

**PROPOSED LOCAL COORDINATES:**

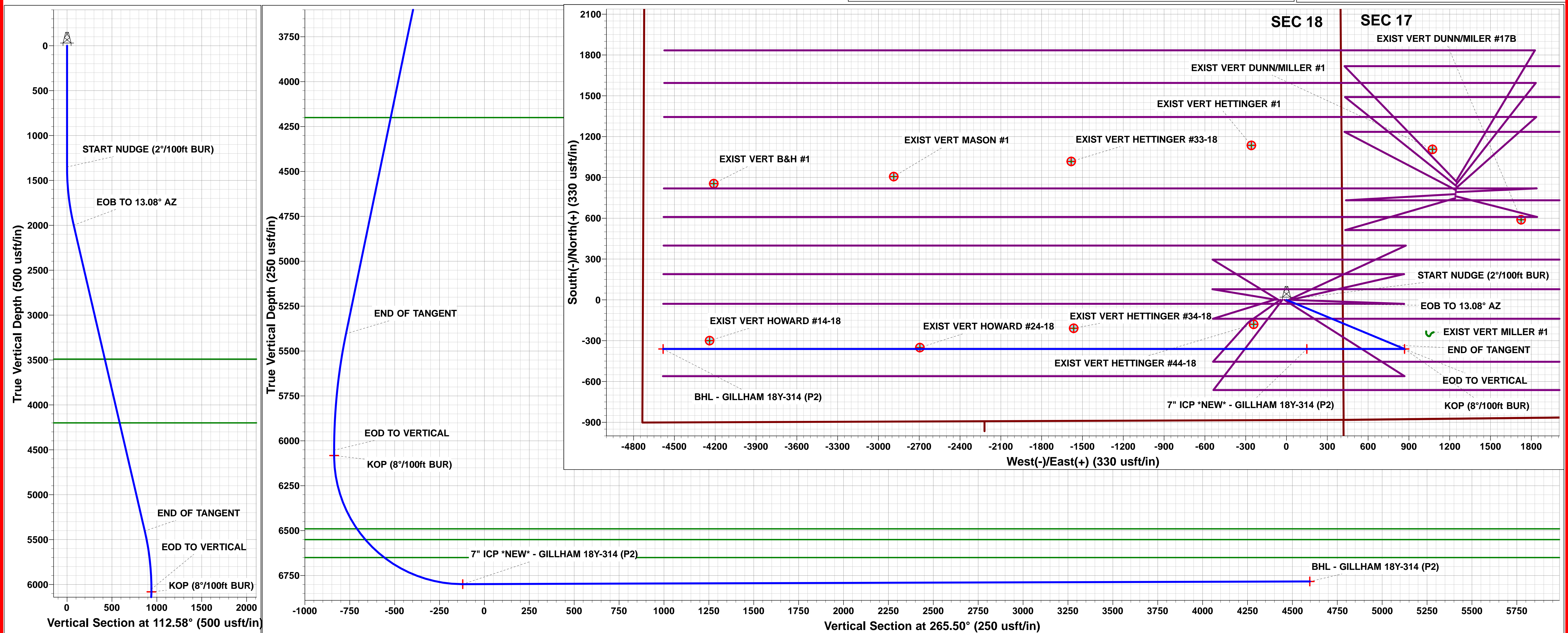
SHL: 883ft FSL & 414ft FEL of Sec 18

7" ICP \*NEW\*: 522.1ft FSL & 266.5ft FEL of Sec 18

BHL: 540ft FSL & 150ft FWL of Sec 18

**Magnetic Field**  
**Strength: 52612.6snT**  
**Dip Angle: 66.92°**  
**Date: 07/09/2015**  
**Model: IGRF2015**

**Azimuths to True North**  
**Magnetic North: 8.30°**



# Anticollision Report



<b>Company:</b>	PDC ENERGY	<b>Local Co-ordinate Reference:</b>	Well GILLHAM 18Y-314
<b>Project:</b>	WELD COUNTY, COLORADO	<b>TVD Reference:</b>	KB-EST @ 4638.0usft (Original Well Elev)
<b>Reference Site:</b>	SE SE SEC. 18 T5N R64W 6th P.M.	<b>MD Reference:</b>	KB-EST @ 4638.0usft (Original Well Elev)
<b>Site Error:</b>	0.0 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	GILLHAM 18Y-314	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	ORIGINAL WELLBORE	<b>Database:</b>	EDM 5000.1 Single User Db
<b>Reference Design:</b>	PROPOSAL #2	<b>Offset TVD Reference:</b>	Offset Datum

