

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	Plan 1
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria
Interpolation Method:	Stations Interval 100.00ft
Depth Range:	Unlimited
Results Limited by:	Maximum center-center distance of 10,000.00ft
Warning Levels Evaluated at:	2.00 Sigma
Error Model:	ISCWSA
Scan Method:	Closest Approach 3D
Error Surface:	Elliptical Conic
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						
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 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		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		
0.00	0.00	0.50	0.50	0.00	0.00	179.52	29.95				0				
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

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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	
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			

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Well Error: 0.00
Reference Wellbore: Wellbore #1
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Local Co-ordinate Reference: Well Thistle Unit 121H
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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					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)							
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				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)						
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		Minimum		Separation		Risked	
Measured	Vertical	Measured	Vertical	Reference	Offset	Highside	Between	Between	Separation	Factor		Separation	Probability
Depth	Depth	Depth	Depth			Toolface	Centres	Ellipses				Factor	of Collision
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	(ft)	(ft)	(ft)				Warning
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	Risked Separation Factor	Probability of Collision	
0.00	0.00	0.10	0.10	0.00	0.00	117.79	63.59				0		
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	4,597.08	4,582.67	4,579.82	10.36	10.26	175.44	206.67	186.75	19.93	10.372	0		
4,700.00	4,696.70	4,681.20	4,677.97	10.63	10.52	175.02	223.71	203.36	20.35	10.994	0		
4,800.00	4,796.32	4,779.72	4,776.12	10.91	10.79	174.66	240.75	219.98	20.77	11.591	0		
4,900.00	4,895.94	4,878.25	4,874.27	11.19	11.07	174.35	257.80	236.61	21.19	12.164	0		
5,000.00	4,995.56	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												Offset Site Error:	0.00 ft
Dzurisin - Thistle Unit 108H - Wellbore #1 - Plan 1												Offset Well Error:	0.00 ft
Survey Program: 0-MWD													
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
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						Risked Separation Factor	Probability of Collision	Warning		
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Between Centres	Between Ellipses	Minimum Separation	Separation Factor						
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	(ft)	(ft)	(ft)							
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 covergent point, SF - min separation factor, ES - min ellipse separation

Devon Energy

Anticollision Risk Report

Company: WESTERN DIVISION
Project: PBNM
Reference Site: Dzurisin
Site Error: 0.00
Reference Well: 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	
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	10,081.69	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	

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						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						
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					
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 covergent point, SF - min separation factor, ES - min ellipse separation

Devon Energy

Anticollision Risk Report

Company: WESTERN DIVISION
 Project: PBNM
 Reference Site: Dzurisin
 Site Error: 0.00
 Reference Well: 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							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	
5,400.00	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	5,956.80	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													Offset Site Error:	0.00 ft
Survey Program: 0-MWD													Offset Well Error:	0.00 ft
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	
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
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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
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	10,138.00	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	

Devon Energy
Anticollision Risk Report

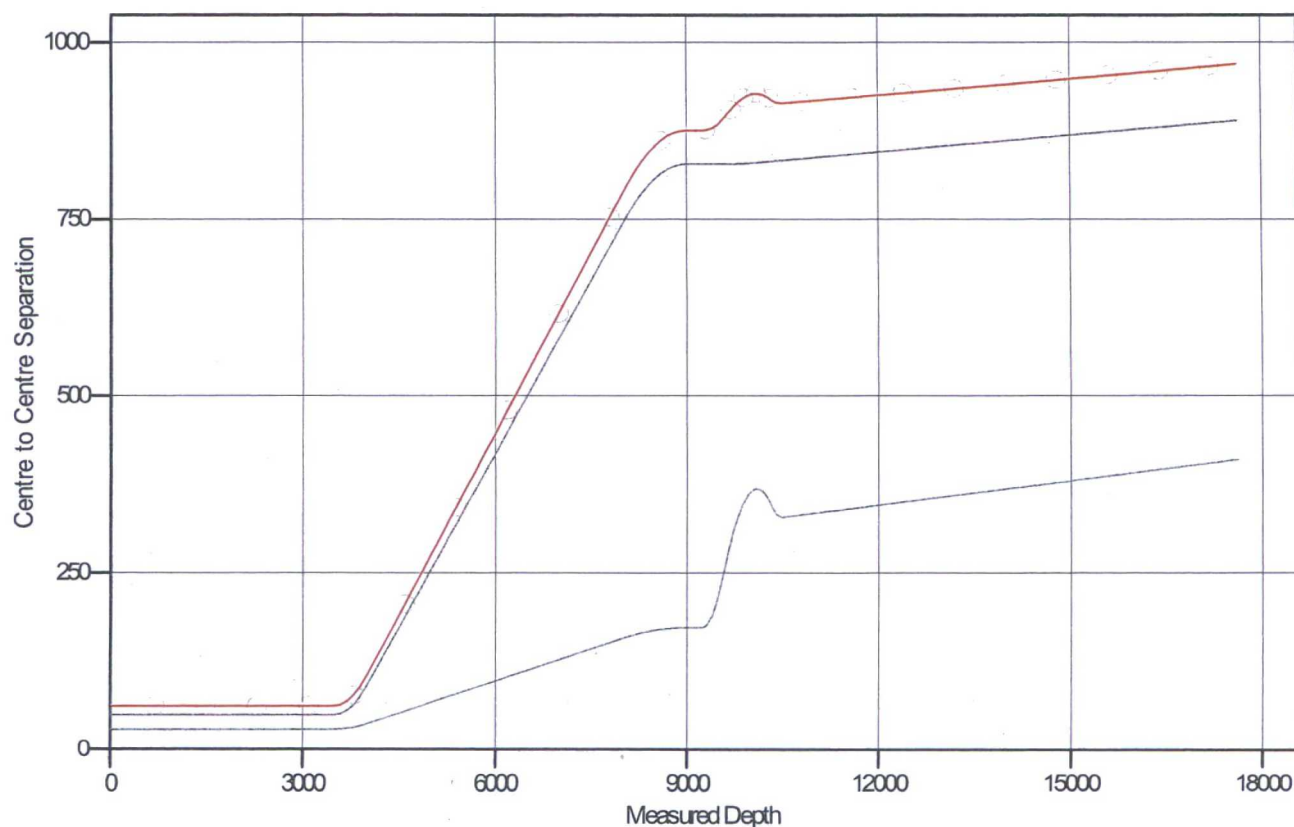
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Reference Design: Plan 1

