

# **PDC ENERGY**

**WELD COUNTY, COLORADO  
SE SW SEC. 21 T4N R67W 6th P.M.  
WALTERS 21P-314**

**ORIGINAL WELLBORE**

**26 March, 2016**

**Plan: PROPOSAL #1**



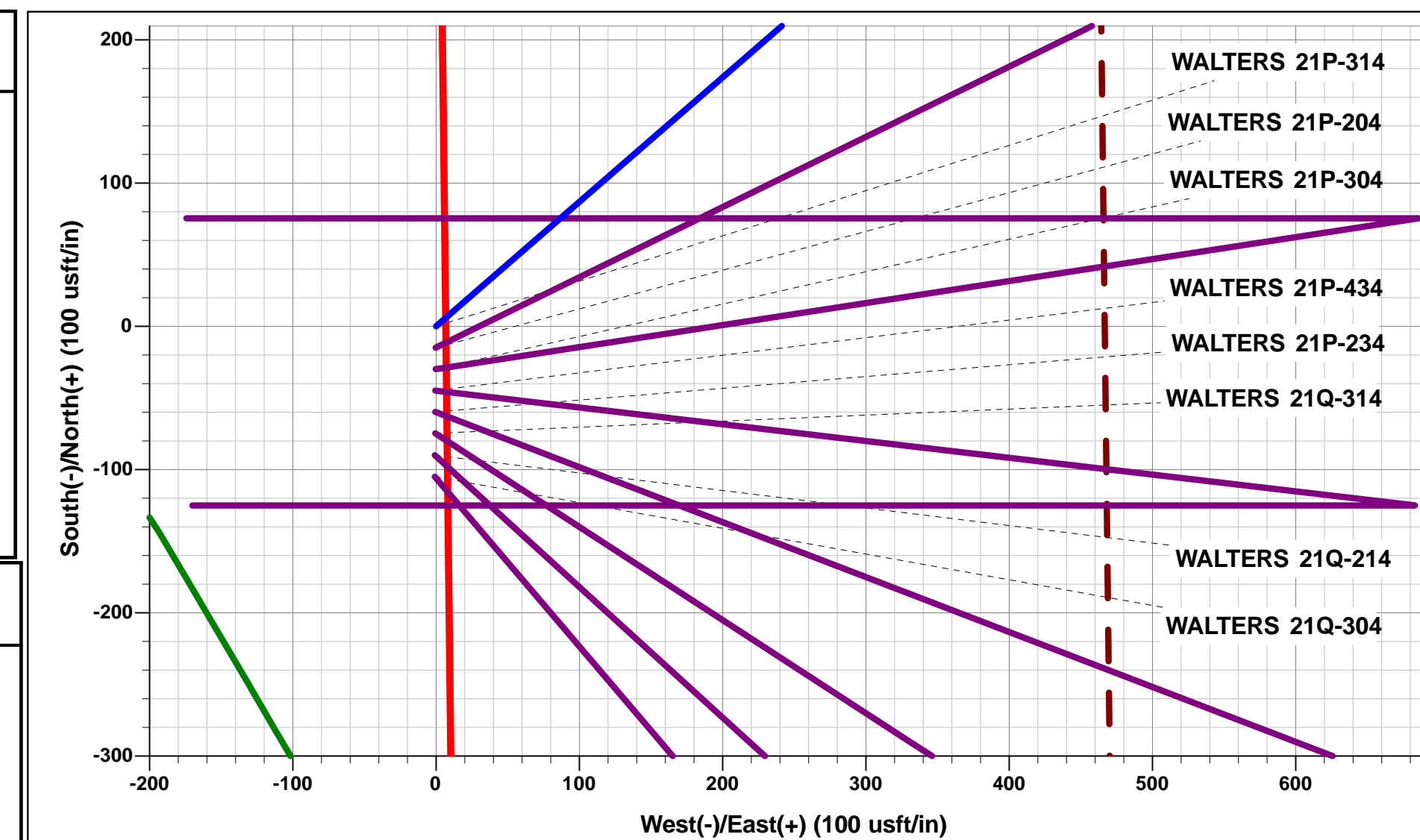


Project: WELD COUNTY, COLORADO  
Site: SE SW SEC. 21 T4N R67W 6th P.M.  
Well: WALTERS 21P-314  
Wellbore: ORIGINAL WELLBORE  
Design: PROPOSAL #1



