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WESTERN DIVISION

PBNM

Norwalk_Section 34

Thistle Unit 132H

Wellbore #1

Design #1

Anticollision Report

05 October, 2016

Devon Energy

Anticollision Report

Company: WESTERN DIVISION
 Project: PBNM
 Reference Site: Norwalk_Section 34
 Site Error: 0.00 ft
 Reference Well: Thistle Unit 132H
 Well Error: 0.00 ft
 Reference Wellbore: Wellbore #1
 Reference Design: Design #1

Local Co-ordinate Reference: Well Thistle Unit 132H
 TVD Reference: KB @ 3667.90ft
 MD Reference: KB @ 3667.90ft
 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 Design #1

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

Survey Tool Program Date 10/5/2016

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.00	17,692.40	Design #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						
Norwalk_Section 34						
Thistle Unit 112H - Wellbore #1 - Design #1	3,200.00	3,200.90	29.98	16.70	2.258	CC, ES
Thistle Unit 112H - Wellbore #1 - Design #1	3,300.00	3,300.90	30.44	16.75	2.224	SF
Thistle Unit 113H - Wellbore #1 - Design #1	3,200.00	3,199.80	58.23	48.25	5.838	CC, ES
Thistle Unit 113H - Wellbore #1 - Design #1	17,692.64	17,083.26	960.63	774.24	5.154	SF
Thistle Unit 137H - Wellbore #1 - Design #1	3,200.00	3,198.80	49.99	40.02	5.013	CC, ES
Thistle Unit 137H - Wellbore #1 - Design #1	17,692.64	18,183.43	889.85	687.40	4.395	SF
Thistle Unit 49H_AC - Original - Actual	8,684.70	8,717.65	257.99	221.44	7.058	CC
Thistle Unit 49H_AC - Original - Actual	8,700.00	8,732.52	258.01	221.39	7.045	ES
Thistle Unit 49H_AC - Original - Actual	9,500.00	9,537.48	265.16	225.13	6.623	SF
Thistle Unit 49H_AC - Original - Design #1	9,552.94	9,574.15	241.06	220.85	11.925	CC, ES
Thistle Unit 49H_AC - Original - Design #1	9,600.00	9,619.86	242.00	221.71	11.923	SF

Offset Design Norwalk_Section 34 - Thistle Unit 112H - Wellbore #1 - Design #1

Survey Program: 0-MWD(OWSG)											Offset Well Error:		0.00 ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
0.00	0.00	0.90	0.90	0.00	0.00	-0.35	29.98	-0.19	29.98				
100.00	100.00	100.90	100.90	0.08	0.14	-0.35	29.98	-0.19	29.98	29.82	0.16	185.726	
200.00	200.00	200.90	200.90	0.31	0.50	-0.35	29.98	-0.19	29.98	29.39	0.58	51.287	
300.00	300.00	300.90	300.90	0.53	0.85	-0.35	29.98	-0.19	29.98	28.97	1.01	29.751	
400.00	400.00	400.90	400.90	0.76	1.21	-0.35	29.98	-0.19	29.98	28.55	1.43	20.953	
500.00	500.00	500.90	500.90	0.98	1.57	-0.35	29.98	-0.19	29.98	28.12	1.85	16.171	
600.00	600.00	600.90	600.90	1.21	1.93	-0.35	29.98	-0.19	29.98	27.70	2.28	13.166	
700.00	700.00	700.90	700.90	1.43	2.29	-0.35	29.98	-0.19	29.98	27.28	2.70	11.103	
800.00	800.00	800.90	800.90	1.66	2.65	-0.35	29.98	-0.19	29.98	26.85	3.12	9.599	
900.00	900.00	900.90	900.90	1.88	3.01	-0.35	29.98	-0.19	29.98	26.43	3.55	8.453	
1,000.00	1,000.00	1,000.90	1,000.90	2.11	3.36	-0.35	29.98	-0.19	29.98	26.01	3.97	7.552	
1,100.00	1,100.00	1,100.90	1,100.90	2.33	3.72	-0.35	29.98	-0.19	29.98	25.59	4.39	6.825	
1,200.00	1,200.00	1,200.90	1,200.90	2.56	4.08	-0.35	29.98	-0.19	29.98	25.16	4.82	6.225	
1,300.00	1,300.00	1,300.90	1,300.90	2.78	4.44	-0.35	29.98	-0.19	29.98	24.74	5.24	5.722	
1,400.00	1,400.00	1,400.90	1,400.90	3.01	4.80	-0.35	29.98	-0.19	29.98	24.32	5.66	5.295	
1,500.00	1,500.00	1,500.90	1,500.90	3.23	5.16	-0.35	29.98	-0.19	29.98	23.89	6.08	4.927	

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

Devon Energy

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Local Co-ordinate Reference: Well Thistle Unit 132H
 TVD Reference: KB @ 3667.90ft
 MD Reference: KB @ 3667.90ft
 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 Norwalk_Section 34 - Thistle Unit 112H - Wellbore #1 - Design #1													Offset Site Error: 0.00 ft
Survey Program: 0-MWD(OWSG)													Offset Well Error: 0.00 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)					
1,600.00	1,600.00	1,600.90	1,600.90	3.46	5.51	-0.35	29.98	-0.19	29.98	23.47	6.51	4.606	
1,700.00	1,700.00	1,700.90	1,700.90	3.68	5.87	-0.35	29.98	-0.19	29.98	23.05	6.93	4.325	
1,800.00	1,800.00	1,800.90	1,800.90	3.91	6.23	-0.35	29.98	-0.19	29.98	22.62	7.35	4.076	
1,900.00	1,900.00	1,900.90	1,900.90	4.13	6.59	-0.35	29.98	-0.19	29.98	22.20	7.78	3.854	
2,000.00	2,000.00	2,000.90	2,000.90	4.35	6.95	-0.35	29.98	-0.19	29.98	21.78	8.20	3.656	
2,100.00	2,100.00	2,100.90	2,100.90	4.58	7.31	-0.35	29.98	-0.19	29.98	21.35	8.62	3.476	
2,200.00	2,200.00	2,200.90	2,200.90	4.80	7.67	-0.35	29.98	-0.19	29.98	20.93	9.05	3.314	
2,300.00	2,300.00	2,300.90	2,300.90	5.03	8.02	-0.35	29.98	-0.19	29.98	20.51	9.47	3.166	
2,400.00	2,400.00	2,400.90	2,400.90	5.25	8.38	-0.35	29.98	-0.19	29.98	20.08	9.89	3.030	
2,500.00	2,500.00	2,500.90	2,500.90	5.48	8.74	-0.35	29.98	-0.19	29.98	19.66	10.32	2.906	
2,600.00	2,600.00	2,600.90	2,600.90	5.70	9.10	-0.35	29.98	-0.19	29.98	19.24	10.74	2.791	
2,700.00	2,700.00	2,700.90	2,700.90	5.93	9.46	-0.35	29.98	-0.19	29.98	18.82	11.16	2.686	
2,800.00	2,800.00	2,800.90	2,800.90	6.15	9.82	-0.35	29.98	-0.19	29.98	18.39	11.59	2.588	
2,900.00	2,900.00	2,900.90	2,900.90	6.38	10.17	-0.35	29.98	-0.19	29.98	17.97	12.01	2.496	
3,000.00	3,000.00	3,000.90	3,000.90	6.60	10.53	-0.35	29.98	-0.19	29.98	17.55	12.43	2.411	
3,100.00	3,100.00	3,100.90	3,100.90	6.83	10.89	-0.35	29.98	-0.19	29.98	17.12	12.85	2.332	
3,200.00	3,200.00	3,200.90	3,200.90	7.05	11.25	-0.35	29.98	-0.19	29.98	16.70	13.28	2.258 CC, ES	
3,300.00	3,300.00	3,300.90	3,300.90	7.25	11.61	-0.35	29.98	-0.19	30.44	16.75	13.69	2.224 SF	
3,400.00	3,399.98	3,400.88	3,400.88	7.43	11.97	-0.35	29.98	-0.19	31.87	17.79	14.09	2.263	
3,500.00	3,499.92	3,500.82	3,500.82	7.61	12.33	-0.35	29.98	-0.19	34.37	19.89	14.49	2.373	
3,600.00	3,599.82	3,600.72	3,600.72	7.79	12.68	-0.35	29.98	-0.19	38.07	23.18	14.89	2.557	
3,700.00	3,699.64	3,700.54	3,700.54	7.98	13.04	-0.35	29.98	-0.19	43.07	27.79	15.29	2.817	
3,733.33	3,732.90	3,733.80	3,733.80	8.04	13.16	-0.35	29.98	-0.19	45.04	29.62	15.42	2.921	
3,800.00	3,799.40	3,800.30	3,800.30	8.17	13.40	-0.35	29.98	-0.19	49.19	33.50	15.69	3.135	
3,900.00	3,899.16	3,900.06	3,900.06	8.37	13.76	-0.35	29.98	-0.19	55.56	39.46	16.10	3.452	
4,000.00	3,998.92	3,999.82	3,999.82	8.57	14.11	-0.35	29.98	-0.19	62.06	45.56	16.50	3.761	
4,100.00	4,098.67	4,099.57	4,099.57	8.77	14.47	-0.35	29.98	-0.19	68.65	51.74	16.91	4.061	
4,200.00	4,198.43	4,199.33	4,199.33	8.97	14.83	-0.35	29.98	-0.19	75.31	58.00	17.31	4.350	
4,300.00	4,298.19	4,299.09	4,299.09	9.18	15.19	-0.35	29.98	-0.19	82.03	64.31	17.72	4.629	
4,400.00	4,397.94	4,398.84	4,398.84	9.39	15.54	-0.35	29.98	-0.19	88.78	70.65	18.13	4.897	
4,500.00	4,497.70	4,498.60	4,498.60	9.60	15.90	-0.35	29.98	-0.19	95.57	77.03	18.54	5.155	
4,600.00	4,597.46	4,598.36	4,598.36	9.82	16.26	-0.35	29.98	-0.19	102.38	83.43	18.95	5.403	
4,700.00	4,697.21	4,698.11	4,698.11	10.03	16.62	-0.35	29.98	-0.19	109.21	89.85	19.36	5.642	
4,800.00	4,796.97	4,797.87	4,797.87	10.25	16.97	-0.35	29.98	-0.19	116.06	96.29	19.77	5.871	
4,900.00	4,896.73	4,897.63	4,897.63	10.47	17.33	-0.35	29.98	-0.19	122.92	102.74	20.18	6.092	
5,000.00	4,996.48	4,997.38	4,997.38	10.70	17.69	-0.35	29.98	-0.19	129.80	109.21	20.59	6.304	
5,100.00	5,096.24	5,097.14	5,097.14	10.92	18.05	-0.35	29.98	-0.19	136.68	115.68	21.00	6.508	
5,200.00	5,195.99	5,196.89	5,196.89	11.15	18.41	-0.35	29.98	-0.19	143.58	122.16	21.42	6.704	
5,300.00	5,295.75	5,296.65	5,296.65	11.37	18.76	-0.35	29.98	-1.03	149.98	128.16	21.83	6.871	
5,400.00	5,395.51	5,396.41	5,396.41	11.60	19.11	-0.35	29.98	-3.66	155.34	133.11	22.23	6.988	
5,500.00	5,495.26	5,501.15	5,501.01	11.83	19.46	-0.35	29.98	-8.10	159.68	137.04	22.64	7.054	
5,600.00	5,595.02	5,602.65	5,602.32	12.06	19.82	-0.35	29.98	-14.33	163.05	140.01	23.04	7.076	
5,700.00	5,694.78	5,704.01	5,703.36	12.30	20.18	-0.35	29.98	-22.34	165.57	142.11	23.46	7.059	
5,800.00	5,794.53	5,803.82	5,802.79	12.53	20.53	-0.35	29.98	-31.04	167.83	143.96	23.87	7.030	
5,900.00	5,894.29	5,903.62	5,902.21	12.77	20.90	-0.35	29.98	-39.73	170.29	145.99	24.30	7.009	
6,000.00	5,994.05	6,003.43	6,001.64	13.00	21.26	-0.35	29.98	-48.43	172.94	148.22	24.72	6.995	
6,100.00	6,093.80	6,103.24	6,101.07	13.24	21.63	-0.35	29.98	-57.13	175.77	150.61	25.15	6.988	
6,200.00	6,193.56	6,203.04	6,200.49	13.47	22.00	-0.35	29.98	-65.83	178.77	153.18	25.59	6.987	
6,300.00	6,293.31	6,302.85	6,299.92	13.71	22.37	-0.35	29.98	-74.53	181.93	155.91	26.02	6.991	
6,400.00	6,393.07	6,402.66	6,399.35	13.95	22.75	-0.35	29.98	-83.23	185.25	158.78	26.47	7.000	
6,500.00	6,492.83	6,502.46	6,498.78	14.19	23.13	-0.35	29.98	-91.93	188.71	161.80	26.91	7.013	
6,600.00	6,592.58	6,602.27	6,598.20	14.43	23.51	-0.35	29.98	-100.63	192.31	164.96	27.36	7.030	

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 Well Error: 0.00 ft
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Norwalk_Section 34 - Thistle Unit 112H - Wellbore #1 - Design #1														Offset Site Error:	0.00 ft
Survey Program: 0-MWD(OWSG)														Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)							
6,700.00	6,692.34	6,702.08	6,697.63	14.67	23.89	149.81	29.98	-109.32	196.05	168.24	27.81	7.051			
6,733.33	6,725.59	6,735.35	6,730.77	14.75	24.02	149.34	29.98	-112.22	197.32	169.36	27.96	7.058			
6,800.00	6,792.12	6,801.89	6,797.06	14.91	24.27	148.37	29.98	-118.02	199.65	171.40	28.26	7.066			
6,900.00	6,891.97	6,901.61	6,896.41	15.12	24.66	146.80	29.98	-126.69	202.36	173.65	28.70	7.050			
7,000.00	6,991.88	7,001.10	6,995.57	15.33	25.04	145.22	29.98	-134.75	204.24	175.09	29.15	7.007			
7,100.00	7,091.84	7,100.85	7,094.86	15.53	25.42	143.70	29.98	-141.94	205.36	175.77	29.59	6.940			
7,200.00	7,191.83	7,200.25	7,194.26	15.73	25.80	142.21	29.98	-148.28	205.70	175.67	30.03	6.850			
7,266.67	7,258.49	7,266.69	7,260.59	15.86	26.05	6.22	29.98	-152.03	205.48	175.17	30.32	6.778			
7,300.00	7,291.83	7,299.91	7,293.77	15.93	26.17	5.74	29.98	-153.76	205.30	174.84	30.46	6.740			
7,400.00	7,391.83	7,399.65	7,393.39	16.13	26.54	4.46	29.98	-158.37	204.89	174.00	30.89	6.632			
7,500.00	7,491.83	7,499.45	7,493.13	16.34	26.90	3.41	29.98	-162.12	204.63	173.32	31.32	6.534			
7,600.00	7,591.83	7,599.32	7,592.95	16.54	27.26	2.60	29.98	-165.00	204.48	172.74	31.74	6.443			
7,700.00	7,691.83	7,699.23	7,692.84	16.75	27.62	2.04	29.98	-167.01	204.40	172.25	32.15	6.357			
7,800.00	7,791.83	7,799.16	7,792.77	16.95	27.97	1.72	29.98	-168.15	204.36	171.80	32.56	6.276			
7,900.00	7,891.83	7,899.12	7,892.73	17.16	28.32	1.64	29.98	-168.44	204.35	171.38	32.97	6.198			
8,000.00	7,991.83	7,999.12	7,992.73	17.36	28.67	1.64	29.98	-168.44	204.35	170.97	33.38	6.122			
8,100.00	8,091.83	8,099.12	8,092.73	17.57	29.02	1.64	29.98	-168.44	204.35	170.56	33.79	6.048			
8,200.00	8,191.83	8,199.12	8,192.73	17.78	29.37	1.64	29.98	-168.44	204.35	170.15	34.20	5.975			
8,300.00	8,291.83	8,299.12	8,292.73	17.99	29.72	1.64	29.98	-168.44	204.35	169.74	34.61	5.904			
8,400.00	8,391.83	8,399.12	8,392.73	18.19	30.08	1.64	29.98	-168.44	204.35	169.33	35.02	5.835			
8,500.00	8,491.83	8,499.12	8,492.73	18.40	30.43	1.64	29.98	-168.44	204.35	168.92	35.43	5.767			
8,600.00	8,591.83	8,599.12	8,592.73	18.61	30.78	1.64	29.98	-168.44	204.35	168.51	35.84	5.701			
8,700.00	8,691.83	8,699.12	8,692.73	18.82	31.13	1.64	29.98	-168.44	204.35	168.10	36.26	5.636			
8,800.00	8,791.83	8,799.12	8,792.73	19.03	31.49	1.64	29.98	-168.44	204.35	167.69	36.67	5.573			
8,900.00	8,891.83	8,899.12	8,892.73	19.24	31.84	1.64	29.98	-168.44	204.35	167.27	37.08	5.511			
9,000.00	8,991.83	8,999.12	8,992.73	19.45	32.19	1.64	29.98	-168.44	204.35	166.86	37.49	5.450			
9,100.00	9,091.83	9,099.12	9,092.73	19.66	32.54	1.64	29.98	-168.44	204.35	166.45	37.91	5.391			
9,109.58	9,101.41	9,108.70	9,102.31	19.68	32.58	1.64	29.98	-168.44	204.35	166.41	37.95	5.385			
9,200.00	9,191.83	9,182.44	9,175.99	19.87	32.84	1.62	31.86	-168.45	206.91	168.74	38.17	5.420			
9,300.00	9,291.83	9,250.02	9,242.87	20.08	33.07	1.53	41.28	-168.52	221.34	183.47	37.87	5.845			
9,400.00	9,391.83	9,323.05	9,313.35	20.29	33.32	1.38	60.23	-168.66	247.66	210.20	37.46	6.611			
9,492.22	9,484.04	9,381.71	9,367.86	20.49	33.51	1.22	81.85	-168.82	281.69	244.97	36.72	7.671			
9,500.00	9,491.83	9,386.45	9,372.16	20.51	33.52	1.57	83.84	-168.84	284.91	248.26	36.65	7.774			
9,550.00	9,541.73	9,416.78	9,399.28	20.61	33.62	1.45	97.40	-168.94	304.66	268.50	36.16	8.425			
9,600.00	9,591.19	9,450.02	9,428.14	20.70	33.72	1.34	113.88	-169.06	322.85	287.09	35.75	9.029			
9,650.00	9,639.84	9,476.78	9,450.65	20.78	33.80	1.26	128.35	-169.17	339.35	304.33	35.02	9.691			
9,700.00	9,687.30	9,500.02	9,469.63	20.85	33.87	1.20	141.76	-169.27	354.30	320.22	34.08	10.397			
9,750.00	9,733.22	9,536.11	9,497.99	20.92	33.98	1.13	164.08	-169.43	367.35	333.67	33.68	10.906			
9,800.00	9,777.24	9,565.59	9,520.07	20.98	34.07	1.09	183.61	-169.58	378.77	345.81	32.96	11.492			
9,850.00	9,819.02	9,600.02	9,544.55	21.04	34.19	1.05	207.81	-169.76	388.49	356.05	32.44	11.977			
9,900.00	9,858.26	9,624.27	9,560.89	21.09	34.29	1.02	225.72	-169.89	396.33	364.90	31.42	12.612			
9,950.00	9,894.65	9,650.02	9,577.40	21.14	34.41	1.00	245.47	-170.03	402.45	371.98	30.47	13.208			
10,000.00	9,927.92	9,682.70	9,597.06	21.18	34.59	0.98	271.58	-170.23	406.72	376.90	29.83	13.637			
10,050.00	9,957.80	9,711.87	9,613.31	21.23	34.76	0.97	295.80	-170.41	409.21	380.18	29.02	14.099			
10,100.00	9,984.09	9,750.02	9,632.67	21.33	35.02	0.96	328.66	-170.65	410.04	381.42	28.62	14.325			
10,150.00	10,006.56	9,770.17	9,642.01	21.49	35.18	0.97	346.52	-170.78	408.72	381.25	27.47	14.881			
10,200.00	10,025.06	9,800.02	9,654.66	21.69	35.42	0.97	373.54	-170.98	405.75	378.99	26.76	15.162			
10,250.00	10,039.44	9,828.55	9,665.43	21.91	35.67	0.98	399.96	-171.18	400.97	374.92	26.05	15.394			
10,300.00	10,049.60	9,850.02	9,672.66	22.16	35.87	1.00	420.17	-171.33	394.52	369.36	25.16	15.681			
10,350.00	10,055.45	9,887.12	9,683.35	22.44	36.24	1.02	455.70	-171.59	386.02	361.15	24.87	15.520			
10,390.65	10,057.00	9,911.02	9,689.00	22.69	36.50	1.05	478.91	-171.76	377.92	353.43	24.49	15.432			
10,400.00	10,057.03	9,916.54	9,690.17	22.75	36.56	1.05	484.30	-171.80	375.96	351.55	24.41	15.402			

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

Devon Energy

Anticollision Report

Company: WESTERN DIVISION
 Project: PBNM
 Reference Site: Norwalk_Section 34
 Site Error: 0.00 ft
 Reference Well: Thistle Unit 132H
 Well Error: 0.00 ft
 Reference Wellbore: Wellbore #1
 Reference Design: Design #1

Local Co-ordinate Reference: Well Thistle Unit 132H
 TVD Reference: KB @ 3667.90ft
 MD Reference: KB @ 3667.90ft
 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

