

HOBBS OCD

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Yates Petroleum

Lea County, N.M. NAD 83

Section 9 T21S-R32E Capella Bop Federal Com 9H

Capella Bop Federal Com 9H

Original Hole

Plan #1a

Anticollision Risk Report

16 September, 2014

Stryker Directional Anticollision Risk Report

Company:	Yates Petroleum	Local Co-ordinate Reference:	Well Capella Bop Federal Com 9H
Project:	Lea County, N.M. NAD 83	TVD Reference:	GL 3739+18.5 @ 3757.5usft (McVay#8)
Reference Site:	Section 9 T21S-R32E Capella Bop Federal Com 9H	MD Reference:	GL 3739+18.5 @ 3757.5usft (McVay#8)
Site Error:	0.0	North Reference:	Grid
Reference Well:	Capella Bop Federal Com 9H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0	Output errors are at	2.00 sigma
Reference Wellbore	Original Hole	Database:	Stryker_EDM
Reference Design:	Plan #1a	Offset TVD Reference:	Offset Datum

Reference	Plan #1a
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria
Interpolation Method:	Stations Interval 100.0usft
Depth Range:	Unlimited
Results Limited by:	Maximum center-center distance of 10,000.0usf
Warning Levels Evaluated at:	2.00 Sigma
Error Model:	ISCWSA
Scan Method:	Closest Approach 3D
Error Surface:	Elliptical Conic
Casing Method:	Not applied

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

Survey Tool Program		Date	9/16/2014		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.0	12,973.2	Plan #1a (Original Hole)	Gyro	Gyro	

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Section 9 T21S-R32E Union Federal						
Union Federal - Original Hole - Original Hole	8,676.8	8,561.2	44.0	25.3	2.350 CC, ES, SF	

Offset Design	Section 9 T21S-R32E Union Federal - Union Federal - Original Hole - Original Hole										Offset Site Error:	0.0 usft
Survey Program:	465-MWD										Offset Well Error:	0.0 usft
Reference	Offset	Semi Major Axis	Distance	Highside	Between	Between	Minimum	Separation	Riskd	Probability	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Toolface (°)	Centres (usft)	Ellipses (usft)	Separation (usft)	Factor	Separation Factor	of Collision
0.0	0.0	0.0	0.0	0.0	0.0	90.00	150.0				0	
100.0	100.0	100.1	100.1	0.0	0.1	90.00	150.0	149.8	0.1	1,383.963	0	
200.0	200.0	200.3	200.3	0.0	0.2	90.00	149.8	149.6	0.2	691.970	0	
300.0	300.0	300.4	300.4	0.0	0.3	90.00	149.6	149.3	0.3	460.733	0	
400.0	400.0	400.6	400.6	0.0	0.4	90.00	149.2	148.8	0.4	344.843	0	
500.0	500.0	500.8	500.8	0.0	0.6	90.00	148.8	148.2	0.6	255.362	0	
600.0	600.0	601.1	601.1	0.0	0.8	90.00	148.2	147.4	0.8	183.373	0	
700.0	700.0	701.3	701.3	0.0	1.0	90.00	147.4	146.4	1.0	142.594	0	
800.0	800.0	801.6	801.6	0.0	1.3	90.00	146.4	145.1	1.3	116.260	0	
900.0	900.0	901.9	901.9	0.0	1.5	90.00	145.2	143.7	1.5	97.790	0	
1,000.0	1,000.0	1,001.9	1,001.9	0.0	1.7	90.00	143.9	142.2	1.7	84.159	0	
1,100.0	1,100.0	1,101.9	1,101.9	0.0	1.9	90.00	142.6	140.6	1.9	73.697	0	
1,200.0	1,200.0	1,201.9	1,201.8	0.0	2.2	90.00	141.2	139.1	2.2	65.415	0	
1,300.0	1,300.0	1,301.9	1,301.8	0.0	2.4	90.00	139.9	137.6	2.4	58.696	0	
1,400.0	1,400.0	1,401.6	1,401.5	0.0	2.6	90.00	138.7	136.1	2.6	53.194	0	
1,500.0	1,500.0	1,501.3	1,501.2	0.0	2.8	90.00	137.8	134.9	2.8	48.640	0	
1,600.0	1,600.0	1,601.0	1,600.9	0.0	3.1	90.00	137.0	133.9	3.1	44.824	0	
1,700.0	1,700.0	1,700.7	1,700.6	0.0	3.3	90.00	136.5	133.2	3.3	41.596	0	
1,800.0	1,800.0	1,800.8	1,800.7	0.0	3.5	90.00	136.0	132.5	3.5	38.787	0	
1,900.0	1,900.0	1,900.9	1,900.8	0.0	3.7	90.00	135.4	131.7	3.7	36.293	0	
2,000.0	2,000.0	2,001.0	2,001.0	0.0	4.0	90.00	134.7	130.8	4.0	34.059	0	

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

Stryker Directional Anticollision Risk Report

Company: Yates Petroleum
Project: Lea County, N.M. NAD 83
Reference Site: Section 9 T21S-R32E Capella Bop Federal Com 9H
Site Error: 0.0
Reference Well: Capella Bop Federal Com 9H
Well Error: 0.0
Reference Wellbore: Original Hole
Reference Design: Plan #1a