ANNOTATIONS									
TVD	MD	Inc	Azi	+N/-S	+E/-W	Vsect	Dep	Annotation	
0.0	0.0	0.00	0.00	0.0	0.0	0.0	0.0	SHL: 1106ft FSL & 2203ft FWL of Sec 21	
300.0	300.0	0.00	0.00	0.0	0.0	0.0	0.0	START NUDGE (2°/100ft BUR)	
895.7	900.1	12.00	49.01	41.1	47.3	-41.0	62.6	EOB TO 12° INC	
4541.1	4626.9	12.00	49.01	549.4	632.2	-548.8	837.6	END OF TANGENT	
5136.8	5227.0	0.00	0.00	590.5	679.5	-589.8	900.2	EOD TO VERTICAL	
6462.8	6553.0	0.00	0.00	590.5	679.5	-589.8	900.2	KOP (8°/100ft BUR)	
7179.0	7680.7	90.21	270.00	590.5	-39.3	121.9	1619.1	HZ LP *NEW*: 1695.3ft FSL & 2171ft FWL of Sec 21	
7164.0	11802.2	90.21	270.00	590.5	-4160.8	4202.5	5740.6	BHL: 1625ft FSL & 1949ft FEL of Sec 20	

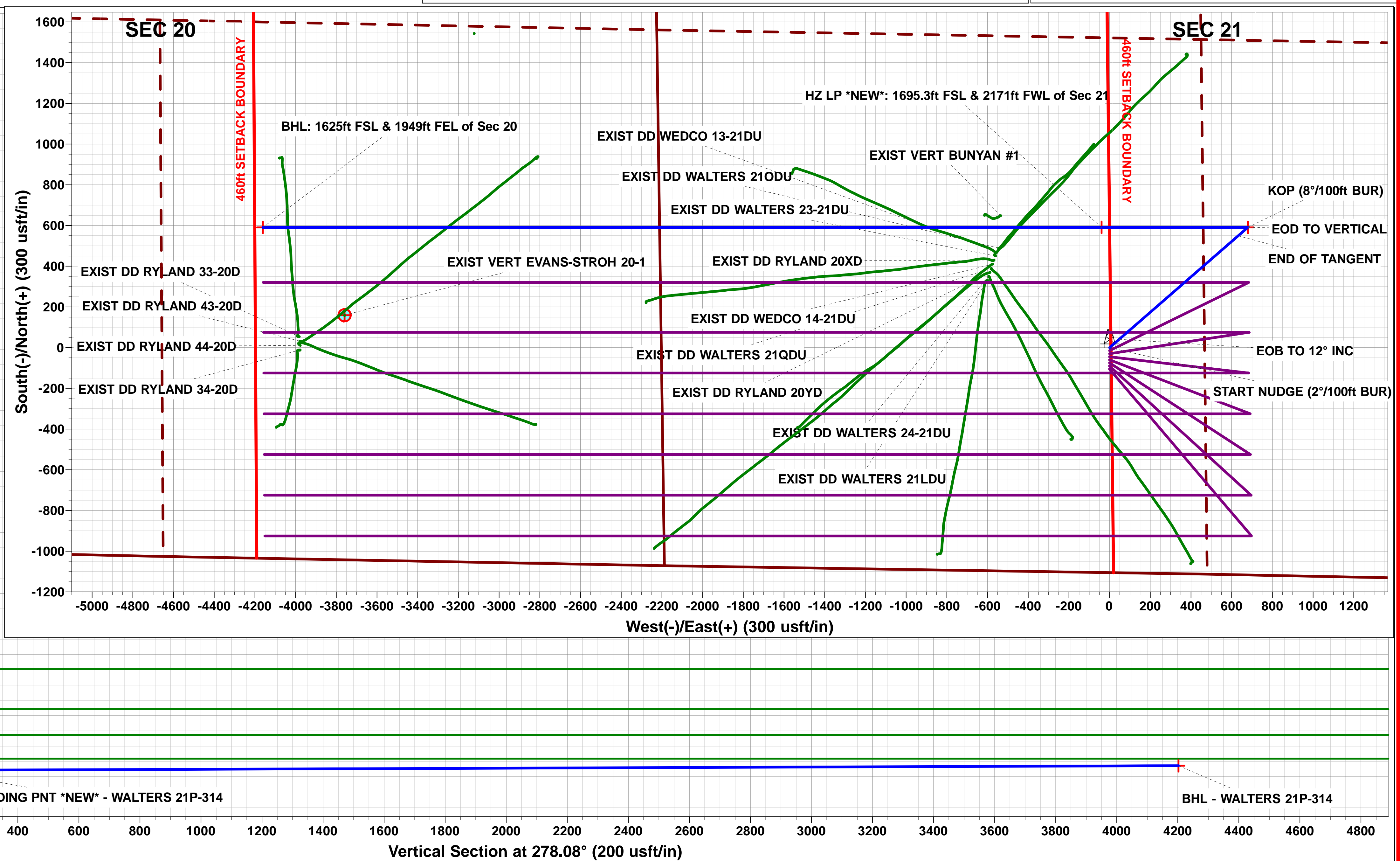