Norwalk_Section 34 - Thistle Unit 112H - Wellbore #1 - Design #1														Offset Site Error:	0.00 ft
Survey Program: 0-MWD(OWSG)														Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)							
10,500.00	10,057.30	9,976.72	9,699.52	23.45	37.26	1.07	543.73	-172.25	360.67	336.88	23.79	15.159			
10,595.44	10,057.56	10,035.99	9,702.58	24.23	38.00	1.07	602.89	-172.68	355.94	332.25	23.69	15.026			
10,600.00	10,057.58	10,039.60	9,702.58	24.27	38.05	1.07	606.50	-172.71	355.95	332.26	23.70	15.021			
10,700.00	10,057.85	10,139.60	9,702.59	25.20	39.50	1.05	706.49	-173.45	356.22	332.22	24.00	14.845			
10,800.00	10,058.12	10,239.60	9,702.60	26.22	41.10	1.04	806.49	-174.19	356.49	332.15	24.34	14.648			
10,900.00	10,058.40	10,339.60	9,702.60	27.32	42.86	1.02	906.49	-174.93	356.75	332.03	24.72	14.432			
11,000.00	10,058.67	10,439.60	9,702.61	28.50	44.77	1.01	1,006.49	-175.67	357.02	331.88	25.14	14.200			
11,100.00	10,058.94	10,539.60	9,702.61	29.75	46.81	0.99	1,106.48	-176.42	357.28	331.68	25.60	13.955			
11,200.00	10,059.22	10,639.60	9,702.62	31.05	48.95	0.97	1,206.48	-177.16	357.55	331.45	26.10	13.699			
11,300.00	10,059.49	10,739.60	9,702.63	32.41	51.19	0.96	1,306.48	-177.90	357.82	331.19	26.63	13.436			
11,400.00	10,059.77	10,839.59	9,702.63	33.81	53.51	0.94	1,406.47	-178.64	358.08	330.89	27.20	13.167			
11,500.00	10,060.04	10,939.59	9,702.64	35.25	55.90	0.93	1,506.47	-179.38	358.35	330.56	27.79	12.895			
11,600.00	10,060.31	11,039.59	9,702.64	36.72	58.36	0.91	1,606.47	-180.12	358.62	330.21	28.41	12.623			
11,700.00	10,060.59	11,139.59	9,702.65	38.23	60.88	0.90	1,706.46	-180.86	358.88	329.82	29.06	12.350			
11,800.00	10,060.86	11,239.59	9,702.65	39.76	63.44	0.88	1,806.46	-181.60	359.15	329.42	29.73	12.079			
11,900.00	10,061.14	11,339.59	9,702.66	41.32	66.05	0.86	1,906.46	-182.34	359.42	328.99	30.43	11.812			
12,000.00	10,061.41	11,439.59	9,702.67	42.90	68.70	0.85	2,006.45	-183.08	359.68	328.54	31.15	11.548			
12,100.00	10,061.68	11,539.59	9,702.67	44.50	71.39	0.83	2,106.45	-183.83	359.95	328.07	31.88	11.289			
12,200.00	10,061.96	11,639.59	9,702.68	46.12	74.10	0.82	2,206.45	-184.57	360.22	327.58	32.64	11.036			
12,300.00	10,062.23	11,739.59	9,702.68	47.75	76.84	0.80	2,306.44	-185.31	360.48	327.07	33.41	10.788			
12,400.00	10,062.50	11,839.59	9,702.69	49.40	79.61	0.79	2,406.44	-186.05	360.75	326.55	34.20	10.547			
12,500.00	10,062.78	11,939.59	9,702.70	51.06	82.40	0.77	2,506.44	-186.79	361.02	326.01	35.01	10.312			
12,600.00	10,063.05	12,039.59	9,702.70	52.73	85.21	0.76	2,606.43	-187.53	361.28	325.45	35.83	10.084			
12,700.00	10,063.33	12,139.59	9,702.71	54.41	88.03	0.74	2,706.43	-188.27	361.55	324.89	36.66	9.862			
12,800.00	10,063.60	12,239.59	9,702.71	56.11	90.88	0.73	2,806.43	-189.01	361.82	324.31	37.51	9.647			
12,900.00	10,063.87	12,339.59	9,702.72	57.81	93.74	0.71	2,906.43	-189.75	362.08	323.72	38.36	9.439			
13,000.00	10,064.15	12,439.59	9,702.72	59.52	96.61	0.69	3,006.42	-190.50	362.35	323.12	39.23	9.237			
13,100.00	10,064.42	12,539.59	9,702.73	61.23	99.49	0.68	3,106.42	-191.24	362.62	322.51	40.11	9.042			
13,200.00	10,064.70	12,639.59	9,702.74	62.95	102.39	0.66	3,206.42	-191.98	362.88	321.89	40.99	8.853			
13,300.00	10,064.97	12,739.59	9,702.74	64.68	105.29	0.65	3,306.41	-192.72	363.15	321.26	41.89	8.670			
13,400.00	10,065.24	12,839.59	9,702.75	66.42	108.21	0.63	3,406.41	-193.46	363.42	320.63	42.79	8.493			
13,500.00	10,065.52	12,939.59	9,702.75	68.16	111.13	0.62	3,506.41	-194.20	363.68	319.98	43.70	8.322			
13,600.00	10,065.79	13,039.59	9,702.76	69.90	114.07	0.60	3,606.40	-194.94	363.95	319.33	44.62	8.157			
13,700.00	10,066.07	13,139.59	9,702.77	71.65	117.01	0.59	3,706.40	-195.68	364.22	318.67	45.54	7.997			
13,800.00	10,066.34	13,239.59	9,702.77	73.40	119.96	0.57	3,806.40	-196.42	364.49	318.01	46.48	7.843			
13,900.00	10,066.61	13,339.58	9,702.78	75.16	122.91	0.56	3,906.39	-197.16	364.75	317.34	47.41	7.693			
14,000.00	10,066.89	13,439.58	9,702.78	76.92	125.87	0.54	4,006.39	-197.91	365.02	316.66	48.36	7.549			
14,100.00	10,067.16	13,539.58	9,702.79	78.69	128.83	0.53	4,106.39	-198.65	365.29	315.98	49.30	7.409			
14,200.00	10,067.43	13,639.58	9,702.80	80.45	131.81	0.51	4,206.38	-199.39	365.55	315.30	50.26	7.274			
14,300.00	10,067.71	13,739.58	9,702.80	82.22	134.78	0.50	4,306.38	-200.13	365.82	314.61	51.22	7.143			
14,400.00	10,067.98	13,839.58	9,702.81	84.00	137.76	0.48	4,406.38	-200.87	366.09	313.91	52.18	7.016			
14,500.00	10,068.26	13,939.58	9,702.81	85.77	140.75	0.47	4,506.38	-201.61	366.36	313.21	53.15	6.893			
14,600.00	10,068.53	14,039.58	9,702.82	87.55	143.73	0.45	4,606.37	-202.35	366.62	312.51	54.12	6.775			
14,700.00	10,068.80	14,139.58	9,702.82	89.33	146.73	0.44	4,706.37	-203.09	366.89	311.80	55.09	6.660			
14,800.00	10,069.08	14,239.58	9,702.83	91.11	149.72	0.42	4,806.37	-203.83	367.16	311.09	56.07	6.548			
14,900.00	10,069.35	14,339.58	9,702.84	92.90	152.72	0.41	4,906.36	-204.58	367.42	310.37	57.05	6.440			
15,000.00	10,069.63	14,439.58	9,702.84	94.68	155.72	0.39	5,006.36	-205.32	367.69	309.66	58.04	6.336			
15,100.00	10,069.90	14,539.58	9,702.85	96.47	158.73	0.38	5,106.36	-206.06	367.96	308.93	59.02	6.234			
15,200.00	10,070.17	14,639.58	9,702.85	98.26	161.74	0.36	5,206.35	-206.80	368.23	308.21	60.02	6.136			
15,300.00	10,070.45	14,739.58	9,702.86	100.05	164.75	0.35	5,306.35	-207.54	368.49	307.48	61.01	6.040			
15,400.00	10,070.72	14,839.58	9,702.87	101.85	167.76	0.33	5,406.35	-208.28	368.76	306.76	62.01	5.947			
15,500.00	10,071.00	14,939.58	9,702.87	103.64	170.78	0.32	5,506.34	-209.02	369.03	306.02	63.01	5.857			

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

Devon Energy

Anticollision Report

Company: WESTERN DIVISION
Project: PBNM
Reference Site: Norwalk_Section 34
Site Error: 0.00 ft
Reference Well: Thistle Unit 132H
Well Error: 0.00 ft
Reference Wellbore: Wellbore #1
Reference Design: Design #1

Local Co-ordinate Reference: Well Thistle Unit 132H
TVD Reference: KB @ 3667.90ft
MD Reference: KB @ 3667.90ft
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 Norwalk_Section 34 - Thistle Unit 112H - Wellbore #1 - Design #1													Offset Site Error:	0.00 ft
Survey Program: 0-MWD(OWSG)													Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre +N/-S	+E/-W	Between Centres	Between Ellipses	Minimum Separation	Separation Factor		
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)			
15,600.00	10,071.27	15,039.58	9,702.88	105.44	173.79	0.30	5,606.34	-209.76	369.30	305.29	64.01	5.770		
15,700.00	10,071.54	15,139.58	9,702.88	107.24	176.81	0.29	5,706.34	-210.50	369.56	304.55	65.01	5.685		
15,800.00	10,071.82	15,239.58	9,702.89	109.03	179.84	0.27	5,806.33	-211.24	369.83	303.81	66.02	5.602		
15,900.00	10,072.09	15,339.58	9,702.90	110.83	182.86	0.26	5,906.33	-211.99	370.10	303.07	67.03	5.522		
16,000.00	10,072.36	15,439.58	9,702.90	112.64	185.89	0.25	6,006.33	-212.73	370.37	302.33	68.04	5.444		
16,100.00	10,072.64	15,539.58	9,702.91	114.44	188.91	0.23	6,106.32	-213.47	370.63	301.59	69.05	5.368		
16,200.00	10,072.91	15,639.58	9,702.91	116.24	191.94	0.22	6,206.32	-214.21	370.90	300.84	70.06	5.294		
16,300.00	10,073.19	15,739.58	9,702.92	118.05	194.97	0.20	6,306.32	-214.95	371.17	300.09	71.08	5.222		
16,400.00	10,073.46	15,839.57	9,702.92	119.85	198.01	0.19	6,406.32	-215.69	371.44	299.34	72.09	5.152		
16,500.00	10,073.73	15,939.57	9,702.93	121.66	201.04	0.17	6,506.31	-216.43	371.71	298.59	73.11	5.084		
16,600.00	10,074.01	16,039.57	9,702.94	123.46	204.07	0.16	6,606.31	-217.17	371.97	297.84	74.13	5.018		
16,700.00	10,074.28	16,139.57	9,702.94	125.27	207.11	0.14	6,706.31	-217.91	372.24	297.08	75.16	4.953		
16,800.00	10,074.56	16,239.57	9,702.95	127.08	210.15	0.13	6,806.30	-218.65	372.51	296.33	76.18	4.890		
16,900.00	10,074.83	16,339.57	9,702.95	128.89	213.19	0.11	6,906.30	-219.40	372.78	295.57	77.21	4.828		
17,000.00	10,075.10	16,439.57	9,702.96	130.70	216.23	0.10	7,006.30	-220.14	373.04	294.81	78.23	4.768		
17,100.00	10,075.38	16,539.57	9,702.97	132.51	219.27	0.09	7,106.29	-220.88	373.31	294.05	79.26	4.710		
17,200.00	10,075.65	16,639.57	9,702.97	134.32	222.31	0.07	7,206.29	-221.62	373.58	293.29	80.29	4.653		
17,300.00	10,075.92	16,739.57	9,702.98	136.13	225.35	0.06	7,306.29	-222.36	373.85	292.53	81.32	4.597		
17,400.00	10,076.20	16,839.57	9,702.98	137.94	228.40	0.04	7,406.28	-223.10	374.12	291.76	82.35	4.543		
17,500.00	10,076.47	16,939.57	9,702.99	139.76	231.44	0.03	7,506.28	-223.84	374.38	291.00	83.38	4.490		
17,600.00	10,076.75	17,039.57	9,702.99	141.57	234.49	0.01	7,606.28	-224.58	374.65	290.23	84.42	4.438		
17,692.64	10,077.00	17,132.19	9,703.00	143.25	236.82	0.00	7,698.90	-225.27	374.90	289.61	85.29	4.396		

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

Devon Energy

Anticollision Report

Company:	WESTERN DIVISION	Local Co-ordinate Reference:	Well Thistle Unit 132H
Project:	PBNM	TVD Reference:	KB @ 3667.90ft
Reference Site:	Norwalk_Section 34	MD Reference:	KB @ 3667.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Thistle Unit 132H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000 US Production
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Norwalk_Section 34 - Thistle Unit 113H - Wellbore #1 - Design #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 (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.00	0.00	0.00	0.00	0.00	0.00	58.68	30.26	49.74	58.23					
100.00	100.00	99.80	99.80	0.08	0.08	58.68	30.26	49.74	58.23	58.11	0.12	488.953		
200.00	200.00	199.80	199.80	0.31	0.31	58.68	30.26	49.74	58.23	57.79	0.44	133.315		
300.00	300.00	299.80	299.80	0.53	0.53	58.68	30.26	49.74	58.23	57.47	0.75	77.159		
400.00	400.00	399.80	399.80	0.76	0.76	58.68	30.26	49.74	58.23	57.15	1.07	54.290		
500.00	500.00	499.80	499.80	0.98	0.98	58.68	30.26	49.74	58.23	56.83	1.39	41.878		
600.00	600.00	599.80	599.80	1.21	1.21	58.68	30.26	49.74	58.23	56.52	1.71	34.085		
700.00	700.00	699.80	699.80	1.43	1.43	58.68	30.26	49.74	58.23	56.20	2.03	28.738		
800.00	800.00	799.80	799.80	1.66	1.66	58.68	30.26	49.74	58.23	55.88	2.34	24.841		
900.00	900.00	899.80	899.80	1.88	1.88	58.68	30.26	49.74	58.23	55.56	2.66	21.874		
1,000.00	1,000.00	999.80	999.80	2.11	2.11	58.68	30.26	49.74	58.23	55.25	2.98	19.541		
1,100.00	1,100.00	1,099.80	1,099.80	2.33	2.33	58.68	30.26	49.74	58.23	54.93	3.30	17.657		
1,200.00	1,200.00	1,199.80	1,199.80	2.56	2.56	58.68	30.26	49.74	58.23	54.61	3.62	16.105		
1,300.00	1,300.00	1,299.80	1,299.80	2.78	2.78	58.68	30.26	49.74	58.23	54.29	3.93	14.803		
1,400.00	1,400.00	1,399.80	1,399.80	3.01	3.01	58.68	30.26	49.74	58.23	53.97	4.25	13.696		
1,500.00	1,500.00	1,499.80	1,499.80	3.23	3.23	58.68	30.26	49.74	58.23	53.66	4.57	12.743		
1,600.00	1,600.00	1,599.80	1,599.80	3.46	3.46	58.68	30.26	49.74	58.23	53.34	4.89	11.915		
1,700.00	1,700.00	1,699.80	1,699.80	3.68	3.68	58.68	30.26	49.74	58.23	53.02	5.20	11.187		
1,800.00	1,800.00	1,799.80	1,799.80	3.91	3.90	58.68	30.26	49.74	58.23	52.70	5.52	10.543		
1,900.00	1,900.00	1,899.80	1,899.80	4.13	4.13	58.68	30.26	49.74	58.23	52.38	5.84	9.969		
2,000.00	2,000.00	1,999.80	1,999.80	4.35	4.35	58.68	30.26	49.74	58.23	52.07	6.16	9.455		
2,100.00	2,100.00	2,099.80	2,099.80	4.58	4.58	58.68	30.26	49.74	58.23	51.75	6.48	8.991		
2,200.00	2,200.00	2,199.80	2,199.80	4.80	4.80	58.68	30.26	49.74	58.23	51.43	6.79	8.570		
2,300.00	2,300.00	2,299.80	2,299.80	5.03	5.03	58.68	30.26	49.74	58.23	51.11	7.11	8.187		
2,400.00	2,400.00	2,399.80	2,399.80	5.25	5.25	58.68	30.26	49.74	58.23	50.80	7.43	7.837		
2,500.00	2,500.00	2,499.80	2,499.80	5.48	5.48	58.68	30.26	49.74	58.23	50.48	7.75	7.515		
2,600.00	2,600.00	2,599.80	2,599.80	5.70	5.70	58.68	30.26	49.74	58.23	50.16	8.07	7.219		
2,700.00	2,700.00	2,699.80	2,699.80	5.93	5.93	58.68	30.26	49.74	58.23	49.84	8.38	6.945		
2,800.00	2,800.00	2,799.80	2,799.80	6.15	6.15	58.68	30.26	49.74	58.23	49.52	8.70	6.692		
2,900.00	2,900.00	2,899.80	2,899.80	6.38	6.38	58.68	30.26	49.74	58.23	49.21	9.02	6.456		
3,000.00	3,000.00	2,999.80	2,999.80	6.60	6.60	58.68	30.26	49.74	58.23	48.89	9.34	6.236		
3,100.00	3,100.00	3,099.80	3,099.80	6.83	6.83	58.68	30.26	49.74	58.23	48.57	9.65	6.031		
3,200.00	3,200.00	3,199.80	3,199.80	7.05	7.05	58.68	30.26	49.74	58.23	48.25	9.97	5.838 CC, ES		
3,300.00	3,300.00	3,299.80	3,299.80	7.25	7.28	-166.47	30.26	49.74	58.86	48.59	10.27	5.730		
3,400.00	3,399.98	3,399.78	3,399.78	7.43	7.50	-166.90	30.26	49.74	60.77	50.21	10.56	5.757		
3,500.00	3,499.92	3,499.72	3,499.72	7.61	7.73	-167.56	30.26	49.74	63.96	53.12	10.84	5.899		
3,600.00	3,599.82	3,599.62	3,599.62	7.79	7.95	-168.38	30.26	49.74	68.44	57.31	11.13	6.149		
3,700.00	3,699.64	3,699.44	3,699.44	7.98	8.17	-169.28	30.26	49.74	74.22	62.80	11.42	6.499		
3,733.33	3,732.90	3,732.70	3,732.70	8.04	8.25	-169.59	30.26	49.74	76.43	64.92	11.52	6.637		
3,800.00	3,799.40	3,799.20	3,799.20	8.17	8.40	-170.19	30.26	49.74	81.01	69.30	11.71	6.918		
3,900.00	3,899.16	3,898.96	3,898.96	8.37	8.62	-170.96	30.26	49.74	87.89	75.89	12.00	7.323		
4,000.00	3,998.92	3,998.72	3,998.72	8.57	8.85	-171.63	30.26	49.74	94.79	82.49	12.30	7.709		
4,100.00	4,098.67	4,098.47	4,098.47	8.77	9.07	-172.20	30.26	49.74	101.70	89.11	12.59	8.077		
4,200.00	4,198.43	4,198.23	4,198.23	8.97	9.30	-172.70	30.26	49.74	108.61	95.73	12.89	8.428		
4,300.00	4,298.19	4,297.99	4,297.99	9.18	9.52	-173.14	30.26	49.74	115.53	102.35	13.18	8.764		
4,400.00	4,397.94	4,397.74	4,397.74	9.39	9.74	-173.53	30.26	49.74	122.46	108.98	13.48	9.084		
4,500.00	4,497.70	4,497.50	4,497.50	9.60	9.97	-173.88	30.26	49.74	129.40	115.62	13.78	9.389		
4,600.00	4,597.46	4,597.26	4,597.26	9.82	10.19	-174.19	30.26	49.74	136.34	122.25	14.08	9.682		
4,700.00	4,697.21	4,697.01	4,697.01	10.03	10.42	-174.47	30.26	49.74	143.28	128.89	14.38	9.962		
4,800.00	4,796.97	4,796.77	4,796.77	10.25	10.64	-174.73	30.26	49.74	150.22	135.54	14.68	10.230		
4,900.00	4,896.73	4,896.53	4,896.53	10.47	10.87	-174.96	30.26	49.74	157.17	142.18	14.99	10.486		
5,000.00	4,996.48	4,996.28	4,996.28	10.70	11.09	-175.17	30.26	49.74	164.12	148.83	15.29	10.733		

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

Devon Energy

Anticollision Report

Company: WESTERN DIVISION
 Project: PBNM
 Reference Site: Norwalk_Section 34
 Site Error: 0.00 ft
 Reference Well: Thistle Unit 132H
 Well Error: 0.00 ft
 Reference Wellbore: Wellbore #1
 Reference Design: Design #1

