

# **Hilcorp Energy Company**

**Farmington, NM**

**San Juan Basin**

**Southern Ute 705H**

**Pilot Hole**

**WP2.1**

## **Anticollision Report**

**15 March, 2023**

# Halliburton

## Anticollision Report

<b>Company:</b>	Hilcorp Energy Company	<b>Local Co-ordinate Reference:</b>	Well Southern Ute 705H
<b>Project:</b>	Farmington, NM	<b>TVD Reference:</b>	RKB to MSL= 6310 @ 6310.0usft
<b>Reference Site:</b>	San Juan Basin	<b>MD Reference:</b>	RKB to MSL= 6310 @ 6310.0usft
<b>Site Error:</b>	5.0 usft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Southern Ute 705H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	1.0 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Pilot Hole	<b>Database:</b>	EDM 5000.1 Single User Db
<b>Reference Design:</b>	WP2.1	<b>Offset TVD Reference:</b>	Offset Datum

<b>Reference</b>	WP2.1		
<b>Filter type:</b>	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
<b>Interpolation Method:</b>	MD + Stations Interval 25.0usft	<b>Error Model:</b>	ISCWSA
<b>Depth Range:</b>	Unlimited	<b>Scan Method:</b>	Closest Approach 3D
<b>Results Limited by:</b>	Maximum centre distance of 10,000.0usft	<b>Error Surface:</b>	Pedal Curve
<b>Warning Levels Evaluated at:</b>	2.00 Sigma	<b>Casing Method:</b>	Through Borehole Radius

<b>Survey Tool Program</b>	<b>Date</b>	3/14/2023		
<b>From (usft)</b>	<b>To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
0.0	3,678.8	WP2.1 (Pilot Hole)	3_MWD+HRGM	B001Mb: HRGM declination correction only

<b>Summary</b>						
<b>Site Name</b>	<b>Reference Measured Depth (usft)</b>	<b>Offset Measured Depth (usft)</b>	<b>Distance Between Centres (usft)</b>	<b>Distance Between Ellipses (usft)</b>	<b>Separation Factor</b>	<b>Warning</b>
<b>Offset Well - Wellbore - Design</b>						
San Juan Basin						
SOUTHERN UTE 005 - ST00 - ST00	3,678.8	3,379.0	737.4	-1,648.4	0.309	Collision RiskProcedures Re
SOUTHERN UTE 005A - ST00 - ST00	3,678.8	3,014.0	3,641.3	1,515.9	1.713	Collision RiskProcedures Re

Offset Design: San Juan Basin - SOUTHERN UTE 005 - ST00 - ST00													Offset Site Error:	5.0 usft
Survey Program:		8325-3_Blind				Rule Assigned:				Offset Well Error:		1.0 usft		
Reference		Offset		Semi Major Axis		Offset Wellbore Centre		Distance				Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.0	0.0	417.0	417.0	1.0	291.4	124.19	-1,271.7	1,871.8	2,263.0					
25.0	25.0	442.0	442.0	1.0	308.8	124.19	-1,271.7	1,871.8	2,263.0	1,950.9	312.04	7.252		
50.0	50.0	467.0	467.0	1.0	326.3	124.19	-1,271.7	1,871.8	2,263.0	1,933.4	329.52	6.867		
75.0	75.0	492.0	492.0	1.0	343.8	124.19	-1,271.7	1,871.8	2,263.0	1,915.9	347.00	6.521		
100.0	100.0	517.0	517.0	1.0	361.2	124.19	-1,271.7	1,871.8	2,263.0	1,898.5	364.49	6.208		
125.0	125.0	542.0	542.0	1.1	378.7	124.19	-1,271.7	1,871.8	2,263.0	1,881.0	381.99	5.924		
150.0	150.0	567.0	567.0	1.1	396.2	124.19	-1,271.7	1,871.8	2,263.0	1,863.5	399.50	5.665		
175.0	175.0	592.0	592.0	1.2	413.7	124.19	-1,271.7	1,871.8	2,263.0	1,845.9	417.01	5.427		
200.0	200.0	617.0	617.0	1.2	431.1	124.19	-1,271.7	1,871.8	2,263.0	1,828.4	434.52	5.208		
225.0	225.0	642.0	642.0	1.3	448.6	124.19	-1,271.7	1,871.8	2,263.0	1,810.9	452.04	5.006		
250.0	250.0	667.0	667.0	1.3	466.1	124.19	-1,271.7	1,871.8	2,263.0	1,793.4	469.57	4.819		
275.0	275.0	692.0	692.0	1.4	483.5	124.19	-1,271.7	1,871.8	2,263.0	1,775.9	487.10	4.646		
300.0	300.0	717.0	717.0	1.4	501.0	124.19	-1,271.7	1,871.8	2,263.0	1,758.3	504.63	4.484		
325.0	325.0	742.0	742.0	1.5	518.5	124.19	-1,271.7	1,871.8	2,263.0	1,740.8	522.16	4.334		
350.0	350.0	767.0	767.0	1.6	535.9	124.19	-1,271.7	1,871.8	2,263.0	1,723.3	539.70	4.193		
375.0	375.0	792.0	792.0	1.6	553.4	124.19	-1,271.7	1,871.8	2,263.0	1,705.7	557.23	4.061		
400.0	400.0	817.0	817.0	1.7	570.9	124.19	-1,271.7	1,871.8	2,263.0	1,688.2	574.77	3.937		
425.0	425.0	842.0	842.0	1.8	588.3	124.19	-1,271.7	1,871.8	2,263.0	1,670.6	592.32	3.821		
450.0	450.0	867.0	867.0	1.9	605.8	124.19	-1,271.7	1,871.8	2,263.0	1,653.1	609.86	3.711		
475.0	475.0	892.0	892.0	1.9	623.3	124.19	-1,271.7	1,871.8	2,263.0	1,635.5	627.40	3.607		
500.0	500.0	917.0	917.0	2.0	640.7	124.19	-1,271.7	1,871.8	2,263.0	1,618.0	644.95	3.509		
525.0	525.0	942.0	942.0	2.1	658.2	124.19	-1,271.7	1,871.8	2,263.0	1,600.5	662.50	3.416		
550.0	550.0	967.0	967.0	2.2	675.7	124.19	-1,271.7	1,871.8	2,263.0	1,582.9	680.04	3.328		
575.0	575.0	992.0	992.0	2.2	693.1	124.19	-1,271.7	1,871.8	2,263.0	1,565.4	697.59	3.244		
600.0	600.0	1,017.0	1,017.0	2.3	710.6	124.19	-1,271.7	1,871.8	2,263.0	1,547.8	715.14	3.164		