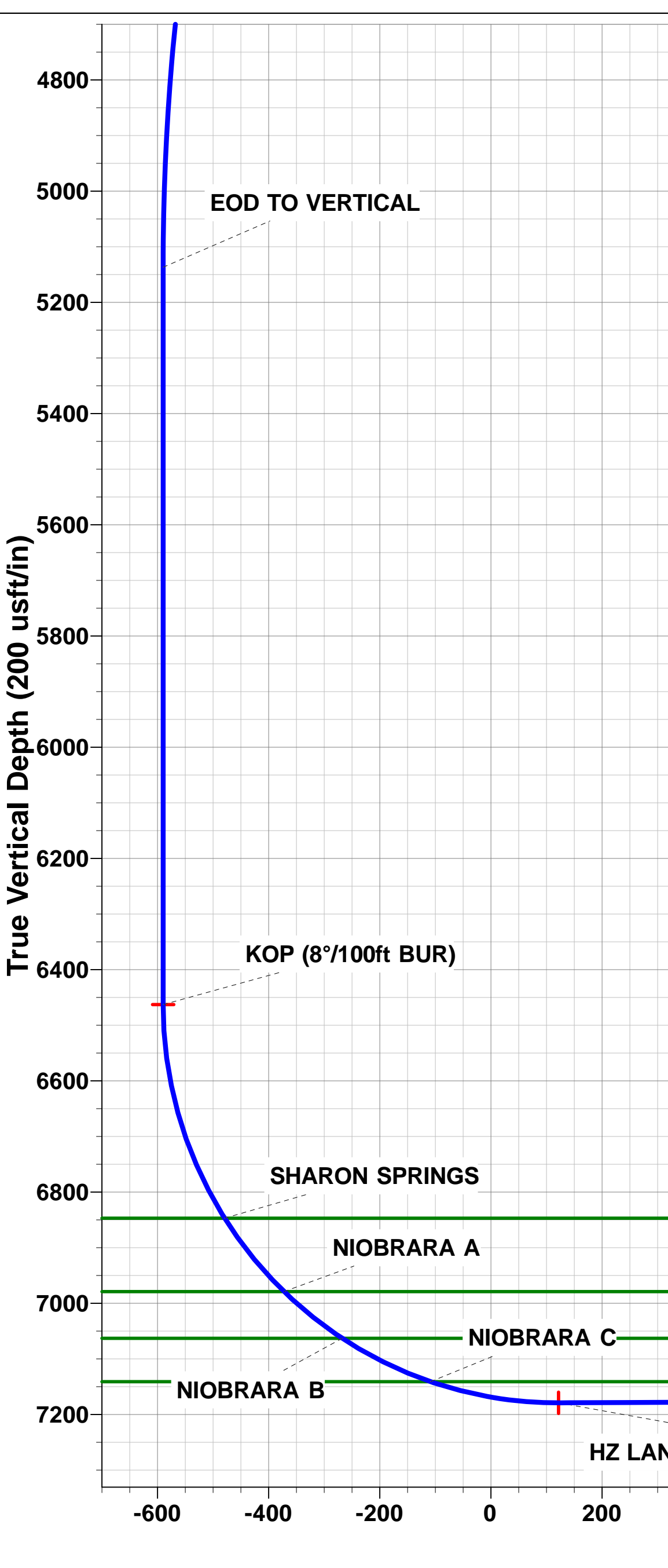
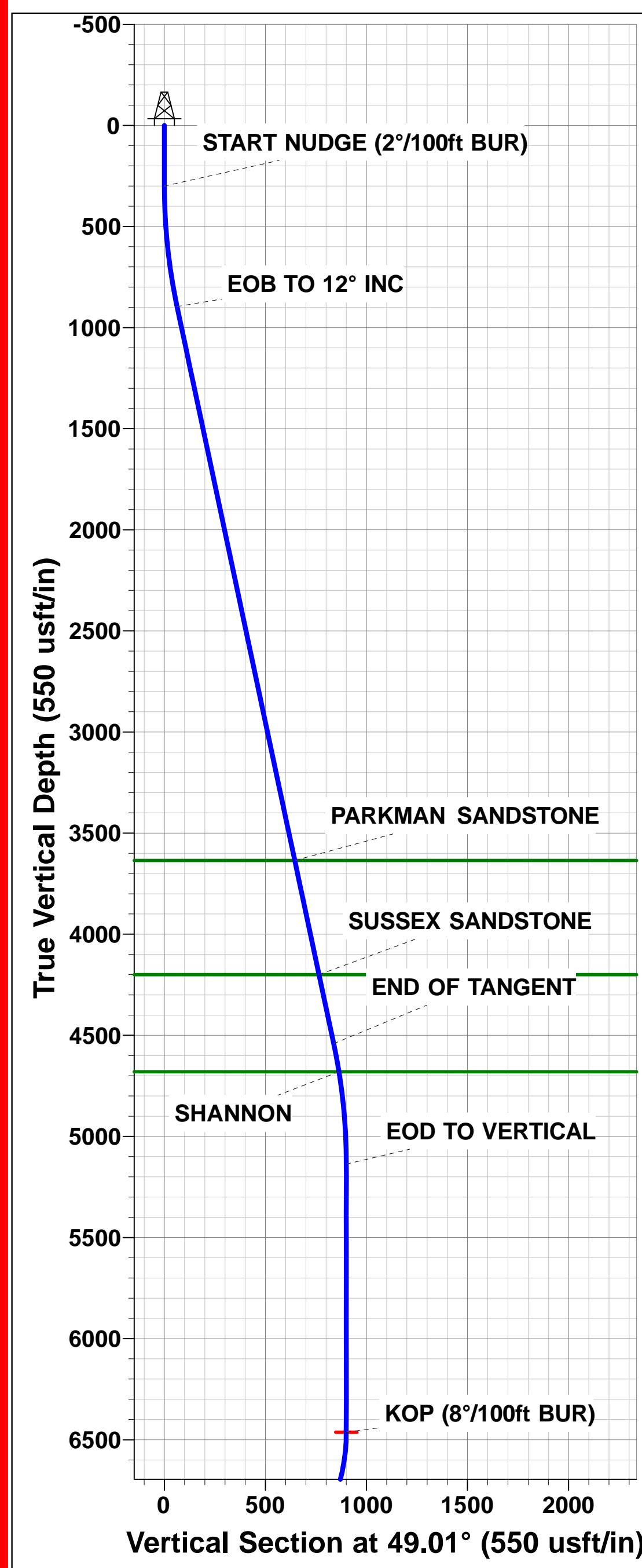
WELLBORE TARGET DETAILS (LAT/LONG)					
Name	TVD	+N/-S	+E/-W	Latitude	Longitude
KOP - WALTERS 21P-314	6462.8	590.5	679.5	40.295764	-104.895114
HZ LANDING PNT *NEW* - WALTERS 21P-314	7179.0	590.5	-39.3	40.295764	-104.897691
BHL - WALTERS 21P-314	7164.0	590.5	-4160.8	40.295763	-104.912466