Local Co-ordinate Reference: Well Capella Bop Federal Com 9H
TVD Reference: GL 3739+18.5 @ 3757.5usft (McVay#8)
MD Reference: GL 3739+18.5 @ 3757.5usft (McVay#8)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: Stryker_EDM
Offset TVD Reference: Offset Datum

Offset Design Section 9 T21S-R32E Union Federal - Union Federal - Original Hole - Original Hole													Offset Site Error:	0.0 usft
Survey Program: 465-MWD													Offset Well Error:	0.0 usft
Reference	Offset	Semi Major Axis		Distance				Minimum		Separation	Risk	Probability	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Between Centres (usft)	Between Ellipses (usft)	Separation (usft)	Factor	Separation Factor	of Collision		
2,100.0	2,100.0	2,101.2	2,101.1	0.0	4.2	90.00	134.0	129.8	4.2	32.043	0			
2,200.0	2,200.0	2,201.3	2,201.2	0.0	4.4	90.00	133.1	128.7	4.4	30.210	0			
2,300.0	2,300.0	2,301.5	2,301.5	0.0	4.6	90.00	132.1	127.5	4.6	28.522	0			
2,400.0	2,400.0	2,401.8	2,401.7	0.0	4.9	90.00	130.9	126.1	4.9	26.954	0			
2,500.0	2,500.0	2,502.0	2,501.9	0.0	5.1	90.00	129.6	124.5	5.1	25.492	0			
2,600.0	2,600.0	2,602.2	2,602.1	0.0	5.3	90.00	128.0	122.7	5.3	24.122	0			
2,700.0	2,700.0	2,702.4	2,702.3	0.0	5.6	90.00	126.3	120.8	5.5	22.832	0			
2,800.0	2,800.0	2,802.7	2,802.6	0.0	5.8	90.00	124.4	118.6	5.8	21.600	0			
2,900.0	2,900.0	2,903.0	2,902.8	0.0	6.0	90.00	122.2	116.2	6.0	20.418	0			
3,000.0	3,000.0	3,003.3	3,003.1	0.0	6.2	90.00	119.7	113.5	6.2	19.279	0			
3,100.0	3,100.0	3,103.6	3,103.3	0.0	6.5	90.00	117.0	110.6	6.4	18.180	0			
3,200.0	3,200.0	3,203.6	3,203.4	0.0	6.7	90.00	114.1	107.4	6.7	17.120	0			
3,300.0	3,300.0	3,303.1	3,302.8	0.0	6.9	90.00	111.3	104.4	6.9	16.166	0			
3,400.0	3,400.0	3,402.6	3,402.3	0.0	7.1	90.00	109.0	101.9	7.1	15.333	0			
3,500.0	3,500.0	3,502.2	3,501.9	0.0	7.4	90.00	107.1	99.8	7.3	14.609	0			
3,600.0	3,600.0	3,602.2	3,601.8	0.0	7.6	90.00	105.4	97.8	7.6	13.943	0			
3,700.0	3,700.0	3,702.2	3,701.8	0.0	7.8	90.00	103.7	95.9	7.8	13.316	0			
3,800.0	3,800.0	3,802.2	3,801.8	0.0	8.1	90.00	101.9	93.9	8.0	12.724	0			
3,900.0	3,900.0	3,902.2	3,901.7	0.0	8.3	90.00	100.2	91.9	8.2	12.164	0			
4,000.0	4,000.0	4,002.2	4,001.7	0.0	8.5	90.00	98.4	90.0	8.5	11.634	0			
4,100.0	4,100.0	4,102.1	4,101.7	0.0	8.7	90.00	96.7	88.0	8.7	11.132	0			
4,200.0	4,200.0	4,202.1	4,201.7	0.0	9.0	90.00	94.9	86.0	8.9	10.655	0			
4,300.0	4,300.0	4,302.1	4,301.6	0.0	9.2	91.11	93.2	84.1	9.1	10.202	0			
4,400.0	4,399.8	4,401.9	4,401.4	0.0	9.4	94.43	91.7	82.3	9.4	9.795	0			
4,430.0	4,429.8	4,431.9	4,431.4	0.0	9.5	95.76	91.4	81.9	9.4	9.688	0			
4,452.2	4,451.9	4,454.0	4,453.4	0.0	9.5	102.84	91.2	81.8	9.5	9.623	0			
4,477.9	4,477.5	4,479.6	4,479.1	0.0	9.6	103.99	91.2	81.7	9.5	9.562	0			
4,500.0	4,499.6	4,501.7	4,501.2	0.0	9.6	104.99	91.2	81.6	9.6	9.513	0			
4,600.0	4,599.3	4,601.4	4,600.9	0.0	9.9	109.47	91.6	81.8	9.8	9.333	0			
4,700.0	4,699.1	4,701.2	4,700.6	0.0	10.1	113.88	92.6	82.6	10.0	9.217	0			
4,800.0	4,798.8	4,800.9	4,800.3	0.0	10.3	118.18	94.1	83.8	10.3	9.157	0			
4,900.0	4,898.6	4,900.6	4,900.1	0.0	10.5	122.32	96.1	85.6	10.5	9.150	0			
5,000.0	4,998.3	5,000.4	4,999.8	0.0	10.8	126.27	98.6	87.9	10.7	9.187	0			
5,100.0	5,098.1	5,100.1	5,099.5	0.0	11.0	130.01	101.6	90.6	11.0	9.264	0			
5,200.0	5,197.8	5,199.9	5,199.2	0.0	11.2	133.53	104.9	93.7	11.2	9.374	0			
5,300.0	5,297.5	5,299.3	5,298.6	0.0	11.5	136.75	108.8	97.4	11.4	9.526	0			
5,400.0	5,397.3	5,399.0	5,398.4	0.0	11.7	139.66	113.1	101.5	11.6	9.715	0			
5,500.0	5,497.0	5,498.7	5,498.1	0.0	11.9	142.34	117.8	105.9	11.9	9.919	0			
5,600.0	5,596.8	5,598.5	5,597.8	0.0	12.1	144.82	122.7	110.6	12.1	10.136	0			
5,700.0	5,696.5	5,698.2	5,697.6	0.0	12.4	147.11	127.7	115.4	12.3	10.363	0			
5,800.0	5,796.3	5,798.0	5,797.3	0.0	12.6	149.22	133.0	120.5	12.6	10.596	0			
5,900.0	5,896.0	5,897.7	5,897.0	0.0	12.8	151.16	138.5	125.7	12.8	10.834	0			
6,000.0	5,995.7	5,997.5	5,996.8	0.0	13.0	152.96	144.1	131.0	13.0	11.076	0			
6,100.0	6,095.5	6,097.2	6,096.5	0.0	13.3	154.62	149.8	136.5	13.2	11.319	0			
6,200.0	6,195.2	6,197.0	6,196.3	0.0	13.5	156.16	155.6	142.2	13.5	11.563	0			
6,300.0	6,295.0	6,296.7	6,296.0	0.0	13.7	157.59	161.6	147.9	13.7	11.806	0			
6,400.0	6,394.7	6,396.5	6,395.7	0.0	13.9	158.91	167.6	153.7	13.9	12.049	0			
6,500.0	6,494.5	6,496.2	6,495.5	0.0	14.2	160.14	173.7	159.6	14.1	12.289	0			
6,600.0	6,594.2	6,595.9	6,595.2	0.0	14.4	161.29	179.9	165.5	14.4	12.527	0			
6,700.0	6,694.0	6,695.7	6,694.9	0.0	14.6	162.36	186.2	171.6	14.6	12.763	0			
6,800.0	6,793.7	6,795.5	6,794.7	0.0	14.8	163.37	192.5	177.6	14.8	12.994	0			
6,900.0	6,893.4	6,895.3	6,894.5	0.0	15.1	164.34	198.8	183.7	15.0	13.220	0			
7,000.0	6,993.2	6,995.1	6,994.3	0.0	15.3	165.28	205.1	189.9	15.3	13.440	0			