Local Co-ordinate Reference: Well Thistle Unit 132H
 TVD Reference: KB @ 3667.90ft
 MD Reference: KB @ 3667.90ft
 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 Norwalk_Section 34 - Thistle Unit 113H - Wellbore #1 - Design #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 (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,100.00	5,096.24	5,096.04	5,096.04	10.92	11.31	-175.37	30.26	49.74	171.07	155.48	15.60	10.969		
5,200.00	5,195.99	5,195.79	5,195.79	11.15	11.54	-175.55	30.26	49.74	178.03	162.12	15.90	11.196		
5,300.00	5,295.75	5,295.55	5,295.55	11.37	11.76	-175.72	30.26	49.74	184.98	168.77	16.21	11.414		
5,400.00	5,395.51	5,395.31	5,395.31	11.60	11.99	-175.88	30.26	49.74	191.94	175.43	16.51	11.624		
5,500.00	5,495.26	5,495.06	5,495.06	11.83	12.21	-176.02	30.26	49.74	198.90	182.08	16.82	11.825		
5,600.00	5,595.02	5,594.82	5,594.82	12.06	12.43	-176.15	30.26	49.74	205.86	188.73	17.13	12.020		
5,700.00	5,694.78	5,694.58	5,694.58	12.30	12.66	-176.28	30.26	49.74	212.82	195.38	17.43	12.207		
5,800.00	5,794.53	5,794.33	5,794.33	12.53	12.88	-176.40	30.26	49.74	219.78	202.03	17.74	12.387		
5,900.00	5,894.29	5,894.09	5,894.09	12.77	13.11	-176.51	30.26	49.74	226.74	208.69	18.05	12.561		
6,000.00	5,994.05	5,993.85	5,993.85	13.00	13.33	-176.61	30.26	49.74	233.70	215.34	18.36	12.729		
6,100.00	6,093.80	6,093.60	6,093.60	13.24	13.56	-176.71	30.26	49.74	240.67	222.00	18.67	12.891		
6,200.00	6,193.56	6,193.36	6,193.36	13.47	13.78	-176.80	30.26	49.74	247.63	228.65	18.98	13.047		
6,300.00	6,293.31	6,293.11	6,293.11	13.71	14.00	-176.89	30.26	49.74	254.60	235.31	19.29	13.198		
6,400.00	6,393.07	6,392.87	6,392.87	13.95	14.23	-176.97	30.26	49.74	261.56	241.96	19.60	13.344		
6,500.00	6,492.83	6,492.63	6,492.63	14.19	14.45	-177.05	30.26	49.74	268.53	248.62	19.91	13.486		
6,600.00	6,592.58	6,592.38	6,592.38	14.43	14.68	-177.13	30.26	49.74	275.50	255.27	20.22	13.623		
6,700.00	6,692.34	6,692.14	6,692.14	14.67	14.90	-177.20	30.26	49.74	282.46	261.93	20.53	13.755		
6,733.33	6,725.59	6,725.39	6,725.39	14.75	14.98	-177.22	30.26	49.74	284.78	264.15	20.64	13.798		
6,800.00	6,792.12	6,791.92	6,791.92	14.91	15.13	-177.26	30.26	49.74	289.14	268.30	20.84	13.872		
6,900.00	6,891.97	6,891.77	6,891.77	15.12	15.35	-177.32	30.26	49.74	294.59	273.44	21.15	13.930		
7,000.00	6,991.88	6,991.68	6,991.68	15.33	15.57	-177.36	30.26	49.74	298.72	277.27	21.45	13.926		
7,100.00	7,091.84	7,091.64	7,091.64	15.53	15.80	-177.38	30.26	49.74	301.56	279.80	21.75	13.862		
7,200.00	7,191.83	7,191.63	7,191.63	15.73	16.02	-177.40	30.26	49.74	303.08	281.03	22.06	13.740		
7,266.67	7,258.49	7,258.29	7,258.29	15.86	16.17	47.60	30.26	49.74	303.37	281.11	22.26	13.629		
7,300.00	7,291.83	7,291.63	7,291.63	15.93	16.25	47.60	30.26	49.74	303.37	281.01	22.36	13.567		
7,400.00	7,391.83	7,391.63	7,391.63	16.13	16.47	47.60	30.26	49.74	303.37	280.70	22.67	13.383		
7,500.00	7,491.83	7,491.63	7,491.63	16.34	16.70	47.60	30.26	49.74	303.37	280.40	22.98	13.203		
7,600.00	7,591.83	7,591.63	7,591.63	16.54	16.92	47.60	30.26	49.74	303.37	280.09	23.29	13.028		
7,700.00	7,691.83	7,691.63	7,691.63	16.75	17.15	47.60	30.26	49.74	303.37	279.78	23.59	12.858		
7,800.00	7,791.83	7,791.63	7,791.63	16.95	17.37	47.60	30.26	49.74	303.37	279.47	23.90	12.691		
7,900.00	7,891.83	7,891.63	7,891.63	17.16	17.60	47.60	30.26	49.74	303.37	279.16	24.21	12.529		
8,000.00	7,991.83	7,991.63	7,991.63	17.36	17.82	47.60	30.26	49.74	303.37	278.85	24.52	12.371		
8,100.00	8,091.83	8,091.63	8,091.63	17.57	18.05	47.60	30.26	49.74	303.37	278.54	24.83	12.217		
8,200.00	8,191.83	8,191.63	8,191.63	17.78	18.27	47.60	30.26	49.74	303.37	278.23	25.14	12.066		
8,300.00	8,291.83	8,291.63	8,291.63	17.99	18.50	47.60	30.26	49.74	303.37	277.92	25.45	11.919		
8,400.00	8,391.83	8,391.63	8,391.63	18.19	18.72	47.60	30.26	49.74	303.37	277.61	25.76	11.776		
8,500.00	8,491.83	8,491.63	8,491.63	18.40	18.95	47.60	30.26	49.74	303.37	277.30	26.07	11.635		
8,600.00	8,591.83	8,591.63	8,591.63	18.61	19.17	47.60	30.26	49.74	303.37	276.99	26.38	11.498		
8,700.00	8,691.83	8,691.63	8,691.63	18.82	19.40	47.60	30.26	49.74	303.37	276.68	26.69	11.364		
8,800.00	8,791.83	8,791.63	8,791.63	19.03	19.62	47.60	30.26	49.74	303.37	276.37	27.01	11.234		
8,900.00	8,891.83	8,891.63	8,891.63	19.24	19.84	47.60	30.26	49.74	303.37	276.06	27.32	11.106		
9,000.00	8,991.83	8,991.63	8,991.63	19.45	20.07	47.60	30.26	49.74	303.37	275.75	27.63	10.981		
9,100.00	9,091.83	9,091.63	9,091.63	19.66	20.29	47.60	30.26	49.74	303.37	275.43	27.94	10.858		
9,121.55	9,113.38	9,113.18	9,113.18	19.71	20.34	47.60	30.26	49.74	303.37	275.37	28.01	10.832		
9,200.00	9,191.83	9,175.48	9,175.45	19.87	20.48	47.41	31.76	49.86	304.90	276.71	28.19	10.816		
9,300.00	9,291.83	9,250.00	9,249.21	20.08	20.65	46.14	41.92	50.68	314.90	286.59	28.31	11.124		
9,400.00	9,391.83	9,313.62	9,310.89	20.29	20.79	44.24	58.09	51.97	334.29	306.11	28.18	11.864		
9,492.22	9,484.04	9,371.60	9,364.86	20.49	20.92	42.02	78.66	53.62	360.68	332.74	27.94	12.909		
9,500.00	9,491.83	9,376.30	9,369.15	20.51	20.93	42.02	80.56	53.77	363.23	335.32	27.91	13.013		
9,550.00	9,541.73	9,400.00	9,390.55	20.61	20.98	40.03	90.70	54.58	379.31	351.70	27.60	13.742		
9,600.00	9,591.19	9,436.18	9,422.37	20.70	21.05	37.98	107.85	55.96	394.31	366.82	27.50	14.341		
9,650.00	9,639.84	9,465.83	9,447.60	20.78	21.11	36.41	123.38	57.20	408.36	381.12	27.24	14.989		

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

Devon Energy

Anticollision Report

Company: WESTERN DIVISION
 Project: PBNM
 Reference Site: Norwalk_Section 34
 Site Error: 0.00 ft
 Reference Well: Thistle Unit 132H
 Well Error: 0.00 ft
 Reference Wellbore: Wellbore #1
 Reference Design: Design #1

Local Co-ordinate Reference: Well Thistle Unit 132H
 TVD Reference: KB @ 3667.90ft
 MD Reference: KB @ 3667.90ft
 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 Norwalk_Section 34 - Thistle Unit 113H - Wellbore #1 - Design #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		Separation Factor		Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
9,700.00	9,687.30	9,500.00	9,475.62	20.85	21.20	35.04	142.86	58.76	421.29	394.23	27.06	15.567	
9,750.00	9,733.22	9,524.70	9,495.12	20.92	21.26	34.04	157.95	59.97	432.90	406.22	26.68	16.227	
9,800.00	9,777.24	9,550.00	9,514.41	20.98	21.33	33.22	174.28	61.28	443.25	416.96	26.29	16.859	
9,850.00	9,819.02	9,583.10	9,538.52	21.04	21.43	32.52	196.88	63.09	452.16	426.10	26.07	17.345	
9,900.00	9,858.26	9,612.18	9,558.58	21.09	21.52	32.04	217.86	64.77	459.69	433.92	25.76	17.843	
9,950.00	9,894.65	9,650.00	9,583.04	21.14	21.64	31.73	246.61	67.07	465.90	440.24	25.65	18.162	
10,000.00	9,927.92	9,670.17	9,595.29	21.18	21.72	31.56	262.58	68.35	470.34	445.15	25.20	18.667	
10,050.00	9,957.80	9,700.00	9,612.35	21.23	21.83	31.57	286.96	70.31	473.45	448.48	24.97	18.962	
10,100.00	9,984.09	9,728.04	9,627.21	21.33	21.95	31.71	310.66	72.21	475.05	450.31	24.74	19.200	
10,150.00	10,008.56	9,750.00	9,638.02	21.49	22.04	31.92	329.71	73.73	475.27	450.81	24.45	19.435	
10,200.00	10,025.06	9,785.91	9,654.10	21.69	22.22	32.45	361.71	76.30	473.83	449.36	24.48	19.358	
10,250.00	10,039.44	9,814.89	9,665.60	21.91	22.36	33.06	388.23	78.42	471.05	446.61	24.44	19.272	
10,300.00	10,049.60	9,850.00	9,677.69	22.16	22.55	33.95	421.08	81.05	466.92	442.35	24.57	19.001	
10,350.00	10,055.45	9,873.00	9,684.52	22.44	22.68	34.78	442.97	82.81	461.31	436.70	24.61	18.744	
10,390.65	10,057.00	9,900.00	9,691.39	22.69	22.84	35.77	468.99	84.89	455.86	431.03	24.82	18.363	
10,400.00	10,057.03	9,900.00	9,691.39	22.75	22.84	35.77	468.99	84.89	454.53	429.72	24.81	18.323	
10,500.00	10,057.30	9,962.07	9,702.49	23.45	23.25	37.14	529.84	89.77	445.39	419.96	25.43	17.515	
10,557.77	10,057.46	10,000.00	9,705.99	23.92	23.51	37.74	567.48	92.78	444.19	418.35	25.85	17.187	
10,600.00	10,057.58	10,023.54	9,706.90	24.27	23.68	38.01	590.92	94.66	445.14	419.02	26.12	17.042	
10,700.00	10,057.85	10,116.74	9,707.00	25.20	24.42	38.81	683.82	102.11	450.61	423.58	27.03	16.672	
10,800.00	10,058.12	10,216.36	9,707.00	26.22	25.30	39.63	783.13	110.06	456.29	428.21	28.08	16.249	
10,900.00	10,058.40	10,315.99	9,707.00	27.32	26.27	40.43	882.44	118.02	462.06	432.82	29.25	15.799	
11,000.00	10,058.67	10,415.62	9,707.00	28.50	27.33	41.21	981.75	125.98	467.92	437.40	30.52	15.333	
11,100.00	10,058.94	10,515.24	9,707.00	29.75	28.47	41.97	1,081.06	133.93	473.87	441.98	31.89	14.860	
11,200.00	10,059.22	10,614.87	9,707.00	31.05	29.67	42.72	1,180.36	141.89	479.90	446.55	33.35	14.390	
11,300.00	10,059.49	10,714.49	9,707.00	32.41	30.93	43.44	1,279.67	149.85	486.00	451.11	34.90	13.927	
11,400.00	10,059.77	10,814.12	9,707.00	33.81	32.24	44.15	1,378.98	157.80	492.18	455.66	36.52	13.476	
11,500.00	10,060.04	10,913.75	9,707.00	35.25	33.60	44.84	1,478.29	165.76	498.44	460.22	38.22	13.042	
11,600.00	10,060.31	11,013.37	9,707.00	36.72	35.00	45.51	1,577.60	173.72	504.76	464.78	39.98	12.625	
11,700.00	10,060.59	11,113.00	9,707.00	38.23	36.43	46.16	1,676.90	181.67	511.16	469.35	41.80	12.227	
11,800.00	10,060.86	11,212.63	9,707.00	39.76	37.90	46.80	1,776.21	189.63	517.62	473.93	43.68	11.849	
11,900.00	10,061.14	11,312.25	9,707.00	41.32	39.39	47.43	1,875.52	197.59	524.14	478.52	45.61	11.491	
12,000.00	10,061.41	11,411.88	9,707.00	42.90	40.91	48.03	1,974.83	205.54	530.72	483.13	47.59	11.152	
12,100.00	10,061.68	11,511.51	9,707.00	44.50	42.46	48.63	2,074.14	213.50	537.36	487.75	49.61	10.832	
12,200.00	10,061.96	11,611.13	9,707.00	46.12	44.02	49.20	2,173.44	221.46	544.05	492.39	51.67	10.530	
12,300.00	10,062.23	11,710.76	9,707.00	47.75	45.60	49.77	2,272.75	229.41	550.80	497.04	53.76	10.245	
12,400.00	10,062.50	11,810.39	9,707.00	49.40	47.19	50.32	2,372.06	237.37	557.60	501.72	55.89	9.977	
12,500.00	10,062.78	11,910.01	9,707.00	51.06	48.80	50.86	2,471.37	245.33	564.46	506.41	58.05	9.724	
12,600.00	10,063.05	12,009.64	9,707.00	52.73	50.43	51.38	2,570.68	253.28	571.36	511.12	60.24	9.485	
12,700.00	10,063.33	12,109.26	9,707.00	54.41	52.06	51.89	2,669.99	261.24	578.30	515.85	62.45	9.260	
12,800.00	10,063.60	12,208.89	9,707.00	56.11	53.71	52.39	2,769.29	269.20	585.30	520.61	64.69	9.048	
12,900.00	10,063.87	12,308.52	9,707.00	57.81	55.37	52.88	2,868.60	277.15	592.33	525.38	66.95	8.847	
13,000.00	10,064.15	12,408.14	9,707.00	59.52	57.03	53.36	2,967.91	285.11	599.41	530.17	69.23	8.658	
13,100.00	10,064.42	12,507.77	9,707.00	61.23	58.70	53.82	3,067.22	293.07	606.52	534.99	71.54	8.478	
13,200.00	10,064.70	12,607.40	9,707.00	62.95	60.39	54.28	3,166.53	301.02	613.68	539.82	73.86	8.309	
13,300.00	10,064.97	12,707.02	9,707.00	64.68	62.07	54.72	3,265.83	308.98	620.88	544.68	76.20	8.148	
13,400.00	10,065.24	12,806.65	9,707.00	66.42	63.77	55.16	3,365.14	316.94	628.11	549.56	78.55	7.996	
13,500.00	10,065.52	12,906.28	9,707.00	68.16	65.47	55.58	3,464.45	324.90	635.37	554.45	80.92	7.852	
13,600.00	10,065.79	13,005.90	9,707.00	69.90	67.17	55.99	3,563.76	332.85	642.67	559.37	83.30	7.715	
13,700.00	10,066.07	13,105.53	9,707.00	71.65	68.89	56.40	3,663.07	340.81	650.00	564.31	85.70	7.585	
13,800.00	10,066.34	13,205.15	9,707.00	73.40	70.60	56.80	3,762.38	348.77	657.37	569.26	88.10	7.461	
13,900.00	10,066.61	13,304.78	9,707.00	75.16	72.32	57.18	3,861.68	356.72	664.76	574.24	90.52	7.344	

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

Devon Energy

Anticollision Report

Company: WESTERN DIVISION
Project: PBNM
Reference Site: Norwalk_Section 34
Site Error: 0.00 ft
Reference Well: Thistle Unit 132H
Well Error: 0.00 ft
Reference Wellbore: Wellbore #1
Reference Design: Design #1

Local Co-ordinate Reference: Well Thistle Unit 132H
TVD Reference: KB @ 3667.90ft
MD Reference: KB @ 3667.90ft
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 Norwalk_Section 34 - Thistle Unit 113H - Wellbore #1 - Design #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 (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
14,000.00	10,066.89	13,404.41	9,707.00	76.92	74.05	57.56	3,960.99	364.68	672.19	579.23	92.95	7.232		
14,100.00	10,067.16	13,504.03	9,707.00	78.69	75.77	57.93	4,060.30	372.64	679.64	584.25	95.39	7.125		
14,200.00	10,067.43	13,603.66	9,707.00	80.45	77.50	58.30	4,159.61	380.59	687.12	589.28	97.84	7.023		
14,300.00	10,067.71	13,703.29	9,707.00	82.22	79.24	58.65	4,258.92	388.55	694.63	594.33	100.30	6.926		
14,400.00	10,067.98	13,802.91	9,707.00	84.00	80.98	59.00	4,358.22	396.51	702.16	599.40	102.76	6.833		
14,500.00	10,068.26	13,902.54	9,707.00	85.77	82.72	59.34	4,457.53	404.46	709.72	604.48	105.23	6.744		
14,600.00	10,068.53	14,002.17	9,707.00	87.55	84.46	59.67	4,556.84	412.42	717.30	609.59	107.71	6.659		
14,700.00	10,068.80	14,101.79	9,707.00	89.33	86.21	60.00	4,656.15	420.38	724.91	614.71	110.20	6.578		
14,800.00	10,069.08	14,201.42	9,707.00	91.11	87.95	60.31	4,755.46	428.33	732.54	619.84	112.69	6.500		
14,900.00	10,069.35	14,301.04	9,707.00	92.90	89.70	60.63	4,854.76	436.29	740.19	625.00	115.19	6.426		
15,000.00	10,069.63	14,400.67	9,707.00	94.68	91.46	60.93	4,954.07	444.25	747.86	630.16	117.69	6.354		
15,100.00	10,069.90	14,500.30	9,707.00	96.47	93.21	61.23	5,053.38	452.20	755.55	635.35	120.20	6.286		
15,200.00	10,070.17	14,599.92	9,707.00	98.26	94.97	61.53	5,152.69	460.16	763.27	640.55	122.72	6.220		
15,300.00	10,070.45	14,699.55	9,707.00	100.05	96.73	61.81	5,252.00	468.12	771.00	645.76	125.24	6.156		
15,400.00	10,070.72	14,799.18	9,707.00	101.85	98.49	62.10	5,351.31	476.07	778.75	650.99	127.76	6.095		
15,500.00	10,071.00	14,898.80	9,707.00	103.64	100.25	62.37	5,450.61	484.03	786.52	656.23	130.29	6.037		
15,600.00	10,071.27	14,998.43	9,707.00	105.44	102.01	62.64	5,549.92	491.99	794.31	661.49	132.82	5.980		
15,700.00	10,071.54	15,098.06	9,707.00	107.24	103.78	62.91	5,649.23	499.94	802.12	666.76	135.36	5.926		
15,800.00	10,071.82	15,197.68	9,707.00	109.03	105.54	63.17	5,748.54	507.90	809.94	672.04	137.89	5.874		
15,900.00	10,072.09	15,297.31	9,707.00	110.83	107.31	63.43	5,847.85	515.86	817.78	677.34	140.44	5.823		
16,000.00	10,072.36	15,396.94	9,707.00	112.64	109.08	63.68	5,947.15	523.81	825.63	682.65	142.98	5.774		
16,100.00	10,072.64	15,496.56	9,707.00	114.44	110.85	63.92	6,046.46	531.77	833.50	687.97	145.53	5.727		
16,200.00	10,072.91	15,596.19	9,707.00	116.24	112.62	64.16	6,145.77	539.73	841.39	693.31	148.08	5.682		
16,300.00	10,073.19	15,695.81	9,707.00	118.05	114.39	64.40	6,245.08	547.68	849.29	698.66	150.63	5.638		
16,400.00	10,073.46	15,795.44	9,707.00	119.85	116.16	64.63	6,344.39	555.64	857.20	704.02	153.19	5.596		
16,500.00	10,073.73	15,895.07	9,707.00	121.66	117.94	64.86	6,443.70	563.60	865.13	709.39	155.75	5.555		
16,600.00	10,074.01	15,994.69	9,707.00	123.46	119.71	65.09	6,543.00	571.55	873.07	714.77	158.31	5.515		
16,700.00	10,074.28	16,094.32	9,707.00	125.27	121.49	65.31	6,642.31	579.51	881.03	720.16	160.87	5.477		
16,800.00	10,074.56	16,193.95	9,707.00	127.08	123.26	65.52	6,741.62	587.47	889.00	725.56	163.43	5.440		
16,900.00	10,074.83	16,293.57	9,707.00	128.89	125.04	65.74	6,840.93	595.43	896.97	730.98	166.00	5.404		
17,000.00	10,075.10	16,393.20	9,707.00	130.70	126.82	65.94	6,940.24	603.38	904.97	736.40	168.56	5.369		
17,100.00	10,075.38	16,492.83	9,707.00	132.51	128.60	66.15	7,039.54	611.34	912.97	741.84	171.13	5.335		
17,200.00	10,075.65	16,592.45	9,707.00	134.32	130.38	66.35	7,138.85	619.30	920.98	747.28	173.70	5.302		
17,300.00	10,075.92	16,692.08	9,707.00	136.13	132.16	66.55	7,238.16	627.25	929.01	752.73	176.28	5.270		
17,400.00	10,076.20	16,791.70	9,707.00	137.94	133.94	66.74	7,337.47	635.21	937.05	758.20	178.85	5.239		
17,500.00	10,076.47	16,891.33	9,707.00	139.76	135.72	66.93	7,436.78	643.17	945.10	763.67	181.42	5.209		
17,600.00	10,076.75	16,990.96	9,707.00	141.57	137.50	67.12	7,536.08	651.12	953.15	769.15	184.00	5.180		
17,692.64	10,077.00	17,083.26	9,707.00	143.25	139.15	67.29	7,628.09	658.49	960.63	774.24	186.39	5.154 SF		

