

PDC ENERGY

**WELD COUNTY, COLORADO
SE SE SEC. 18 T5N R64W 6th P.M.
GILLHAM 18Y-312**

ORIGINAL WELLBORE

17 September, 2015

Plan: PROPOSAL #2





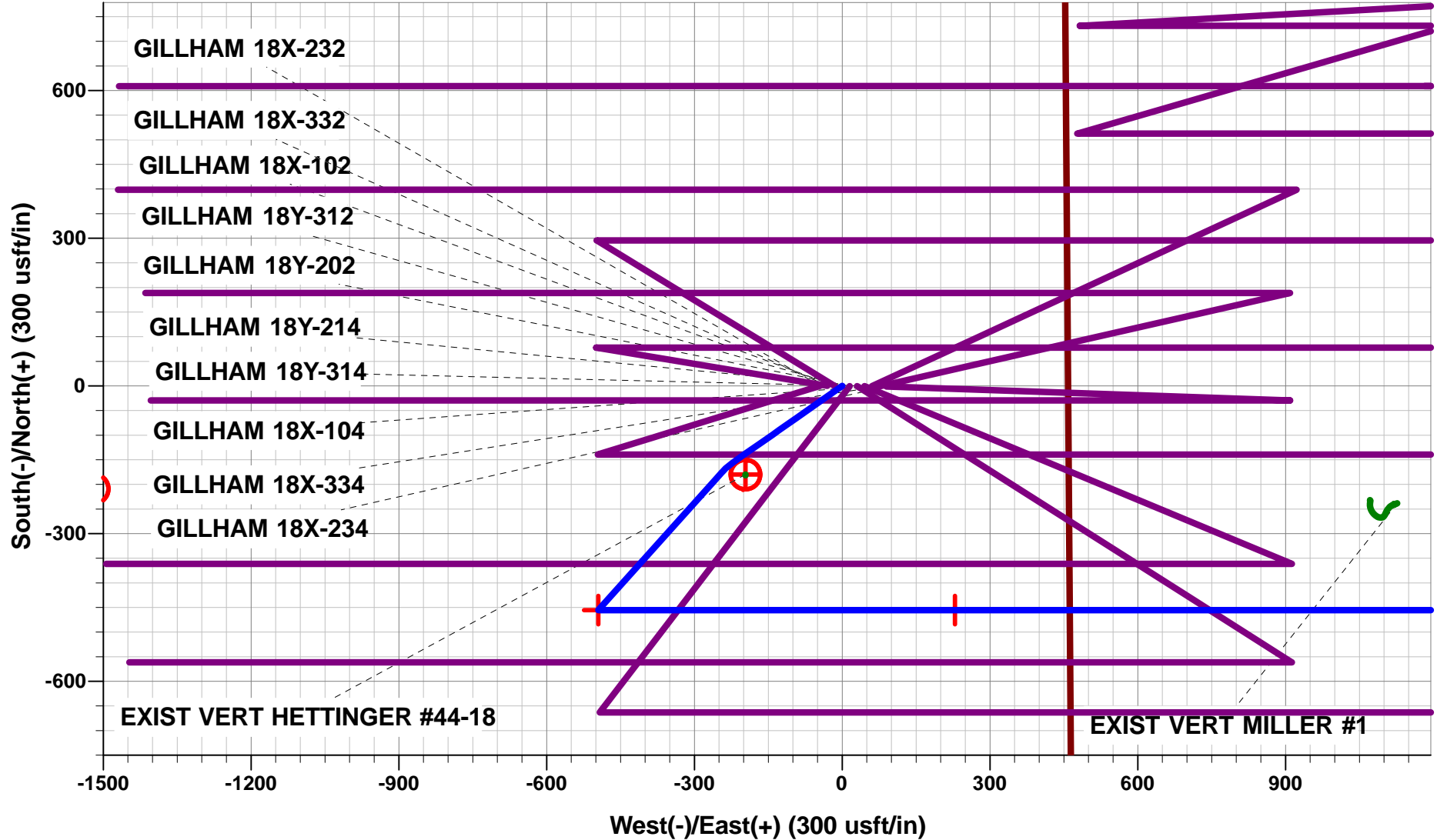
Project: WELD COUNTY, COLORADO
Site: SE SE SEC. 18 T5N R64W 6th P.M.
Well: GILLHAM 18Y-312
Wellbore: ORIGINAL WELLBORE
Design: PROPOSAL #2

ANNOTATIONS

TVD	MD	Inc	Azi	+N/-S	+E/-W	Vsect	Dep	Annotation
1350.0	1350.0	0.00	0.00	0.0	0.0	0.0	0.0	START NUDGE (2°/100ft BUR)
1945.6	1950.0	12.00	235.00	-35.9	-51.3	-48.0	62.6	EOB TO 12° INC
2923.8	2950.0	12.00	235.00	-155.2	-221.6	-207.4	270.5	END OF TANGENT
3056.7	3085.9	12.00	221.90	-173.8	-242.6	-226.7	298.7	EOT TO 221.9° AZ
4541.6	4603.9	12.00	221.90	-408.6	-453.3	-416.3	614.2	END OF TANGENT
5137.0	5203.7	0.00	0.00	-455.2	-495.1	-453.9	676.7	EOD TO VERTICAL
6066.8	6133.5	0.00	0.00	-455.2	-495.1	-453.9	676.7	KOP (8°/100ft BUR)
6783.0	7266.4	90.63	90.00	-455.2	229.0	267.4	1400.8	7" ICP *NEW* - GILLHAM 18Y-312 (P2)
6728.0	12290.6	90.63	90.00	-455.2	5252.9	5272.6	6424.7	BHL - GILLHAM 18Y-312 (P2)