<b>Reference</b>	PROPOSAL #2		
<b>Filter type:</b>	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
<b>Interpolation Method:</b>	MD + Stations Interval 98.4usft	<b>Error Model:</b>	ISCWSA
<b>Depth Range:</b>	Unlimited	<b>Scan Method:</b>	Closest Approach 3D
<b>Results Limited by:</b>	Maximum center-center distance of 10,000.0 us	<b>Error Surface:</b>	Elliptical Conic
<b>Warning Levels Evaluated at:</b>	2.00 Sigma	<b>Casing Method:</b>	Not applied

<b>Survey Tool Program</b>	<b>Date</b>	17/09/2015		
<b>From (usft)</b>	<b>To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
0.0	12,043.6	PROPOSAL #2 (ORIGINAL WELLBORE)	MWD	MWD - Standard

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
NW SW SEC. 17 T5N R64W 6th P.M.						
CECIL'S KERSEY FARM 17B-212 - ORIGINAL WELLBC	4,157.6	4,198.1	978.8	951.0	35.193	CC
CECIL'S KERSEY FARM 17B-212 - ORIGINAL WELLBC	4,200.0	4,236.8	979.0	950.8	34.737	ES
CECIL'S KERSEY FARM 17B-212 - ORIGINAL WELLBC	6,650.0	6,699.9	1,093.3	1,053.1	27.166	SF
CECIL'S KERSEY FARM 17B-214 - ORIGINAL WELLBC	6,957.6	7,812.6	1,180.2	1,124.1	21.011	CC
CECIL'S KERSEY FARM 17B-214 - ORIGINAL WELLBC	12,044.1	12,879.1	1,182.3	863.4	3.707	ES, SF
CECIL'S KERSEY FARM 17B-302 - ORIGINAL WELLBC	4,382.2	4,437.5	807.8	777.8	26.934	CC
CECIL'S KERSEY FARM 17B-302 - ORIGINAL WELLBC	4,429.1	4,480.4	808.1	777.7	26.582	ES
CECIL'S KERSEY FARM 17B-302 - ORIGINAL WELLBC	6,700.0	6,733.7	875.1	834.9	21.735	SF
CECIL'S KERSEY FARM 17B-304 - ORIGINAL WELLBC	12,035.4	12,961.8	970.2	650.9	3.039	CC
CECIL'S KERSEY FARM 17B-304 - ORIGINAL WELLBC	12,044.1	12,966.2	970.2	650.6	3.036	ES, SF
CECIL'S KERSEY FARM 17K-204 - ORIGINAL WELLBC	1,239.0	1,237.0	1,512.5	1,507.2	284.772	CC
CECIL'S KERSEY FARM 17K-204 - ORIGINAL WELLBC	1,279.5	1,268.3	1,512.6	1,507.1	276.412	ES
CECIL'S KERSEY FARM 17K-204 - ORIGINAL WELLBC	12,044.1	12,915.0	1,956.7	1,638.1	6.143	SF
CECIL'S KERSEY FARM 17K-232 - ORIGINAL WELLBC	3,032.9	2,990.9	1,360.2	1,342.4	76.083	CC
CECIL'S KERSEY FARM 17K-232 - ORIGINAL WELLBC	3,100.0	3,050.1	1,360.6	1,342.1	73.560	ES
CECIL'S KERSEY FARM 17K-232 - ORIGINAL WELLBC	10,826.7	6,250.0	4,286.9	4,161.3	34.123	SF
CECIL'S KERSEY FARM 17K-332 - ORIGINAL WELLBC	3,491.9	3,474.2	1,257.4	1,236.0	58.625	CC
CECIL'S KERSEY FARM 17K-332 - ORIGINAL WELLBC	3,543.3	3,520.1	1,257.6	1,235.7	57.389	ES
