26	-90.60	883.32	465.81	417.51	2.116	0		
16,900.00	10,128.10	16,899.28	10,136.36	211.63	212.28	-90.61	884.11	460.56	423.55	2.087	0		
17,000.00	10,129.47	16,999.28	10,137.83	214.65	215.30	-90.61	884.90	455.31	429.60	2.060	0		
17,100.00	10,130.83	17,099.27	10,139.31	217.68	218.32	-90.62	885.70	450.05	435.65	2.033	0		
17,200.00	10,132.20	17,199.27	10,140.78	220.70	221.35	-90.63	886.49	444.80	441.70	2.007	0		
17,300.00	10,133.56	17,299.27	10,142.26	223.72	224.37	-90.63	887.29	439.54	447.74	1.982	0		
17,400.00	10,134.93	17,399.27	10,143.74	226.75	227.39	-90.64	888.08	434.29	453.79	1.957	0		
17,500.00	10,136.29	17,499.26	10,145.21	229.77	230.42	-90.65	888.88	429.03	459.85	1.933	0		
17,602.95	10,137.70	17,602.21	10,146.73	232.88	233.53	-90.65	889.69	423.62	466.07	1.909	0		
17,625.14	10,138.08	17,620.43	10,147.00	233.55	233.95	-90.65	889.88	422.72	467.16	1.905	0		
17,626.12	10,138.01	17,620.43	10,147.00	233.58	233.95	-90.65	889.89	422.71	467.18	1.905	0	SF	

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

Devon Energy
Anticollision Risk Report

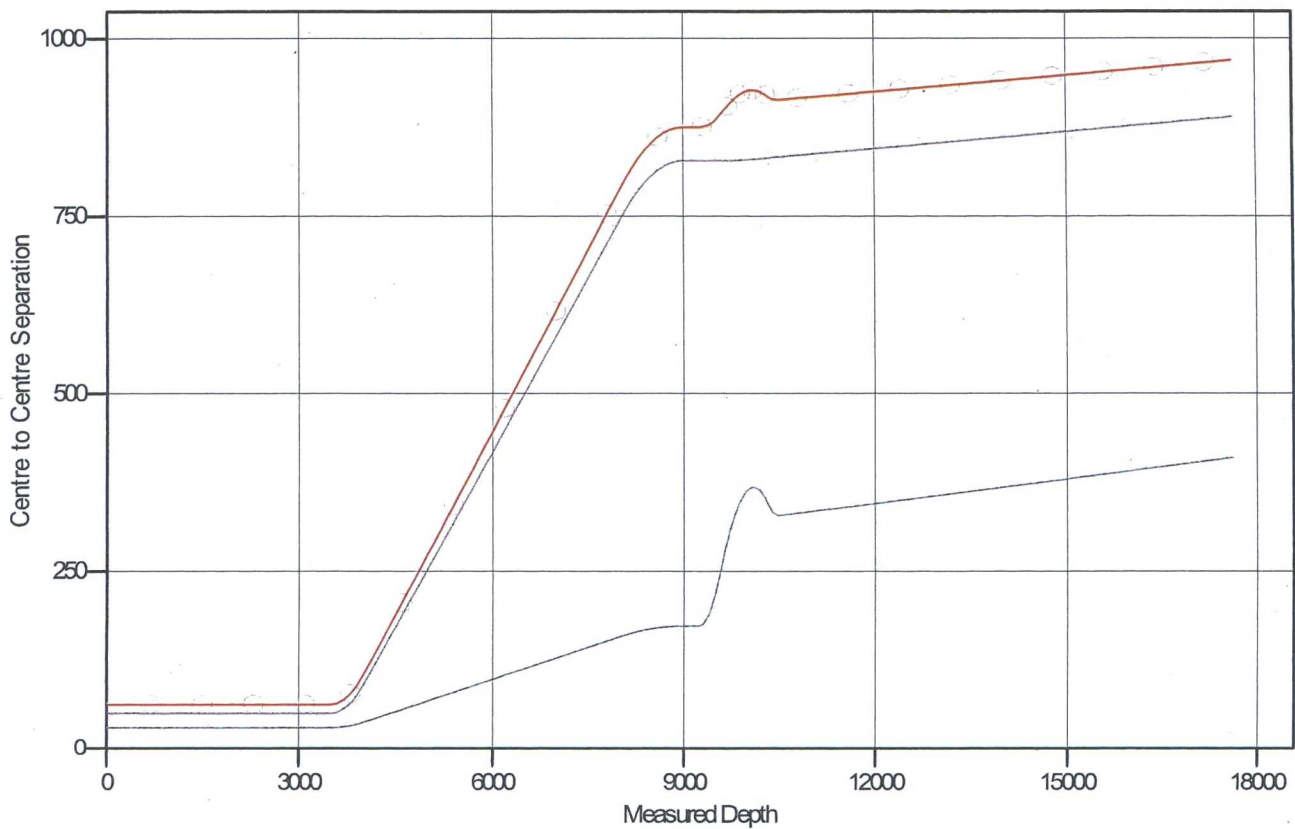
Company: WESTERN DIVISION
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Reference Site: Dzurisin
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Reference Well: Thistle Unit 121H
Well Error: 0.00
Reference Wellbore: Wellbore #1
Reference Design: Plan 1