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

Devon Energy

Anticollision Report

Company: WESTERN DIVISION
 Project: PBNM
 Reference Site: Norwalk_Section 34
 Site Error: 0.00 ft
 Reference Well: Thistle Unit 132H
 Well Error: 0.00 ft
 Reference Wellbore: Wellbore #1
 Reference Design: Design #1

Local Co-ordinate Reference: Well Thistle Unit 132H
 TVD Reference: KB @ 3667.90ft
 MD Reference: KB @ 3667.90ft
 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

Norwalk_Section 34 - Thistle Unit 137H - Wellbore #1 - Design #1														Offset Site Error:	0.00 ft
Survey Program: 0-MWD														Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)							
0.00	0.00	0.00	0.00	0.00	0.00	89.71	0.25	49.99	50.00						
100.00	100.00	98.80	98.80	0.08	0.08	89.71	0.25	49.99	49.99	49.87	0.12	421.899			
200.00	200.00	198.80	198.80	0.31	0.31	89.71	0.25	49.99	49.99	49.55	0.44	114.875			
300.00	300.00	298.80	298.80	0.53	0.53	89.71	0.25	49.99	49.99	49.24	0.75	66.385			
400.00	400.00	398.80	398.80	0.76	0.76	89.71	0.25	49.99	49.99	48.92	1.07	46.680			
500.00	500.00	498.80	498.80	0.98	0.98	89.71	0.25	49.99	49.99	48.60	1.39	35.996			
600.00	600.00	598.80	598.80	1.21	1.21	89.71	0.25	49.99	49.99	48.28	1.71	29.291			
700.00	700.00	698.80	698.80	1.43	1.43	89.71	0.25	49.99	49.99	47.97	2.02	24.692			
800.00	800.00	798.80	798.80	1.66	1.65	89.71	0.25	49.99	49.99	47.65	2.34	21.342			
900.00	900.00	898.80	898.80	1.88	1.88	89.71	0.25	49.99	49.99	47.33	2.66	18.791			
1,000.00	1,000.00	998.80	998.80	2.11	2.10	89.71	0.25	49.99	49.99	47.01	2.98	16.786			
1,100.00	1,100.00	1,098.80	1,098.80	2.33	2.33	89.71	0.25	49.99	49.99	46.69	3.30	15.167			
1,200.00	1,200.00	1,198.80	1,198.80	2.56	2.55	89.71	0.25	49.99	49.99	46.38	3.61	13.833			
1,300.00	1,300.00	1,298.80	1,298.80	2.78	2.78	89.71	0.25	49.99	49.99	46.06	3.93	12.715			
1,400.00	1,400.00	1,398.80	1,398.80	3.01	3.00	89.71	0.25	49.99	49.99	45.74	4.25	11.763			
1,500.00	1,500.00	1,498.80	1,498.80	3.23	3.23	89.71	0.25	49.99	49.99	45.42	4.57	10.945			
1,600.00	1,600.00	1,598.80	1,598.80	3.46	3.45	89.71	0.25	49.99	49.99	45.10	4.89	10.233			
1,700.00	1,700.00	1,698.80	1,698.80	3.68	3.68	89.71	0.25	49.99	49.99	44.79	5.20	9.608			
1,800.00	1,800.00	1,798.80	1,798.80	3.91	3.90	89.71	0.25	49.99	49.99	44.47	5.52	9.054			
1,900.00	1,900.00	1,898.80	1,898.80	4.13	4.13	89.71	0.25	49.99	49.99	44.15	5.84	8.561			
2,000.00	2,000.00	1,998.80	1,998.80	4.35	4.35	89.71	0.25	49.99	49.99	43.83	6.16	8.119			
2,100.00	2,100.00	2,098.80	2,098.80	4.58	4.58	89.71	0.25	49.99	49.99	43.51	6.47	7.721			
2,200.00	2,200.00	2,198.80	2,198.80	4.80	4.80	89.71	0.25	49.99	49.99	43.20	6.79	7.360			
2,300.00	2,300.00	2,298.80	2,298.80	5.03	5.03	89.71	0.25	49.99	49.99	42.88	7.11	7.031			
2,400.00	2,400.00	2,398.80	2,398.80	5.25	5.25	89.71	0.25	49.99	49.99	42.56	7.43	6.730			
2,500.00	2,500.00	2,498.80	2,498.80	5.48	5.48	89.71	0.25	49.99	49.99	42.24	7.75	6.454			
2,600.00	2,600.00	2,598.80	2,598.80	5.70	5.70	89.71	0.25	49.99	49.99	41.93	8.06	6.199			
2,700.00	2,700.00	2,698.80	2,698.80	5.93	5.93	89.71	0.25	49.99	49.99	41.61	8.38	5.964			
2,800.00	2,800.00	2,798.80	2,798.80	6.15	6.15	89.71	0.25	49.99	49.99	41.29	8.70	5.746			
2,900.00	2,900.00	2,898.80	2,898.80	6.38	6.38	89.71	0.25	49.99	49.99	40.97	9.02	5.544			
3,000.00	3,000.00	2,998.80	2,998.80	6.60	6.60	89.71	0.25	49.99	49.99	40.65	9.34	5.355			
3,100.00	3,100.00	3,098.80	3,098.80	6.83	6.82	89.71	0.25	49.99	49.99	40.34	9.65	5.178			
3,200.00	3,200.00	3,198.80	3,198.80	7.05	7.05	89.71	0.25	49.99	49.99	40.02	9.97	5.013	CC, ES		
3,300.00	3,300.00	3,298.14	3,298.14	7.25	7.26	-135.79	0.25	50.62	51.09	40.83	10.26	4.980			
3,400.00	3,399.98	3,397.39	3,397.37	7.43	7.46	-137.18	0.25	52.54	54.45	43.93	10.52	5.176			
3,500.00	3,499.92	3,496.47	3,496.40	7.61	7.65	-139.14	0.25	55.74	60.11	49.33	10.78	5.575			
3,600.00	3,599.82	3,595.29	3,595.12	7.79	7.85	-141.32	0.25	60.21	68.14	57.09	11.05	6.169			
3,700.00	3,699.64	3,693.77	3,693.43	7.98	8.06	-143.47	0.25	65.94	78.56	67.25	11.31	6.947			
3,733.33	3,732.90	3,726.51	3,726.09	8.04	8.13	-144.14	0.25	68.13	82.57	71.18	11.40	7.245			
3,800.00	3,799.40	3,791.86	3,791.27	8.17	8.26	-145.35	0.25	72.90	91.16	79.59	11.57	7.877			
3,900.00	3,899.16	3,889.62	3,888.69	8.37	8.47	-146.66	0.25	81.09	105.14	93.30	11.84	8.881			
4,000.00	3,998.92	3,987.03	3,985.64	8.57	8.69	-147.53	0.25	90.49	120.40	108.29	12.10	9.947			
4,100.00	4,098.67	4,084.06	4,082.09	8.77	8.91	-148.09	0.25	101.09	136.89	124.52	12.37	11.066			
4,200.00	4,198.43	4,181.62	4,178.94	8.97	9.13	-148.43	0.25	112.82	154.47	141.82	12.65	12.216			
4,300.00	4,298.19	4,280.03	4,276.61	9.18	9.37	-148.69	0.25	124.81	172.21	159.27	12.93	13.316			
4,400.00	4,397.94	4,378.44	4,374.29	9.39	9.61	-148.90	0.25	136.80	189.95	176.73	13.22	14.367			
4,500.00	4,497.70	4,476.85	4,471.97	9.60	9.85	-149.08	0.25	148.80	207.69	194.18	13.51	15.370			
4,600.00	4,597.46	4,575.26	4,569.85	9.82	10.09	-149.22	0.25	160.79	225.43	211.63	13.81	16.328			
4,700.00	4,697.21	4,673.67	4,667.33	10.03	10.34	-149.35	0.25	172.78	243.18	229.07	14.10	17.244			
4,800.00	4,796.97	4,772.09	4,765.01	10.25	10.60	-149.46	0.25	184.78	260.92	246.52	14.40	18.120			
4,900.00	4,896.73	4,870.50	4,862.68	10.47	10.85	-149.56	0.25	196.77	278.67	263.97	14.70	18.958			
5,000.00	4,996.48	4,968.91	4,960.36	10.70	11.11	-149.64	0.25	208.76	296.42	281.41	15.00	19.760			

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

Devon Energy

Anticollision Report

Company: WESTERN DIVISION
 Project: PBNM
 Reference Site: Norwalk_Section 34
 Site Error: 0.00 ft
 Reference Well: Thistle Unit 132H
 Well Error: 0.00 ft
 Reference Wellbore: Wellbore #1
 Reference Design: Design #1

Local Co-ordinate Reference: Well Thistle Unit 132H
 TVD Reference: KB @ 3667.90ft
 MD Reference: KB @ 3667.90ft
 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 Norwalk_Section 34 - Thistle Unit 137H - Wellbore #1 - Design #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 (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,100.00	5,096.24	5,067.32	5,058.04	10.92	11.37	-149.71	0.25	220.76	314.16	298.86	15.30	20.528		
5,200.00	5,195.99	5,165.73	5,155.72	11.15	11.63	-149.78	0.25	232.75	331.91	316.30	15.61	21.265		
5,300.00	5,295.75	5,264.14	5,253.40	11.37	11.90	-149.84	0.25	244.74	349.66	333.75	15.91	21.971		
5,400.00	5,395.51	5,362.56	5,351.07	11.60	12.17	-149.89	0.25	256.74	367.41	351.19	16.22	22.649		
5,500.00	5,495.26	5,460.97	5,448.75	11.83	12.44	-149.94	0.25	268.73	385.16	368.63	16.53	23.300		
5,600.00	5,595.02	5,559.38	5,546.43	12.06	12.71	-149.99	0.25	280.72	402.91	386.07	16.84	23.925		
5,700.00	5,694.78	5,657.79	5,644.11	12.30	12.98	-150.03	0.25	292.72	420.66	403.51	17.15	24.526		
5,800.00	5,794.53	5,756.20	5,741.79	12.53	13.26	-150.07	0.25	304.71	438.41	420.94	17.46	25.104		
5,900.00	5,894.29	5,854.62	5,839.46	12.77	13.53	-150.10	0.25	316.70	456.16	438.38	17.78	25.660		
6,000.00	5,994.05	5,953.03	5,937.14	13.00	13.81	-150.13	0.25	328.70	473.91	455.82	18.09	26.195		
6,100.00	6,093.80	6,051.44	6,034.82	13.24	14.09	-150.16	0.25	340.69	491.66	473.25	18.41	26.711		
6,200.00	6,193.56	6,149.85	6,132.50	13.47	14.37	-150.19	0.25	352.68	509.41	490.69	18.72	27.208		
6,300.00	6,293.31	6,248.26	6,230.18	13.71	14.65	-150.22	0.25	364.68	527.16	508.12	19.04	27.687		
6,400.00	6,393.07	6,346.67	6,327.86	13.95	14.93	-150.24	0.25	376.67	544.91	525.55	19.36	28.149		
6,500.00	6,492.83	6,445.09	6,425.53	14.19	15.22	-150.26	0.25	388.66	562.66	542.98	19.68	28.596		
6,600.00	6,592.58	6,543.50	6,523.21	14.43	15.50	-150.29	0.25	400.66	580.41	560.42	20.00	29.026		
6,700.00	6,692.34	6,641.91	6,620.89	14.67	15.79	-150.31	0.25	412.65	598.16	577.85	20.32	29.443		
6,733.33	6,725.59	6,674.71	6,653.45	14.75	15.88	-150.31	0.25	416.65	604.08	583.66	20.42	29.578		
6,800.00	6,792.12	6,740.36	6,718.61	14.91	16.07	-150.35	0.25	424.65	615.66	595.03	20.63	29.839		
6,900.00	6,891.97	6,839.00	6,816.51	15.12	16.36	-150.36	0.25	436.67	632.11	611.17	20.94	30.183		
7,000.00	6,991.88	6,937.81	6,914.59	15.33	16.65	-150.32	0.25	448.71	647.43	626.18	21.25	30.465		
7,100.00	7,091.84	7,036.78	7,012.82	15.53	16.94	-150.21	0.25	460.77	661.63	640.07	21.56	30.688		
7,200.00	7,191.83	7,135.89	7,111.19	15.73	17.23	-150.05	0.25	472.85	674.71	652.84	21.87	30.855		
7,266.67	7,258.49	7,202.04	7,176.85	15.86	17.43	75.08	0.25	480.91	682.81	660.74	22.07	30.936		
7,300.00	7,291.83	7,235.12	7,209.68	15.93	17.53	75.17	0.25	484.95	686.74	664.57	22.17	30.969		
7,400.00	7,391.83	7,334.38	7,308.20	16.13	17.82	75.43	0.25	497.04	698.53	676.05	22.49	31.064		
7,500.00	7,491.83	7,433.63	7,406.71	16.34	18.11	75.67	0.25	509.14	710.34	687.54	22.80	31.157		
7,600.00	7,591.83	7,532.89	7,505.23	16.54	18.41	75.91	0.25	521.23	722.16	699.05	23.11	31.246		
7,700.00	7,691.83	7,632.14	7,603.74	16.75	18.70	76.14	0.25	533.33	733.99	710.57	23.42	31.334		
7,800.00	7,791.83	7,731.40	7,702.26	16.95	19.00	76.37	0.25	545.43	745.84	722.10	23.74	31.419		
7,900.00	7,891.83	7,830.65	7,800.77	17.16	19.30	76.59	0.25	557.52	757.69	733.64	24.05	31.502		
8,000.00	7,991.83	7,929.90	7,899.29	17.36	19.59	76.80	0.25	569.62	769.55	745.19	24.37	31.583		
8,100.00	8,091.83	8,029.16	7,997.80	17.57	19.89	77.00	0.25	581.71	781.43	756.75	24.68	31.662		
8,200.00	8,191.83	8,128.41	8,096.31	17.78	20.19	77.20	0.25	593.81	793.31	768.32	25.00	31.738		
8,300.00	8,291.83	8,227.67	8,194.83	17.99	20.49	77.39	0.25	605.91	805.20	779.89	25.31	31.813		
8,400.00	8,391.83	8,326.92	8,293.34	18.19	20.79	77.58	0.25	618.00	817.11	791.48	25.63	31.886		
8,500.00	8,491.83	8,426.18	8,391.86	18.40	21.08	77.76	0.25	630.10	829.02	803.07	25.94	31.957		
8,600.00	8,591.83	8,525.43	8,490.37	18.61	21.38	77.93	0.25	642.19	840.93	814.68	26.26	32.027		
8,700.00	8,691.83	8,624.69	8,588.89	18.82	21.68	78.10	0.25	654.29	852.86	826.29	26.57	32.094		
8,800.00	8,791.83	8,735.23	8,698.69	19.03	21.97	78.28	0.25	667.09	864.20	837.29	26.91	32.116		
8,900.00	8,891.83	8,847.20	8,810.08	19.24	22.23	78.43	0.25	678.43	874.13	846.90	27.23	32.100		
9,000.00	8,991.83	8,959.47	8,921.93	19.45	22.48	78.56	0.25	688.17	882.63	855.08	27.55	32.037		
9,100.00	9,091.83	9,072.01	9,034.18	19.66	22.71	78.66	0.25	696.28	889.69	861.83	27.86	31.929		
9,200.00	9,191.83	9,184.77	9,146.75	19.87	22.94	78.74	0.25	702.74	895.31	867.14	28.17	31.777		
9,300.00	9,291.83	9,297.69	9,259.56	20.08	23.16	78.80	0.25	707.55	899.49	871.01	28.48	31.583		
9,400.00	9,391.83	9,410.73	9,372.56	20.29	23.36	78.84	0.25	710.70	902.22	873.44	28.78	31.348		
9,492.22	9,484.04	9,515.04	9,476.85	20.49	23.54	78.86	0.25	712.11	903.45	874.39	29.05	31.095		
9,500.00	9,491.83	9,523.84	9,485.66	20.51	23.56	79.23	0.25	712.17	903.49	874.41	29.08	31.072		
9,550.00	9,541.73	9,578.71	9,540.53	20.61	23.65	79.47	0.25	712.29	903.06	873.84	29.22	30.908		
9,600.00	9,591.19	9,628.17	9,589.99	20.70	23.74	80.04	0.25	712.29	901.77	872.42	29.35	30.726		
9,650.00	9,639.84	9,676.82	9,638.64	20.78	23.83	80.93	0.25	712.29	899.82	870.34	29.47	30.531		
9,700.00	9,687.30	9,724.28	9,686.10	20.85	23.92	82.11	0.25	712.29	897.39	867.80	29.59	30.331		

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

Devon Energy

Anticollision Report

Company: WESTERN DIVISION
 Project: PBNM
 Reference Site: Norwalk_Section 34
 Site Error: 0.00 ft
 Reference Well: Thistle Unit 132H
 Well Error: 0.00 ft
 Reference Wellbore: Wellbore #1
 Reference Design: Design #1

Local Co-ordinate Reference: Well Thistle Unit 132H
 TVD Reference: KB @ 3667.90ft
 MD Reference: KB @ 3667.90ft
 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 Norwalk_Section 34 - Thistle Unit 137H - Wellbore #1 - Design #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 (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
9,750.00	9,733.22	9,770.20	9,732.02	20.92	24.01	83.53	0.25	712.29	894.70	865.01	29.69	30.132		
9,800.00	9,777.24	9,814.22	9,776.04	20.98	24.09	85.13	0.25	712.29	892.05	862.26	29.79	29.940		
9,850.00	9,819.02	9,856.01	9,817.82	21.04	24.17	86.83	0.25	712.29	889.76	859.87	29.89	29.763		
9,900.00	9,858.26	9,895.24	9,857.06	21.09	24.24	88.55	0.25	712.29	888.19	858.19	30.00	29.610		
9,943.61	9,890.17	9,927.15	9,888.97	21.13	24.30	90.00	0.25	712.29	887.69	857.60	30.09	29.501		
9,950.00	9,894.65	9,931.63	9,893.45	21.14	24.31	90.20	0.25	712.29	887.70	857.60	30.10	29.488		
10,000.00	9,927.92	9,964.90	9,926.72	21.18	24.38	91.71	0.25	712.29	888.68	858.46	30.22	29.408		
10,050.00	9,957.80	9,994.79	9,956.60	21.23	24.43	92.97	0.25	712.29	891.47	861.12	30.35	29.377		
10,100.00	9,984.09	10,021.07	9,982.89	21.33	24.48	93.92	0.25	712.29	896.37	865.89	30.49	29.403		
10,150.00	10,006.56	10,043.54	10,005.36	21.49	24.53	94.47	0.25	712.29	903.65	873.01	30.64	29.493		
10,200.00	10,025.06	10,062.04	10,023.86	21.69	24.56	94.57	0.25	712.29	913.48	882.68	30.81	29.653		
10,250.00	10,039.44	10,076.43	10,038.24	21.91	24.59	94.17	0.25	712.29	925.94	894.96	30.98	29.886		
10,300.00	10,049.60	10,086.58	10,048.40	22.16	24.61	93.23	0.25	712.29	941.04	909.87	31.16	30.195		
10,350.00	10,055.45	10,092.43	10,054.25	22.44	24.62	91.72	0.25	712.29	958.66	927.31	31.35	30.580		
10,390.65	10,057.00	10,093.98	10,055.80	22.69	24.62	90.07	0.25	712.29	974.72	943.22	31.50	30.946		
10,400.00	10,057.03	10,094.01	10,055.83	22.75	24.62	90.07	0.25	712.29	978.62	947.08	31.53	31.036		
10,500.00	10,057.30	10,094.28	10,056.10	23.45	24.62	90.09	0.25	712.29	1,024.73	992.83	31.90	32.124		
10,600.00	10,057.58	11,117.25	10,657.60	24.27	27.91	124.10	662.01	708.19	1,073.44	1,041.88	31.56	34.011		
10,700.00	10,057.85	11,216.89	10,649.33	25.20	28.71	123.72	761.30	707.57	1,068.67	1,036.03	32.65	32.735		
10,800.00	10,058.12	11,316.52	10,641.06	26.22	29.61	123.33	860.58	706.96	1,063.95	1,030.09	33.86	31.423		
10,900.00	10,058.40	11,416.15	10,632.79	27.32	30.61	122.95	959.87	706.34	1,059.27	1,024.08	35.19	30.103		
11,000.00	10,058.67	11,515.78	10,624.52	28.50	31.67	122.56	1,059.16	705.73	1,054.64	1,018.02	36.63	28.795		
11,100.00	10,058.94	11,615.41	10,616.25	29.75	32.81	122.16	1,158.44	705.11	1,050.07	1,011.90	38.16	27.516		
11,200.00	10,059.22	11,715.04	10,607.98	31.05	34.01	121.76	1,257.73	704.50	1,045.54	1,005.75	39.79	26.278		
11,300.00	10,059.49	11,814.68	10,599.71	32.41	35.26	121.36	1,357.01	703.88	1,041.06	999.57	41.49	25.089		
11,400.00	10,059.77	11,914.31	10,591.44	33.81	36.57	120.96	1,456.30	703.27	1,036.64	993.36	43.28	23.954		
11,500.00	10,060.04	12,013.94	10,583.16	35.25	37.91	120.55	1,555.59	702.65	1,032.26	987.14	45.13	22.875		
11,600.00	10,060.31	12,113.57	10,574.89	36.72	39.29	120.14	1,654.87	702.04	1,027.94	980.91	47.04	21.853		
11,700.00	10,060.59	12,213.20	10,566.62	38.23	40.71	119.72	1,754.16	701.42	1,023.68	974.67	49.01	20.888		
11,800.00	10,060.86	12,312.83	10,558.35	39.76	42.16	119.31	1,853.44	700.80	1,019.47	968.44	51.03	19.978		
11,900.00	10,061.14	12,412.47	10,550.08	41.32	43.64	118.89	1,952.73	700.19	1,015.31	962.21	53.10	19.121		
12,000.00	10,061.41	12,512.10	10,541.81	42.90	45.14	118.46	2,052.02	699.57	1,011.21	955.99	55.22	18.314		
12,100.00	10,061.68	12,611.73	10,533.54	44.50	46.66	118.03	2,151.30	698.96	1,007.16	949.79	57.37	17.555		
12,200.00	10,061.96	12,711.36	10,525.27	46.12	48.21	117.60	2,250.59	698.34	1,003.17	943.61	59.57	16.841		
12,300.00	10,062.23	12,810.99	10,517.00	47.75	49.77	117.16	2,349.87	697.73	999.24	937.44	61.80	16.169		
12,400.00	10,062.50	12,910.63	10,508.73	49.40	51.35	116.73	2,449.16	697.11	995.37	931.31	64.07	15.537		
12,500.00	10,062.78	13,010.26	10,500.45	51.06	52.95	116.28	2,548.44	696.50	991.56	925.19	66.36	14.941		
12,600.00	10,063.05	13,109.89	10,492.18	52.73	54.56	115.84	2,647.73	695.88	987.81	919.11	68.69	14.380		
12,700.00	10,063.33	13,209.52	10,483.91	54.41	56.18	115.39	2,747.02	695.27	984.11	913.06	71.05	13.851		
12,800.00	10,063.60	13,309.15	10,475.64	56.11	57.82	114.94	2,846.30	694.65	980.48	907.05	73.43	13.353		
12,900.00	10,063.87	13,408.78	10,467.37	57.81	59.47	114.48	2,945.59	694.04	976.91	901.07	75.84	12.882		
13,000.00	10,064.15	13,508.42	10,459.10	59.52	61.12	114.02	3,044.87	693.42	973.40	895.13	78.27	12.437		
13,100.00	10,064.42	13,608.05	10,450.83	61.23	62.79	113.56	3,144.16	692.81	969.96	889.23	80.72	12.016		
13,200.00	10,064.70	13,707.68	10,442.56	62.95	64.46	113.10	3,243.45	692.19	966.58	883.38	83.20	11.618		
13,300.00	10,064.97	13,807.31	10,434.29	64.68	66.14	112.63	3,342.73	691.58	963.26	877.57	85.70	11.241		
13,400.00	10,065.24	13,906.94	10,426.02	66.42	67.83	112.16	3,442.02	690.96	960.01	871.80	88.21	10.883		
13,500.00	10,065.52	14,006.57	10,417.74	68.16	69.53	111.68	3,541.30	690.35	956.82	866.08	90.74	10.544		
13,600.00	10,065.79	14,106.21	10,409.47	69.90	71.23	111.21	3,640.59	689.73	953.70	860.41	93.29	10.223		
13,700.00	10,066.07	14,205.84	10,401.20	71.65	72.94	110.72	3,739.88	689.12	950.65	854.79	95.86	9.917		
13,800.00	10,066.34	14,305.47	10,392.93	73.40	74.65	110.24	3,839.16	688.50	947.67	849.23	98.44	9.627		
13,900.00	10,066.61	14,405.10	10,384.66	75.16	76.37	109.75	3,938.45	687.89	944.75	843.71	101.04	9.350		
14,000.00	10,066.89	14,504.73	10,376.39	76.92	78.09	109.26	4,037.73	687.27	941.91	838.26	103.65	9.087		