CECIL'S KERSEY FARM 17K-332 - ORIGINAL WELLBC	9,448.8	6,350.0	2,963.7	2,873.5	32.842	SF
CECIL'S KERSEY FARM 17K-334 - ORIGINAL WELLBC	1,909.2	1,749.8	1,487.4	1,479.5	188.995	CC
CECIL'S KERSEY FARM 17K-334 - ORIGINAL WELLBC	12,044.1	12,975.1	1,705.0	1,386.1	5.346	ES, SF
CECIL'S KERSEY FARM 17K-402 - ORIGINAL WELLBC	2,692.8	2,629.4	1,436.3	1,421.1	94.440	CC
CECIL'S KERSEY FARM 17K-402 - ORIGINAL WELLBC	2,755.9	2,684.9	1,436.6	1,420.9	91.034	ES
CECIL'S KERSEY FARM 17K-402 - ORIGINAL WELLBC	11,600.0	6,400.0	5,052.9	4,902.6	33.610	SF
CECIL'S KERSEY FARM 17K-404 - ORIGINAL WELLBC	1,038.9	1,036.9	1,531.8	1,527.4	347.220	CC
CECIL'S KERSEY FARM 17K-404 - ORIGINAL WELLBC	1,082.7	1,070.6	1,531.9	1,527.3	334.079	ES
CECIL'S KERSEY FARM 17K-404 - ORIGINAL WELLBC	12,044.1	13,080.8	2,197.6	1,879.5	6.909	SF
EXIST VERT B&H #1 - Wellbore #1 - Design #1	11,671.2	6,783.2	1,215.3	944.0	4.480	CC
EXIST VERT B&H #1 - Wellbore #1 - Design #1	11,700.0	6,783.1	1,215.6	943.6	4.468	ES
EXIST VERT B&H #1 - Wellbore #1 - Design #1	11,811.0	6,782.7	1,223.3	948.2	4.446	SF
EXIST VERT BRIGHT #2 - Wellbore #1 - Design #1	11,501.1	6,783.7	2,713.6	2,447.1	10.181	CC
EXIST VERT BRIGHT #2 - Wellbore #1 - Design #1	11,600.0	6,783.4	2,715.4	2,446.2	10.085	ES
EXIST VERT BRIGHT #2 - Wellbore #1 - Design #1	12,043.6	6,782.0	2,767.3	2,485.8	9.829	SF
EXIST VERT DUNN #22-18 - Wellbore #1 - Design #1	10,317.3	6,784.4	2,932.1	2,698.2	12.536	CC
EXIST VERT DUNN #22-18 - Wellbore #1 - Design #1	10,400.0	6,784.2	2,933.2	2,697.1	12.421	ES
EXIST VERT DUNN #22-18 - Wellbore #1 - Design #1	11,318.9	6,781.3	3,098.4	2,836.9	11.850	SF
EXIST VERT DUNN/MILLER #1 - Wellbore #1 - Design #1	4,176.6	4,109.6	1,433.7	1,337.2	14.848	CC

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

# Anticollision Report



<b>Company:</b>	PDC ENERGY	<b>Local Co-ordinate Reference:</b>	Well GILLHAM 18Y-314
<b>Project:</b>	WELD COUNTY, COLORADO	<b>TVD Reference:</b>	KB-EST @ 4638.0usft (Original Well Elev)
<b>Reference Site:</b>	SE SE SEC. 18 T5N R64W 6th P.M.	<b>MD Reference:</b>	KB-EST @ 4638.0usft (Original Well Elev)
<b>Site Error:</b>	0.0 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	GILLHAM 18Y-314	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	ORIGINAL WELLBORE	<b>Database:</b>	EDM 5000.1 Single User Db
<b>Reference Design:</b>	PROPOSAL #2	<b>Offset TVD Reference:</b>	Offset Datum

## Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
NW SW SEC. 17 T5N R64W 6th P.M.						
EXIST VERT DUNN/MILLER #1 - Wellbore #1 - Design #	4,822.8	4,739.0	1,441.2	1,328.9	12.835	ES
EXIST VERT DUNN/MILLER #1 - Wellbore #1 - Design #	6,594.5	6,465.3	1,501.8	1,351.3	9.981	SF
EXIST VERT DUNN/MILLER #17B - Wellbore #1 - Design #	6,184.0	6,069.9	1,279.5	1,142.3	9.324	CC
EXIST VERT DUNN/MILLER #17B - Wellbore #1 - Design #	6,200.8	6,086.7	1,279.7	1,135.8	8.897	ES
EXIST VERT DUNN/MILLER #17B - Wellbore #1 - Design #	6,250.0	6,135.8	1,281.6	1,137.0	8.864	SF
EXIST VERT DUNN/MILLER #23-17 - Wellbore #1 - Design #	6,184.0	6,067.9	2,204.2	2,066.9	16.052	CC
EXIST VERT DUNN/MILLER #23-17 - Wellbore #1 - Design #	6,200.8	6,084.7	2,204.4	2,060.6	15.336	ES
EXIST VERT DUNN/MILLER #23-17 - Wellbore #1 - Design #	6,299.2	6,182.6	2,210.6	2,065.7	15.256	SF
EXIST VERT GUNTHER #18-2 - Wellbore #1 - Design #	1,350.0	1,342.0	2,479.1	2,449.5	83.892	CC
EXIST VERT GUNTHER #18-2 - Wellbore #1 - Design #	1,476.4	1,468.3	2,480.4	2,448.1	76.712	ES
EXIST VERT GUNTHER #18-2 - Wellbore #1 - Design #	9,000.0	6,784.6	3,096.9	2,898.6	15.618	SF
EXIST VERT GUNTHER-PM B #18-7 - Wellbore #1 - Design #	9,049.8	6,750.0	2,910.2	2,844.9	44.584	CC
EXIST VERT GUNTHER-PM B #18-7 - Wellbore #1 - Design #	9,153.5	6,750.0	2,912.0	2,844.0	42.804	ES
EXIST VERT GUNTHER-PM B #18-7 - Wellbore #1 - Design #	12,043.6	6,750.0	4,175.2	4,027.8	28.336	SF
EXIST VERT H&S #1 - Wellbore #1 - Design #	6,184.0	6,071.9	3,317.7	3,177.3	23.628	CC
EXIST VERT H&S #1 - Wellbore #1 - Design #	6,200.0	6,087.9	3,317.9	3,176.7	23.501	ES
EXIST VERT H&S #1 - Wellbore #1 - Design #	6,250.0	6,137.8	3,320.5	3,178.8	23.432	SF
EXIST VERT HETTINGER #1 - Wellbore #1 - Design #	1,350.0	1,346.0	1,164.6	1,135.0	39.355	CC
EXIST VERT HETTINGER #1 - Wellbore #1 - Design #	1,476.4	1,472.3	1,166.2	1,133.8	36.025	ES
EXIST VERT HETTINGER #1 - Wellbore #1 - Design #	8,000.0	6,791.8	1,522.7	1,349.5	8.792	SF
EXIST VERT HETTINGER #33-18 - Wellbore #1 - Design #	9,043.2	6,782.5	1,378.5	1,179.1	6.913	CC
EXIST VERT HETTINGER #33-18 - Wellbore #1 - Design #	9,100.0	6,782.3	1,379.7	1,178.8	6.867	ES
EXIST VERT HETTINGER #33-18 - Wellbore #1 - Design #	9,300.0	6,781.7	1,402.2	1,196.0	6.799	SF
EXIST VERT HETTINGER #34-18 - Wellbore #1 - Design #	9,025.2	6,787.5	152.2	-46.8	0.765	Level 1, CC, ES, SF
EXIST VERT HETTINGER #44-18 - Wellbore #1 - Design #	7,702.1	6,787.7	181.3	14.7	1.088	Level 2, CC, ES, SF
EXIST VERT HOSHIKO #32-17 - Wellbore #1 - Design #	6,184.0	6,069.9	4,010.0	3,872.5	29.154	CC