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

**Halliburton**  
**Anticollision Report**

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<b>Project:</b>	Farmington, NM	<b>TVD Reference:</b>	RKB to MSL= 6310 @ 6310.0usft
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<b>Reference Design:</b>	WP2.1	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design:</b> San Juan Basin - SOUTHERN UTE 005 - ST00 - ST00													<b>Offset Site Error:</b> 5.0 usft
<b>Survey Program:</b> 8325-3_Blind													<b>Offset Well Error:</b> 1.0 usft
<b>Reference</b>		<b>Offset</b>		<b>Semi Major Axis</b>		<b>Highside Toolface (°)</b>	<b>Offset Wellbore Centre</b>		<b>Distance</b>		<b>Minimum Separation (usft)</b>	<b>Separation Factor</b>	<b>Warning</b>
<b>Measured Depth (usft)</b>	<b>Vertical Depth (usft)</b>	<b>Measured Depth (usft)</b>	<b>Vertical Depth (usft)</b>	<b>Reference (usft)</b>	<b>Offset (usft)</b>		<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Between Centres (usft)</b>	<b>Between Ellipses (usft)</b>			
625.0	625.0	1,042.0	1,042.0	2.4	728.1	124.19	-1,271.7	1,871.8	2,263.0	1,530.3	732.69	3.089	
650.0	650.0	1,067.0	1,067.0	2.5	745.6	124.19	-1,271.7	1,871.8	2,263.0	1,512.7	750.24	3.016	
675.0	675.0	1,092.0	1,092.0	2.6	763.0	124.19	-1,271.7	1,871.8	2,263.0	1,495.2	767.79	2.947	
700.0	700.0	1,117.0	1,117.0	2.7	780.5	124.19	-1,271.7	1,871.8	2,263.0	1,477.6	785.34	2.881	
725.0	725.0	1,142.0	1,142.0	2.7	798.0	124.19	-1,271.7	1,871.8	2,263.0	1,460.1	802.89	2.818	
743.0	743.0	1,160.0	1,160.0	2.8	810.5	124.19	-1,271.7	1,871.8	2,263.0	1,447.4	815.53	2.775	
750.0	750.0	1,167.0	1,167.0	2.8	815.4	11.19	-1,271.7	1,871.8	2,262.9	1,442.5	820.45	2.758	
775.0	775.0	1,192.0	1,192.0	2.9	832.9	11.19	-1,271.7	1,871.8	2,262.7	1,424.7	837.99	2.700	
800.0	800.0	1,217.0	1,217.0	3.0	850.4	11.20	-1,271.7	1,871.8	2,262.3	1,406.7	855.54	2.644	
825.0	825.0	1,242.0	1,242.0	3.1	867.8	11.21	-1,271.7	1,871.8	2,261.5	1,388.4	873.08	2.590	
850.0	850.0	1,267.0	1,267.0	3.1	885.3	11.22	-1,271.7	1,871.8	2,260.5	1,369.9	890.62	2.538	
875.0	874.9	1,291.9	1,291.9	3.2	902.7	11.23	-1,271.7	1,871.8	2,259.2	1,351.1	908.14	2.488	
900.0	899.9	1,316.9	1,316.9	3.3	920.2	11.24	-1,271.7	1,871.8	2,257.7	1,332.0	925.66	2.439	
925.0	924.8	1,341.8	1,341.8	3.4	937.6	11.26	-1,271.7	1,871.8	2,255.9	1,312.7	943.16	2.392	
950.0	949.7	1,366.7	1,366.7	3.5	955.0	11.28	-1,271.7	1,871.8	2,253.8	1,293.1	960.65	2.346	
975.0	974.6	1,391.6	1,391.6	3.6	972.4	11.31	-1,271.7	1,871.8	2,251.4	1,273.3	978.12	2.302	
1,000.0	999.5	1,416.5	1,416.5	3.6	989.7	11.33	-1,271.7	1,871.8	2,248.8	1,253.3	995.57	2.259	
1,025.0	1,024.3	1,441.3	1,441.3	3.7	1,007.1	11.36	-1,271.7	1,871.8	2,246.0	1,233.0	1,013.00	2.217	
1,050.0	1,049.1	1,466.1	1,466.1	3.8	1,024.4	11.39	-1,271.7	1,871.8	2,242.8	1,212.4	1,030.41	2.177	
1,075.0	1,073.8	1,490.8	1,490.8	3.9	1,041.7	11.43	-1,271.7	1,871.8	2,239.4	1,191.6	1,047.79	2.137	
1,100.0	1,098.6	1,515.6	1,515.6	4.0	1,059.0	11.47	-1,271.7	1,871.8	2,235.7	1,170.6	1,065.15	2.099	
1,125.0	1,123.2	1,540.2	1,540.2	4.1	1,076.2	11.51	-1,271.7	1,871.8	2,231.8	1,149.3	1,082.48	2.062	
1,150.0	1,147.9	1,564.9	1,564.9	4.2	1,093.4	11.55	-1,271.7	1,871.8	2,227.6	1,127.8	1,099.77	2.026	
1,175.0	1,172.4	1,589.4	1,589.4	4.3	1,110.6	11.60	-1,271.7	1,871.8	2,223.1	1,106.1	1,117.04	1.990 Collision RiskProcedures Req'd	
1,200.0	1,197.0	1,614.0	1,614.0	4.3	1,127.7	11.64	-1,271.7	1,871.8	2,218.4	1,084.2	1,134.26	1.956 Collision RiskProcedures Req'd	
1,225.0	1,221.5	1,638.5	1,638.5	4.4	1,144.9	11.70	-1,271.7	1,871.8	2,213.4	1,062.0	1,151.45	1.922 Collision RiskProcedures Req'd	
1,250.0	1,245.9	1,662.9	1,662.9	4.5	1,161.9	11.75	-1,271.7	1,871.8	2,208.2	1,039.6	1,168.60	1.890 Collision RiskProcedures Req'd	
1,275.0	1,270.2	1,687.2	1,687.2	4.6	1,178.9	11.81	-1,271.7	1,871.8	2,202.7	1,017.0	1,185.71	1.858 Collision RiskProcedures Req'd	
1,300.0	1,294.5	1,711.5	1,711.5	4.7	1,195.9	11.87	-1,271.7	1,871.8	2,196.9	994.1	1,202.78	1.827 Collision RiskProcedures Req'd	
1,325.0	1,318.8	1,735.8	1,735.8	4.8	1,212.8	11.94	-1,271.7	1,871.8	2,190.9	971.1	1,219.80	1.796 Collision RiskProcedures Req'd	
1,350.0	1,342.9	1,759.9	1,759.9	5.0	1,229.7	12.01	-1,271.7	1,871.8	2,184.6	947.8	1,236.77	1.766 Collision RiskProcedures Req'd	
1,375.0	1,367.0	1,784.0	1,784.0	5.1	1,246.6	12.08	-1,271.7	1,871.8	2,178.1	924.4	1,253.69	1.737 Collision RiskProcedures Req'd	
1,400.0	1,391.0	1,808.0	1,808.0	5.2	1,263.3	12.15	-1,271.7	1,871.8	2,171.3	900.7	1,270.56	1.709 Collision RiskProcedures Req'd	
1,425.0	1,415.0	1,832.0	1,832.0	5.3	1,280.1	12.23	-1,271.7	1,871.8	2,164.2	876.8	1,287.38	1.681 Collision RiskProcedures Req'd	
1,450.0	1,438.8	1,855.8	1,855.8	5.4	1,296.7	12.31	-1,271.7	1,871.8	2,156.9	852.8	1,304.15	1.654 Collision RiskProcedures Req'd	
1,475.0	1,462.6	1,879.6	1,879.6	5.5	1,313.4	12.40	-1,271.7	1,871.8	2,149.4	828.5	1,320.85	1.627 Collision RiskProcedures Req'd	
1,500.0	1,486.3	1,903.3	1,903.3	5.6	1,329.9	12.49	-1,271.7	1,871.8	2,141.6	804.1	1,337.49	1.601 Collision RiskProcedures Req'd	
1,525.0	1,509.9	1,926.9	1,926.9	5.8	1,346.4	12.59	-1,271.7	1,871.8	2,133.5	779.4	1,354.08	1.576 Collision RiskProcedures Req'd	
1,550.0	1,533.4	1,950.4	1,950.4	5.9	1,362.8	12.68	-1,271.7	1,871.8	2,125.2	754.6	1,370.60	1.551 Collision RiskProcedures Req'd	
1,575.0	1,556.8	1,973.8	1,973.8	6.0	1,379.2	12.79	-1,271.7	1,871.8	2,116.6	729.6	1,387.06	1.526 Collision RiskProcedures Req'd	
1,600.0	1,580.2	1,997.2	1,997.2	6.1	1,395.5	12.89	-1,271.7	1,871.8	2,107.8	704.4	1,403.44	1.502 Collision RiskProcedures Req'd	
1,625.0	1,603.4	2,020.4	2,020.4	6.3	1,411.7	13.00	-1,271.7	1,871.8	2,098.8	679.0	1,419.76	1.478 Collision RiskProcedures Req'd	
1,650.0	1,626.5	2,043.5	2,043.5	6.4	1,427.9	13.12	-1,271.7	1,871.8	2,089.5	653.5	1,436.01	1.455 Collision RiskProcedures Req'd	
1,675.0	1,649.5	2,066.5	2,066.5	6.6	1,444.0	13.24	-1,271.7	1,871.8	2,079.9	627.7	1,452.19	1.432 Collision RiskProcedures Req'd	
1,700.0	1,672.4	2,089.4	2,089.4	6.7	1,460.0	13.36	-1,271.7	1,871.8	2,070.1	601.8	1,468.28	1.410 Collision RiskProcedures Req'd	
1,725.0	1,695.2	2,112.2	2,112.2	6.9	1,475.9	13.49	-1,271.7	1,871.8	2,060.1	575.8	1,484.31	1.388 Collision RiskProcedures Req'd	
1,750.0	1,717.9	2,134.9	2,134.9	7.0	1,491.7	13.63	-1,271.7	1,871.8	2,049.8	549.6	1,500.25	1.366 Collision RiskProcedures Req'd	
1,775.0	1,740.5	2,157.5	2,157.5	7.2	1,507.5	13.77	-1,271.7	1,871.8	2,039.3	523.2	1,516.12	1.345 Collision RiskProcedures Req'd	
1,800.0	1,762.9	2,179.9	2,179.9	7.3	1,523.2	13.91	-1,271.7	1,871.8	2,028.6	496.7	1,531.90	1.324 Collision RiskProcedures Req'd	
1,825.0	1,785.3	2,202.3	2,202.3	7.5	1,538.8	14.06	-1,271.7	1,871.8	2,017.6	470.0	1,547.59	1.304 Collision RiskProcedures Req'd	
1,850.0	1,807.5	2,224.5	2,224.5	7.7	1,554.3	14.22	-1,271.7	1,871.8	2,006.4	443.2	1,563.21	1.284 Collision RiskProcedures Req'd	
1,875.0	1,829.5	2,246.5	2,246.5	7.9	1,569.7	14.38	-1,271.7	1,871.8	1,994.9	416.2	1,578.73	1.264 Collision RiskProcedures Req'd	