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

Stryker Directional Anticollision Risk Report

Company:	Yates Petroleum	Local Co-ordinate Reference:	Well Capella Bop Federal Com 9H
Project:	Lea County, N.M. NAD 83	TVD Reference:	GL 3739+18.5 @ 3757.5usft (McVay#8)
Reference Site:	Section 9 T21S-R32E Capella Bop Federal Com 9H	MD Reference:	GL 3739+18.5 @ 3757.5usft (McVay#8)
Site Error:	0.0	North Reference:	Grid
Reference Well:	Capella Bop Federal Com 9H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0	Output errors are at	2.00 sigma
Reference Wellbore	Original Hole	Database:	Stryker_EDM
Reference Design:	Plan #1a	Offset TVD Reference:	Offset Datum

Offset Design Section 9 T21S-R32E Union Federal - Union Federal - Original Hole - Original Hole													Offset Site Error:	0.0 usft
Survey Program: 465-MWD													Offset Well Error:	0.0 usft
Reference	Offset	Semi Major Axis		Distance				Minimum Separation		Separation Factor	Risked Separation Factor	Probability of Collision	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Between Centres (usft)	Between Ellipses (usft)	Separation (usft)					
7,100.0	7,092.9	7,094.9	7,094.1	0.0	15.5	166.17	211.5	196.0	15.5	13.656	0			
7,200.0	7,192.7	7,194.7	7,193.9	0.0	15.7	167.04	217.9	202.2	15.7	13.866	0			
7,300.0	7,292.4	7,294.5	7,293.6	0.0	16.0	167.87	224.3	208.4	15.9	14.073	0			
7,400.0	7,392.2	7,394.2	7,393.4	0.0	16.2	168.66	230.8	214.6	16.2	14.276	0			
7,500.0	7,491.9	7,494.0	7,493.1	0.0	16.4	169.40	237.3	220.9	16.4	14.476	0			
7,600.0	7,591.7	7,593.7	7,592.8	0.0	16.6	170.10	243.9	227.2	16.6	14.673	0			
7,700.0	7,691.4	7,693.4	7,692.6	0.0	16.9	170.77	250.4	233.6	16.8	14.867	0			
7,800.0	7,791.1	7,793.2	7,792.3	0.0	17.1	171.40	257.0	240.0	17.1	15.057	0			
7,900.0	7,890.9	7,892.9	7,892.0	0.0	17.3	171.99	263.7	246.4	17.3	15.245	0			
8,000.0	7,990.6	7,992.7	7,991.7	0.0	17.6	172.56	270.4	252.8	17.5	15.429	0			
8,103.1	8,093.5	8,095.5	8,094.6	0.0	17.8	173.12	277.3	259.5	17.8	15.615	0			
8,125.0	8,115.3	8,117.4	8,116.4	0.0	17.8	179.51	278.2	260.4	17.8	15.600	0			
8,150.0	8,140.3	8,142.4	8,141.4	0.0	17.9	-19.60	278.1	260.3	17.9	15.547	0			
8,175.0	8,165.3	8,167.3	8,166.4	0.0	18.0	-13.45	276.8	258.9	17.9	15.456	0			
8,200.0	8,190.2	8,192.2	8,191.2	0.0	18.0	-12.27	274.1	256.2	17.9	15.328	0			
8,225.0	8,214.8	8,216.9	8,215.9	0.0	18.1	-11.90	270.2	252.3	17.8	15.160	0			
8,250.0	8,239.3	8,241.3	8,240.3	0.0	18.1	-11.85	265.0	247.2	17.7	14.952	0			
8,275.0	8,263.4	8,265.4	8,264.5	0.0	18.2	-12.01	258.5	240.9	17.6	14.702	0			
8,300.0	8,287.2	8,289.2	8,288.2	0.0	18.2	-12.34	250.8	233.4	17.4	14.408	0			