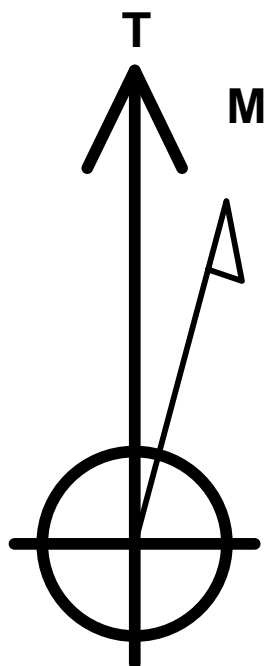
WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
7" ICP *NEW* - GILLHAM 18Y-312 (P2)	6783.0	-455.2	229.0	40.393074	-104.584223
BHL - GILLHAM 18Y-312 (P2)	6728.0	-455.2	5252.9	40.393073	-104.566187
KOP - GILLHAM 18Y-312 (P2)	6066.8	-455.2	-495.1	40.393074	-104.586822



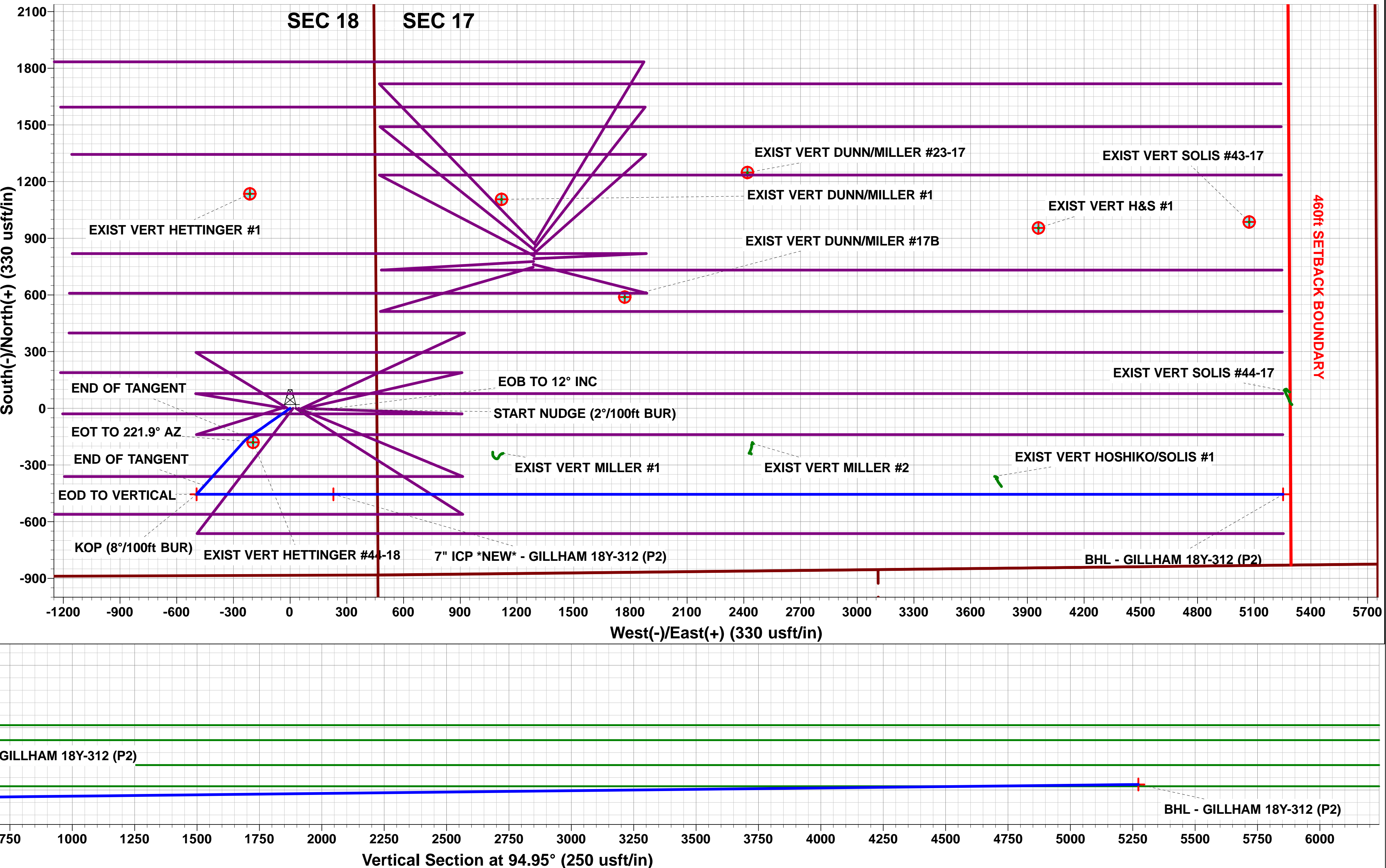
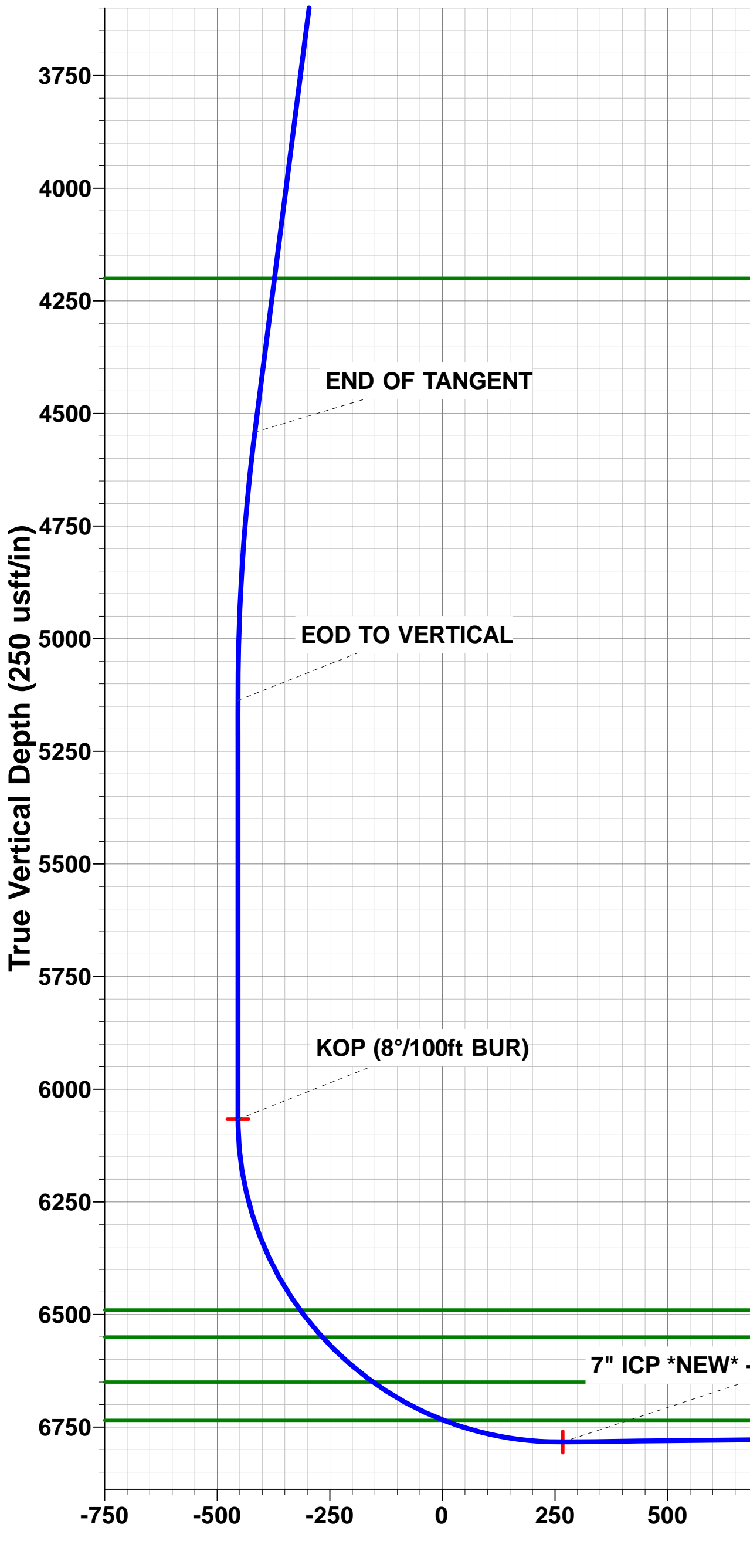
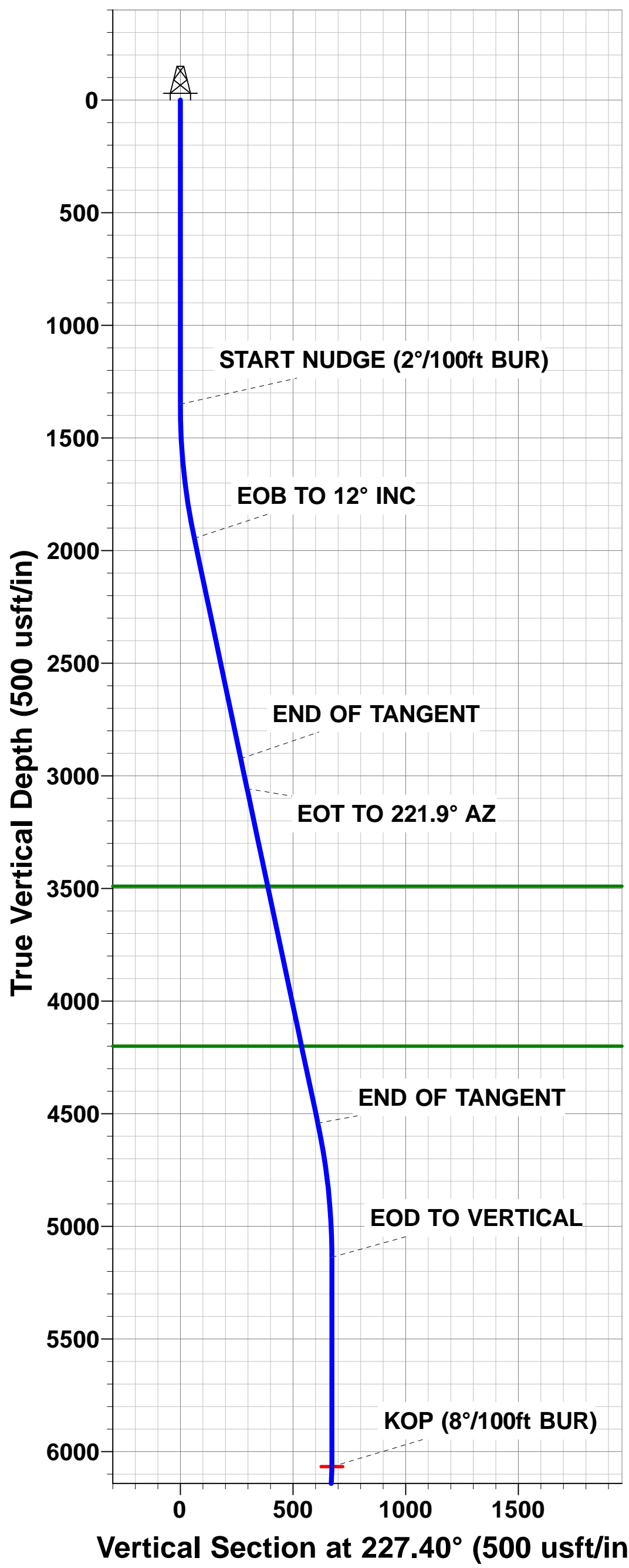
PROPOSED LOCAL COORDINATES:

SHL: 884ft FSL & 459ft FEL of Sec 18
7" ICP *NEW*: 428.8ft FSL & 233.5ft FEL of Sec 18
BHL: 375ft FSL & 500ft FEL of Sec 17



Azimuths to True North
Magnetic North: 8.30°

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



Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well GILLHAM 18Y-312
Company:	PDC ENERGY	TVD Reference:	KB-EST @ 4638.0usft (Original Well Elev)
Project:	WELD COUNTY, COLORADO	MD Reference:	KB-EST @ 4638.0usft (Original Well Elev)
Site:	SE SE SEC. 18 T5N R64W 6th P.M.	North Reference:	True
Well:	GILLHAM 18Y-312	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #2		

Project	WELD COUNTY, COLORADO		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		Using geodetic scale factor

Site	SE SE SEC. 18 T5N R64W 6th P.M.		
Site Position:		Northing:	1,387,807.29 usft
From:	Lat/Long	Easting:	3,254,796.41 usft
Position Uncertainty:	0.0 usft	Slot Radius:	1.10000ft
		Latitude:	40.394325
		Longitude:	-104.585206
		Grid Convergence:	0.59 °

Well	GILLHAM 18Y-312		
Well Position	+N/-S	-0.4 usft	Northing:
	+E/-W	44.8 usft	Easting:
Position Uncertainty	0.0 usft	Wellhead Elevation:	usft
		Latitude:	40.394324
		Longitude:	-104.585045
		Ground Level:	4,625.0 usft

Wellbore	ORIGINAL WELLBORE				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	07/09/2015	8.30	66.92	52,613

Design	PROPOSAL #2			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	94.95

Plan Sections											
MD (usft)	Inc (°)	Azi (°)	Vertical Depth	SS (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	-4,638.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,350.0	0.00	0.00	1,350.0	-3,288.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,950.0	12.00	235.00	1,945.6	-2,692.4	-35.9	-51.3	2.00	2.00	0.00	235.00	
2,950.0	12.00	235.00	2,923.8	-1,714.2	-155.2	-221.6	0.00	0.00	0.00	0.00	
3,085.9	12.00	221.90	3,056.7	-1,581.3	-173.8	-242.6	2.00	0.00	-9.64	263.50	
4,603.9	12.00	221.90	4,541.6	-96.4	-408.6	-453.3	0.00	0.00	0.00	0.00	
5,203.7	0.00	0.00	5,137.0	499.0	-455.2	-495.1	2.00	-2.00	23.03	180.00	
6,133.5	0.00	0.00	6,066.8	1,428.8	-455.2	-495.1	0.00	0.00	0.00	0.00	
7,266.4	90.63	90.00	6,783.0	2,145.0	-455.2	229.0	8.00	8.00	7.94	90.00	7" ICP *NEW* - GIL
12,290.6	90.63	90.00	6,728.0	2,090.0	-455.2	5,252.9	0.00	0.00	0.00	-74.19	BHL - GILLHAM 18

Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well GILLHAM 18Y-312
Company:	PDC ENERGY	TVD Reference:	KB-EST @ 4638.0usft (Original Well Elev)
Project:	WELD COUNTY, COLORADO	MD Reference:	KB-EST @ 4638.0usft (Original Well Elev)
Site:	SE SE SEC. 18 T5N R64W 6th P.M.	North Reference:	True
Well:	GILLHAM 18Y-312	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #2		

Planned Survey										
MD (usft)	Inc (°)	Azi (°)	TVD (usft)	SS (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0	0.00	0.00	0.0	4,638.00	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	4,538.00	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	4,438.00	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	4,338.00	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	4,238.00	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	4,138.00	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	4,038.00	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	3,938.00	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	3,838.00	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	3,738.00	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	3,638.00	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	3,538.00	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	3,438.00	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	3,338.00	0.0	0.0	0.0	0.00	0.00	0.00
START NUDGE (2°/100ft BUR)										
1,350.0	0.00	0.00	1,350.0	3,288.00	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	1.00	235.00	1,400.0	3,238.00	-0.3	-0.4	-0.3	2.00	2.00	0.00
1,500.0	3.00	235.00	1,499.9	3,138.07	-2.3	-3.2	-3.0	2.00	2.00	0.00
1,600.0	5.00	235.00	1,599.7	3,038.32	-6.3	-8.9	-8.4	2.00	2.00	0.00
1,700.0	7.00	235.00	1,699.1	2,938.87	-12.2	-17.5	-16.4	2.00	2.00	0.00
1,800.0	9.00	235.00	1,798.2	2,839.85	-20.2	-28.9	-27.0	2.00	2.00	0.00
1,900.0	11.00	235.00	1,896.6	2,741.37	-30.2	-43.1	-40.3	2.00	2.00	0.00
EOB TO 12° INC										
1,950.0	12.00	235.00	1,945.6	2,692.38	-35.9	-51.3	-48.0	2.00	2.00	0.00
2,000.0	12.00	235.00	1,994.5	2,643.47	-41.9	-59.8	-56.0	0.00	0.00	0.00
2,100.0	12.00	235.00	2,092.3	2,545.65	-53.8	-76.8	-71.9	0.00	0.00	0.00
2,200.0	12.00	235.00	2,190.2	2,447.84	-65.7	-93.9	-87.8	0.00	0.00	0.00
2,300.0	12.00	235.00	2,288.0	2,350.03	-77.6	-110.9	-103.8	0.00	0.00	0.00
2,400.0	12.00	235.00	2,385.8	2,252.21	-89.6	-127.9	-119.7	0.00	0.00	0.00
2,500.0	12.00	235.00	2,483.6	2,154.40	-101.5	-145.0	-135.6	0.00	0.00	0.00
2,600.0	12.00	235.00	2,581.4	2,056.58	-113.4	-162.0	-151.6	0.00	0.00	0.00
2,700.0	12.00	235.00	2,679.2	1,958.77	-125.3	-179.0	-167.5	0.00	0.00	0.00
2,800.0	12.00	235.00	2,777.0	1,860.95	-137.3	-196.0	-183.5	0.00	0.00	0.00
2,900.0	12.00	235.00	2,874.9	1,763.14	-149.2	-213.1	-199.4	0.00	0.00	0.00
END OF TANGENT										
2,950.0	12.00	235.00	2,923.8	1,714.23	-155.2	-221.6	-207.4	0.00	0.00	0.00
3,000.0	11.93	230.19	2,972.7	1,665.31	-161.5	-229.8	-215.0	2.00	-0.14	-9.63
EOT TO 221.9° AZ										
3,085.9	12.00	221.90	3,056.7	1,581.27	-173.8	-242.6	-226.7	2.00	0.08	-9.65
3,100.0	12.00	221.90	3,070.5	1,567.48	-176.0	-244.6	-228.5	0.00	0.00	0.00
3,200.0	12.00	221.90	3,168.3	1,469.66	-191.4	-258.4	-240.9	0.00	0.00	0.00
3,300.0	12.00	221.90	3,266.2	1,371.85	-206.9	-272.3	-253.4	0.00	0.00	0.00
3,400.0	12.00	221.90	3,364.0	1,274.03	-222.4	-286.2	-265.9	0.00	0.00	0.00
3,500.0	12.00	221.90	3,461.8	1,176.22	-237.8	-300.1	-278.4	0.00	0.00	0.00
PARKMAN SANDSTONE										
3,528.8	12.00	221.90	3,490.0	1,148.00	-242.3	-304.1	-282.0	0.00	0.00	0.00
3,600.0	12.00	221.90	3,559.6	1,078.40	-253.3	-314.0	-290.9	0.00	0.00	0.00
3,700.0	12.00	221.90	3,657.4	980.58	-268.8	-327.8	-303.4	0.00	0.00	0.00
3,800.0	12.00	221.90	3,755.2	882.77	-284.2	-341.7	-315.9	0.00	0.00	0.00
3,900.0	12.00	221.90	3,853.0	784.95	-299.7	-355.6	-328.4	0.00	0.00	0.00
4,000.0	12.00	221.90	3,950.9	687.13	-315.2	-369.5	-340.9	0.00	0.00	0.00
4,100.0	12.00	221.90	4,048.7	589.32	-330.7	-383.4	-353.4	0.00	0.00	0.00
4,200.0	12.00	221.90	4,146.5	491.50	-346.1	-397.2	-365.9	0.00	0.00	0.00

Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well GILLHAM 18Y-312
Company:	PDC ENERGY	TVD Reference:	KB-EST @ 4638.0usft (Original Well Elev)
Project:	WELD COUNTY, COLORADO	MD Reference:	KB-EST @ 4638.0usft (Original Well Elev)
Site:	SE SE SEC. 18 T5N R64W 6th P.M.	North Reference:	True
Well:	GILLHAM 18Y-312	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #2		

Planned Survey

MD (usft)	Inc (°)	Azi (°)	TVD (usft)	SS (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
SUSSEX SANDSTONE										
4,254.7	12.00	221.90	4,200.0	438.00	-354.6	-404.8	-372.7	0.00	0.00	0.00
4,300.0	12.00	221.90	4,244.3	393.68	-361.6	-411.1	-378.4	0.00	0.00	0.00
4,400.0	12.00	221.90	4,342.1	295.87	-377.1	-425.0	-390.9	0.00	0.00	0.00
4,500.0	12.00	221.90	4,439.9	198.05	-392.5	-438.9	-403.4	0.00	0.00	0.00
4,600.0	12.00	221.90	4,537.8	100.24	-408.0	-452.8	-415.8	0.00	0.00	0.00
END OF TANGENT										
4,603.9	12.00	221.90	4,541.6	96.42	-408.6	-453.3	-416.3	0.00	0.00	0.00
4,700.0	10.07	221.90	4,635.9	2.10	-422.3	-465.6	-427.4	2.00	-2.00	0.00
4,800.0	8.07	221.90	4,734.6	-96.64	-434.0	-476.1	-436.9	2.00	-2.00	0.00
4,900.0	6.07	221.90	4,833.9	-195.88	-443.2	-484.3	-444.3	2.00	-2.00	0.00
5,000.0	4.07	221.90	4,933.5	-295.48	-449.8	-490.2	-449.6	2.00	-2.00	0.00
5,100.0	2.07	221.90	5,033.3	-395.33	-453.8	-493.8	-452.8	2.00	-2.00	0.00
5,200.0	0.07	221.90	5,133.3	-495.31	-455.2	-495.1	-453.9	2.00	-2.00	0.00
EOD TO VERTICAL										
5,203.7	0.00	0.00	5,137.0	-499.01	-455.2	-495.1	-453.9	1.98	-1.98	3,732.41
5,300.0	0.00	0.00	5,233.3	-595.31	-455.2	-495.1	-453.9	0.00	0.00	0.00
5,400.0	0.00	0.00	5,333.3	-695.31	-455.2	-495.1	-453.9	0.00	0.00	0.00
5,500.0	0.00	0.00	5,433.3	-795.31	-455.2	-495.1	-453.9	0.00	0.00	0.00
5,600.0	0.00	0.00	5,533.3	-895.31	-455.2	-495.1	-453.9	0.00	0.00	0.00
5,700.0	0.00	0.00	5,633.3	-995.31	-455.2	-495.1	-453.9	0.00	0.00	0.00
5,800.0	0.00	0.00	5,733.3	-1,095.31	-455.2	-495.1	-453.9	0.00	0.00	0.00
5,900.0	0.00	0.00	5,833.3	-1,195.31	-455.2	-495.1	-453.9	0.00	0.00	0.00
6,000.0	0.00	0.00	5,933.3	-1,295.31	-455.2	-495.1	-453.9	0.00	0.00	0.00
6,100.0	0.00	0.00	6,033.3	-1,395.31	-455.2	-495.1	-453.9	0.00	0.00	0.00
KOP (8°/100ft BUR)										
6,133.5	0.00	0.00	6,066.8	-1,428.81	-455.2	-495.1	-453.9	0.00	0.00	0.00
6,200.0	5.32	90.00	6,133.2	-1,495.21	-455.2	-492.0	-450.9	8.00	8.00	135.34
6,300.0	13.32	90.00	6,231.8	-1,593.81	-455.2	-475.8	-434.7	8.00	8.00	0.00
6,400.0	21.32	90.00	6,327.2	-1,689.20	-455.2	-446.1	-405.1	8.00	8.00	0.00
6,500.0	29.32	90.00	6,417.5	-1,779.52	-455.2	-403.3	-362.5	8.00	8.00	0.00
SHARON SPRINGS										
6,586.2	36.22	90.00	6,490.0	-1,852.00	-455.2	-356.7	-316.0	8.00	8.00	0.00
6,600.0	37.32	90.00	6,501.0	-1,863.02	-455.2	-348.4	-307.8	8.00	8.00	0.00
NIORARA A										
6,663.8	42.43	90.00	6,550.0	-1,912.00	-455.2	-307.5	-267.1	8.00	8.00	0.00
6,700.0	45.32	90.00	6,576.1	-1,938.06	-455.2	-282.5	-242.1	8.00	8.00	0.00
6,800.0	53.32	90.00	6,641.2	-2,003.19	-455.2	-206.7	-166.6	8.00	8.00	0.00
NIORARA B										
6,815.0	54.51	90.00	6,650.0	-2,012.00	-455.2	-194.6	-154.6	8.00	8.00	0.00
6,900.0	61.32	90.00	6,695.1	-2,057.15	-455.2	-122.6	-82.9	8.00	8.00	0.00
NIORARA C										
6,994.7	68.90	90.00	6,735.0	-2,097.00	-455.2	-36.7	2.7	8.00	8.00	0.00
7,000.0	69.32	90.00	6,736.9	-2,098.88	-455.2	-31.8	7.6	8.00	8.00	0.00
7,100.0	77.32	90.00	6,765.6	-2,127.56	-455.2	63.9	103.0	8.00	8.00	0.00
7,200.0	85.32	90.00	6,780.6	-2,142.65	-455.2	162.7	201.4	8.00	8.00	0.00
7" ICP *NEW* - GILLHAM 18Y-312 (P2)										
7,266.4	90.63	90.00	6,783.0	-2,145.00	-455.2	229.0	267.4	8.00	8.00	0.00
7,300.0	90.63	90.00	6,782.6	-2,144.63	-455.2	262.6	300.9	0.00	0.00	0.00
7,400.0	90.63	90.00	6,781.5	-2,143.54	-455.2	362.6	400.5	0.00	0.00	0.00
7,500.0	90.63	90.00	6,780.4	-2,142.45	-455.2	462.6	500.2	0.00	0.00	0.00
7,600.0	90.63	90.00	6,779.4	-2,141.35	-455.2	562.6	599.8	0.00	0.00	0.00
7,700.0	90.63	90.00	6,778.3	-2,140.26	-455.2	662.6	699.4	0.00	0.00	0.00

Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well GILLHAM 18Y-312
Company:	PDC ENERGY	TVD Reference:	KB-EST @ 4638.0usft (Original Well Elev)
Project:	WELD COUNTY, COLORADO	MD Reference:	KB-EST @ 4638.0usft (Original Well Elev)
Site:	SE SE SEC. 18 T5N R64W 6th P.M.	North Reference:	True
Well:	GILLHAM 18Y-312	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #2		

Planned Survey										
MD (usft)	Inc (°)	Azi (°)	TVD (usft)	SS (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
7,800.0	90.63	90.00	6,777.2	-2,139.17	-455.2	762.6	799.0	0.00	0.00	0.00
7,900.0	90.63	90.00	6,776.1	-2,138.07	-455.2	862.6	898.6	0.00	0.00	0.00
8,000.0	90.63	90.00	6,775.0	-2,136.98	-455.2	962.6	998.3	0.00	0.00	0.00
8,100.0	90.63	90.00	6,773.9	-2,135.89	-455.2	1,062.6	1,097.9	0.00	0.00	0.00
8,200.0	90.63	90.00	6,772.8	-2,134.79	-455.2	1,162.6	1,197.5	0.00	0.00	0.00
8,300.0	90.63	90.00	6,771.7	-2,133.70	-455.2	1,262.5	1,297.1	0.00	0.00	0.00
8,400.0	90.63	90.00	6,770.6	-2,132.60	-455.2	1,362.5	1,396.8	0.00	0.00	0.00
8,500.0	90.63	90.00	6,769.5	-2,131.51	-455.2	1,462.5	1,496.4	0.00	0.00	0.00
8,600.0	90.63	90.00	6,768.4	-2,130.42	-455.2	1,562.5	1,596.0	0.00	0.00	0.00
8,700.0	90.63	90.00	6,767.3	-2,129.32	-455.2	1,662.5	1,695.6	0.00	0.00	0.00
8,800.0	90.63	90.00	6,766.2	-2,128.23	-455.2	1,762.5	1,795.2	0.00	0.00	0.00
8,900.0	90.63	90.00	6,765.1	-2,127.13	-455.3	1,862.5	1,894.9	0.00	0.00	0.00
9,000.0	90.63	90.00	6,764.0	-2,126.04	-455.3	1,962.5	1,994.5	0.00	0.00	0.00
9,100.0	90.63	90.00	6,762.9	-2,124.95	-455.3	2,062.5	2,094.1	0.00	0.00	0.00
9,200.0	90.63	90.00	6,761.9	-2,123.85	-455.3	2,162.5	2,193.7	0.00	0.00	0.00
9,300.0	90.63	90.00	6,760.8	-2,122.76	-455.3	2,262.5	2,293.3	0.00	0.00	0.00
9,400.0	90.63	90.00	6,759.7	-2,121.66	-455.3	2,362.5	2,393.0	0.00	0.00	0.00
9,500.0	90.63	90.00	6,758.6	-2,120.57	-455.3	2,462.5	2,492.6	0.00	0.00	0.00
9,600.0	90.63	90.00	6,757.5	-2,119.47	-455.3	2,562.5	2,592.2	0.00	0.00	0.00
9,700.0	90.63	90.00	6,756.4	-2,118.38	-455.3	2,662.5	2,691.8	0.00	0.00	0.00
9,800.0	90.63	90.00	6,755.3	-2,117.28	-455.3	2,762.5	2,791.4	0.00	0.00	0.00
9,900.0	90.63	90.00	6,754.2	-2,116.19	-455.3	2,862.4	2,891.1	0.00	0.00	0.00
10,000.0	90.63	90.00	6,753.1	-2,115.09	-455.3	2,962.4	2,990.7	0.00	0.00	0.00
10,100.0	90.63	90.00	6,752.0	-2,114.00	-455.3	3,062.4	3,090.3	0.00	0.00	0.00
10,200.0	90.63	90.00	6,750.9	-2,112.90	-455.3	3,162.4	3,189.9	0.00	0.00	0.00
10,300.0	90.63	90.00	6,749.8	-2,111.81	-455.2	3,262.4	3,289.5	0.00	0.00	0.00
10,400.0	90.63	90.00	6,748.7	-2,110.71	-455.2	3,362.4	3,389.2	0.00	0.00	0.00
10,500.0	90.63	90.00	6,747.6	-2,109.62	-455.2	3,462.4	3,488.8	0.00	0.00	0.00