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

# Halliburton

## Anticollision Report

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<b>Reference Wellbore</b>	Pilot Hole	<b>Database:</b>	EDM 5000.1 Single User Db
<b>Reference Design:</b>	WP2.1	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design:</b> San Juan Basin - SOUTHERN UTE 005 - ST00 - ST00													<b>Offset Site Error:</b> 5.0 usft
<b>Survey Program:</b> 8325-3_Blind													<b>Offset Well Error:</b> 1.0 usft
<b>Reference</b>		<b>Offset</b>		<b>Semi Major Axis</b>		<b>Highside Toolface (°)</b>	<b>Offset Wellbore Centre</b>		<b>Distance</b>		<b>Minimum Separation (usft)</b>	<b>Separation Factor</b>	<b>Warning</b>
<b>Measured Depth (usft)</b>	<b>Vertical Depth (usft)</b>	<b>Measured Depth (usft)</b>	<b>Vertical Depth (usft)</b>	<b>Reference (usft)</b>	<b>Offset (usft)</b>		<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Between Centres (usft)</b>	<b>Between Ellipses (usft)</b>			
1,900.0	1,851.5	2,268.5	2,268.5	8.0	1,585.1	14.55	-1,271.7	1,871.8	1,983.3	389.1	1,594.16	1.244	Collision RiskProcedures Req'd
1,925.0	1,873.3	2,290.3	2,290.3	8.2	1,600.3	14.72	-1,271.7	1,871.8	1,971.4	361.9	1,609.50	1.225	Collision RiskProcedures Req'd
1,950.0	1,895.0	2,312.0	2,312.0	8.4	1,615.5	14.90	-1,271.7	1,871.8	1,959.2	334.5	1,624.75	1.206	Collision RiskProcedures Req'd
1,975.0	1,916.5	2,333.5	2,333.5	8.6	1,630.5	15.09	-1,271.7	1,871.8	1,946.9	307.0	1,639.90	1.187	Collision RiskProcedures Req'd
2,000.0	1,937.9	2,354.9	2,354.9	8.8	1,645.5	15.28	-1,271.7	1,871.8	1,934.3	279.3	1,654.96	1.169	Collision RiskProcedures Req'd
2,025.0	1,959.2	2,376.2	2,376.2	9.0	1,660.3	15.48	-1,271.7	1,871.8	1,921.5	251.6	1,669.92	1.151	Collision RiskProcedures Req'd
2,050.0	1,980.3	2,397.3	2,397.3	9.2	1,675.1	15.69	-1,271.7	1,871.8	1,908.5	223.7	1,684.78	1.133	Collision RiskProcedures Req'd
2,075.0	2,001.3	2,418.3	2,418.3	9.5	1,689.7	15.91	-1,271.7	1,871.8	1,895.2	195.7	1,699.53	1.115	Collision RiskProcedures Req'd
2,100.0	2,022.1	2,439.1	2,439.1	9.7	1,704.3	16.14	-1,271.7	1,871.8	1,881.8	167.6	1,714.18	1.098	Collision RiskProcedures Req'd
2,125.0	2,042.8	2,459.8	2,459.8	9.9	1,718.7	16.37	-1,271.7	1,871.8	1,868.1	139.4	1,728.73	1.081	Collision RiskProcedures Req'd
2,150.0	2,063.3	2,480.3	2,480.3	10.1	1,733.1	16.61	-1,271.7	1,871.8	1,854.2	111.0	1,743.16	1.064	Collision RiskProcedures Req'd
2,175.0	2,083.6	2,500.6	2,500.6	10.4	1,747.3	16.86	-1,271.7	1,871.8	1,840.1	82.6	1,757.49	1.047	Collision RiskProcedures Req'd
2,200.0	2,103.8	2,520.8	2,520.8	10.6	1,761.4	17.12	-1,271.7	1,871.8	1,825.8	54.1	1,771.71	1.031	Collision RiskProcedures Req'd
2,225.0	2,123.9	2,540.9	2,540.9	10.9	1,775.4	17.39	-1,271.7	1,871.8	1,811.3	25.5	1,785.82	1.014	Collision RiskProcedures Req'd
2,250.0	2,143.7	2,560.7	2,560.7	11.1	1,789.3	17.67	-1,271.7	1,871.8	1,796.6	-3.2	1,799.81	0.998	Collision RiskProcedures Req'd
2,275.0	2,163.4	2,580.4	2,580.4	11.4	1,803.0	17.96	-1,271.7	1,871.8	1,781.7	-32.0	1,813.69	0.982	Collision RiskProcedures Req'd
2,300.0	2,183.0	2,600.0	2,600.0	11.6	1,816.7	18.26	-1,271.7	1,871.8	1,766.5	-60.9	1,827.44	0.967	Collision RiskProcedures Req'd
2,325.0	2,202.3	2,619.3	2,619.3	11.9	1,830.2	18.57	-1,271.7	1,871.8	1,751.2	-89.9	1,841.09	0.951	Collision RiskProcedures Req'd
2,350.0	2,221.5	2,638.5	2,638.5	12.2	1,843.6	18.90	-1,271.7	1,871.8	1,735.7	-118.9	1,854.61	0.936	Collision RiskProcedures Req'd
2,375.0	2,240.5	2,657.5	2,657.5	12.5	1,856.9	19.23	-1,271.7	1,871.8	1,720.0	-148.0	1,868.01	0.921	Collision RiskProcedures Req'd
2,400.0	2,259.4	2,676.4	2,676.4	12.8	1,870.1	19.58	-1,271.7	1,871.8	1,704.1	-177.1	1,881.28	0.906	Collision RiskProcedures Req'd
2,425.0	2,278.0	2,695.0	2,695.0	13.1	1,883.1	19.95	-1,271.7	1,871.8	1,688.1	-206.4	1,894.43	0.891	Collision RiskProcedures Req'd
2,450.0	2,296.5	2,713.5	2,713.5	13.4	1,896.0	20.32	-1,271.7	1,871.8	1,671.8	-235.7	1,907.46	0.876	Collision RiskProcedures Req'd
2,475.0	2,314.8	2,731.8	2,731.8	13.7	1,908.8	20.71	-1,271.7	1,871.8	1,655.4	-265.0	1,920.36	0.862	Collision RiskProcedures Req'd
2,500.0	2,332.9	2,749.9	2,749.9	14.0	1,921.4	21.12	-1,271.7	1,871.8	1,638.7	-294.4	1,933.12	0.848	Collision RiskProcedures Req'd
2,525.0	2,350.8	2,767.8	2,767.8	14.3	1,934.0	21.54	-1,271.7	1,871.8	1,621.9	-323.8	1,945.76	0.834	Collision RiskProcedures Req'd
2,550.0	2,368.5	2,785.5	2,785.5	14.6	1,946.3	21.98	-1,271.7	1,871.8	1,605.0	-353.3	1,958.27	0.820	Collision RiskProcedures Req'd
2,575.0	2,386.0	2,803.0	2,803.0	14.9	1,958.6	22.44	-1,271.7	1,871.8	1,587.8	-382.8	1,970.64	0.806	Collision RiskProcedures Req'd
2,600.0	2,403.4	2,820.4	2,820.4	15.3	1,970.7	22.91	-1,271.7	1,871.8	1,570.5	-412.4	1,982.88	0.792	Collision RiskProcedures Req'd
2,625.0	2,420.5	2,837.5	2,837.5	15.6	1,982.7	23.40	-1,271.7	1,871.8	1,553.1	-441.9	1,994.98	0.778	Collision RiskProcedures Req'd
2,650.0	2,437.4	2,854.4	2,854.4	16.0	1,994.5	23.91	-1,271.7	1,871.8	1,535.4	-471.5	2,006.95	0.765	Collision RiskProcedures Req'd
2,675.0	2,454.2	2,871.2	2,871.2	16.3	2,006.2	24.44	-1,271.7	1,871.8	1,517.6	-501.1	2,018.77	0.752	Collision RiskProcedures Req'd
2,700.0	2,470.7	2,887.7	2,887.7	16.6	2,017.7	25.00	-1,271.7	1,871.8	1,499.7	-530.8	2,030.46	0.739	Collision RiskProcedures Req'd
2,725.0	2,487.0	2,904.0	2,904.0	17.0	2,029.2	25.57	-1,271.7	1,871.8	1,481.6	-560.4	2,042.01	0.726	Collision RiskProcedures Req'd
2,750.0	2,503.1	2,920.1	2,920.1	17.4	2,040.4	26.17	-1,271.7	1,871.8	1,463.4	-590.1	2,053.41	0.713	Collision RiskProcedures Req'd
2,775.0	2,519.0	2,936.0	2,936.0	17.8	2,051.5	26.79	-1,271.7	1,871.8	1,445.0	-619.7	2,064.67	0.700	Collision RiskProcedures Req'd
2,800.0	2,534.7	2,951.7	2,951.7	18.1	2,062.5	27.43	-1,271.7	1,871.8	1,426.4	-649.3	2,075.79	0.687	Collision RiskProcedures Req'd
2,825.0	2,550.2	2,967.2	2,967.2	18.5	2,073.3	28.10	-1,271.7	1,871.8	1,407.8	-679.0	2,086.76	0.675	Collision RiskProcedures Req'd
2,850.0	2,565.5	2,982.5	2,982.5	18.9	2,084.0	28.80	-1,271.7	1,871.8	1,389.0	-708.6	2,097.59	0.662	Collision RiskProcedures Req'd
2,875.0	2,580.5	2,997.5	2,997.5	19.3	2,094.5	29.53	-1,271.7	1,871.8	1,370.1	-738.2	2,108.27	0.650	Collision RiskProcedures Req'd
2,900.0	2,595.4	3,012.4	3,012.4	19.7	2,104.9	30.28	-1,271.7	1,871.8	1,351.0	-767.8	2,118.79	0.638	Collision RiskProcedures Req'd
2,925.0	2,610.0	3,027.0	3,027.0	20.1	2,115.1	31.06	-1,271.7	1,871.8	1,331.8	-797.3	2,129.18	0.626	Collision RiskProcedures Req'd
2,950.0	2,624.4	3,041.4	3,041.4	20.5	2,125.1	31.88	-1,271.7	1,871.8	1,312.6	-826.8	2,139.41	0.614	Collision RiskProcedures Req'd
2,975.0	2,638.5	3,055.5	3,055.5	20.9	2,135.0	32.72	-1,271.7	1,871.8	1,293.2	-856.3	2,149.49	0.602	Collision RiskProcedures Req'd
3,000.0	2,652.5	3,069.5	3,069.5	21.3	2,144.8	33.60	-1,271.7	1,871.8	1,273.7	-885.8	2,159.42	0.590	Collision RiskProcedures Req'd
3,025.0	2,666.2	3,083.2	3,083.2	21.8	2,154.3	34.51	-1,271.7	1,871.8	1,254.1	-915.1	2,169.20	0.578	Collision RiskProcedures Req'd
3,050.0	2,679.7	3,096.7	3,096.7	22.2	2,163.8	35.45	-1,271.7	1,871.8	1,234.4	-944.5	2,178.82	0.567	Collision RiskProcedures Req'd
3,075.0	2,692.9	3,109.9	3,109.9	22.6	2,173.0	36.43	-1,271.7	1,871.8	1,214.6	-973.7	2,188.30	0.555	Collision RiskProcedures Req'd
3,100.0	2,705.9	3,122.9	3,122.9	23.1	2,182.1	37.45	-1,271.7	1,871.8	1,194.7	-1,002.9	2,197.61	0.544	Collision RiskProcedures Req'd
3,125.0	2,718.7	3,135.7	3,135.7	23.5	2,191.1	38.50	-1,271.7	1,871.8	1,174.8	-1,032.0	2,206.78	0.532	Collision RiskProcedures Req'd
3,150.0	2,731.3	3,148.3	3,148.3	24.0	2,199.8	39.59	-1,271.7	1,871.8	1,154.7	-1,061.1	2,215.79	0.521	Collision RiskProcedures Req'd
3,175.0	2,743.6	3,160.6	3,160.6	24.4	2,208.4	40.72	-1,271.7	1,871.8	1,134.6	-1,090.0	2,224.64	0.510	Collision RiskProcedures Req'd