8,325.0	8,310.5	8,312.5	8,311.5	0.0	18.3	-12.83	241.9	224.7	17.2	14.065	0			
8,350.0	8,333.4	8,335.3	8,334.4	0.0	18.3	-13.50	231.9	214.9	17.0	13.671	0			
8,375.0	8,355.6	8,357.6	8,356.6	0.0	18.4	-14.38	220.7	204.0	16.7	13.218	0			
8,400.0	8,377.3	8,379.2	8,378.2	0.0	18.4	-15.50	208.4	192.0	16.4	12.700	0			
8,425.0	8,398.2	8,400.2	8,399.2	0.0	18.5	-16.93	195.1	179.0	16.1	12.107	0			
8,450.0	8,418.4	8,420.4	8,419.4	0.0	18.5	-18.76	180.7	164.9	15.8	11.428	0			
8,475.0	8,437.9	8,439.8	8,438.8	0.0	18.6	-21.11	165.5	149.9	15.5	10.647	0			
8,500.0	8,456.4	8,458.3	8,457.3	0.0	18.6	-24.18	149.4	134.0	15.3	9.748	0			
8,525.0	8,474.1	8,476.0	8,475.0	0.0	18.7	-28.23	132.5	117.3	15.2	8.710	0			
8,550.0	8,490.8	8,492.7	8,491.7	0.0	18.7	-33.64	115.1	99.8	15.3	7.526	0			
8,575.0	8,506.5	8,508.4	8,507.4	0.0	18.7	-40.90	97.4	81.7	15.7	6.215	0			
8,600.0	8,521.2	8,523.0	8,522.0	0.0	18.8	-50.54	79.8	63.4	16.4	4.863	0			
8,625.0	8,534.8	8,536.6	8,535.6	0.0	18.8	-62.71	63.4	45.9	17.4	3.635	0			
8,650.0	8,547.3	8,549.1	8,548.1	0.0	18.8	-76.59	50.1	31.7	18.3	2.730	0			
8,675.0	8,558.6	8,560.4	8,559.4	0.0	18.8	-90.18	44.0	25.3	18.7	2.352	0			
8,676.8	8,559.4	8,561.2	8,560.2	0.0	18.8	-91.10	44.0	25.3	18.7	2.350	0			
8,700.0	8,568.8	8,570.5	8,569.5	0.0	18.9	-101.52	48.8	30.3	18.5	2.637	0			
8,725.0	8,577.7	8,579.5	8,578.4	0.0	18.9	-109.71	62.6	44.6	18.1	3.469	0			
8,750.0	8,585.4	8,587.2	8,586.1	0.0	18.9	-114.82	81.3	63.7	17.6	4.618	0			
8,775.0	8,591.9	8,593.6	8,592.6	0.0	18.9	-117.14	102.5	85.1	17.4	5.906	0			
8,800.0	8,597.1	8,598.8	8,597.7	0.0	18.9	-116.84	125.0	107.7	17.4	7.201	0			
8,825.0	8,601.0	8,602.6	8,601.6	0.0	18.9	-113.76	148.4	130.7	17.7	8.402	0			
8,850.0	8,603.5	8,605.2	8,604.2	0.0	18.9	-107.43	172.3	154.1	18.2	9.468	0			
8,875.0	8,604.8	8,606.5	8,605.4	0.0	19.0	-97.24	196.6	177.9	18.7	10.499	0			
8,887.2	8,605.0	8,606.6	8,605.6	0.0	19.0	-90.79	208.5	189.7	18.8	11.079	0			
8,900.0	8,605.0	8,606.6	8,605.6	0.0	19.0	-90.78	221.0	202.2	18.8	11.745	0			
9,000.0	8,605.0	8,606.5	8,605.5	0.0	19.0	-90.67	319.7	300.9	18.8	16.988	0			
9,100.0	8,605.0	8,606.5	8,605.4	0.0	19.0	-90.57	419.0	400.2	18.8	22.265	0			
9,200.0	8,605.0	8,606.4	8,605.4	0.0	18.9	-90.47	518.6	499.7	18.8	27.556	0			
9,300.0	8,605.0	8,606.3	8,605.3	0.0	18.9	-90.36	618.3	599.4	18.8	32.855	0			
9,400.0	8,605.0	8,606.2	8,605.2	0.0	18.9	-90.26	718.1	699.2	18.8	38.158	0			
9,500.0	8,605.0	8,606.1	8,605.1	0.0	18.9	-90.16	817.9	799.1	18.8	43.465	0			
9,600.0	8,605.0	8,606.1	8,605.0	0.0	18.9	-90.05	917.8	898.9	18.8	48.774	0			
9,700.0	8,605.0	8,606.0	8,605.0	0.0	18.9	-89.95	1,017.7	998.8	18.8	54.084	0			