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

Devon Energy

Anticollision Report

Company: WESTERN DIVISION
 Project: PBNM
 Reference Site: Norwalk_Section 34
 Site Error: 0.00 ft
 Reference Well: Thistle Unit 132H
 Well Error: 0.00 ft
 Reference Wellbore: Wellbore #1
 Reference Design: Design #1

Local Co-ordinate Reference: Well Thistle Unit 132H
 TVD Reference: KB @ 3667.90ft
 MD Reference: KB @ 3667.90ft
 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

Norwalk_Section 34 - Thistle Unit 137H - Wellbore #1 - Design #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 (°)	Offset Wellbore Centre +N-S (ft)	+E-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
14,100.00	10,067.16	14,604.36	10,368.12	78.69	79.82	108.77	4,137.02	686.66	939.13	832.86	106.27	8.837		
14,200.00	10,067.43	14,704.00	10,359.85	80.45	81.55	108.28	4,236.30	686.04	936.42	827.51	108.91	8.598		
14,300.00	10,067.71	14,803.63	10,351.58	82.22	83.28	107.78	4,335.59	685.42	933.79	822.23	111.56	8.371		
14,400.00	10,067.98	14,903.26	10,343.31	84.00	85.02	107.28	4,434.88	684.81	931.22	817.01	114.21	8.153		
14,500.00	10,068.26	15,002.89	10,335.03	85.77	86.76	106.77	4,534.16	684.19	928.73	811.85	116.88	7.946		
14,600.00	10,068.53	15,102.52	10,326.76	87.55	88.51	106.27	4,633.45	683.58	926.31	806.76	119.55	7.748		
14,700.00	10,068.80	15,202.15	10,318.49	89.33	90.26	105.76	4,732.73	682.96	923.96	801.73	122.24	7.559		
14,800.00	10,069.08	15,301.79	10,310.22	91.11	92.01	105.24	4,832.02	682.35	921.69	796.76	124.93	7.378		
14,900.00	10,069.35	15,401.42	10,301.95	92.90	93.76	104.73	4,931.31	681.73	919.49	791.87	127.63	7.205		
15,000.00	10,069.63	15,501.05	10,293.68	94.68	95.52	104.21	5,030.59	681.12	917.37	787.04	130.33	7.039		
15,100.00	10,069.90	15,600.68	10,285.41	96.47	97.28	103.69	5,129.88	680.50	915.32	782.29	133.04	6.880		
15,200.00	10,070.17	15,700.31	10,277.14	98.26	99.04	103.17	5,229.16	679.89	913.35	777.60	135.75	6.728		
15,300.00	10,070.45	15,799.94	10,268.87	100.05	100.80	102.65	5,328.45	679.27	911.45	772.99	138.46	6.583		
15,400.00	10,070.72	15,899.58	10,260.60	101.85	102.57	102.12	5,427.74	678.66	909.64	768.45	141.18	6.443		
15,500.00	10,071.00	15,999.21	10,252.32	103.64	104.33	101.60	5,527.02	678.04	907.89	763.99	143.90	6.309		
15,600.00	10,071.27	16,098.84	10,244.05	105.44	106.10	101.07	5,626.31	677.43	906.23	759.61	146.62	6.181		
15,700.00	10,071.54	16,198.47	10,235.78	107.24	107.87	100.54	5,725.59	676.81	904.65	755.30	149.34	6.057		
15,800.00	10,071.82	16,298.10	10,227.51	109.03	109.65	100.00	5,824.88	676.20	903.14	751.07	152.07	5.939		
15,900.00	10,072.09	16,397.74	10,219.24	110.83	111.42	99.47	5,924.17	675.58	901.71	746.93	154.78	5.826		
16,000.00	10,072.36	16,497.37	10,210.97	112.64	113.20	98.93	6,023.45	674.97	900.36	742.86	157.50	5.717		
16,100.00	10,072.64	16,597.00	10,202.70	114.44	114.97	98.39	6,122.74	674.35	899.09	738.88	160.22	5.612		
16,200.00	10,072.91	16,696.63	10,194.43	116.24	116.75	97.85	6,222.02	673.74	897.91	734.98	162.93	5.511		
16,300.00	10,073.19	16,796.26	10,186.16	118.05	118.53	97.31	6,321.31	673.12	896.80	731.16	165.63	5.414		
16,400.00	10,073.46	16,895.89	10,177.89	119.85	120.31	96.77	6,420.59	672.51	895.77	727.44	168.33	5.321		
16,500.00	10,073.73	16,995.53	10,169.61	121.66	122.09	96.23	6,519.88	671.89	894.82	723.79	171.03	5.232		
16,600.00	10,074.01	17,095.16	10,161.34	123.46	123.88	95.68	6,619.17	671.27	893.96	720.24	173.72	5.146		
16,700.00	10,074.28	17,194.79	10,153.07	125.27	125.66	95.14	6,718.45	670.66	893.17	716.78	176.40	5.063		
16,800.00	10,074.56	17,294.42	10,144.80	127.08	127.45	94.59	6,817.74	670.04	892.47	713.40	179.07	4.984		
16,900.00	10,074.83	17,394.05	10,136.53	128.89	129.23	94.04	6,917.02	669.43	891.85	710.12	181.74	4.907		
17,000.00	10,075.10	17,493.68	10,128.26	130.70	131.02	93.50	7,016.31	668.81	891.31	706.92	184.39	4.834		
17,100.00	10,075.38	17,593.32	10,119.99	132.51	132.81	92.95	7,115.60	668.20	890.86	703.82	187.03	4.763		
17,200.00	10,075.65	17,692.95	10,111.72	134.32	134.60	92.40	7,214.88	667.58	890.49	700.82	189.67	4.695		
17,300.00	10,075.92	17,792.58	10,103.45	136.13	136.39	91.85	7,314.17	666.97	890.19	697.91	192.29	4.629		
17,400.00	10,076.20	17,892.21	10,095.18	137.94	138.18	91.30	7,413.45	666.35	889.99	695.09	194.90	4.566		
17,500.00	10,076.47	17,991.84	10,086.90	139.76	139.97	90.75	7,512.74	665.74	889.86	692.37	197.49	4.506		
17,600.00	10,076.75	18,091.47	10,078.63	141.57	141.77	90.20	7,612.03	665.12	889.82	689.74	200.07	4.447		
17,607.12	10,076.77	18,098.57	10,078.05	141.70	141.89	90.16	7,619.09	665.08	889.82	689.56	200.26	4.443		
17,692.64	10,077.00	18,183.43	10,071.00	143.25	143.42	89.69	7,703.66	664.56	889.85	687.40	202.45	4.395 SF		

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

Devon Energy

Anticollision Report

Company: WESTERN DIVISION
 Project: PBNM
 Reference Site: Norwalk_Section 34
 Site Error: 0.00 ft
 Reference Well: Thistle Unit 132H
 Well Error: 0.00 ft
 Reference Wellbore: Wellbore #1
 Reference Design: Design #1

Local Co-ordinate Reference: Well Thistle Unit 132H
 TVD Reference: KB @ 3667.90ft
 MD Reference: KB @ 3667.90ft
 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 Norwalk_Section 34 - Thistle Unit 49H_AC - Original - Actual												Offset Site Error:	0.00 ft
Survey Program: 100-MWD+IGRF												Offset Well Error:	0.00 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00	0.00	-84.83	61.59	-681.18	683.96				
100.00	100.00	91.05	91.04	0.08	0.12	-84.84	61.52	-681.64	684.44	684.29	0.15	4,550.882	
200.00	200.00	192.71	192.71	0.31	0.47	-84.87	61.26	-682.60	685.37	684.81	0.56	1,223.510	
300.00	300.00	289.83	289.82	0.53	0.82	-84.91	60.88	-683.54	686.29	685.32	0.97	704.137	
400.00	400.00	391.04	391.02	0.76	1.18	-84.95	60.47	-684.70	687.40	686.00	1.40	490.502	
500.00	500.00	490.71	490.69	0.98	1.54	-85.01	59.87	-685.76	688.40	686.58	1.82	377.497	
600.00	600.00	588.73	588.69	1.21	1.89	-85.09	59.01	-686.98	689.57	687.33	2.24	307.706	
700.00	700.00	690.69	690.64	1.43	2.26	-85.18	58.06	-688.30	690.78	688.11	2.67	258.691	
800.00	800.00	790.16	790.10	1.66	2.61	-85.26	57.23	-689.42	691.84	688.75	3.09	223.742	
900.00	900.00	894.31	894.25	1.88	2.99	-85.31	56.60	-690.36	692.69	689.16	3.53	196.341	
1,000.00	1,000.00	994.75	994.68	2.11	3.35	-85.38	55.84	-690.89	693.15	689.20	3.95	175.421	
1,100.00	1,100.00	1,094.15	1,094.07	2.33	3.70	-85.48	54.86	-691.48	693.65	689.27	4.37	158.685	
1,200.00	1,200.00	1,192.52	1,192.43	2.56	4.05	-85.59	53.33	-692.23	694.30	689.51	4.79	144.983	
1,300.00	1,300.00	1,291.90	1,291.80	2.78	4.41	-85.72	51.89	-693.16	695.12	689.91	5.21	133.416	
1,400.00	1,400.00	1,390.77	1,390.65	3.01	4.77	-85.84	50.43	-694.20	696.07	690.44	5.63	123.625	
1,500.00	1,500.00	1,489.65	1,489.51	3.23	5.12	-85.95	49.21	-695.39	697.18	691.13	6.05	115.225	
1,600.00	1,600.00	1,591.45	1,591.31	3.46	5.48	-85.98	48.98	-696.51	698.26	691.78	6.48	107.828	
1,700.00	1,700.00	1,686.28	1,686.12	3.68	5.82	-85.96	49.26	-697.68	699.52	692.64	6.88	101.710	
1,800.00	1,800.00	1,789.40	1,789.23	3.91	6.18	-85.95	49.57	-699.25	701.06	693.75	7.31	95.968	
1,900.00	1,900.00	1,893.26	1,893.09	4.13	6.54	-85.90	50.16	-700.19	702.00	694.27	7.73	90.809	
2,000.00	2,000.00	1,994.01	1,993.83	4.35	6.89	-85.85	50.86	-700.75	702.60	694.46	8.14	86.265	
2,100.00	2,100.00	2,089.67	2,089.49	4.58	7.22	-85.81	51.35	-701.32	703.25	694.70	8.55	82.286	
2,200.00	2,200.00	2,188.45	2,188.26	4.80	7.57	-85.74	52.31	-702.56	704.57	695.61	8.96	78.647	
2,300.00	2,300.00	2,288.12	2,287.91	5.03	7.92	-85.66	53.47	-703.87	705.97	696.60	9.37	75.316	
2,400.00	2,400.00	2,387.98	2,387.75	5.25	8.27	-85.55	54.93	-705.18	707.39	697.60	9.79	72.269	
2,500.00	2,500.00	2,486.66	2,486.40	5.48	8.61	-85.41	56.69	-706.54	708.91	698.71	10.20	69.505	
2,600.00	2,600.00	2,590.42	2,590.14	5.70	8.98	-85.27	58.55	-708.00	710.46	699.84	10.63	66.859	
2,700.00	2,700.00	2,687.42	2,687.12	5.93	9.32	-85.13	60.37	-709.14	711.78	700.75	11.03	64.517	
2,800.00	2,800.00	2,786.63	2,786.30	6.15	9.66	-84.98	62.45	-710.43	713.26	701.81	11.45	62.315	
2,900.00	2,900.00	2,888.41	2,888.03	6.38	10.02	-84.78	65.05	-711.80	714.83	702.96	11.87	60.236	
3,000.00	3,000.00	2,990.65	2,990.22	6.60	10.38	-84.55	68.02	-712.77	716.05	703.76	12.29	58.269	
3,100.00	3,100.00	3,090.22	3,089.74	6.83	10.72	-84.29	71.29	-713.52	717.11	704.41	12.70	56.458	
3,200.00	3,200.00	3,193.25	3,192.70	7.05	11.08	-84.00	75.05	-714.03	717.98	704.86	13.13	54.703	
3,300.00	3,300.00	3,294.63	3,294.01	7.25	11.43	-83.54	78.81	-714.23	718.17	704.64	13.53	53.079	
3,400.00	3,399.98	3,398.01	3,397.30	7.43	11.79	-83.04	83.04	-714.09	717.28	703.35	13.93	51.497	
3,500.00	3,499.92	3,500.36	3,499.57	7.61	12.15	-82.36	87.16	-713.54	715.23	700.90	14.32	49.929	
3,600.00	3,599.82	3,600.01	3,599.13	7.79	12.49	-82.99	91.04	-712.63	712.07	697.35	14.72	48.389	
3,700.00	3,699.64	3,701.62	3,700.67	7.98	12.84	-83.72	94.83	-711.52	708.01	692.89	15.11	46.848	
3,733.33	3,732.90	3,737.42	3,736.44	8.04	12.97	-83.99	96.12	-711.10	706.46	691.21	15.25	46.322	
3,800.00	3,799.40	3,801.72	3,800.71	8.17	13.19	-84.46	98.09	-710.30	703.25	687.75	15.51	45.348	
3,900.00	3,899.16	3,903.35	3,902.29	8.37	13.54	-85.18	100.93	-708.89	698.32	682.42	15.91	43.897	
4,000.00	3,998.92	4,000.81	3,999.72	8.57	13.88	-85.80	102.73	-707.76	693.57	677.27	16.30	42.556	
4,100.00	4,098.67	4,101.16	4,100.07	8.77	14.22	-86.33	103.22	-707.18	689.19	672.49	16.69	41.283	
4,200.00	4,198.43	4,202.19	4,201.10	8.97	14.57	-86.87	103.60	-706.40	684.66	667.57	17.09	40.057	
4,300.00	4,298.19	4,301.11	4,300.01	9.18	14.91	-87.43	104.26	-705.50	680.12	662.63	17.49	38.889	
4,400.00	4,397.94	4,433.14	4,431.98	9.39	15.36	-88.17	104.53	-702.07	674.06	656.11	17.95	37.544	
4,500.00	4,497.70	4,555.26	4,553.75	9.60	15.77	-88.77	102.11	-693.22	662.80	644.43	18.37	36.074	
4,600.00	4,597.46	4,645.14	4,643.31	9.82	16.07	-89.22	100.09	-685.94	650.83	632.07	18.76	34.690	
4,700.00	4,697.21	4,758.39	4,756.16	10.03	16.45	-89.74	96.76	-677.08	639.01	619.84	19.17	33.337	
4,800.00	4,796.97	4,860.78	4,858.05	10.25	16.80	-90.15	92.55	-667.87	625.78	606.21	19.57	31.982	
4,900.00	4,896.73	4,958.98	4,955.71	10.47	17.14	-90.54	88.28	-658.60	612.08	592.12	19.97	30.657	
5,000.00	4,996.48	5,047.28	5,043.62	10.70	17.44	-90.94	84.86	-651.00	599.36	579.00	20.36	29.433	

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

Devon Energy Anticollision Report

Company: WESTERN DIVISION
Project: PBNM
Reference Site: Norwalk_Section 34
Site Error: 0.00 ft
Reference Well: Thistle Unit 132H
Well Error: 0.00 ft
Reference Wellbore: Wellbore #1
Reference Design: Design #1

Local Co-ordinate Reference: Well Thistle Unit 132H
TVD Reference: KB @ 3667.90ft
MD Reference: KB @ 3667.90ft
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