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

# Halliburton

## Anticollision Report

<b>Company:</b>	Hilcorp Energy Company	<b>Local Co-ordinate Reference:</b>	Well Southern Ute 705H
<b>Project:</b>	Farmington, NM	<b>TVD Reference:</b>	RKB to MSL= 6310 @ 6310.0usft
<b>Reference Site:</b>	San Juan Basin	<b>MD Reference:</b>	RKB to MSL= 6310 @ 6310.0usft
<b>Site Error:</b>	5.0 usft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Southern Ute 705H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	1.0 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Pilot Hole	<b>Database:</b>	EDM 5000.1 Single User Db
<b>Reference Design:</b>	WP2.1	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design:</b> San Juan Basin - SOUTHERN UTE 005 - ST00 - ST00												<b>Offset Site Error:</b>	5.0 usft
<b>Survey Program:</b> 8325-3_Blind												<b>Offset Well Error:</b>	1.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
3,200.0	2,755.7	3,172.7	3,172.7	24.9	2,216.9	41.88	-1,271.7	1,871.8	1,114.5	-1,118.8	2,233.34	0.499	Collision RiskProcedures Req'd
3,225.0	2,767.5	3,184.5	3,184.5	25.3	2,225.1	43.08	-1,271.7	1,871.8	1,094.3	-1,147.6	2,241.88	0.488	Collision RiskProcedures Req'd
3,250.0	2,779.1	3,196.1	3,196.1	25.8	2,233.2	44.31	-1,271.7	1,871.8	1,074.0	-1,176.2	2,250.27	0.477	Collision RiskProcedures Req'd
3,275.0	2,790.5	3,207.5	3,207.5	26.3	2,241.2	45.58	-1,271.7	1,871.8	1,053.8	-1,204.7	2,258.50	0.467	Collision RiskProcedures Req'd
3,300.0	2,801.6	3,218.6	3,218.6	26.7	2,248.9	46.89	-1,271.7	1,871.8	1,033.4	-1,233.1	2,266.58	0.456	Collision RiskProcedures Req'd
3,325.0	2,812.4	3,229.4	3,229.4	27.2	2,256.5	48.23	-1,271.7	1,871.8	1,013.1	-1,261.4	2,274.50	0.445	Collision RiskProcedures Req'd
3,343.0	2,820.1	3,237.1	3,237.1	27.6	2,261.9	49.22	-1,271.7	1,871.8	998.5	-1,281.6	2,280.11	0.438	Collision RiskProcedures Req'd
3,350.0	2,823.1	3,240.1	3,240.1	27.7	2,264.0	49.42	-1,271.7	1,871.8	992.8	-1,289.5	2,282.27	0.435	Collision RiskProcedures Req'd
3,375.0	2,833.6	3,250.6	3,250.6	28.2	2,271.3	50.14	-1,271.7	1,871.8	972.5	-1,317.5	2,290.02	0.425	Collision RiskProcedures Req'd
3,400.0	2,844.2	3,261.2	3,261.2	28.7	2,278.7	50.89	-1,271.7	1,871.8	952.3	-1,345.4	2,297.78	0.414	Collision RiskProcedures Req'd
3,425.0	2,854.8	3,271.8	3,271.8	29.1	2,286.1	51.65	-1,271.7	1,871.8	932.3	-1,373.3	2,305.56	0.404	Collision RiskProcedures Req'd
3,450.0	2,865.3	3,282.3	3,282.3	29.6	2,293.5	52.43	-1,271.7	1,871.8	912.4	-1,401.0	2,313.36	0.394	Collision RiskProcedures Req'd
3,475.0	2,875.9	3,292.9	3,292.9	30.1	2,300.9	53.22	-1,271.7	1,871.8	892.6	-1,428.6	2,321.18	0.385	Collision RiskProcedures Req'd
3,500.0	2,886.5	3,303.5	3,303.5	30.6	2,308.3	54.03	-1,271.7	1,871.8	872.9	-1,456.1	2,329.03	0.375	Collision RiskProcedures Req'd
3,525.0	2,897.0	3,314.0	3,314.0	31.1	2,315.6	54.85	-1,271.7	1,871.8	853.4	-1,483.5	2,336.90	0.365	Collision RiskProcedures Req'd
3,550.0	2,907.6	3,324.6	3,324.6	31.6	2,323.0	55.70	-1,271.7	1,871.8	834.1	-1,510.7	2,344.79	0.356	Collision RiskProcedures Req'd
3,575.0	2,918.2	3,335.2	3,335.2	32.1	2,330.4	56.56	-1,271.7	1,871.8	814.9	-1,537.8	2,352.71	0.346	Collision RiskProcedures Req'd
3,600.0	2,928.7	3,345.7	3,345.7	32.6	2,337.8	57.44	-1,271.7	1,871.8	795.9	-1,564.7	2,360.66	0.337	Collision RiskProcedures Req'd
3,625.0	2,939.3	3,356.3	3,356.3	33.1	2,345.2	58.33	-1,271.7	1,871.8	777.1	-1,591.5	2,368.63	0.328	Collision RiskProcedures Req'd
3,650.0	2,949.8	3,366.8	3,366.8	33.6	2,352.5	59.25	-1,271.7	1,871.8	758.5	-1,618.1	2,376.64	0.319	Collision RiskProcedures Req'd
3,675.0	2,960.4	3,377.4	3,377.4	34.1	2,359.9	60.18	-1,271.7	1,871.8	740.2	-1,644.5	2,384.67	0.310	Collision RiskProcedures Req'd
3,678.8	2,962.0	3,379.0	3,379.0	34.1	2,361.0	60.32	-1,271.7	1,871.8	737.4	-1,648.4	2,385.88	0.309	Collision RiskProcedures Req'd, CC, E