CC, ES, SF

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

Stryker Directional Anticollision Risk Report

Company:	Yates Petroleum	Local Co-ordinate Reference:	Well Capella Bop Federal Com 9H
Project:	Lea County, N.M. NAD 83	TVD Reference:	GL 3739+18.5 @ 3757.5usft (McVay#8)
Reference Site:	Section 9 T21S-R32E Capella Bop Federal Com 9H	MD Reference:	GL 3739+18.5 @ 3757.5usft (McVay#8)
Site Error:	0.0	North Reference:	Grid
Reference Well:	Capella Bop Federal Com 9H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0	Output errors are at	2.00 sigma
Reference Wellbore	Original Hole	Database:	Stryker_EDM
Reference Design:	Plan #1a	Offset TVD Reference:	Offset Datum

Offset Design Section 9 T21S-R32E Union Federal - Union Federal - Original Hole - Original Hole												Offset Site Error: 0.0 usft	
Survey Program: 465-MWD												Offset Well Error: 0.0 usft	
Reference		Offset		Semi Major Axis		Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Risked Separation Factor		Probability of Collision
9,800.0	8,605.0	8,605.9	8,604.9	0.0	18.9	-89.85	1,117.6	1,098.8	18.8	59.396	0		
9,900.0	8,605.0	8,605.8	8,604.8	0.0	18.9	-89.74	1,217.5	1,198.7	18.8	64.709	0		
10,000.0	8,605.0	8,605.8	8,604.7	0.0	18.9	-89.64	1,317.5	1,298.6	18.8	70.024	0		
10,100.0	8,605.0	8,605.7	8,604.6	0.0	18.9	-89.54	1,417.4	1,398.6	18.8	75.339	0		
10,200.0	8,605.0	8,605.6	8,604.6	0.0	18.9	-89.43	1,517.4	1,498.5	18.8	80.655	0		
10,300.0	8,605.0	8,605.5	8,604.5	0.0	18.9	-89.33	1,617.3	1,598.5	18.8	85.973	0		
10,400.0	8,605.0	8,605.4	8,604.4	0.0	18.9	-89.23	1,717.3	1,698.5	18.8	91.291	0		
10,500.0	8,605.0	8,605.4	8,604.3	0.0	18.9	-89.12	1,817.3	1,798.4	18.8	96.610	0		
10,600.0	8,605.0	8,605.3	8,604.3	0.0	18.9	-89.02	1,917.2	1,898.4	18.8	101.930	0		
10,700.0	8,605.0	8,605.2	8,604.2	0.0	18.9	-88.92	2,017.2	1,998.4	18.8	107.251	0		
10,800.0	8,605.0	8,605.1	8,604.1	0.0	18.9	-88.81	2,117.2	2,098.4	18.8	112.573	0		
10,900.0	8,605.0	8,605.0	8,604.0	0.0	18.9	-88.71	2,217.2	2,198.4	18.8	117.896	0		
11,000.0	8,605.0	8,605.0	8,603.9	0.0	18.9	-88.61	2,317.1	2,298.3	18.8	123.221	0		
11,100.0	8,605.0	8,604.9	8,603.9	0.0	18.9	-88.50	2,417.1	2,398.3	18.8	128.546	0		
11,200.0	8,605.0	8,604.8	8,603.8	0.0	18.9	-88.40	2,517.1	2,498.3	18.8	133.872	0		
11,300.0	8,605.0	8,604.7	8,603.7	0.0	18.9	-88.30	2,617.1	2,598.3	18.8	139.199	0		
11,400.0	8,605.0	8,604.7	8,603.6	0.0	18.9	-88.19	2,717.1	2,698.3	18.8	144.528	0		
11,500.0	8,605.0	8,604.6	8,603.6	0.0	18.9	-88.09	2,817.1	2,798.3	18.8	149.858	0		
11,600.0	8,605.0	8,604.5	8,603.5	0.0	18.9	-87.99	2,917.1	2,898.3	18.8	155.189	0		
11,700.0	8,605.0	8,604.4	8,603.4	0.0	18.9	-87.89	3,017.1	2,998.3	18.8	160.521	0		
11,800.0	8,605.0	8,604.3	8,603.3	0.0	18.9	-87.78	3,117.0	3,098.2	18.8	165.855	0		
11,900.0	8,605.0	8,604.3	8,603.2	0.0	18.9	-87.68	3,217.0	3,198.2	18.8	171.190	0		
12,000.0	8,605.0	8,604.2	8,603.2	0.0	18.9	-87.58	3,317.0	3,298.2	18.8	176.526	0		
12,100.0	8,605.0	8,604.1	8,603.1	0.0	18.9	-87.47	3,417.0	3,398.2	18.8	181.864	0		
12,200.0	8,605.0	8,604.0	8,603.0	0.0	18.9	-87.37	3,517.0	3,498.2	18.8	187.203	0		
12,300.0	8,605.0	8,604.0	8,602.9	0.0	18.9	-87.27	3,617.0	3,598.2	18.8	192.543	0		
12,400.0	8,605.0	8,603.9	8,602.8	0.0	18.9	-87.16	3,717.0	3,698.2	18.8	197.886	0		
12,500.0	8,605.0	8,603.8	8,602.8	0.0	18.9	-87.06	3,817.0	3,798.2	18.8	203.229	0		
12,600.0	8,605.0	8,603.7	8,602.7	0.0	18.9	-86.96	3,917.0	3,898.2	18.8	208.575	0		
12,700.0	8,605.0	8,603.6	8,602.6	0.0	18.9	-86.86	4,017.0	3,998.2	18.8	213.922	0		
12,800.0	8,605.0	8,603.6	8,602.5	0.0	18.9	-86.75	4,117.0	4,098.2	18.8	219.271	0		
12,900.0	8,605.0	8,603.5	8,602.5	0.0	18.9	-86.65	4,217.0	4,198.2	18.8	224.621	0		
12,973.2	8,605.0	8,603.4	8,602.4	0.0	18.9	-86.58	4,290.1	4,271.4	18.8	228.538	0		