Norwalk_Section 34 - Thistle Unit 49H_AC - Original - Actual													Offset Site Error:	0.00 ft
Survey Program: 100-MWD+IGRF													Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)						
5,100.00	5,096.24	5,135.18	5,131.28	10.92	17.75	61.30	81.63	-645.39	588.83	568.07	20.76	28.365		
5,200.00	5,195.99	5,225.03	5,220.98	11.15	18.06	61.69	78.74	-641.03	579.93	558.78	21.15	27.416		
5,300.00	5,295.75	5,323.87	5,319.70	11.37	18.40	62.10	75.55	-637.45	572.24	550.68	21.56	26.541		
5,400.00	5,395.51	5,433.18	5,428.85	11.60	18.78	62.62	72.35	-632.52	563.85	541.86	21.98	25.649		
5,500.00	5,495.26	5,554.05	5,549.28	11.83	19.21	63.58	70.97	-622.51	552.44	530.04	22.40	24.660		
5,600.00	5,595.02	5,660.47	5,654.98	12.06	19.59	64.63	70.16	-610.20	538.16	515.35	22.81	23.592		
5,700.00	5,694.78	5,752.82	5,746.74	12.30	19.92	65.47	68.44	-599.90	524.09	500.86	23.23	22.560		
5,800.00	5,794.53	5,851.90	5,845.29	12.53	20.28	66.04	63.80	-590.96	511.13	487.48	23.64	21.618		
5,900.00	5,894.29	5,954.86	5,947.40	12.77	20.65	65.98	53.32	-583.12	497.55	473.50	24.05	20.688		
6,000.00	5,994.05	6,057.97	6,049.17	13.00	21.01	65.39	38.37	-576.07	483.18	458.73	24.45	19.758		
6,100.00	6,093.80	6,152.30	6,142.15	13.24	21.35	64.67	23.59	-570.04	468.87	443.99	24.87	18.849		
6,200.00	6,193.56	6,247.17	6,235.87	13.47	21.70	64.04	9.99	-564.47	455.58	430.28	25.30	18.009		
6,300.00	6,293.31	6,344.54	6,332.24	13.71	22.05	63.48	-2.80	-559.02	442.97	417.25	25.72	17.224		
6,400.00	6,393.07	6,450.19	6,436.74	13.95	22.44	62.84	-16.90	-552.52	429.84	403.71	26.13	16.449		
6,500.00	6,492.83	6,553.50	6,538.69	14.19	22.83	62.05	-31.88	-545.09	415.41	388.86	26.55	15.647		
6,600.00	6,592.58	6,652.37	6,636.15	14.43	23.21	61.19	-46.73	-537.57	400.53	373.55	26.98	14.847		
6,700.00	6,692.34	6,749.46	6,731.92	14.67	23.58	60.31	-61.02	-530.44	386.07	358.65	27.41	14.083		
6,733.33	6,725.59	6,782.56	6,764.58	14.75	23.71	59.99	-65.86	-528.04	381.31	353.75	27.56	13.837		
6,800.00	6,792.12	6,848.04	6,829.18	14.91	23.97	59.26	-75.43	-523.28	371.95	344.11	27.84	13.358		
6,900.00	6,891.97	6,944.87	6,924.80	15.12	24.34	58.04	-89.05	-516.45	358.94	330.67	28.27	12.695		
7,000.00	6,991.88	7,040.89	7,019.75	15.33	24.72	56.68	-101.89	-510.19	347.46	318.76	28.70	12.105		
7,100.00	7,091.84	7,139.43	7,117.39	15.53	25.10	55.21	-113.86	-504.37	337.75	308.61	29.13	11.594		
7,200.00	7,191.83	7,244.63	7,221.47	15.73	25.51	53.28	-127.29	-497.15	327.98	298.43	29.55	11.099		
7,266.67	7,258.49	7,314.28	7,290.06	15.86	25.79	-83.47	-137.99	-491.44	321.00	291.17	29.83	10.760		
7,300.00	7,291.83	7,348.24	7,323.43	15.93	25.93	-84.41	-143.55	-488.46	317.47	287.49	29.98	10.590		
7,400.00	7,391.83	7,446.98	7,420.34	16.13	26.34	-87.34	-160.13	-479.40	306.98	276.54	30.44	10.086		
7,500.00	7,491.83	7,544.00	7,515.69	16.34	26.74	-90.30	-175.85	-470.73	297.59	266.68	30.91	9.628		
7,600.00	7,591.83	7,641.94	7,612.06	16.54	27.15	-93.33	-191.07	-462.31	289.38	258.00	31.38	9.222		
7,700.00	7,691.83	7,738.88	7,707.63	16.75	27.55	-96.30	-205.18	-454.28	282.26	250.40	31.85	8.861		
7,800.00	7,791.83	7,839.03	7,806.57	16.95	27.96	-99.24	-218.57	-446.33	276.14	243.81	32.32	8.543		
7,900.00	7,891.83	7,939.25	7,905.38	17.16	28.38	-102.54	-232.85	-437.52	270.12	237.31	32.81	8.234		
8,000.00	7,991.83	8,036.32	8,001.02	17.36	28.79	-105.94	-247.00	-428.86	264.99	231.70	33.29	7.959		
8,100.00	8,091.83	8,133.67	8,097.07	17.57	29.20	-109.30	-260.69	-420.94	261.44	227.67	33.78	7.740		
8,200.00	8,191.83	8,231.16	8,193.48	17.78	29.60	-112.46	-273.36	-413.89	259.30	225.05	34.25	7.571		
8,300.00	8,291.83	8,329.67	8,291.03	17.99	30.01	-115.48	-285.42	-407.45	258.29	223.57	34.72	7.439		
8,357.88	8,349.71	8,386.69	8,347.51	18.11	30.24	-117.22	-292.38	-403.83	258.13	223.15	34.99	7.378		
8,400.00	8,391.83	8,428.29	8,388.71	18.19	30.41	-118.50	-297.50	-401.22	258.22	223.03	35.18	7.339		
8,500.00	8,491.83	8,529.57	8,488.88	18.40	30.83	-121.80	-310.57	-394.06	258.59	222.93	35.66	7.251		
8,600.00	8,591.83	8,633.21	8,591.14	18.61	31.27	-125.54	-324.43	-384.47	258.29	222.14	36.15	7.145		
8,684.70	8,676.52	8,717.65	8,674.33	18.79	31.64	-128.76	-335.80	-375.48	257.99	221.44	36.55	7.058 CC		
8,700.00	8,691.83	8,732.52	8,688.99	18.82	31.70	-129.32	-337.78	-373.90	258.01	221.39	36.62	7.045 ES		
8,800.00	8,791.83	8,830.36	8,785.58	19.03	32.12	-132.76	-350.12	-364.41	258.99	221.91	37.08	6.986		
8,900.00	8,891.83	8,930.39	8,884.59	19.24	32.54	-135.86	-361.49	-355.94	260.89	223.36	37.52	6.953		
9,000.00	8,991.83	9,032.61	8,986.20	19.45	32.94	-138.27	-370.18	-348.99	262.49	224.53	37.97	6.914		
9,100.00	9,091.83	9,133.27	9,086.57	19.66	33.33	-139.92	-375.98	-343.99	263.60	225.21	38.39	6.866		
9,200.00	9,191.83	9,235.04	9,188.13	19.87	33.71	-141.28	-380.80	-339.87	264.69	225.88	38.81	6.820		
9,300.00	9,291.83	9,336.67	9,289.69	20.08	34.07	-142.10	-383.24	-336.95	264.79	225.56	39.22	6.751		
9,328.28	9,320.11	9,364.98	9,317.99	20.14	34.17	-142.28	-383.74	-336.28	264.78	225.44	39.34	6.731		
9,400.00	9,391.83	9,435.63	9,388.61	20.29	34.42	-142.68	-384.96	-334.89	264.90	225.27	39.63	6.684		
9,492.22	9,484.04	9,529.45	9,482.42	20.49	34.75	-143.06	-386.22	-333.63	265.14	225.14	40.01	6.628		
9,493.91	9,485.74	9,531.20	9,484.17	20.49	34.75	-142.69	-386.22	-333.61	265.14	225.13	40.01	6.627		
9,500.00	9,491.83	9,537.48	9,490.45	20.51	34.77	-142.71	-386.25	-333.55	265.16	225.13	40.04	6.623 SF		

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

Devon Energy

Anticollision Report

Company: WESTERN DIVISION
 Project: PBNM
 Reference Site: Norwalk_Section 34
 Site Error: 0.00 ft
 Reference Well: Thistle Unit 132H
 Well Error: 0.00 ft
 Reference Wellbore: Wellbore #1
 Reference Design: Design #1

Local Co-ordinate Reference: Well Thistle Unit 132H
 TVD Reference: KB @ 3667.90ft
 MD Reference: KB @ 3667.90ft
 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 Norwalk_Section 34 - Thistle Unit 49H_AC - Original - Actual													Offset Site Error: 0.00 ft
Survey Program: 100-MWD+GRF													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 (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
9,550.00	9,541.73	9,587.71	9,540.67	20.61	34.94	-143.03	-386.25	-333.16	267.21	226.98	40.23	6.642	
9,600.00	9,591.19	9,636.66	9,589.63	20.70	35.11	-143.62	-386.20	-332.96	272.85	232.43	40.42	6.751	
9,650.00	9,639.84	9,685.06	9,638.03	20.78	35.27	-144.44	-386.15	-332.88	282.14	241.55	40.59	6.951	
9,700.00	9,687.30	9,732.36	9,685.32	20.85	35.43	-145.44	-386.16	-332.79	295.14	254.38	40.76	7.241	
9,750.00	9,733.22	9,777.45	9,730.42	20.92	35.58	-146.45	-386.22	-332.71	311.95	271.03	40.91	7.624	
9,800.00	9,777.24	9,820.35	9,773.32	20.98	35.72	-147.38	-386.36	-332.77	332.66	291.60	41.06	8.102	
9,850.00	9,819.02	9,861.35	9,814.32	21.04	35.86	-148.15	-386.56	-332.96	357.22	316.03	41.19	8.672	
9,900.00	9,858.26	9,900.14	9,853.10	21.09	35.99	-148.70	-386.79	-333.15	385.44	344.13	41.32	9.329	
9,950.00	9,894.65	9,936.02	9,888.98	21.14	36.11	-148.91	-387.02	-333.33	417.14	375.71	41.43	10.068	
10,000.00	9,927.92	9,968.43	9,921.39	21.18	36.22	-148.68	-387.27	-333.49	452.10	410.57	41.54	10.885	
10,050.00	9,957.80	9,997.39	9,950.35	21.23	36.31	-147.88	-387.54	-333.62	490.06	448.44	41.63	11.772	
10,100.00	9,984.09	10,022.69	9,975.65	21.33	36.40	-146.33	-387.80	-333.73	530.70	489.00	41.71	12.724	
10,150.00	10,006.56	10,044.36	9,997.31	21.49	36.47	-143.75	-388.05	-333.82	573.68	531.90	41.78	13.733	
10,200.00	10,025.06	10,062.11	10,015.06	21.69	36.53	-139.62	-388.26	-333.89	618.61	576.78	41.83	14.789	
10,250.00	10,039.44	10,075.74	10,028.70	21.91	36.58	-133.01	-388.42	-333.95	665.13	623.26	41.87	15.886	
10,300.00	10,049.60	10,085.17	10,038.12	22.16	36.61	-122.37	-388.54	-333.98	712.84	670.95	41.90	17.015	
10,350.00	10,055.45	10,090.33	10,043.28	22.44	36.63	-105.55	-388.60	-334.00	761.35	719.44	41.91	18.167	
10,390.65	10,057.00	10,091.36	10,044.31	22.69	36.63	-87.03	-388.62	-334.01	801.11	759.20	41.91	19.116	
10,400.00	10,057.03	10,091.27	10,044.22	22.75	36.63	-87.00	-388.62	-334.01	810.27	768.36	41.91	19.335	
10,500.00	10,057.30	10,090.30	10,043.25	23.45	36.63	-86.66	-388.60	-334.00	908.48	866.59	41.90	21.683	
10,600.00	10,057.58	10,089.34	10,042.29	24.27	36.63	-86.32	-388.59	-334.00	1,007.05	965.16	41.89	24.040	
10,700.00	10,057.85	10,088.38	10,041.34	25.20	36.62	-85.98	-388.58	-334.00	1,105.87	1,063.99	41.89	26.401	
10,800.00	10,058.12	12,265.16	11,214.09	26.22	43.41	-174.90	837.46	-284.14	1,163.19	1,133.52	29.67	39.209	
10,900.00	10,058.40	12,363.45	11,211.77	27.32	44.21	-175.19	935.57	-278.62	1,160.02	1,129.96	30.07	38.583	
11,000.00	10,058.67	12,449.79	11,210.68	28.50	44.95	-175.46	1,021.76	-273.77	1,157.95	1,127.53	30.42	38.061	
11,100.00	10,058.94	12,552.99	11,209.44	29.75	45.91	-175.78	1,124.77	-267.70	1,155.97	1,125.06	30.91	37.398	
11,200.00	10,059.22	12,647.03	11,208.80	31.05	46.83	-176.10	1,218.63	-261.82	1,154.52	1,123.15	31.37	36.808	
11,300.00	10,059.49	12,766.26	11,207.26	32.41	48.06	-176.53	1,337.59	-253.89	1,152.51	1,120.50	32.01	36.001	
11,400.00	10,059.77	12,856.83	11,204.96	33.81	49.05	-176.83	1,427.95	-248.24	1,149.36	1,116.86	32.50	35.369	
11,500.00	10,060.04	12,939.18	11,204.60	35.25	49.98	-177.09	1,510.17	-243.56	1,148.24	1,115.30	32.95	34.851	
11,600.00	10,060.31	13,054.94	11,204.09	36.72	51.34	-177.42	1,625.76	-237.52	1,147.30	1,113.63	33.66	34.083	
11,700.00	10,060.59	13,150.77	11,202.38	38.23	52.51	-177.67	1,721.47	-233.02	1,145.03	1,110.78	34.26	33.425	
11,800.00	10,060.86	13,232.47	11,202.16	39.76	53.53	-177.95	1,803.01	-227.99	1,144.23	1,109.47	34.76	32.918	
11,800.06	10,060.86	13,232.51	11,202.16	39.76	53.53	-177.95	1,803.06	-227.99	1,144.23	1,109.47	34.76	32.918	
11,900.00	10,061.14	13,332.05	11,203.16	41.32	54.81	-178.32	1,902.37	-221.36	1,144.72	1,109.30	35.42	32.323	
11,979.31	10,061.35	13,411.72	11,203.26	42.58	55.86	-178.58	1,981.89	-216.62	1,144.46	1,108.50	35.96	31.828	
12,000.00	10,061.41	13,428.57	11,203.37	42.90	56.09	-178.63	1,998.72	-215.69	1,144.50	1,108.43	36.07	31.729	
12,100.00	10,061.68	13,533.43	11,204.48	44.50	57.51	-178.93	2,103.44	-210.39	1,145.19	1,108.37	36.81	31.107	
12,180.99	10,061.91	13,613.66	11,204.53	45.81	58.62	-179.14	2,183.58	-206.66	1,144.95	1,107.56	37.39	30.618	
12,200.00	10,061.96	13,630.18	11,204.61	46.12	58.85	-179.19	2,200.09	-205.89	1,144.98	1,107.47	37.51	30.522	
12,300.00	10,062.23	13,732.56	11,205.35	47.75	60.29	-179.46	2,302.35	-201.09	1,145.37	1,107.09	38.27	29.925	
12,400.00	10,062.50	13,860.65	11,204.12	49.40	62.14	-179.77	2,430.32	-195.78	1,144.07	1,104.80	39.28	29.128	
12,500.00	10,062.78	13,942.03	11,203.03	51.06	63.33	-179.94	2,511.64	-192.87	1,142.46	1,102.57	39.89	28.640	
12,556.74	10,062.93	13,990.42	11,202.95	52.01	64.05	-179.95	2,559.99	-191.04	1,142.21	1,101.95	40.27	28.366	
12,600.00	10,063.05	14,026.20	11,203.16	52.73	64.58	-179.87	2,595.74	-189.58	1,142.35	1,101.81	40.54	28.176	
12,700.00	10,063.33	14,131.03	11,203.78	54.41	66.16	-179.63	2,700.49	-185.45	1,142.69	1,101.30	41.39	27.606	
12,800.00	10,063.60	14,212.51	11,204.64	56.11	67.40	-179.44	2,781.90	-182.25	1,143.55	1,101.50	42.05	27.196	
12,900.00	10,063.87	14,308.53	11,206.96	57.81	68.89	-179.22	2,877.82	-178.42	1,145.74	1,102.90	42.85	26.741	
13,000.00	10,064.15	14,438.09	11,208.73	59.52	70.91	-178.90	3,007.24	-172.85	1,146.99	1,103.02	43.97	26.088	
13,100.00	10,064.42	14,559.65	11,206.67	61.23	72.83	-178.65	3,128.70	-168.66	1,144.97	1,099.95	45.03	25.429	
13,200.00	10,064.70	14,669.79	11,204.28	62.95	74.60	-178.30	3,238.65	-162.60	1,142.73	1,096.73	46.00	24.842	
13,300.00	10,064.97	14,790.06	11,199.55	64.68	76.54	-177.93	3,358.65	-156.17	1,138.70	1,091.62	47.08	24.185	

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

Devon Energy

Anticollision Report

Company:	WESTERN DIVISION	Local Co-ordinate Reference:	Well Thistle Unit 132H
Project:	PBNM	TVD Reference:	KB @ 3667.90ft
Reference Site:	Norwalk_Section 34	MD Reference:	KB @ 3667.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Thistle Unit 132H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000 US Production
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design Norwalk_Section 34 - Thistle Unit 49H_AC - Original - Actual													Offset Site Error:	0.00 ft
Survey Program: 100-MWD+IGRF													Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)						
13,400.00	10,065.24	14,867.49	11,196.59	66.42	77.81	177.72	3,435.93	-152.47	1,134.82	1,087.05	47.77	23.755		
13,500.00	10,065.52	14,936.36	11,195.48	68.16	78.93	177.47	3,504.65	-148.14	1,133.26	1,084.86	48.39	23.418		
13,503.15	10,065.53	14,938.44	11,195.47	68.21	78.97	177.46	3,506.73	-147.99	1,133.25	1,084.84	48.41	23.408		
13,600.00	10,065.79	15,017.18	11,196.43	69.90	80.26	177.12	3,585.21	-141.65	1,134.47	1,085.31	49.15	23.080		
13,700.00	10,066.07	15,150.06	11,196.76	71.65	82.45	176.46	3,717.51	-129.41	1,135.10	1,084.63	50.47	22.489		
13,800.00	10,066.34	15,255.85	11,194.59	73.40	84.21	175.97	3,822.90	-120.45	1,133.37	1,081.83	51.54	21.990		
13,859.20	10,066.50	15,296.05	11,194.06	74.44	84.88	175.81	3,862.99	-117.60	1,132.79	1,080.84	51.94	21.808		
13,900.00	10,066.61	15,321.13	11,194.17	75.16	85.30	175.71	3,888.02	-115.91	1,133.07	1,080.88	52.20	21.708		
14,000.00	10,066.89	15,393.13	11,196.16	76.92	86.51	175.46	3,959.83	-111.29	1,136.00	1,083.08	52.92	21.466		
14,100.00	10,067.16	15,495.25	11,199.95	78.69	88.24	175.05	4,061.57	-103.33	1,140.15	1,086.15	54.00	21.114		
14,200.00	10,067.43	15,635.34	11,202.08	80.45	90.61	174.37	4,201.06	-90.61	1,142.35	1,086.81	55.55	20.566		
14,300.00	10,067.71	15,718.05	11,202.20	82.22	92.02	173.98	4,283.45	-83.31	1,143.23	1,086.75	56.48	20.240		
14,400.00	10,067.98	15,819.38	11,203.47	84.00	93.75	173.52	4,384.39	-74.58	1,145.22	1,087.57	57.65	19.866		
14,500.00	10,068.26	15,968.84	11,202.02	85.77	96.32	172.92	4,533.43	-63.60	1,145.00	1,085.66	59.33	19.297		
14,600.00	10,068.53	16,112.66	11,194.65	87.55	98.82	172.44	4,676.85	-56.04	1,140.31	1,079.42	60.90	18.725		
14,700.00	10,068.80	16,178.03	11,190.18	89.33	99.96	172.24	4,742.00	-53.04	1,134.48	1,072.76	61.72	18.382		
14,737.76	10,068.91	16,178.03	11,190.18	90.00	99.96	172.24	4,742.00	-53.04	1,133.85	1,072.08	61.77	18.356		
14,800.00	10,069.08	16,178.03	11,190.18	91.11	99.96	172.24	4,742.00	-53.04	1,135.55	1,073.76	61.80	18.376		
14,900.00	10,069.35	16,178.03	11,190.18	92.90	99.96	172.24	4,742.00	-53.04	1,145.40	1,083.72	61.68	18.570		
15,000.00	10,069.63	16,178.03	11,190.18	94.68	99.96	172.24	4,742.00	-53.04	1,163.78	1,102.39	61.39	18.959		
15,100.00	10,069.90	16,178.03	11,190.18	96.47	99.96	172.24	4,742.00	-53.04	1,190.31	1,129.37	60.94	19.533		
15,200.00	10,070.17	16,178.03	11,190.18	98.26	99.96	172.24	4,742.00	-53.04	1,224.45	1,164.07	60.38	20.280		
15,300.00	10,070.45	16,178.03	11,190.18	100.05	99.96	172.24	4,742.00	-53.04	1,265.59	1,205.86	59.73	21.187		
15,400.00	10,070.72	16,178.03	11,190.18	101.85	99.96	172.24	4,742.00	-53.04	1,313.08	1,254.03	59.05	22.239		
15,500.00	10,071.00	16,178.03	11,190.18	103.64	99.96	172.24	4,742.00	-53.04	1,366.24	1,307.90	58.34	23.419		
15,600.00	10,071.27	16,178.03	11,190.18	105.44	99.96	172.24	4,742.00	-53.04	1,424.45	1,366.81	57.64	24.713		
15,700.00	10,071.54	16,178.03	11,190.18	107.24	99.96	172.24	4,742.00	-53.04	1,487.12	1,430.15	56.97	26.106		
15,800.00	10,071.82	16,178.03	11,190.18	109.03	99.96	172.24	4,742.00	-53.04	1,553.70	1,497.37	56.32	27.585		
15,900.00	10,072.09	16,178.03	11,190.18	110.83	99.96	172.24	4,742.00	-53.04	1,623.70	1,567.98	55.73	29.138		
16,000.00	10,072.36	16,178.03	11,190.18	112.64	99.96	172.24	4,742.00	-53.04	1,696.72	1,641.55	55.17	30.754		
16,100.00	10,072.64	16,178.03	11,190.18	114.44	99.96	172.24	4,742.00	-53.04	1,772.38	1,717.71	54.66	32.425		
16,200.00	10,072.91	16,178.03	11,190.18	116.24	99.96	172.24	4,742.00	-53.04	1,850.34	1,796.15	54.19	34.142		
16,300.00	10,073.19	16,178.03	11,190.18	118.05	99.96	172.24	4,742.00	-53.04	1,930.34	1,876.57	53.77	35.899		
16,400.00	10,073.46	16,178.03	11,190.18	119.85	99.96	172.24	4,742.00	-53.04	2,012.13	1,958.74	53.39	37.689		
16,500.00	10,073.73	16,178.03	11,190.18	121.66	99.96	172.24	4,742.00	-53.04	2,095.50	2,042.46	53.04	39.507		
16,600.00	10,074.01	16,178.03	11,190.18	123.46	99.96	172.24	4,742.00	-53.04	2,180.27	2,127.54	52.73	41.350		
16,700.00	10,074.28	16,178.03	11,190.18	125.27	99.96	172.24	4,742.00	-53.04	2,266.28	2,213.83	52.44	43.213		
16,800.00	10,074.56	16,178.03	11,190.18	127.08	99.96	172.24	4,742.00	-53.04	2,353.39	2,301.20	52.19	45.093		
16,900.00	10,074.83	16,178.03	11,190.18	128.89	99.96	172.24	4,742.00	-53.04	2,441.50	2,389.54	51.96	46.988		
17,000.00	10,075.10	16,178.03	11,190.18	130.70	99.96	172.24	4,742.00	-53.04	2,530.48	2,478.73	51.75	48.895		
17,100.00	10,075.38	16,178.03	11,190.18	132.51	99.96	172.24	4,742.00	-53.04	2,620.27	2,568.70	51.57	50.812		
17,200.00	10,075.65	16,178.03	11,190.18	134.32	99.96	172.24	4,742.00	-53.04	2,710.77	2,659.36	51.40	52.738		
17,300.00	10,075.92	16,178.03	11,190.18	136.13	99.96	172.24	4,742.00	-53.04	2,801.91	2,750.66	51.25	54.671		
17,400.00	10,076.20	16,178.03	11,190.18	137.94	99.96	172.24	4,742.00	-53.04	2,893.64	2,842.52	51.11	56.611		
17,500.00	10,076.47	16,178.03	11,190.18	139.76	99.96	172.24	4,742.00	-53.04	2,985.90	2,934.91	50.99	58.555		
17,600.00	10,076.75	16,178.03	11,190.18	141.57	99.96	172.24	4,742.00	-53.04	3,078.64	3,027.76	50.88	60.503		
17,692.64	10,077.00	16,178.03	11,190.18	143.25	99.96	172.24	4,742.00	-53.04	3,164.96	3,114.17	50.79	62.310		