# Halliburton

## Anticollision Report

<b>Company:</b>	Hilcorp Energy Company	<b>Local Co-ordinate Reference:</b>	Well Southern Ute 705H
<b>Project:</b>	Farmington, NM	<b>TVD Reference:</b>	RKB to MSL= 6310 @ 6310.0usft
<b>Reference Site:</b>	San Juan Basin	<b>MD Reference:</b>	RKB to MSL= 6310 @ 6310.0usft
<b>Site Error:</b>	5.0 usft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Southern Ute 705H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	1.0 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Pilot Hole	<b>Database:</b>	EDM 5000.1 Single User Db
<b>Reference Design:</b>	WP2.1	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design:</b> San Juan Basin - SOUTHERN UTE 005A - ST00 - ST00													<b>Offset Site Error:</b> 5.0 usft
<b>Survey Program:</b> 5719-3_Blind													<b>Offset Well Error:</b> 1.0 usft
<b>Reference</b>		<b>Offset</b>		<b>Semi Major Axis</b>		<b>Highside Toolface (°)</b>	<b>Offset Wellbore Centre</b>		<b>Distance</b>		<b>Minimum Separation (usft)</b>	<b>Separation Factor</b>	<b>Warning</b>
<b>Measured Depth (usft)</b>	<b>Vertical Depth (usft)</b>	<b>Measured Depth (usft)</b>	<b>Vertical Depth (usft)</b>	<b>Reference (usft)</b>	<b>Offset (usft)</b>		<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Between Centres (usft)</b>	<b>Between Ellipses (usft)</b>			
0.0	0.0	52.0	52.0	1.0	36.3	94.78	-429.1	5,133.6	5,151.5				
25.0	25.0	77.0	77.0	1.0	53.8	94.78	-429.1	5,133.6	5,151.5	5,094.6	56.97	90.428	
50.0	50.0	102.0	102.0	1.0	71.2	94.78	-429.1	5,133.6	5,151.5	5,077.1	74.43	69.215	
75.0	75.0	127.0	127.0	1.0	88.7	94.78	-429.1	5,133.6	5,151.5	5,059.6	91.90	56.059	
100.0	100.0	152.0	152.0	1.0	106.1	94.78	-429.1	5,133.6	5,151.5	5,042.2	109.37	47.102	
125.0	125.0	177.0	177.0	1.1	123.6	94.78	-429.1	5,133.6	5,151.5	5,024.7	126.85	40.610	
150.0	150.0	202.0	202.0	1.1	141.0	94.78	-429.1	5,133.6	5,151.5	5,007.2	144.34	35.689	
175.0	175.0	227.0	227.0	1.2	158.5	94.78	-429.1	5,133.6	5,151.5	4,989.7	161.84	31.831	
200.0	200.0	252.0	252.0	1.2	175.9	94.78	-429.1	5,133.6	5,151.5	4,972.2	179.34	28.725	
225.0	225.0	277.0	277.0	1.3	193.4	94.78	-429.1	5,133.6	5,151.5	4,954.7	196.85	26.170	
250.0	250.0	302.0	302.0	1.3	210.8	94.78	-429.1	5,133.6	5,151.5	4,937.2	214.36	24.033	
275.0	275.0	327.0	327.0	1.4	228.3	94.78	-429.1	5,133.6	5,151.5	4,919.7	231.87	22.217	
300.0	300.0	352.0	352.0	1.4	245.8	94.78	-429.1	5,133.6	5,151.5	4,902.2	249.39	20.657	
325.0	325.0	377.0	377.0	1.5	263.2	94.78	-429.1	5,133.6	5,151.5	4,884.6	266.90	19.301	
350.0	350.0	402.0	402.0	1.6	280.7	94.78	-429.1	5,133.6	5,151.5	4,867.1	284.43	18.112	
375.0	375.0	427.0	427.0	1.6	298.1	94.78	-429.1	5,133.6	5,151.5	4,849.6	301.95	17.061	
400.0	400.0	452.0	452.0	1.7	315.6	94.78	-429.1	5,133.6	5,151.5	4,832.1	319.48	16.125	
425.0	425.0	477.0	477.0	1.8	333.0	94.78	-429.1	5,133.6	5,151.5	4,814.5	337.00	15.286	
450.0	450.0	502.0	502.0	1.9	350.5	94.78	-429.1	5,133.6	5,151.5	4,797.0	354.53	14.531	
475.0	475.0	527.0	527.0	1.9	367.9	94.78	-429.1	5,133.6	5,151.5	4,779.5	372.06	13.846	
500.0	500.0	552.0	552.0	2.0	385.4	94.78	-429.1	5,133.6	5,151.5	4,761.9	389.59	13.223	
525.0	525.0	577.0	577.0	2.1	402.8	94.78	-429.1	5,133.6	5,151.5	4,744.4	407.13	12.653	
550.0	550.0	602.0	602.0	2.2	420.3	94.78	-429.1	5,133.6	5,151.5	4,726.9	424.66	12.131	
575.0	575.0	627.0	627.0	2.2	437.7	94.78	-429.1	5,133.6	5,151.5	4,709.3	442.19	11.650	
600.0	600.0	652.0	652.0	2.3	455.2	94.78	-429.1	5,133.6	5,151.5	4,691.8	459.73	11.206	
625.0	625.0	677.0	677.0	2.4	472.7	94.78	-429.1	5,133.6	5,151.5	4,674.3	477.26	10.794	
650.0	650.0	702.0	702.0	2.5	490.1	94.78	-429.1	5,133.6	5,151.5	4,656.7	494.80	10.411	
675.0	675.0	727.0	727.0	2.6	507.6	94.78	-429.1	5,133.6	5,151.5	4,639.2	512.33	10.055	
700.0	700.0	752.0	752.0	2.7	525.0	94.78	-429.1	5,133.6	5,151.5	4,621.7	529.87	9.722	
725.0	725.0	777.0	777.0	2.7	542.5	94.78	-429.1	5,133.6	5,151.5	4,604.1	547.41	9.411	
743.0	743.0	795.0	795.0	2.8	555.0	94.78	-429.1	5,133.6	5,151.5	4,591.5	560.04	9.199	
750.0	750.0	802.0	802.0	2.8	559.9	-18.22	-429.1	5,133.6	5,151.5	4,586.6	564.95	9.119	
775.0	775.0	827.0	827.0	2.9	577.4	-18.22	-429.1	5,133.6	5,151.3	4,568.8	582.48	8.844	
800.0	800.0	852.0	852.0	3.0	594.8	-18.23	-429.1	5,133.6	5,150.9	4,550.9	600.01	8.585	
825.0	825.0	877.0	877.0	3.1	612.3	-18.24	-429.1	5,133.6	5,150.1	4,532.6	617.54	8.340	
850.0	850.0	902.0	902.0	3.1	629.7	-18.25	-429.1	5,133.6	5,149.2	4,514.1	635.06	8.108	
875.0	874.9	926.9	926.9	3.2	647.1	-18.26	-429.1	5,133.6	5,147.9	4,495.4	652.57	7.889	
900.0	899.9	951.9	951.9	3.3	664.6	-18.28	-429.1	5,133.6	5,146.4	4,476.4	670.07	7.680	
925.0	924.8	976.8	976.8	3.4	682.0	-18.30	-429.1	5,133.6	5,144.7	4,457.1	687.56	7.483	
950.0	949.7	1,001.7	1,001.7	3.5	699.4	-18.32	-429.1	5,133.6	5,142.7	4,437.6	705.03	7.294	
975.0	974.6	1,026.6	1,026.6	3.6	716.7	-18.35	-429.1	5,133.6	5,140.4	4,417.9	722.49	7.115	
1,000.0	999.5	1,051.5	1,051.5	3.6	734.1	-18.38	-429.1	5,133.6	5,137.9	4,397.9	739.93	6.944	
1,025.0	1,024.3	1,076.3	1,076.3	3.7	751.4	-18.41	-429.1	5,133.6	5,135.1	4,377.7	757.34	6.780	
1,050.0	1,049.1	1,101.1	1,101.1	3.8	768.7	-18.45	-429.1	5,133.6	5,132.0	4,357.3	774.74	6.624	
1,075.0	1,073.8	1,125.8	1,125.8	3.9	786.0	-18.49	-429.1	5,133.6	5,128.7	4,336.6	792.11	6.475	
1,100.0	1,098.6	1,150.6	1,150.6	4.0	803.3	-18.53	-429.1	5,133.6	5,125.2	4,315.7	809.45	6.332	
1,125.0	1,123.2	1,175.2	1,175.2	4.1	820.5	-18.57	-429.1	5,133.6	5,121.4	4,294.6	826.76	6.194	
1,150.0	1,147.9	1,199.9	1,199.9	4.2	837.7	-18.62	-429.1	5,133.6	5,117.3	4,273.3	844.05	6.063	
1,175.0	1,172.4	1,224.4	1,224.4	4.3	854.9	-18.67	-429.1	5,133.6	5,113.0	4,251.7	861.29	5.936	
1,200.0	1,197.0	1,249.0	1,249.0	4.3	872.0	-18.73	-429.1	5,133.6	5,108.4	4,229.9	878.51	5.815	
1,225.0	1,221.5	1,273.5	1,273.5	4.4	889.1	-18.78	-429.1	5,133.6	5,103.6	4,207.9	895.68	5.698	
1,250.0	1,245.9	1,297.9	1,297.9	4.5	906.1	-18.85	-429.1	5,133.6	5,098.5	4,185.7	912.82	5.585	