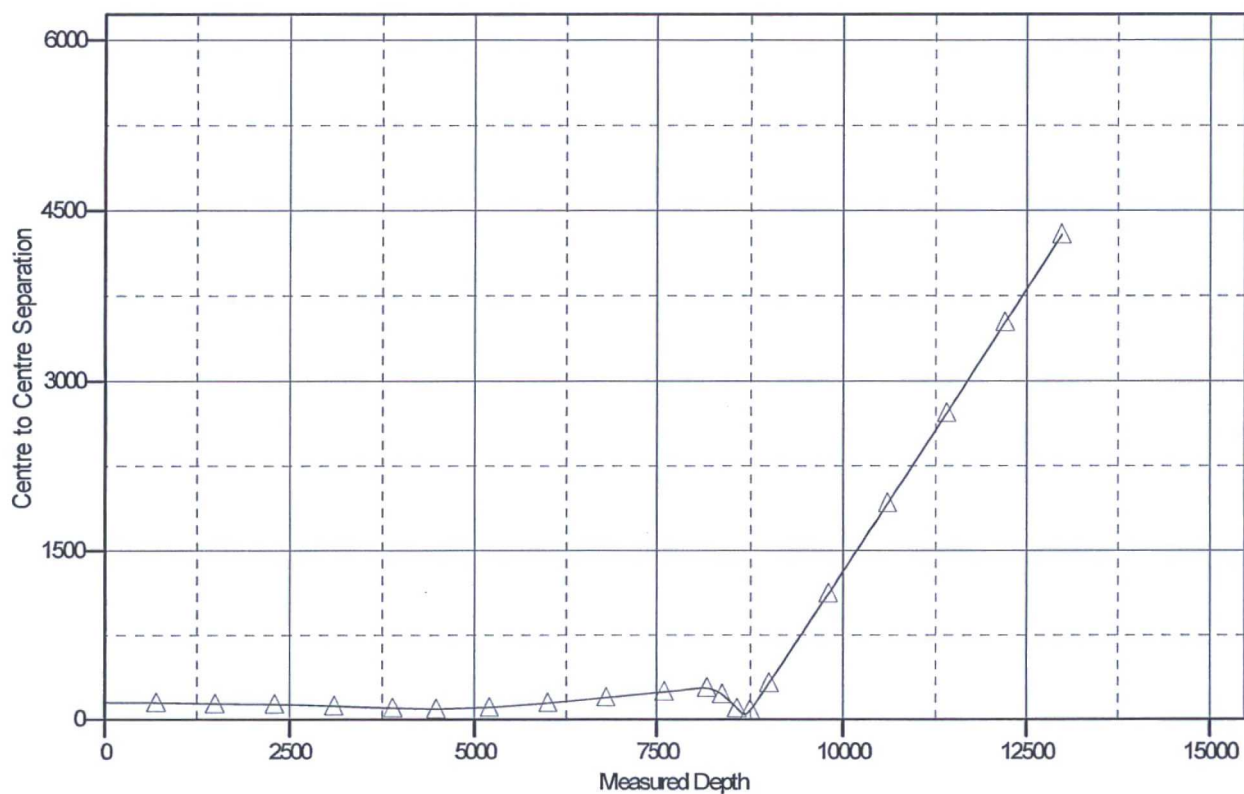
Stryker Directional Anticollision Risk Report