EXIST VERT HOSHIKO #32-17 - Wellbore #1 - Design #	6,200.8	6,086.7	4,010.1	3,866.5	27.924	ES
EXIST VERT HOSHIKO #32-17 - Wellbore #1 - Design #	6,300.0	6,185.4	4,016.6	3,871.9	27.755	SF
EXIST VERT HOSHIKO #42-17 - Wellbore #1 - Design #	6,184.0	6,069.9	5,044.5	4,905.6	36.323	CC
EXIST VERT HOSHIKO #42-17 - Wellbore #1 - Design #	6,200.0	6,085.9	5,044.7	4,902.1	35.391	ES
EXIST VERT HOSHIKO #42-17 - Wellbore #1 - Design #	6,299.2	6,184.6	5,052.2	4,908.8	35.248	SF
EXIST VERT HOSHIKO/SOLIS #1 - Wellbore #1 - Design #	6,125.4	5,987.4	2,842.3	2,824.8	162.524	CC
EXIST VERT HOSHIKO/SOLIS #1 - Wellbore #1 - Design #	6,154.0	6,015.7	2,842.4	2,819.1	122.141	ES
EXIST VERT HOSHIKO/SOLIS #1 - Wellbore #1 - Design #	6,184.0	6,046.8	2,842.7	2,819.4	121.917	SF
EXIST VERT HOWARD #14-18 - Wellbore #1 - Design #	11,702.1	6,781.1	61.5	-210.6	0.226	Level 1, CC, ES, SF
EXIST VERT HOWARD #24-18 - Wellbore #1 - Design #	10,156.1	6,787.9	10.3	-219.3	0.045	Level 1, CC, ES, SF
EXIST VERT MASON #1 - Wellbore #1 - Design #	10,348.2	6,784.3	1,267.2	1,032.4	5.398	CC
EXIST VERT MASON #1 - Wellbore #1 - Design #	10,400.0	6,784.2	1,268.2	1,032.1	5.370	ES
EXIST VERT MASON #1 - Wellbore #1 - Design #	10,531.5	6,783.8	1,280.3	1,040.6	5.340	SF
EXIST VERT MILLER #1 - Wellbore #1 - Design #	6,113.2	6,005.5	196.9	174.5	8.765	CC, ES
EXIST VERT MILLER #1 - Wellbore #1 - Design #	6,200.0	6,091.4	197.8	175.2	8.749	SF
EXIST VERT MILLER #2 - Wellbore #1 - Design #	6,125.2	6,002.4	1,522.4	1,504.4	84.268	CC
EXIST VERT MILLER #2 - Wellbore #1 - Design #	6,154.0	6,030.0	1,522.6	1,500.0	67.372	ES
EXIST VERT MILLER #2 - Wellbore #1 - Design #	11,000.0	6,724.2	5,934.4	5,829.5	56.595	SF
EXIST VERT SCHAUMBERG #12-17 - Wellbore #1 - Design #	2,495.0	2,466.6	2,711.6	2,655.9	48.700	CC
EXIST VERT SCHAUMBERG #12-17 - Wellbore #1 - Design #	3,800.0	3,737.7	2,727.7	2,640.4	31.267	ES
EXIST VERT SCHAUMBERG #12-17 - Wellbore #1 - Design #	7,150.0	6,770.5	2,935.8	2,778.3	18.635	SF
EXIST VERT SOLIS #43-17 - Wellbore #1 - Design #	6,184.0	6,081.9	4,373.3	4,232.0	30.963	CC, ES, SF
EXIST VERT SOLIS #44-17 - Wellbore #1 - Design #	6,118.9	5,969.1	4,394.8	4,376.6	241.748	CC
EXIST VERT SOLIS #44-17 - Wellbore #1 - Design #	6,154.0	6,006.9	4,394.9	4,372.5	195.964	ES
EXIST VERT SOLIS #44-17 - Wellbore #1 - Design #	12,043.6	6,552.3	9,844.4	9,717.9	77.815	SF
EXIST VERT STEINMETZ #1 - Wellbore #1 - Design #	6,184.0	6,072.9	3,190.1	3,053.8	23.401	CC
EXIST VERT STEINMETZ #1 - Wellbore #1 - Design #	6,200.8	6,089.7	3,190.2	3,045.7	22.074	ES