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

**Halliburton**  
**Anticollision Report**

<b>Company:</b>	Hilcorp Energy Company	<b>Local Co-ordinate Reference:</b>	Well Southern Ute 705H
<b>Project:</b>	Farmington, NM	<b>TVD Reference:</b>	RKB to MSL= 6310 @ 6310.0usft
<b>Reference Site:</b>	San Juan Basin	<b>MD Reference:</b>	RKB to MSL= 6310 @ 6310.0usft
<b>Site Error:</b>	5.0 usft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Southern Ute 705H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	1.0 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Pilot Hole	<b>Database:</b>	EDM 5000.1 Single User Db
<b>Reference Design:</b>	WP2.1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design: San Juan Basin - SOUTHERN UTE 005A - ST00 - ST00												Offset Site Error:	5.0 usft		
Survey Program: 5719-3_Blind				Reference		Offset		Semi Major Axis		Offset Wellbore Centre		Rule Assigned:		Offset Well Error:	1.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning		
1,275.0	1,270.2	1,322.2	1,322.2	4.6	923.1	-18.91	-429.1	5,133.6	5,093.2	4,163.3	929.92	5.477			
1,300.0	1,294.5	1,346.5	1,346.5	4.7	940.1	-18.98	-429.1	5,133.6	5,087.6	4,140.6	946.97	5.373			
1,325.0	1,318.8	1,370.8	1,370.8	4.8	957.0	-19.05	-429.1	5,133.6	5,081.8	4,117.8	963.98	5.272			
1,350.0	1,342.9	1,394.9	1,394.9	5.0	973.9	-19.12	-429.1	5,133.6	5,075.7	4,094.8	980.94	5.174			
1,375.0	1,367.0	1,419.0	1,419.0	5.1	990.7	-19.20	-429.1	5,133.6	5,069.4	4,071.5	997.85	5.080			
1,400.0	1,391.0	1,443.0	1,443.0	5.2	1,007.5	-19.28	-429.1	5,133.6	5,062.8	4,048.1	1,014.71	4.989			
1,425.0	1,415.0	1,467.0	1,467.0	5.3	1,024.2	-19.37	-429.1	5,133.6	5,056.0	4,024.4	1,031.51	4.901			
1,450.0	1,438.8	1,490.8	1,490.8	5.4	1,040.9	-19.46	-429.1	5,133.6	5,048.9	4,000.6	1,048.26	4.816			
1,475.0	1,462.6	1,514.6	1,514.6	5.5	1,057.5	-19.55	-429.1	5,133.6	5,041.6	3,976.6	1,064.96	4.734			
1,500.0	1,486.3	1,538.3	1,538.3	5.6	1,074.0	-19.65	-429.1	5,133.6	5,034.0	3,952.4	1,081.59	4.654			
1,525.0	1,509.9	1,561.9	1,561.9	5.8	1,090.5	-19.75	-429.1	5,133.6	5,026.2	3,928.0	1,098.17	4.577			
1,550.0	1,533.4	1,585.4	1,585.4	5.9	1,106.9	-19.85	-429.1	5,133.6	5,018.2	3,903.5	1,114.68	4.502			
1,575.0	1,556.8	1,608.8	1,608.8	6.0	1,123.2	-19.96	-429.1	5,133.6	5,009.9	3,878.8	1,131.12	4.429			
1,600.0	1,580.2	1,632.2	1,632.2	6.1	1,139.5	-20.08	-429.1	5,133.6	5,001.4	3,853.9	1,147.50	4.358			
1,625.0	1,603.4	1,655.4	1,655.4	6.3	1,155.7	-20.19	-429.1	5,133.6	4,992.6	3,828.8	1,163.81	4.290			
1,650.0	1,626.5	1,678.5	1,678.5	6.4	1,171.9	-20.31	-429.1	5,133.6	4,983.6	3,803.5	1,180.05	4.223			
1,675.0	1,649.5	1,701.5	1,701.5	6.6	1,187.9	-20.44	-429.1	5,133.6	4,974.4	3,778.1	1,196.21	4.158			
1,700.0	1,672.4	1,724.4	1,724.4	6.7	1,203.9	-20.57	-429.1	5,133.6	4,964.9	3,752.6	1,212.30	4.095			
1,725.0	1,695.2	1,747.2	1,747.2	6.9	1,219.9	-20.70	-429.1	5,133.6	4,955.2	3,726.9	1,228.32	4.034			
1,750.0	1,717.9	1,769.9	1,769.9	7.0	1,235.7	-20.84	-429.1	5,133.6	4,945.2	3,701.0	1,244.26	3.974			
1,775.0	1,740.5	1,792.5	1,792.5	7.2	1,251.4	-20.98	-429.1	5,133.6	4,935.1	3,675.0	1,260.11	3.916			
1,800.0	1,762.9	1,814.9	1,814.9	7.3	1,267.1	-21.13	-429.1	5,133.6	4,924.7	3,648.8	1,275.88	3.860			
1,825.0	1,785.3	1,837.3	1,837.3	7.5	1,282.7	-21.29	-429.1	5,133.6	4,914.0	3,622.5	1,291.58	3.805			
1,850.0	1,807.5	1,859.5	1,859.5	7.7	1,298.2	-21.44	-429.1	5,133.6	4,903.2	3,596.0	1,307.18	3.751			
1,875.0	1,829.5	1,881.5	1,881.5	7.9	1,313.6	-21.61	-429.1	5,133.6	4,892.1	3,569.4	1,322.70	3.699			
1,900.0	1,851.5	1,903.5	1,903.5	8.0	1,328.9	-21.77	-429.1	5,133.6	4,880.8	3,542.7	1,338.12	3.647			
1,925.0	1,873.3	1,925.3	1,925.3	8.2	1,344.2	-21.95	-429.1	5,133.6	4,869.3	3,515.8	1,353.46	3.598			
1,950.0	1,895.0	1,947.0	1,947.0	8.4	1,359.3	-22.13	-429.1	5,133.6	4,857.5	3,488.8	1,368.71	3.549			
1,975.0	1,916.5	1,968.5	1,968.5	8.6	1,374.3	-22.31	-429.1	5,133.6	4,845.6	3,461.7	1,383.86	3.501			
2,000.0	1,937.9	1,989.9	1,989.9	8.8	1,389.3	-22.50	-429.1	5,133.6	4,833.4	3,434.5	1,398.91	3.455			
2,025.0	1,959.2	2,011.2	2,011.2	9.0	1,404.1	-22.70	-429.1	5,133.6	4,821.0	3,407.1	1,413.86	3.410			
2,050.0	1,980.3	2,032.3	2,032.3	9.2	1,418.9	-22.90	-429.1	5,133.6	4,808.4	3,379.7	1,428.72	3.366			
2,075.0	2,001.3	2,053.3	2,053.3	9.5	1,433.5	-23.11	-429.1	5,133.6	4,795.6	3,352.1	1,443.47	3.322			
2,100.0	2,022.1	2,074.1	2,074.1	9.7	1,448.1	-23.32	-429.1	5,133.6	4,782.5	3,324.4	1,458.12	3.280			
2,125.0	2,042.8	2,094.8	2,094.8	9.9	1,462.5	-23.54	-429.1	5,133.6	4,769.3	3,296.6	1,472.66	3.239			
2,150.0	2,063.3	2,115.3	2,115.3	10.1	1,476.8	-23.77	-429.1	5,133.6	4,755.8	3,268.7	1,487.10	3.198			
2,175.0	2,083.6	2,135.6	2,135.6	10.4	1,491.0	-24.00	-429.1	5,133.6	4,742.2	3,240.7	1,501.43	3.158			
2,200.0	2,103.8	2,155.8	2,155.8	10.6	1,505.1	-24.24	-429.1	5,133.6	4,728.3	3,212.7	1,515.65	3.120			
2,225.0	2,123.9	2,175.9	2,175.9	10.9	1,519.1	-24.49	-429.1	5,133.6	4,714.3	3,184.5	1,529.76	3.082			
2,250.0	2,143.7	2,195.7	2,195.7	11.1	1,533.0	-24.75	-429.1	5,133.6	4,700.0	3,156.3	1,543.75	3.045			
2,275.0	2,163.4	2,215.4	2,215.4	11.4	1,546.7	-25.01	-429.1	5,133.6	4,685.6	3,127.9	1,557.63	3.008			
2,300.0	2,183.0	2,235.0	2,235.0	11.6	1,560.4	-25.28	-429.1	5,133.6	4,670.9	3,099.5	1,571.39	2.972			
2,325.0	2,202.3	2,254.3	2,254.3	11.9	1,573.9	-25.56	-429.1	5,133.6	4,656.1	3,071.0	1,585.04	2.938			
2,350.0	2,221.5	2,273.5	2,273.5	12.2	1,587.3	-25.84	-429.1	5,133.6	4,641.0	3,042.5	1,598.56	2.903			
2,375.0	2,240.5	2,292.5	2,292.5	12.5	1,600.6	-26.14	-429.1	5,133.6	4,625.8	3,013.9	1,611.96	2.870			
2,400.0	2,259.4	2,311.4	2,311.4	12.8	1,613.7	-26.44	-429.1	5,133.6	4,610.4	2,985.2	1,625.24	2.837			
2,425.0	2,278.0	2,330.0	2,330.0	13.1	1,626.7	-26.75	-429.1	5,133.6	4,594.8	2,956.4	1,638.40	2.804			
2,450.0	2,296.5	2,348.5	2,348.5	13.4	1,639.6	-27.07	-429.1	5,133.6	4,579.1	2,927.6	1,651.43	2.773			
2,475.0	2,314.8	2,366.8	2,366.8	13.7	1,652.4	-27.40	-429.1	5,133.6	4,563.1	2,898.8	1,664.33	2.742			
2,500.0	2,332.9	2,384.9	2,384.9	14.0	1,665.0	-27.74	-429.1	5,133.6	4,547.0	2,869.9	1,677.10	2.711			
2,525.0	2,350.8	2,402.8	2,402.8	14.3	1,677.5	-28.09	-429.1	5,133.6	4,530.7	2,840.9	1,689.74	2.681			
2,550.0	2,368.5	2,420.5	2,420.5	14.6	1,689.9	-28.45	-429.1	5,133.6	4,514.2	2,811.9	1,702.25	2.652			