Company: Yates Petroleum
Project: Lea County, N.M. NAD 83
Reference Site: Section 9 T21S-R32E Capella Bop Federal Com 9H
Site Error: 0.0
Reference Well: Capella Bop Federal Com 9H
Well Error: 0.0
Reference Wellbore: Original Hole
Reference Design: Plan #1a

Local Co-ordinate Reference: Well Capella Bop Federal Com 9H
TVD Reference: GL 3739+18.5 @ 3757.5usft (McVay#8)
MD Reference: GL 3739+18.5 @ 3757.5usft (McVay#8)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: Stryker_EDM
Offset TVD Reference: Offset Datum

Reference Depths are relative to GL 3739+18.5 @ 3757.5usft (McVay#8) Coordinates are relative to: Capella Bop Federal Com 9H
 Offset Depths are relative to Offset Datum
 Central Meridian is 104° 20' 0.000 W °
 Coordinate System is US State Plane 1983, New Mexico Eastern Zone
 Grid Convergence at Surface is: 0.35°

Ladder Plot



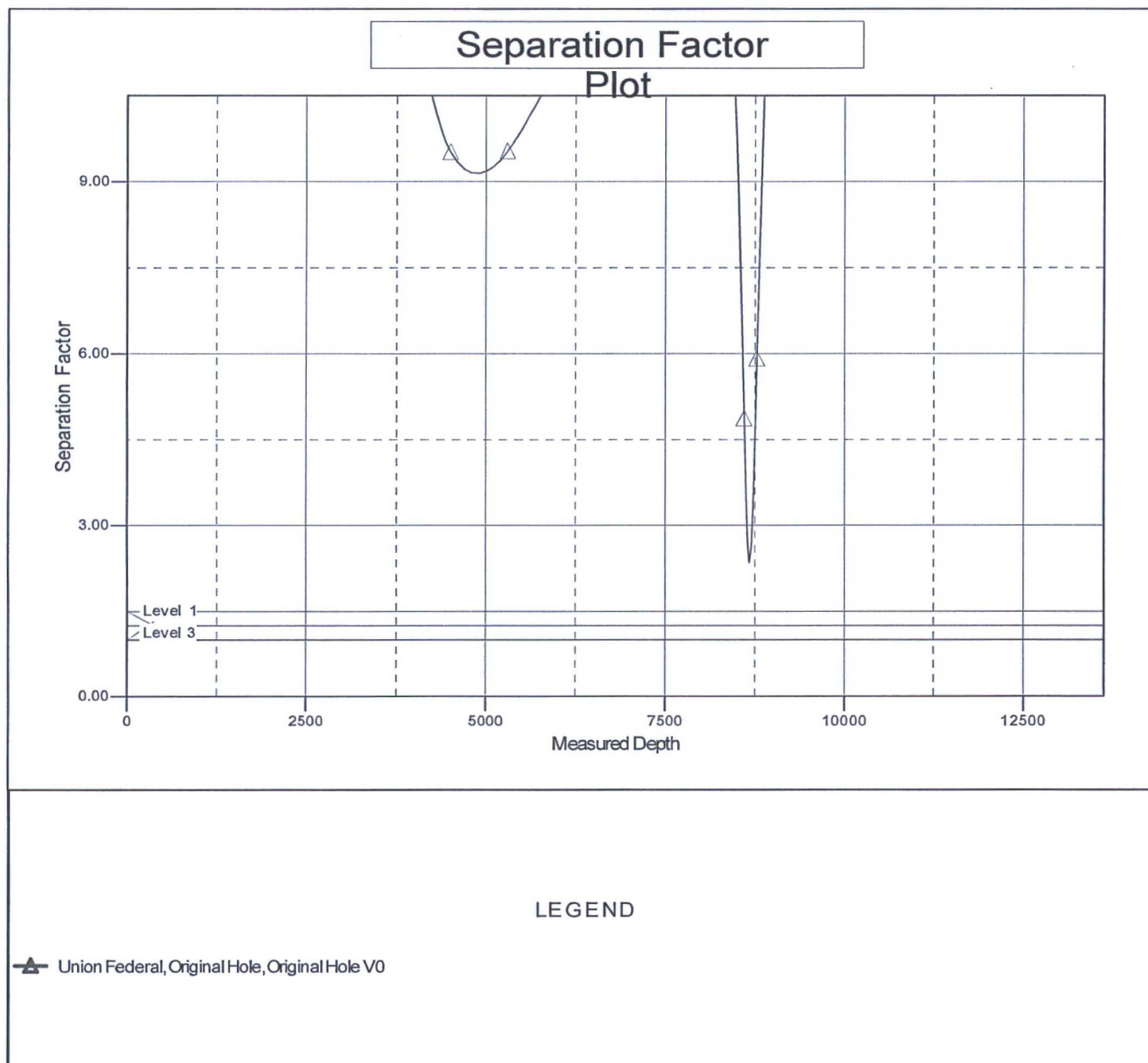
LEGEND

Union Federal, Original Hole, Original Hole V0

Stryker Directional Anticollision Risk Report

Company:	Yates Petroleum	Local Co-ordinate Reference:	Well Capella Bop Federal Com 9H
Project:	Lea County, N.M. NAD 83	TVD Reference:	GL 3739+18.5 @ 3757.5usft (McVay#8)
Reference Site:	Section 9 T21S-R32E Capella Bop Federal Com 9H	MD Reference:	GL 3739+18.5 @ 3757.5usft (McVay#8)
Site Error:	0.0	North Reference:	Grid
Reference Well:	Capella Bop Federal Com 9H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0	Output errors are at	2.00 sigma
Reference Wellbore	Original Hole	Database:	Stryker_EDM
Reference Design:	Plan #1a	Offset TVD Reference:	Offset Datum