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

Devon Energy

Anticollision Report

Company: WESTERN DIVISION
 Project: PBNM
 Reference Site: Norwalk_Section 34
 Site Error: 0.00 ft
 Reference Well: Thistle Unit 132H
 Well Error: 0.00 ft
 Reference Wellbore: Wellbore #1
 Reference Design: Design #1

Local Co-ordinate Reference: Well Thistle Unit 132H
 TVD Reference: KB @ 3667.90ft
 MD Reference: KB @ 3667.90ft
 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 Norwalk_Section 34 - Thistle Unit 49H_AC - Original - Design #1												Offset Site Error:	0.00 ft
Survey Program: 0-GYRO												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)					
0.00	0.00	0.00	0.00	0.00	0.00	-84.83	61.59	-681.18	683.96				
100.00	100.00	97.81	97.81	0.08	0.00	-84.83	61.59	-681.18	683.96	683.87	0.08	8,114.562	
200.00	200.00	197.81	197.81	0.31	0.00	-84.83	61.59	-681.18	683.96	683.65	0.31	2,213.070	
300.00	300.00	297.81	297.81	0.53	0.00	-84.83	61.59	-681.18	683.96	683.42	0.53	1,281.251	
400.00	400.00	397.81	397.81	0.76	0.00	-84.83	61.59	-681.18	683.96	683.20	0.76	901.621	
500.00	500.00	497.81	497.81	0.98	0.00	-84.83	61.59	-681.18	683.96	682.97	0.98	695.537	
600.00	600.00	597.81	597.81	1.21	0.00	-84.83	61.59	-681.18	683.96	682.75	1.21	566.134	
700.00	700.00	697.81	697.81	1.43	0.00	-84.83	61.59	-681.18	683.96	682.52	1.43	477.329	
800.00	800.00	797.81	797.81	1.66	0.00	-84.83	61.59	-681.18	683.96	682.30	1.66	412.606	
900.00	900.00	897.81	897.81	1.88	0.00	-84.83	61.59	-681.18	683.96	682.07	1.88	363.340	
1,000.00	1,000.00	997.81	997.81	2.11	0.00	-84.83	61.59	-681.18	683.96	681.85	2.11	324.584	
1,100.00	1,100.00	1,097.81	1,097.81	2.33	0.00	-84.83	61.59	-681.18	683.96	681.63	2.33	293.299	
1,200.00	1,200.00	1,197.81	1,197.81	2.56	0.00	-84.83	61.59	-681.18	683.96	681.40	2.56	267.514	
1,300.00	1,300.00	1,297.81	1,297.81	2.78	0.00	-84.83	61.59	-681.18	683.96	681.18	2.78	245.897	
1,400.00	1,400.00	1,397.81	1,397.81	3.01	0.00	-84.83	61.59	-681.18	683.96	680.95	3.01	227.512	
1,500.00	1,500.00	1,497.81	1,497.81	3.23	0.00	-84.83	61.59	-681.18	683.96	680.73	3.23	211.685	
1,600.00	1,600.00	1,597.81	1,597.81	3.46	0.00	-84.83	61.59	-681.18	683.96	680.50	3.46	197.917	
1,700.00	1,700.00	1,697.81	1,697.81	3.68	0.00	-84.83	61.59	-681.18	683.96	680.28	3.68	185.830	
1,800.00	1,800.00	1,797.81	1,797.81	3.91	0.00	-84.83	61.59	-681.18	683.96	680.05	3.91	175.135	
1,900.00	1,900.00	1,897.81	1,897.81	4.13	0.00	-84.83	61.59	-681.18	683.96	679.83	4.13	165.604	
2,000.00	2,000.00	1,997.81	1,997.81	4.35	0.00	-84.83	61.59	-681.18	683.96	679.60	4.35	157.057	
2,100.00	2,100.00	2,097.81	2,097.81	4.58	0.00	-84.83	61.59	-681.18	683.96	679.38	4.58	149.348	
2,200.00	2,200.00	2,197.81	2,197.81	4.80	0.00	-84.83	61.59	-681.18	683.96	679.15	4.80	142.361	
2,300.00	2,300.00	2,297.81	2,297.81	5.03	0.00	-84.83	61.59	-681.18	683.96	678.93	5.03	135.999	
2,400.00	2,400.00	2,397.81	2,397.81	5.25	0.00	-84.83	61.59	-681.18	683.96	678.70	5.25	130.181	
2,500.00	2,500.00	2,497.81	2,497.81	5.48	0.00	-84.83	61.59	-681.18	683.96	678.48	5.48	124.840	
2,600.00	2,600.00	2,597.81	2,597.81	5.70	0.00	-84.83	61.59	-681.18	683.96	678.25	5.70	119.920	
2,700.00	2,700.00	2,697.81	2,697.81	5.93	0.00	-84.83	61.59	-681.18	683.96	678.03	5.93	115.373	
2,800.00	2,800.00	2,797.81	2,797.81	6.15	0.00	-84.83	61.59	-681.18	683.96	677.80	6.15	111.159	
2,900.00	2,900.00	2,897.81	2,897.81	6.38	0.00	-84.83	61.59	-681.18	683.96	677.58	6.38	107.241	
3,000.00	3,000.00	2,997.81	2,997.81	6.60	0.00	-84.83	61.59	-681.18	683.96	677.35	6.60	103.591	
3,100.00	3,100.00	3,097.81	3,097.81	6.83	0.00	-84.83	61.59	-681.18	683.96	677.13	6.83	100.180	
3,200.00	3,200.00	3,197.81	3,197.81	7.05	0.00	-84.83	61.59	-681.18	683.96	676.90	7.05	96.987	
3,300.00	3,300.00	3,297.80	3,297.80	7.25	0.00	50.21	61.59	-681.18	683.54	676.29	7.25	94.259	
3,400.00	3,399.98	3,397.78	3,397.78	7.43	0.00	50.35	61.59	-681.18	682.28	674.85	7.43	91.850	
3,500.00	3,499.92	3,497.73	3,497.73	7.61	0.00	50.57	61.59	-681.18	680.20	672.59	7.61	89.414	
3,600.00	3,599.82	3,597.62	3,597.62	7.79	0.00	50.89	61.59	-681.18	677.30	669.51	7.79	86.955	
3,700.00	3,699.64	3,697.45	3,697.45	7.98	0.00	51.30	61.59	-681.18	673.60	665.62	7.97	84.475	
3,733.33	3,732.90	3,730.71	3,730.71	8.04	0.00	51.45	61.59	-681.18	672.19	664.15	8.04	83.643	
3,800.00	3,799.40	3,797.21	3,797.21	8.17	0.00	51.76	61.59	-681.18	669.30	661.13	8.16	81.999	
3,900.00	3,899.16	3,896.97	3,896.97	8.37	0.00	52.24	61.59	-681.18	665.00	656.64	8.35	79.606	
4,000.00	3,998.92	3,996.72	3,996.72	8.57	0.00	52.71	61.59	-681.18	660.74	652.19	8.55	77.296	
4,100.00	4,098.67	4,096.48	4,096.48	8.77	0.00	53.20	61.59	-681.18	656.53	647.78	8.75	75.068	
4,200.00	4,198.43	4,196.24	4,196.24	8.97	0.00	53.69	61.59	-681.18	652.37	643.42	8.95	72.921	
4,300.00	4,298.19	4,295.99	4,295.99	9.18	0.00	54.18	61.59	-681.18	648.26	639.11	9.15	70.852	
4,400.00	4,397.94	4,395.75	4,395.75	9.39	0.00	54.68	61.59	-681.18	644.19	634.84	9.36	68.859	
4,500.00	4,497.70	4,495.51	4,495.51	9.60	0.00	55.19	61.59	-681.18	640.18	630.61	9.56	66.941	
4,600.00	4,597.46	4,595.26	4,595.26	9.82	0.00	55.71	61.59	-681.18	636.22	626.44	9.77	65.093	
4,700.00	4,697.21	4,695.02	4,695.02	10.03	0.00	56.23	61.59	-681.18	632.30	622.32	9.99	63.315	
4,800.00	4,796.97	4,794.78	4,794.78	10.25	0.00	56.76	61.59	-681.18	628.45	618.25	10.20	61.603	
4,900.00	4,896.73	4,894.53	4,894.53	10.47	0.00	57.29	61.59	-681.18	624.64	614.23	10.42	59.956	
5,000.00	4,996.48	4,994.29	4,994.29	10.70	0.00	57.83	61.59	-681.18	620.90	610.26	10.64	58.370	

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

Devon Energy

Anticollision Report

Company: WESTERN DIVISION
 Project: PBNM
 Reference Site: Norwalk_Section 34
 Site Error: 0.00 ft
 Reference Well: Thistle Unit 132H
 Well Error: 0.00 ft
 Reference Wellbore: Wellbore #1
 Reference Design: Design #1

Local Co-ordinate Reference: Well Thistle Unit 132H
 TVD Reference: KB @ 3667.90ft
 MD Reference: KB @ 3667.90ft
 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

Norwalk_Section 34 - Thistle Unit 49H_AC - Original - Design #1														Offset Site Error:	0.00 ft
Survey Program: 0-GYRO														Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)							
5,100.00	5,096.24	5,094.05	5,094.05	10.92	0.00	58.38	61.59	-681.18	617.20	606.35	10.86	56.843			
5,200.00	5,195.99	5,193.80	5,193.80	11.15	0.00	58.93	61.59	-681.18	613.57	602.49	11.08	55.374			
5,300.00	5,295.75	5,293.56	5,293.56	11.37	0.00	59.49	61.59	-681.18	609.99	598.69	11.30	53.959			
5,400.00	5,395.51	5,393.31	5,393.31	11.60	0.00	60.06	61.59	-681.18	606.47	594.94	11.53	52.597			
5,500.00	5,495.26	5,502.30	5,502.30	11.83	0.00	60.66	61.24	-680.86	602.69	590.93	11.76	51.270			
5,600.00	5,595.02	5,623.29	5,623.18	12.06	0.00	61.12	57.67	-677.71	595.98	584.01	11.97	49.799			
5,700.00	5,694.78	5,743.69	5,743.18	12.30	0.00	61.33	50.32	-671.22	585.74	573.58	12.17	48.140			
5,800.00	5,794.53	5,845.38	5,844.29	12.53	0.00	61.37	42.17	-664.02	573.36	560.97	12.39	46.272			
5,900.00	5,894.29	5,944.61	5,942.94	12.77	0.00	61.40	34.19	-656.97	560.95	548.33	12.62	44.450			
6,000.00	5,994.05	6,043.84	6,041.59	13.00	0.00	61.44	26.21	-649.92	548.55	535.70	12.85	42.690			
6,100.00	6,093.80	6,143.06	6,140.25	13.24	0.00	61.49	18.23	-642.87	536.14	523.06	13.08	40.989			
6,200.00	6,193.56	6,242.29	6,238.90	13.47	0.00	61.53	10.25	-635.82	523.73	510.42	13.31	39.344			
6,300.00	6,293.31	6,341.52	6,337.55	13.71	0.00	61.58	2.27	-628.77	511.33	497.78	13.54	37.753			
6,400.00	6,393.07	6,440.74	6,436.21	13.95	0.00	61.62	-5.71	-621.72	498.92	485.15	13.78	36.213			
6,500.00	6,492.83	6,539.97	6,534.86	14.19	0.00	61.67	-13.69	-614.67	486.52	472.51	14.01	34.723			
6,600.00	6,592.58	6,639.20	6,633.52	14.43	0.00	61.73	-21.67	-607.62	474.11	459.87	14.25	33.280			
6,700.00	6,692.34	6,738.42	6,732.17	14.67	0.00	61.78	-29.65	-600.57	461.71	447.23	14.48	31.882			
6,733.33	6,725.59	6,771.50	6,765.05	14.75	0.00	61.80	-32.31	-598.22	457.57	443.01	14.56	31.426			
6,800.00	6,792.12	6,837.67	6,830.84	14.91	0.00	61.76	-37.63	-593.52	449.44	434.73	14.71	30.555			
6,900.00	6,891.97	6,936.96	6,929.58	15.12	0.00	61.56	-45.61	-586.46	437.76	422.84	14.92	29.343			
7,000.00	6,991.88	7,036.34	7,028.37	15.33	0.00	61.21	-53.60	-579.40	426.70	411.57	15.12	28.214			
7,100.00	7,091.84	7,135.74	7,127.19	15.53	0.00	60.69	-61.60	-572.34	416.28	400.96	15.32	27.166			
7,200.00	7,191.83	7,235.16	7,226.04	15.73	0.00	60.00	-69.59	-565.28	406.54	391.02	15.52	26.197			
7,266.67	7,258.49	7,301.45	7,291.94	15.86	0.00	-75.57	-74.92	-560.57	400.44	384.79	15.65	25.594			
7,300.00	7,291.83	7,334.59	7,324.89	15.93	0.00	-75.86	-77.59	-558.21	397.48	381.77	15.71	25.300			
7,400.00	7,391.83	7,434.01	7,423.74	16.13	0.00	-76.75	-85.58	-551.15	388.66	372.75	15.91	24.431			
7,500.00	7,491.83	7,533.43	7,522.59	16.34	0.00	-77.69	-93.58	-544.09	379.93	363.83	16.11	23.589			
7,600.00	7,591.83	7,632.85	7,621.44	16.54	0.00	-78.66	-101.57	-537.02	371.31	355.01	16.30	22.774			
7,700.00	7,691.83	7,732.28	7,720.28	16.75	0.00	-79.69	-109.57	-529.96	362.80	346.30	16.50	21.985			
7,800.00	7,791.83	7,831.70	7,819.13	16.95	0.00	-80.76	-117.56	-522.90	354.42	337.72	16.70	21.221			
7,900.00	7,891.83	7,931.12	7,917.98	17.16	0.00	-81.88	-125.56	-515.83	346.16	329.26	16.90	20.483			
8,000.00	7,991.83	8,030.54	8,016.83	17.36	0.00	-83.06	-133.55	-508.77	338.04	320.94	17.10	19.770			
8,100.00	8,091.83	8,129.97	8,115.68	17.57	0.00	-84.29	-141.55	-501.70	330.07	312.78	17.30	19.081			
8,200.00	8,191.83	8,229.39	8,214.53	17.78	0.00	-85.58	-149.54	-494.64	322.27	304.77	17.50	18.418			
8,300.00	8,291.83	8,328.81	8,313.38	17.99	0.00	-86.94	-157.54	-487.58	314.63	296.93	17.70	17.778			
8,400.00	8,391.83	8,428.23	8,412.22	18.19	0.00	-88.36	-165.53	-480.51	307.18	289.28	17.90	17.164			
8,500.00	8,491.83	8,527.66	8,511.07	18.40	0.00	-89.85	-173.53	-473.45	299.93	281.83	18.10	16.573			
8,600.00	8,591.83	8,627.08	8,609.92	18.61	0.00	-91.42	-181.53	-466.39	292.89	274.59	18.30	16.007			
8,700.00	8,691.83	8,726.50	8,708.77	18.82	0.00	-93.06	-189.52	-459.32	286.08	267.58	18.50	15.466			
8,800.00	8,791.83	8,825.93	8,807.62	19.03	0.00	-94.78	-197.52	-452.26	279.51	260.82	18.70	14.949			
8,900.00	8,891.83	8,925.35	8,906.47	19.24	0.00	-96.57	-205.51	-445.20	273.21	254.32	18.90	14.457			
9,000.00	8,991.83	9,024.77	9,005.32	19.45	0.00	-98.45	-213.51	-438.13	267.20	248.10	19.10	13.989			
9,100.00	9,091.83	9,124.19	9,104.16	19.66	0.00	-100.42	-221.50	-431.07	261.48	242.18	19.30	13.547			
9,200.00	9,191.83	9,223.62	9,203.01	19.87	0.00	-102.47	-229.50	-424.00	256.09	236.59	19.50	13.130			
9,300.00	9,291.83	9,323.04	9,301.86	20.08	0.00	-104.60	-237.49	-416.94	251.04	231.33	19.71	12.739			
9,400.00	9,391.83	9,422.46	9,400.71	20.29	0.00	-106.81	-245.49	-409.88	246.36	226.44	19.91	12.373			
9,492.22	9,484.04	9,514.15	9,491.87	20.49	0.00	-108.93	-252.86	-403.36	242.38	222.28	20.10	12.059			
9,500.00	9,491.83	9,521.88	9,499.55	20.51	0.00	-108.78	-253.48	-402.81	242.07	221.96	20.12	12.034			
9,550.00	9,541.73	9,571.26	9,548.65	20.61	0.00	-110.67	-257.45	-399.31	241.07	220.86	20.21	11.928			
9,552.94	9,544.65	9,574.15	9,551.52	20.61	0.00	-110.81	-257.69	-399.10	241.06	220.85	20.22	11.925 CC, ES			
9,600.00	9,591.19	9,619.86	9,596.97	20.70	0.00	-113.27	-261.36	-395.85	242.00	221.71	20.30	11.923 SF			
9,650.00	9,639.84	9,667.30	9,644.13	20.78	0.00	-116.41	-265.18	-392.48	245.43	225.05	20.38	12.043			

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

Devon Energy

Anticollision Report

Company: WESTERN DIVISION
Project: PBNM
Reference Site: Norwalk_Section 34
Site Error: 0.00 ft
Reference Well: Thistle Unit 132H
Well Error: 0.00 ft
Reference Wellbore: Wellbore #1
Reference Design: Design #1

Local Co-ordinate Reference: Well Thistle Unit 132H
TVD Reference: KB @ 3667.90ft
MD Reference: KB @ 3667.90ft
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