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



**Halliburton**  
Anticollision Report

<b>Company:</b>	Hilcorp Energy Company	<b>Local Co-ordinate Reference:</b>	Well Southern Ute 705H
<b>Project:</b>	Farmington, NM	<b>TVD Reference:</b>	RKB to MSL= 6310 @ 6310.0usft
<b>Reference Site:</b>	San Juan Basin	<b>MD Reference:</b>	RKB to MSL= 6310 @ 6310.0usft
<b>Site Error:</b>	5.0 usft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Southern Ute 705H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	1.0 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Pilot Hole	<b>Database:</b>	EDM 5000.1 Single User Db
<b>Reference Design:</b>	WP2.1	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design:</b> San Juan Basin - SOUTHERN UTE 005A - ST00 - ST00												<b>Offset Site Error:</b>	5.0 usft
<b>Survey Program:</b> 5719-3_Blind												<b>Offset Well Error:</b>	1.0 usft
<b>Reference</b>		<b>Offset</b>		<b>Semi Major Axis</b>		<b>Highside Toolface (°)</b>	<b>Offset Wellbore Centre</b>		<b>Distance</b>		<b>Minimum Separation (usft)</b>	<b>Separation Factor</b>	<b>Warning</b>
<b>Measured Depth (usft)</b>	<b>Vertical Depth (usft)</b>	<b>Measured Depth (usft)</b>	<b>Vertical Depth (usft)</b>	<b>Reference (usft)</b>	<b>Offset (usft)</b>		<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Between Centres (usft)</b>	<b>Between Ellipses (usft)</b>			
2,575.0	2,386.0	2,438.0	2,438.0	14.9	1,702.2	-28.82	-429.1	5,133.6	4,497.5	2,782.9	1,714.63	2.623	
2,600.0	2,403.4	2,455.4	2,455.4	15.3	1,714.3	-29.20	-429.1	5,133.6	4,480.7	2,753.8	1,726.87	2.595	
2,625.0	2,420.5	2,472.5	2,472.5	15.6	1,726.2	-29.59	-429.1	5,133.6	4,463.7	2,724.8	1,738.98	2.567	
2,650.0	2,437.4	2,489.4	2,489.4	16.0	1,738.0	-29.99	-429.1	5,133.6	4,446.6	2,695.6	1,750.95	2.540	
2,675.0	2,454.2	2,506.2	2,506.2	16.3	1,749.7	-30.41	-429.1	5,133.6	4,429.3	2,666.5	1,762.78	2.513	
2,700.0	2,470.7	2,522.7	2,522.7	16.6	1,761.3	-30.83	-429.1	5,133.6	4,411.8	2,637.3	1,774.47	2.486	
2,725.0	2,487.0	2,539.0	2,539.0	17.0	1,772.7	-31.27	-429.1	5,133.6	4,394.2	2,608.2	1,786.02	2.460	
2,750.0	2,503.1	2,555.1	2,555.1	17.4	1,783.9	-31.72	-429.1	5,133.6	4,376.4	2,579.0	1,797.42	2.435	
2,775.0	2,519.0	2,571.0	2,571.0	17.8	1,795.0	-32.18	-429.1	5,133.6	4,358.5	2,549.8	1,808.68	2.410	
2,800.0	2,534.7	2,586.7	2,586.7	18.1	1,806.0	-32.66	-429.1	5,133.6	4,340.4	2,520.6	1,819.80	2.385	
2,825.0	2,550.2	2,602.2	2,602.2	18.5	1,816.8	-33.15	-429.1	5,133.6	4,322.2	2,491.4	1,830.77	2.361	
2,850.0	2,565.5	2,617.5	2,617.5	18.9	1,827.4	-33.65	-429.1	5,133.6	4,303.8	2,462.2	1,841.59	2.337	
2,875.0	2,580.5	2,632.5	2,632.5	19.3	1,837.9	-34.17	-429.1	5,133.6	4,285.3	2,433.1	1,852.26	2.314	
2,900.0	2,595.4	2,647.4	2,647.4	19.7	1,848.3	-34.70	-429.1	5,133.6	4,266.7	2,403.9	1,862.78	2.290	
2,925.0	2,610.0	2,662.0	2,662.0	20.1	1,858.5	-35.25	-429.1	5,133.6	4,247.9	2,374.7	1,873.16	2.268	
2,950.0	2,624.4	2,676.4	2,676.4	20.5	1,868.5	-35.81	-429.1	5,133.6	4,229.0	2,345.6	1,883.37	2.245	
2,975.0	2,638.5	2,690.5	2,690.5	20.9	1,878.4	-36.38	-429.1	5,133.6	4,210.0	2,316.5	1,893.44	2.223	
3,000.0	2,652.5	2,704.5	2,704.5	21.3	1,888.2	-36.98	-429.1	5,133.6	4,190.8	2,287.4	1,903.35	2.202	
3,025.0	2,666.2	2,718.2	2,718.2	21.8	1,897.7	-37.58	-429.1	5,133.6	4,171.5	2,258.4	1,913.10	2.180	
3,050.0	2,679.7	2,731.7	2,731.7	22.2	1,907.1	-38.21	-429.1	5,133.6	4,152.1	2,229.4	1,922.70	2.160	
3,075.0	2,692.9	2,744.9	2,744.9	22.6	1,916.4	-38.85	-429.1	5,133.6	4,132.6	2,200.4	1,932.13	2.139	
3,100.0	2,705.9	2,757.9	2,757.9	23.1	1,925.5	-39.51	-429.1	5,133.6	4,112.9	2,171.5	1,941.41	2.119	
3,125.0	2,718.7	2,770.7	2,770.7	23.5	1,934.4	-40.19	-429.1	5,133.6	4,093.2	2,142.6	1,950.53	2.098	
3,150.0	2,731.3	2,783.3	2,783.3	24.0	1,943.2	-40.88	-429.1	5,133.6	4,073.3	2,113.8	1,959.49	2.079	
3,175.0	2,743.6	2,795.6	2,795.6	24.4	1,951.8	-41.60	-429.1	5,133.6	4,053.3	2,085.0	1,968.29	2.059	
3,200.0	2,755.7	2,807.7	2,807.7	24.9	1,960.2	-42.33	-429.1	5,133.6	4,033.2	2,056.3	1,976.92	2.040	
3,225.0	2,767.5	2,819.5	2,819.5	25.3	1,968.5	-43.08	-429.1	5,133.6	4,013.1	2,027.7	1,985.39	2.021	
3,250.0	2,779.1	2,831.1	2,831.1	25.8	1,976.6	-43.85	-429.1	5,133.6	3,992.8	1,999.1	1,993.69	2.003	
3,275.0	2,790.5	2,842.5	2,842.5	26.3	1,984.5	-44.63	-429.1	5,133.6	3,972.4	1,970.6	2,001.83	1.984 Collision RiskProcedures Req'd	
3,300.0	2,801.6	2,853.6	2,853.6	26.7	1,992.3	-45.44	-429.1	5,133.6	3,952.0	1,942.2	2,009.80	1.966 Collision RiskProcedures Req'd	
3,325.0	2,812.4	2,864.4	2,864.4	27.2	1,999.8	-46.27	-429.1	5,133.6	3,931.4	1,913.8	2,017.60	1.949 Collision RiskProcedures Req'd	
3,343.0	2,820.1	2,872.1	2,872.1	27.6	2,005.2	-46.88	-429.1	5,133.6	3,916.6	1,893.4	2,023.12	1.936 Collision RiskProcedures Req'd	
3,350.0	2,823.1	2,875.1	2,875.1	27.7	2,007.3	-46.93	-429.1	5,133.6	3,910.8	1,885.5	2,025.24	1.931 Collision RiskProcedures Req'd	
3,375.0	2,833.6	2,885.6	2,885.6	28.2	2,014.6	-47.11	-429.1	5,133.6	3,890.1	1,857.3	2,032.84	1.914 Collision RiskProcedures Req'd	
3,400.0	2,844.2	2,896.2	2,896.2	28.7	2,022.0	-47.29	-429.1	5,133.6	3,869.5	1,829.1	2,040.45	1.896 Collision RiskProcedures Req'd	
3,425.0	2,854.8	2,906.8	2,906.8	29.1	2,029.4	-47.48	-429.1	5,133.6	3,848.9	1,800.9	2,048.06	1.879 Collision RiskProcedures Req'd	
3,450.0	2,865.3	2,917.3	2,917.3	29.6	2,036.8	-47.66	-429.1	5,133.6	3,828.4	1,772.7	2,055.67	1.862 Collision RiskProcedures Req'd	
3,475.0	2,875.9	2,927.9	2,927.9	30.1	2,044.1	-47.85	-429.1	5,133.6	3,807.8	1,744.5	2,063.28	1.846 Collision RiskProcedures Req'd	
3,500.0	2,886.5	2,938.5	2,938.5	30.6	2,051.5	-48.04	-429.1	5,133.6	3,787.3	1,716.4	2,070.90	1.829 Collision RiskProcedures Req'd	
3,525.0	2,897.0	2,949.0	2,949.0	31.1	2,058.9	-48.22	-429.1	5,133.6	3,766.8	1,688.3	2,078.52	1.812 Collision RiskProcedures Req'd	
3,550.0	2,907.6	2,959.6	2,959.6	31.6	2,066.3	-48.41	-429.1	5,133.6	3,746.3	1,660.2	2,086.14	1.796 Collision RiskProcedures Req'd	
3,575.0	2,918.2	2,970.2	2,970.2	32.1	2,073.7	-48.61	-429.1	5,133.6	3,725.9	1,632.1	2,093.77	1.780 Collision RiskProcedures Req'd	
3,600.0	2,928.7	2,980.7	2,980.7	32.6	2,081.0	-48.80	-429.1	5,133.6	3,705.5	1,604.1	2,101.40	1.763 Collision RiskProcedures Req'd	
3,625.0	2,939.3	2,991.3	2,991.3	33.1	2,088.4	-48.99	-429.1	5,133.6	3,685.1	1,576.1	2,109.04	1.747 Collision RiskProcedures Req'd	
3,650.0	2,949.8	3,001.8	3,001.8	33.6	2,095.8	-49.19	-429.1	5,133.6	3,664.7	1,548.0	2,116.68	1.731 Collision RiskProcedures Req'd	
3,675.0	2,960.4	3,012.4	3,012.4	34.1	2,103.2	-49.38	-429.1	5,133.6	3,644.4	1,520.1	2,124.32	1.716 Collision RiskProcedures Req'd	
3,678.8	2,962.0	3,014.0	3,014.0	34.1	2,104.3	-49.41	-429.1	5,133.6	3,641.3	1,515.9	2,125.47	1.713 Collision RiskProcedures Req'd, CC, E	