Reference Depths are relative to GL 3739+18.5 @ 3757.5usft (McVay#Coordinates are relative to: Capella Bop Federal Com 9H
Offset Depths are relative to Offset Datum
Central Meridian is 104° 20' 0.000 W °
Coordinate System is US State Plane 1983, New Mexico Eastern Zone
Grid Convergence at Surface is: 0.35°



Well Name: Capella BOP Federal #9H				Tgt N/-S: -4799.30				
Surface Location: Section 9 , Township 21S Range 32E				Tgt E/-W: -62.90	EOC TVD/MD: 8605.00 / 8877.54			
Bottom Hole Location: Section 9 , Township 21S Range 32E				VS: 4799.71				
				VS Az: 180.75	EOL TVD/MD: 8605.00 / 13199.78			

MD	Inc.	Azi.	TVD	+N/-S	+E/-W	VS	DLS	Comments
0	0	0	0	0	0	0	0	
1035.00	0.00	0.00	1035.00	0.00	0.00	0.00	0.00	RUSTLER
1190.00	0.00	0.00	1190.00	0.00	0.00	0.00	0.00	TOS
3178.00	0.00	0.00	3178.00	0.00	0.00	0.00	0.00	BOS
3178.00	0.00	0.00	3178.00	0.00	0.00	0.00	0.00	CAPITAN
4909.00	0.00	0.00	4909.00	0.00	0.00	0.00	0.00	BELL CANYON
5545.00	0.00	0.00	5545.00	0.00	0.00	0.00	0.00	CHERRY CANYON
7291.00	0.00	0.00	7291.00	0.00	0.00	0.00	0.00	BRUSHY CANYON
8127.54	0.00	0.00	8127.54	0.00	0.00	0.00	0.00	KOP
8150.00	2.70	180.75	8149.99	-0.53	-0.01	0.53	12.00	
8175.00	5.70	180.75	8174.92	-2.36	-0.03	2.36	12.00	
8200.00	8.70	180.75	8199.72	-5.49	-0.07	5.49	12.00	
8225.00	11.70	180.75	8224.32	-9.91	-0.13	9.91	12.00	
8250.00	14.70	180.75	8248.66	-15.62	-0.20	15.62	12.00	
8275.00	17.70	180.75	8272.67	-22.59	-0.30	22.59	12.00	
8300.00	20.70	180.75	8296.27	-30.81	-0.40	30.81	12.00	
8325.00	23.70	180.75	8319.42	-40.25	-0.53	40.25	12.00	
8350.00	26.70	180.75	8342.04	-50.89	-0.67	50.90	12.00	
8375.00	29.70	180.75	8364.07	-62.70	-0.82	62.71	12.00	
8400.00	32.70	180.75	8385.45	-75.65	-0.99	75.65	12.00	
8425.00	35.70	180.75	8406.13	-89.70	-1.18	89.70	12.00	
8450.00	38.70	180.75	8426.04	-104.81	-1.37	104.81	12.00	
8475.00	41.70	180.75	8445.13	-120.94	-1.59	120.95	12.00	
8500.00	44.70	180.75	8463.36	-138.05	-1.81	138.06	12.00	
8525.00	47.70	180.75	8480.66	-156.09	-2.05	156.10	12.00	
8550.00	50.70	180.75	8496.99	-175.01	-2.29	175.02	12.00	
8575.00	53.70	180.75	8512.32	-194.75	-2.55	194.77	12.00	
8600.00	56.70	180.75	8526.58	-215.28	-2.82	215.30	12.00	
8625.00	59.70	180.75	8539.76	-236.52	-3.10	236.54	12.00	
8650.00	62.70	180.75	8551.80	-258.42	-3.39	258.44	12.00	
8675.00	65.70	180.75	8562.68	-280.92	-3.68	280.95	12.00	
8700.00	68.70	180.75	8572.37	-303.97	-3.98	303.99	12.00	
8725.00	71.70	180.75	8580.84	-327.48	-4.29	327.51	12.00	
8750.00	74.70	180.75	8588.07	-351.41	-4.61	351.44	12.00	
8775.00	77.70	180.75	8594.03	-375.68	-4.92	375.72	12.00	
8800.00	80.70	180.75	8598.72	-400.24	-5.25	400.27	12.00	
8825.00	83.70	180.75	8602.11	-425.00	-5.57	425.04	12.00	
8850.00	86.70	180.75	8604.21	-449.91	-5.90	449.94	12.00	
8875.00	89.70	180.75	8604.99	-474.89	-6.22	474.93	12.00	
8877.54	90.00	180.75	8605.00	-477.42	-6.26	477.46	12.00	BASAL BRUSHY HORIZONTAL TARGET
13199.78	90.00	180.75	8605.00	-4799.30	-62.90	4799.71	0.00	EOL

Capella BOP Federal #9H