Local Co-ordinate Reference: Well Thistle Unit 121H
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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 @ 3746.90ft
Offset Depths are relative to Offset Datum
Central Meridian is

Coordinates are relative to: Thistle Unit 121H
Coordinate System is Flat Earth, No Conversions
Grid Convergence at Surface is: 0.00°

Ladder Plot



LEGEND

◆ Thistle Unit 119H, Wellbore #1, Plan 1 V0 □ Thistle Unit 105H, Wellbore #1, Plan 1 V0 ○ Thistle Unit 108H, Wellbore #1, Plan 1 V0

Devon Energy
Anticollision Risk Report

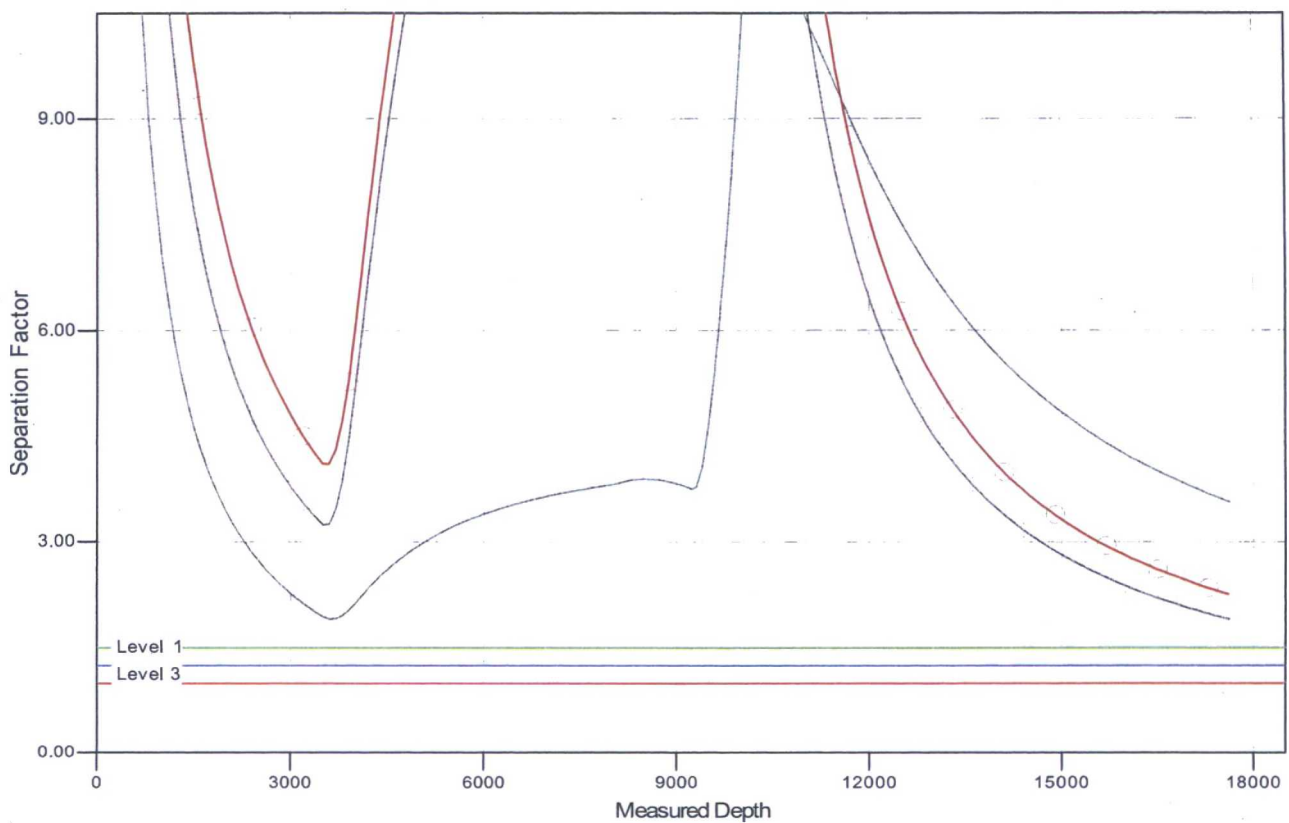
Company: WESTERN DIVISION
Project: PBNM
Reference Site: Dzurisin
Site Error: 0.00
Reference Well: Thistle Unit 121H
Well Error: 0.00
Reference Wellbore: Wellbore #1
Reference Design: Plan 1

Local Co-ordinate Reference: Well Thistle Unit 121H
TVD Reference: 1 @ 3746.90ft
MD Reference: 1 @ 3746.90ft
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 @ 3746.90ft
Offset Depths are relative to Offset Datum
Central Meridian is

Coordinates are relative to: Thistle Unit 121H
Coordinate System is Flat Earth, No Conversions
Grid Convergence at Surface is: 0.00°

Separation Factor Plot



LEGEND

Thistle Unit 119H, Wellbore #1, Plan 1 V0 Thistle Unit 105H, Wellbore #1, Plan 1 V0 Thistle Unit 108H, Wellbore #1, Plan 1 V0