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°

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

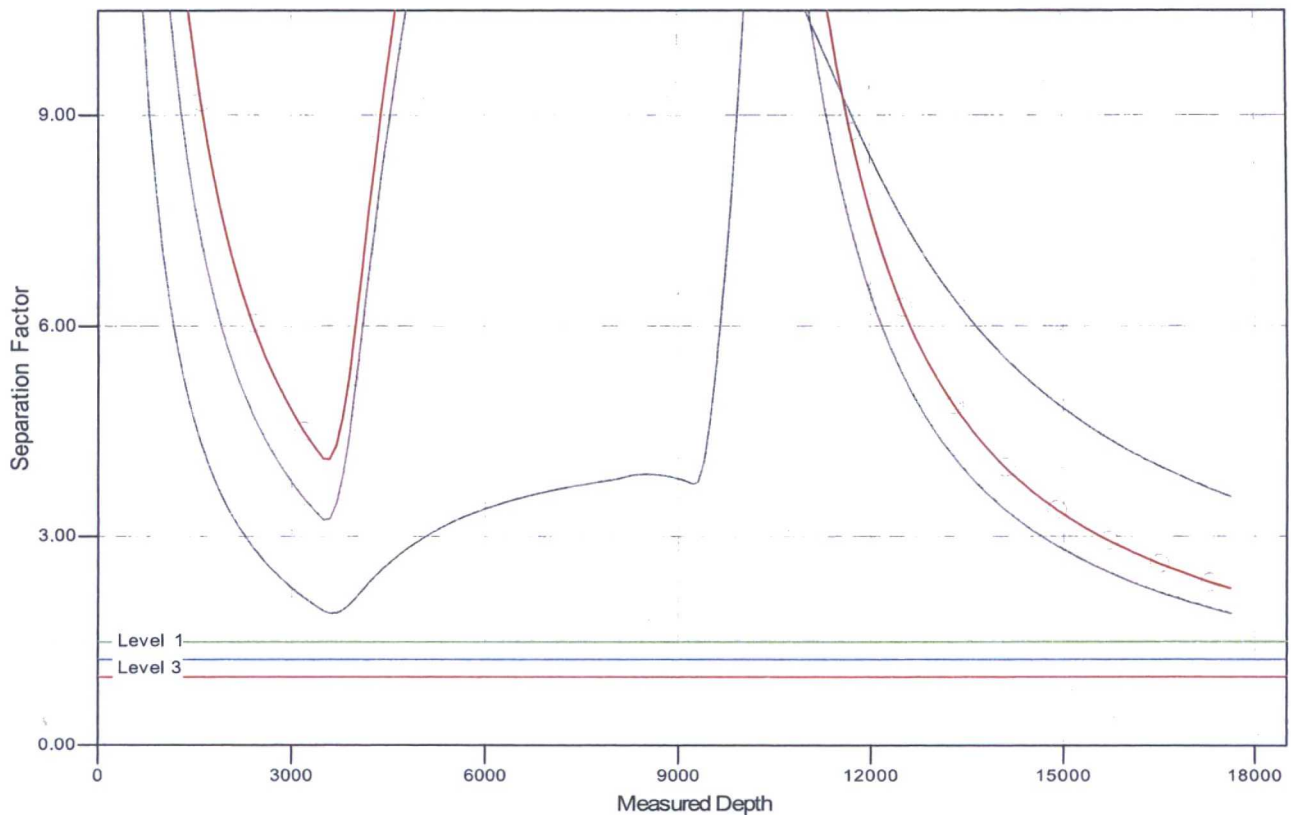
Company: WESTERN DIVISION
Project: PBNM
Reference Site: Dzurisin
Site Error: 0.00
Reference Well: Thistle Unit 121H
Well Error: 0.00
Reference Wellbore: Wellbore #1
Reference Design: Plan 1

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