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

# Anticollision Report



<b>Company:</b>	PDC ENERGY	<b>Local Co-ordinate Reference:</b>	Well GILLHAM 18Y-314
<b>Project:</b>	WELD COUNTY, COLORADO	<b>TVD Reference:</b>	KB-EST @ 4638.0usft (Original Well Elev)
<b>Reference Site:</b>	SE SE SEC. 18 T5N R64W 6th P.M.	<b>MD Reference:</b>	KB-EST @ 4638.0usft (Original Well Elev)
<b>Site Error:</b>	0.0 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	GILLHAM 18Y-314	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	ORIGINAL WELLBORE	<b>Database:</b>	EDM 5000.1 Single User Db
<b>Reference Design:</b>	PROPOSAL #2	<b>Offset TVD Reference:</b>	Offset Datum

## Summary

Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
NW SW SEC. 17 T5N R64W 6th P.M.						
EXIST VERT STEINMETZ #1 - Wellbore #1 - Design #1	6,397.6	6,283.4	3,205.1	3,058.1	21.804	SF
SE SE SEC. 18 T5N R64W 6th P.M.						
GILLHAM 18X-102 - ORIGINAL WELLBORE - PROPOS	1,237.4	1,237.4	60.2	54.9	11.334	CC
GILLHAM 18X-102 - ORIGINAL WELLBORE - PROPOS	1,279.5	1,279.0	60.3	54.8	10.973	ES
GILLHAM 18X-102 - ORIGINAL WELLBORE - PROPOS	1,377.9	1,375.6	62.7	56.8	10.598	SF
GILLHAM 18X-104 - ORIGINAL WELLBORE - PROPOS	1,237.4	1,237.4	15.0	9.7	2.834	CC
GILLHAM 18X-104 - ORIGINAL WELLBORE - PROPOS	1,279.5	1,279.4	15.2	9.7	2.763	ES
GILLHAM 18X-104 - ORIGINAL WELLBORE - PROPOS	12,044.1	11,864.3	781.0	497.0	2.750	SF
GILLHAM 18X-232 - ORIGINAL WELLBORE - PROPOS	1,037.1	1,037.1	90.0	85.6	20.411	CC
GILLHAM 18X-232 - ORIGINAL WELLBORE - PROPOS	1,082.7	1,081.7	90.1	85.5	19.575	ES
GILLHAM 18X-232 - ORIGINAL WELLBORE - PROPOS	6,850.0	7,557.3	225.3	174.5	4.434	SF
GILLHAM 18X-234 - ORIGINAL WELLBORE - PROPOS	1,038.0	1,037.0	44.9	40.4	10.171	CC
GILLHAM 18X-234 - ORIGINAL WELLBORE - PROPOS	1,082.7	1,081.2	45.0	40.4	9.777	ES
GILLHAM 18X-234 - ORIGINAL WELLBORE - PROPOS	12,044.1	11,933.4	340.0	55.4	1.195	Level 2, SF
GILLHAM 18X-332 - ORIGINAL WELLBORE - PROPOS	1,137.3	1,137.3	75.2	70.4	15.481	CC
GILLHAM 18X-332 - ORIGINAL WELLBORE - PROPOS	1,181.1	1,180.3	75.4	70.3	14.925	ES
GILLHAM 18X-332 - ORIGINAL WELLBORE - PROPOS	6,889.7	7,614.1	450.3	400.3	8.999	SF
GILLHAM 18X-334 - ORIGINAL WELLBORE - PROPOS	1,138.1	1,137.1	29.8	24.9	6.133	CC
GILLHAM 18X-334 - ORIGINAL WELLBORE - PROPOS	1,181.1	1,179.8	30.0	24.9	5.933	ES
GILLHAM 18X-334 - ORIGINAL WELLBORE - PROPOS	12,044.1	12,021.0	550.1	259.3	1.891	SF
GILLHAM 18Y-202 - ORIGINAL WELLBORE - PROPOS	1,350.0	1,350.0	30.1	24.3	5.174	CC, ES
GILLHAM 18Y-202 - ORIGINAL WELLBORE - PROPOS	1,400.0	1,400.0	30.5	24.5	5.057	SF
GILLHAM 18Y-214 - ORIGINAL WELLBORE - PROPOS	1,350.0	1,350.0	15.0	9.2	2.587	CC
GILLHAM 18Y-214 - ORIGINAL WELLBORE - PROPOS	12,044.1	11,991.3	213.6	-61.3	0.777	Level 1, ES, SF
GILLHAM 18Y-312 - ORIGINAL WELLBORE - PROPOS	1,350.0	1,350.0	45.1	39.3	7.761	CC, ES
GILLHAM 18Y-312 - ORIGINAL WELLBORE - PROPOS	7,150.0	7,391.8	93.9	48.2	2.056	SF