10,600.0	90.63	90.00	6,746.5	-2,108.52	-455.2	3,562.4	3,588.4	0.00	0.00	0.00
10,700.0	90.63	90.00	6,745.4	-2,107.43	-455.2	3,662.4	3,688.0	0.00	0.00	0.00
10,800.0	90.63	90.00	6,744.3	-2,106.33	-455.2	3,762.4	3,787.6	0.00	0.00	0.00
10,900.0	90.63	90.00	6,743.2	-2,105.24	-455.2	3,862.4	3,887.3	0.00	0.00	0.00
11,000.0	90.63	90.00	6,742.1	-2,104.14	-455.2	3,962.4	3,986.9	0.00	0.00	0.00
11,100.0	90.63	90.00	6,741.0	-2,103.05	-455.2	4,062.4	4,086.5	0.00	0.00	0.00
11,200.0	90.63	90.00	6,740.0	-2,101.95	-455.2	4,162.4	4,186.1	0.00	0.00	0.00
11,300.0	90.63	90.00	6,738.9	-2,100.86	-455.2	4,262.4	4,285.8	0.00	0.00	0.00
11,400.0	90.63	90.00	6,737.8	-2,099.76	-455.2	4,362.4	4,385.4	0.00	0.00	0.00
11,500.0	90.63	90.00	6,736.7	-2,098.66	-455.2	4,462.4	4,485.0	0.00	0.00	0.00
11,600.0	90.63	90.00	6,735.6	-2,097.57	-455.2	4,562.3	4,584.6	0.00	0.00	0.00
11,700.0	90.63	90.00	6,734.5	-2,096.47	-455.2	4,662.3	4,684.2	0.00	0.00	0.00
11,800.0	90.63	90.00	6,733.4	-2,095.38	-455.2	4,762.3	4,783.9	0.00	0.00	0.00
11,900.0	90.63	90.00	6,732.3	-2,094.28	-455.2	4,862.3	4,883.5	0.00	0.00	0.00
12,000.0	90.63	90.00	6,731.2	-2,093.19	-455.2	4,962.3	4,983.1	0.00	0.00	0.00
12,100.0	90.63	90.00	6,730.1	-2,092.09	-455.2	5,062.3	5,082.7	0.00	0.00	0.00
12,200.0	90.63	90.00	6,729.0	-2,090.99	-455.2	5,162.3	5,182.3	0.00	0.00	0.00
BHL - GILLHAM 18Y-312 (P2)										
12,290.6	90.63	90.00	6,728.0	-2,090.00	-455.2	5,252.9	5,272.6	0.00	0.00	0.00

Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well GILLHAM 18Y-312
Company:	PDC ENERGY	TVD Reference:	KB-EST @ 4638.0usft (Original Well Elev)
Project:	WELD COUNTY, COLORADO	MD Reference:	KB-EST @ 4638.0usft (Original Well Elev)
Site:	SE SE SEC. 18 T5N R64W 6th P.M.	North Reference:	True
Well:	GILLHAM 18Y-312	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #2		

Formations					
MD (usft)	TVD (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,528.8	3,490.0	PARKMAN SANDSTONE			
4,254.7	4,200.0	SUSSEX SANDSTONE			
6,586.2	6,490.0	SHARON SPRINGS			
6,663.8	6,550.0	NIOBRARA A			
6,815.0	6,650.0	NIOBRARA B			
6,994.7	6,735.0	NIOBRARA C			

Plan Annotations				
MD (usft)	TVD (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
1,350.0	1,350.0	0.0	0.0	START NUDGE (2°/100ft BUR)
1,950.0	1,945.6	-35.9	-51.3	EOB TO 12° INC
2,950.0	2,923.8	-155.2	-221.6	END OF TANGENT
3,085.9	3,056.7	-173.8	-242.6	EOT TO 221.9° AZ
4,603.9	4,541.6	-408.6	-453.3	END OF TANGENT
5,203.7	5,137.0	-455.2	-495.1	EOD TO VERTICAL
6,133.5	6,066.8	-455.2	-495.1	KOP (8°/100ft BUR)
7,266.4	6,783.0	-455.2	229.0	7" ICP *NEW* - GILLHAM 18Y-312 (P2)
12,290.6	6,728.0	-455.2	5,252.9	BHL - GILLHAM 18Y-312 (P2)