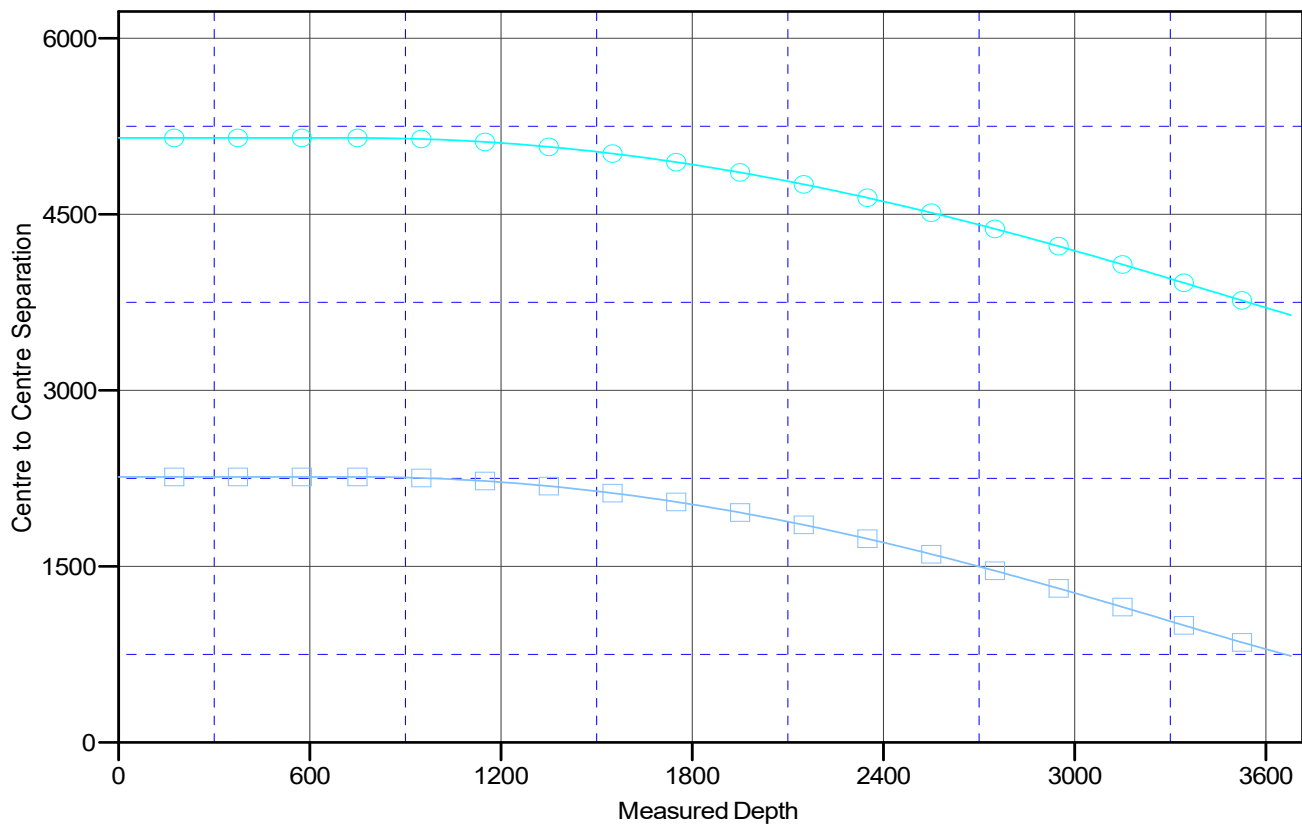
**Halliburton**  
Anticollision Report

<b>Company:</b>	Hilcorp Energy Company	<b>Local Co-ordinate Reference:</b>	Well Southern Ute 705H
<b>Project:</b>	Farmington, NM	<b>TVD Reference:</b>	RKB to MSL= 6310 @ 6310.0usft
<b>Reference Site:</b>	San Juan Basin	<b>MD Reference:</b>	RKB to MSL= 6310 @ 6310.0usft
<b>Site Error:</b>	5.0 usft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Southern Ute 705H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	1.0 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Pilot Hole	<b>Database:</b>	EDM 5000.1 Single User Db
<b>Reference Design:</b>	WP2.1	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to RKB to MSL= 6310 @ 6310.0usft  
Offset Depths are relative to Offset Datum  
Central Meridian is 107° 50' 0.000 W

Coordinates are relative to: Southern Ute 705H  
Coordinate System is US State Plane 1927 (Exact solution), New Mexico West 30  
Grid Convergence at Surface is: 0.15°

## Ladder Plot



### LEGEND

—■— SOUTHERN UTE 005, STD, STD0 V0      —●— SOUTHERN UTE 005A, STD, STD0 V0

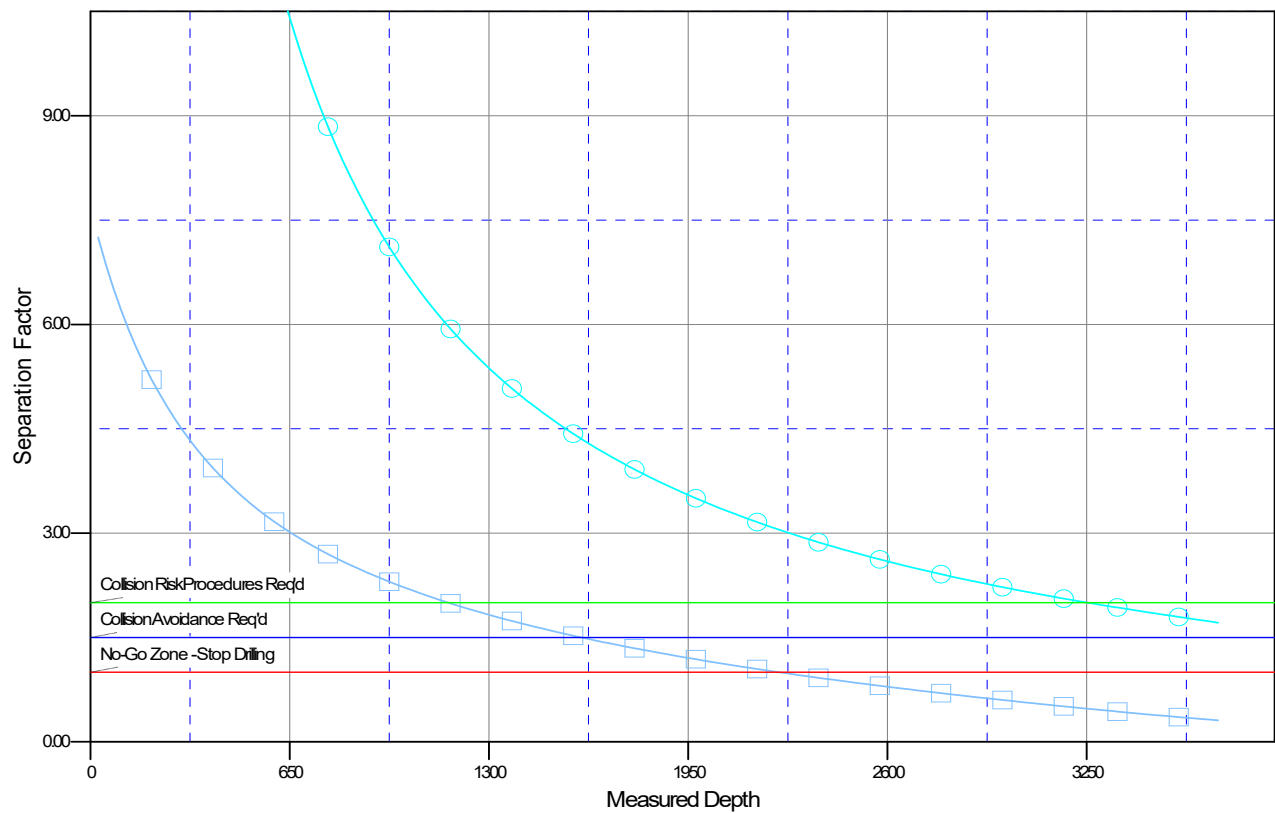
**Halliburton**  
Anticollision Report

<b>Company:</b>	Hilcorp Energy Company	<b>Local Co-ordinate Reference:</b>	Well Southern Ute 705H
<b>Project:</b>	Farmington, NM	<b>TVD Reference:</b>	RKB to MSL= 6310 @ 6310.0usft
<b>Reference Site:</b>	San Juan Basin	<b>MD Reference:</b>	RKB to MSL= 6310 @ 6310.0usft
<b>Site Error:</b>	5.0 usft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Southern Ute 705H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	1.0 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Pilot Hole	<b>Database:</b>	EDM 5000.1 Single User Db
<b>Reference Design:</b>	WP2.1	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to RKB to MSL= 6310 @ 6310.0usft  
Offset Depths are relative to Offset Datum  
Central Meridian is 107° 50' 0.000 W

Coordinates are relative to: Southern Ute 705H  
Coordinate System is US State Plane 1927 (Exact solution), New Mexico West 30  
Grid Convergence at Surface is: 0.15°

## Separation Factor Plot



### LEGEND

—■— SOUTHERN UTE 005, STD, STD V0      —●— SOUTHERN UTE 005A, STD, STD V0