Norwalk_Section 34 - Thistle Unit 49H_AC - Original - Design #1													Offset Site Error:	0.00 ft
Survey Program: 0-GYRO													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 (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
9,700.00	9,687.30	9,713.22	9,689.79	20.85	0.00	-119.84	-268.87	-389.22	251.98	231.51	20.46	12.313		
9,750.00	9,733.22	9,757.27	9,733.58	20.92	0.00	-123.31	-272.41	-386.09	262.25	241.69	20.56	12.757		
9,800.00	9,777.24	9,799.12	9,775.19	20.98	0.00	-126.58	-275.78	-383.12	276.73	256.07	20.66	13.394		
9,850.00	9,819.02	9,838.45	9,814.29	21.04	0.00	-129.44	-278.94	-380.32	295.70	274.92	20.77	14.234		
9,900.00	9,858.26	9,874.95	9,850.59	21.09	0.00	-131.75	-281.88	-377.73	319.21	298.32	20.89	15.279		
9,950.00	9,894.65	9,908.36	9,883.81	21.14	0.00	-133.38	-284.56	-375.36	347.12	326.11	21.01	16.521		
10,000.00	9,927.92	9,938.42	9,913.69	21.18	0.00	-134.22	-286.98	-373.22	379.11	357.99	21.12	17.948		
10,050.00	9,957.80	9,964.89	9,940.01	21.23	0.00	-134.14	-289.11	-371.34	414.79	393.56	21.23	19.540		
10,100.00	9,984.09	9,987.59	9,962.57	21.33	0.00	-132.95	-290.93	-369.73	453.68	432.36	21.32	21.278		
10,150.00	10,006.56	10,006.32	9,981.20	21.49	0.00	-130.33	-292.44	-368.40	495.31	473.90	21.40	23.142		
10,200.00	10,025.06	10,020.96	9,995.75	21.69	0.00	-125.80	-293.62	-367.36	539.17	517.70	21.47	25.110		
10,250.00	10,039.44	10,031.39	10,006.12	21.91	0.00	-118.59	-294.45	-366.62	584.79	563.26	21.53	27.160		
10,300.00	10,049.60	10,037.52	10,012.22	22.16	0.00	-107.71	-294.95	-366.18	631.67	610.10	21.58	29.272		
10,350.00	10,055.45	10,039.33	10,014.01	22.44	0.00	-92.60	-295.09	-366.05	679.37	657.75	21.62	31.424		
10,390.65	10,057.00	10,037.58	10,012.28	22.69	0.00	-78.09	-294.95	-366.18	718.43	696.78	21.65	33.188		
10,400.00	10,057.03	10,036.85	10,011.56	22.75	0.00	-77.89	-294.89	-366.23	727.42	705.77	21.65	33.595		
10,500.00	10,057.30	10,029.04	10,003.79	23.45	0.00	-75.74	-294.27	-366.78	824.09	802.38	21.71	37.956		
10,600.00	10,057.58	10,021.22	9,996.02	24.27	0.00	-73.64	-293.64	-367.34	921.40	899.64	21.76	42.338		
10,700.00	10,057.85	10,013.41	9,988.25	25.20	0.00	-71.59	-293.01	-367.89	1,019.18	997.37	21.81	46.732		
10,800.00	10,058.12	10,005.59	9,980.48	26.22	0.00	-69.61	-292.38	-368.45	1,117.29	1,095.44	21.85	51.132		
10,900.00	10,058.40	12,354.29	11,267.57	27.32	0.00	-178.47	903.76	-213.68	1,211.80	1,195.85	15.95	75.984		
11,000.00	10,058.67	12,454.14	11,267.92	28.50	0.00	-178.73	1,003.49	-208.84	1,211.74	1,195.45	16.29	74.386		
11,100.00	10,058.94	12,553.99	11,268.27	29.75	0.00	-178.99	1,103.22	-203.99	1,211.71	1,195.05	16.66	72.742		
11,186.79	10,059.18	12,640.65	11,268.57	30.88	0.00	-179.21	1,189.77	-199.79	1,211.70	1,194.70	17.00	71.286		
11,200.00	10,059.22	12,653.84	11,268.62	31.05	0.00	-179.25	1,202.95	-199.15	1,211.70	1,194.65	17.05	71.069		
11,300.00	10,059.49	12,753.69	11,268.96	32.41	0.00	-179.51	1,302.68	-194.31	1,211.71	1,194.25	17.46	69.382		
11,400.00	10,059.77	12,853.54	11,269.31	33.81	0.00	-179.77	1,402.41	-189.46	1,211.76	1,193.86	17.90	67.694		
11,500.00	10,060.04	12,953.39	11,269.66	35.25	0.00	179.98	1,502.14	-184.62	1,211.82	1,193.46	18.36	66.015		
11,600.00	10,060.31	13,053.24	11,270.01	36.72	0.00	179.72	1,601.87	-179.78	1,211.91	1,193.08	18.83	64.355		
11,700.00	10,060.59	13,153.08	11,270.36	38.23	0.00	179.46	1,701.61	-174.94	1,212.03	1,192.70	19.32	62.719		
11,800.00	10,060.86	13,252.93	11,270.71	39.76	0.00	179.20	1,801.34	-170.09	1,212.17	1,192.33	19.83	61.115		
11,900.00	10,061.14	13,352.78	11,271.05	41.32	0.00	178.94	1,901.07	-165.25	1,212.33	1,191.97	20.36	59.545		
12,000.00	10,061.41	13,452.63	11,271.40	42.90	0.00	178.68	2,000.80	-160.41	1,212.52	1,191.62	20.90	58.014		
12,100.00	10,061.68	13,552.48	11,271.75	44.50	0.00	178.42	2,100.53	-155.57	1,212.74	1,191.28	21.46	56.524		
12,200.00	10,061.96	13,652.33	11,272.10	46.12	0.00	178.16	2,200.26	-150.72	1,212.98	1,190.95	22.02	55.076		
12,300.00	10,062.23	13,752.18	11,272.45	47.75	0.00	177.90	2,299.99	-145.88	1,213.24	1,190.64	22.61	53.671		
12,400.00	10,062.50	13,852.03	11,272.80	49.40	0.00	177.64	2,399.72	-141.04	1,213.53	1,190.33	23.20	52.309		
12,500.00	10,062.78	13,951.87	11,273.15	51.06	0.00	177.38	2,499.45	-136.19	1,213.85	1,190.04	23.81	50.991		
12,600.00	10,063.05	14,051.72	11,273.49	52.73	0.00	177.13	2,599.18	-131.35	1,214.19	1,189.76	24.42	49.716		
12,700.00	10,063.33	14,151.57	11,273.84	54.41	0.00	176.87	2,698.91	-126.51	1,214.55	1,189.50	25.05	48.483		
12,800.00	10,063.60	14,251.42	11,274.19	56.11	0.00	176.61	2,798.64	-121.67	1,214.94	1,189.25	25.69	47.291		
12,900.00	10,063.87	14,351.27	11,274.54	57.81	0.00	176.35	2,898.37	-116.82	1,215.35	1,189.01	26.34	46.139		
13,000.00	10,064.15	14,451.12	11,274.89	59.52	0.00	176.09	2,998.10	-111.98	1,215.79	1,188.79	27.00	45.027		
13,100.00	10,064.42	14,550.97	11,275.24	61.23	0.00	175.83	3,097.83	-107.14	1,216.25	1,188.58	27.67	43.952		
13,200.00	10,064.70	14,650.82	11,275.59	62.95	0.00	175.58	3,197.57	-102.30	1,216.74	1,188.39	28.35	42.914		
13,300.00	10,064.97	14,750.67	11,275.93	64.68	0.00	175.32	3,297.30	-97.45	1,217.25	1,188.21	29.04	41.911		
13,400.00	10,065.24	14,850.51	11,276.28	66.42	0.00	175.06	3,397.03	-92.61	1,217.79	1,188.05	29.74	40.943		
13,500.00	10,065.52	14,950.36	11,276.63	68.16	0.00	174.81	3,496.76	-87.77	1,218.35	1,187.90	30.45	40.007		
13,600.00	10,065.79	15,050.21	11,276.98	69.90	0.00	174.55	3,596.49	-82.92	1,218.94	1,187.77	31.17	39.103		
13,700.00	10,066.07	15,150.06	11,277.33	71.65	0.00	174.29	3,696.22	-78.08	1,219.55	1,187.65	31.90	38.229		
13,800.00	10,066.34	15,249.91	11,277.68	73.40	0.00	174.04	3,795.95	-73.24	1,220.18	1,187.55	32.64	37.384		
13,900.00	10,066.61	15,349.76	11,278.03	75.16	0.00	173.78	3,895.68	-68.40	1,220.84	1,187.46	33.39	36.567		

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

Devon Energy

Anticollision Report

Company: WESTERN DIVISION
 Project: PBNM
 Reference Site: Norwalk_Section 34
 Site Error: 0.00 ft
 Reference Well: Thistle Unit 132H
 Well Error: 0.00 ft
 Reference Wellbore: Wellbore #1
 Reference Design: Design #1

Local Co-ordinate Reference: Well Thistle Unit 132H
 TVD Reference: KB @ 3667.90ft
 MD Reference: KB @ 3667.90ft
 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

Norwalk_Section 34 - Thistle Unit 49H_AC - Original - Design #1														Offset Site Error:	0.00 ft
Survey Program: 0-GYRO														Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)							
14,000.00	10,066.89	15,449.61	11,278.37	76.92	0.00	173.53	3,995.41	-63.55	1,221.53	1,187.38	34.14	35.777			
14,100.00	10,067.16	15,549.46	11,278.72	78.69	0.00	173.27	4,095.14	-58.71	1,222.24	1,187.33	34.91	35.012			
14,200.00	10,067.43	15,649.30	11,279.07	80.45	0.00	173.02	4,194.87	-53.87	1,222.97	1,187.28	35.68	34.272			
14,300.00	10,067.71	15,749.15	11,279.42	82.22	0.00	172.76	4,294.60	-49.02	1,223.72	1,187.26	36.47	33.556			
14,400.00	10,067.98	15,849.00	11,279.77	84.00	0.00	172.51	4,394.33	-44.18	1,224.51	1,187.24	37.26	32.862			
14,500.00	10,068.26	15,948.85	11,280.12	85.77	0.00	172.25	4,494.06	-39.34	1,225.31	1,187.25	38.06	32.190			
14,600.00	10,068.53	16,048.70	11,280.47	87.55	0.00	172.00	4,593.79	-34.50	1,226.14	1,187.26	38.88	31.539			
14,700.00	10,068.80	16,148.55	11,280.81	89.33	0.00	171.75	4,693.53	-29.65	1,226.99	1,187.29	39.70	30.908			
14,800.00	10,069.08	16,198.85	11,280.99	91.11	0.00	171.62	4,743.77	-27.21	1,228.87	1,188.52	40.34	30.459			
14,900.00	10,069.35	16,198.85	11,280.99	92.90	0.00	171.62	4,743.77	-27.21	1,237.82	1,197.15	40.67	30.438			
15,000.00	10,069.63	16,198.85	11,280.99	94.68	0.00	171.62	4,743.77	-27.21	1,254.70	1,213.90	40.80	30.751			
15,100.00	10,069.90	16,198.85	11,280.99	96.47	0.00	171.62	4,743.77	-27.21	1,279.20	1,238.44	40.76	31.380			
15,200.00	10,070.17	16,198.85	11,280.99	98.26	0.00	171.62	4,743.77	-27.21	1,310.89	1,270.32	40.57	32.308			
15,300.00	10,070.45	16,198.85	11,280.99	100.05	0.00	171.62	4,743.77	-27.21	1,349.26	1,309.01	40.26	33.516			
15,400.00	10,070.72	16,198.85	11,280.99	101.85	0.00	171.62	4,743.77	-27.21	1,393.77	1,353.93	39.84	34.983			
15,500.00	10,071.00	16,198.85	11,280.99	103.64	0.00	171.62	4,743.77	-27.21	1,443.84	1,404.48	39.35	36.689			
15,600.00	10,071.27	16,198.85	11,280.99	105.44	0.00	171.62	4,743.77	-27.21	1,498.91	1,460.10	38.82	38.614			
15,700.00	10,071.54	16,198.85	11,280.99	107.24	0.00	171.62	4,743.77	-27.21	1,558.47	1,520.21	38.26	40.738			
15,800.00	10,071.82	16,198.85	11,280.99	109.03	0.00	171.62	4,743.77	-27.21	1,622.01	1,584.32	37.68	43.041			
15,900.00	10,072.09	16,198.85	11,280.99	110.83	0.00	171.62	4,743.77	-27.21	1,689.08	1,651.96	37.12	45.507			
16,000.00	10,072.36	16,198.85	11,280.99	112.64	0.00	171.62	4,743.77	-27.21	1,759.28	1,722.72	36.56	48.118			
16,100.00	10,072.64	16,198.85	11,280.99	114.44	0.00	171.62	4,743.77	-27.21	1,832.25	1,796.22	36.03	50.859			
16,200.00	10,072.91	16,198.85	11,280.99	116.24	0.00	171.62	4,743.77	-27.21	1,907.67	1,872.16	35.51	53.716			
16,300.00	10,073.19	16,198.85	11,280.99	118.05	0.00	171.62	4,743.77	-27.21	1,985.27	1,950.24	35.03	56.674			
16,400.00	10,073.46	16,198.85	11,280.99	119.85	0.00	171.62	4,743.77	-27.21	2,064.79	2,030.22	34.57	59.723			
16,500.00	10,073.73	16,198.85	11,280.99	121.66	0.00	171.62	4,743.77	-27.21	2,146.03	2,111.89	34.14	62.851			
16,600.00	10,074.01	16,198.85	11,280.99	123.46	0.00	171.62	4,743.77	-27.21	2,228.80	2,195.05	33.75	66.048			
16,700.00	10,074.28	16,198.85	11,280.99	125.27	0.00	171.62	4,743.77	-27.21	2,312.92	2,279.55	33.37	69.305			
16,800.00	10,074.56	16,198.85	11,280.99	127.08	0.00	171.62	4,743.77	-27.21	2,398.27	2,365.24	33.03	72.614			
16,900.00	10,074.83	16,198.85	11,280.99	128.89	0.00	171.62	4,743.77	-27.21	2,484.71	2,452.00	32.71	75.968			
17,000.00	10,075.10	16,198.85	11,280.99	130.70	0.00	171.62	4,743.77	-27.21	2,572.13	2,539.72	32.41	79.360			
17,100.00	10,075.38	16,198.85	11,280.99	132.51	0.00	171.62	4,743.77	-27.21	2,660.44	2,628.30	32.14	82.785			
17,200.00	10,075.65	16,198.85	11,280.99	134.32	0.00	171.62	4,743.77	-27.21	2,749.54	2,717.66	31.88	86.236			
17,300.00	10,075.92	16,198.85	11,280.99	136.13	0.00	171.62	4,743.77	-27.21	2,839.38	2,807.73	31.65	89.709			
17,400.00	10,076.20	16,198.85	11,280.99	137.94	0.00	171.62	4,743.77	-27.21	2,929.87	2,898.44	31.44	93.200			
17,500.00	10,076.47	16,198.85	11,280.99	139.76	0.00	171.62	4,743.77	-27.21	3,020.97	2,989.73	31.24	96.705			
17,600.00	10,076.75	16,198.85	11,280.99	141.57	0.00	171.62	4,743.77	-27.21	3,112.60	3,081.55	31.06	100.220			
17,692.64	10,077.00	16,198.85	11,280.99	143.25	0.00	171.62	4,743.77	-27.21	3,197.95	3,167.05	30.90	103.483			

Devon Energy

Anticollision Report

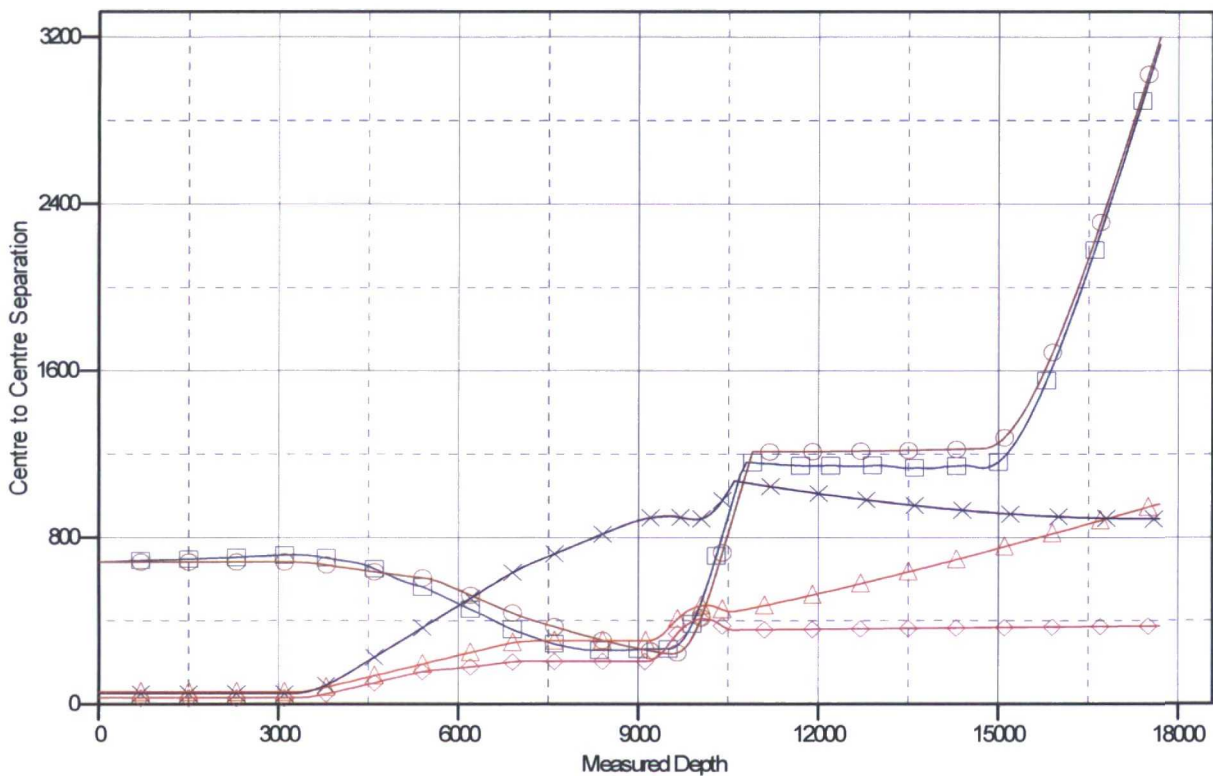
Company: WESTERN DIVISION
 Project: PBNM
 Reference Site: Norwalk_Section 34
 Site Error: 0.00 ft
 Reference Well: Thistle Unit 132H
 Well Error: 0.00 ft
 Reference Wellbore: Wellbore #1
 Reference Design: Design #1

Local Co-ordinate Reference: Well Thistle Unit 132H
 TVD Reference: KB @ 3667.90ft
 MD Reference: KB @ 3667.90ft
 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 KB @ 3667.90ft
 Offset Depths are relative to Offset Datum
 Central Meridian is -104.333334

Coordinates are relative to: Thistle Unit 132H
 Coordinate System is US State Plane 1983, New Mexico Eastern Zone
 Grid Convergence at Surface is: 0.41°

Ladder Plot



LEGEND

[Blue line with square markers] Thistle Unit 49H_AC, Original, Actual V0
 [Red line with diamond markers] Thistle Unit 112H, Wellbore #1, Design #1 V0
 [Blue line with cross markers] Thistle Unit 137H, Wellbore #1, Design #1 V0
 [Red line with circle markers] Thistle Unit 49H_AC, Original, Design #1 V0
 [Red line with triangle markers] Thistle Unit 113H, Wellbore #1, Design #1 V0

Devon Energy

Anticollision Report

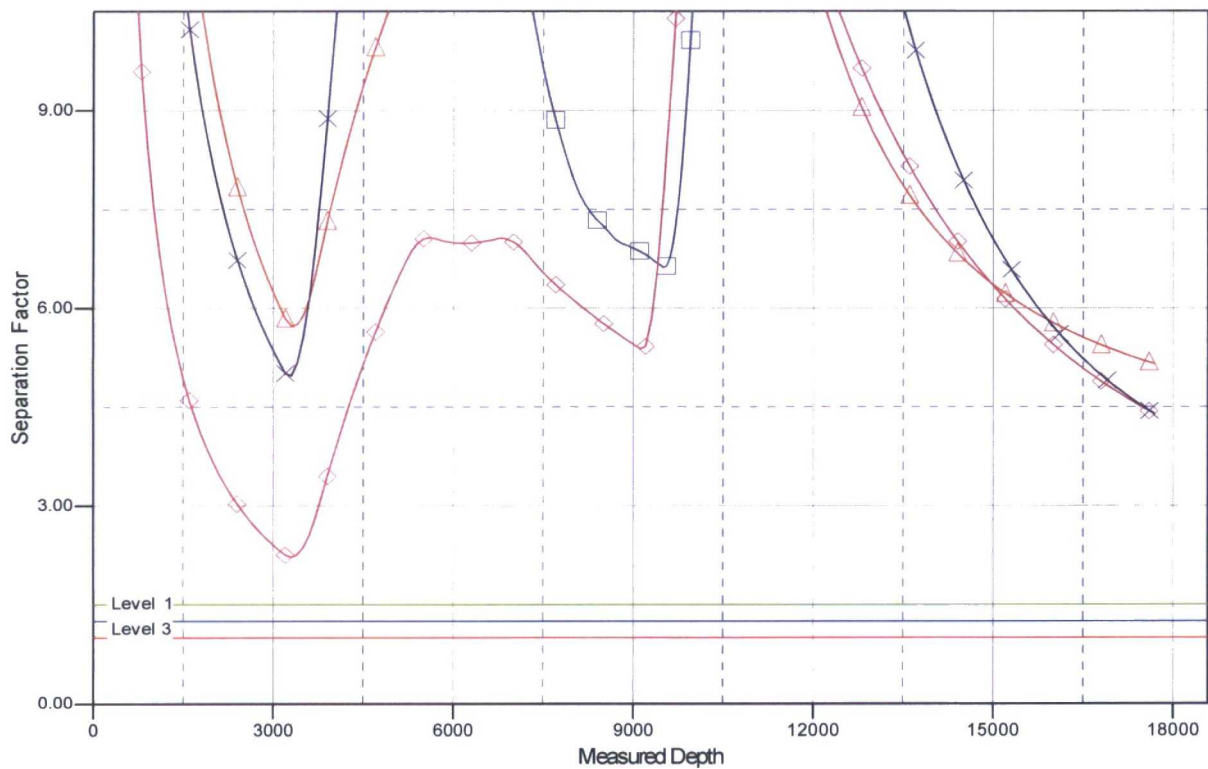
Company: WESTERN DIVISION
 Project: PBNM
 Reference Site: Norwalk_Section 34
 Site Error: 0.00 ft
 Reference Well: Thistle Unit 132H
 Well Error: 0.00 ft
 Reference Wellbore: Wellbore #1
 Reference Design: Design #1

Local Co-ordinate Reference: Well Thistle Unit 132H
 TVD Reference: KB @ 3667.90ft
 MD Reference: KB @ 3667.90ft
 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 KB @ 3667.90ft
 Offset Depths are relative to Offset Datum
 Central Meridian is -104.333334

Coordinates are relative to: Thistle Unit 132H
 Coordinate System is US State Plane 1983, New Mexico Eastern Zone
 Grid Convergence at Surface is: 0.41°

Separation Factor Plot



LEGEND

[Blue square with cross] Thistle Unit49H_AC, Original, Actual V0
 [Red diamond] Thistle Unit112H, Wellbore #1, Design #1 V0
 [Blue cross] Thistle Unit137H, Wellbore #1, Design #1 V0
 [Red circle with cross] Thistle Unit49H_AC, Original, Design #1 V0
 [Red triangle] Thistle Unit113H, Wellbore #1, Design #1 V0

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