<b>Offset Design</b> NW SW SEC. 17 T5N R64W 6th P.M. - CECIL'S KERSEY FARM 17B-212 - ORIGINAL WELLBORE - P													<b>Offset Site Error:</b>	0.0 usft
Survey Program: 0-MWD													<b>Offset Well Error:</b>	0.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N-S (usft)	Offset Wellbore Centre +E-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	57.98		777.1	1,242.8	1,465.8				
98.4	98.4	96.4	96.4	0.1	0.1	57.98		777.1	1,242.8	1,465.8	1,465.6	0.19	7,703.307	
100.0	100.0	98.0	98.0	0.1	0.1	57.98		777.1	1,242.8	1,465.8	1,465.6	0.19	7,571.598	
196.8	196.8	194.8	194.8	0.3	0.3	57.98		777.1	1,242.8	1,465.8	1,465.2	0.63	2,339.944	
200.0	200.0	198.0	198.0	0.3	0.3	57.98		777.1	1,242.8	1,465.8	1,465.2	0.64	2,288.218	
295.3	295.3	293.3	293.3	0.5	0.5	57.98		777.1	1,242.8	1,465.8	1,464.7	1.07	1,371.343	
300.0	300.0	298.0	298.0	0.5	0.5	57.98		777.1	1,242.8	1,465.8	1,464.7	1.09	1,344.623	
393.7	393.7	391.7	391.7	0.8	0.8	57.98		777.1	1,242.8	1,465.8	1,464.3	1.51	969.873	
400.0	400.0	398.0	398.0	0.8	0.8	57.98		777.1	1,242.8	1,465.8	1,464.3	1.54	952.033	
492.1	492.1	490.1	490.1	1.0	1.0	57.98		777.1	1,242.8	1,465.8	1,463.8	1.95	750.236	
500.0	500.0	498.0	498.0	1.0	1.0	57.98		777.1	1,242.8	1,465.8	1,463.8	1.99	736.884	
590.5	590.5	588.5	588.5	1.2	1.2	57.98		777.1	1,242.8	1,465.8	1,463.4	2.40	611.709	
600.0	600.0	598.0	598.0	1.2	1.2	57.98		777.1	1,242.8	1,465.8	1,463.4	2.44	601.053	
689.0	689.0	687.0	687.0	1.4	1.4	57.98		777.1	1,242.8	1,465.8	1,463.0	2.84	516.364	
700.0	700.0	698.0	698.0	1.4	1.4	57.98		777.1	1,242.8	1,465.8	1,462.9	2.89	507.504	
787.4	787.4	785.4	785.4	1.6	1.6	57.98		777.1	1,242.8	1,465.8	1,462.5	3.28	446.734	
800.0	800.0	798.0	798.0	1.7	1.7	57.98		777.1	1,242.8	1,465.8	1,462.5	3.34	439.153	

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