PROPOSED LOCAL COORDINATES:  
SHL: 1106ft FSL & 2203ft FWL of Sec 21  
HZ LP \*NEW\*: 1695.3ft FSL & 2171ft FWL of Sec 21  
BHL: 1625ft FSL & 1949ft FEL of Sec 20

Azimuths to True North  
Magnetic North: 8.40°

Magnetic Field  
Strength: 52462.0snT  
Dip Angle: 66.78°  
Date: 26/03/2016  
Model: IGRF2015



# Planning Report



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well WALTERS 21P-314
<b>Company:</b>	PDC ENERGY	<b>TVD Reference:</b>	KB-EST @ 4950.5usft (Original Well Elev)
<b>Project:</b>	WELD COUNTY, COLORADO	<b>MD Reference:</b>	KB-EST @ 4950.5usft (Original Well Elev)
<b>Site:</b>	SE SW SEC. 21 T4N R67W 6th P.M.	<b>North Reference:</b>	True
<b>Well:</b>	WALTERS 21P-314	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	PROPOSAL #1		

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

Site		SE SW SEC. 21 T4N R67W 6th P.M.			
Site Position:		Northing:	1,350,463.38 usft	Latitude:	40.293855
From:	Lat/Long	Easting:	3,168,049.14 usft	Longitude:	-104.897553
Position Uncertainty:	0.0 usft	Slot Radius:	1.10000ft	Grid Convergence:	0.39 °

Well	WALTERS 21P-314					
Well Position	+N/-S	104.9 usft	Northing:	1,350,568.29 usft	Latitude:	40.294143
	+E/-W	0.8 usft	Easting:	3,168,049.27 usft	Longitude:	-104.897550
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level:	4,937.0 usft

<b>Wellbore</b>	ORIGINAL WELLBORE				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2015	26/03/2016	8.40	66.78	52,462

<b>Design</b>	PROPOSAL #1			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PROTOTYPE	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>
	7,164.0	0.0	0.0	278.08

<b>Plan Sections</b>											
MD (usft)	Inc (°)	Azi (°)	Vertical Depth	SS (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usf)	Build Rate (°/100usf)	Turn Rate (°/100usf)	TFO (°)	Target
0.0	0.00	0.00	0.0	-4,950.5	0.0	0.0	0.00	0.00	0.00	0.00	
300.0	0.00	0.00	300.0	-4,650.5	0.0	0.0	0.00	0.00	0.00	0.00	
900.1	12.00	49.01	895.7	-4,054.8	41.1	47.3	2.00	2.00	0.00	49.01	
4,626.9	12.00	49.01	4,541.1	-409.4	549.4	632.2	0.00	0.00	0.00	0.00	
5,227.0	0.00	0.00	5,136.8	186.3	590.5	679.5	2.00	-2.00	0.00	180.00	
6,553.0	0.00	0.00	6,462.8	1,512.3	590.5	679.5	0.00	0.00	0.00	0.00	KOP - WALTERS 2
7,680.7	90.21	270.00	7,179.0	2,228.5	590.5	-39.3	8.00	8.00	-7.98	270.00	HZ LANDING PNT
11,802.2	90.21	270.00	7,164.0	2,213.5	590.5	-4,160.8	0.00	0.00	0.00	165.05	BHL - WALTERS 2

# Planning Report



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well WALTERS 21P-314
<b>Company:</b>	PDC ENERGY	<b>TVD Reference:</b>	KB-EST @ 4950.5usft (Original Well Elev)
<b>Project:</b>	WELD COUNTY, COLORADO	<b>MD Reference:</b>	KB-EST @ 4950.5usft (Original Well Elev)
<b>Site:</b>	SE SW SEC. 21 T4N R67W 6th P.M.	<b>North Reference:</b>	True
<b>Well:</b>	WALTERS 21P-314	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	PROPOSAL #1		

## 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)
<b>SHL: 1106ft FSL &amp; 2203ft FWL of Sec 21</b>										
0.0	0.00	0.00	0.0	4,950.50	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	4,850.50	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	4,750.50	0.0	0.0	0.0	0.00	0.00	0.00
<b>START NUDGE (2°/100ft BUR)</b>										
300.0	0.00	0.00	300.0	4,650.50	0.0	0.0	0.0	0.00	0.00	0.00
400.0	2.00	49.01	400.0	4,550.52	1.1	1.3	-1.1	2.00	2.00	0.00
500.0	4.00	49.01	499.8	4,450.66	4.6	5.3	-4.6	2.00	2.00	0.00
600.0	6.00	49.01	599.5	4,351.05	10.3	11.8	-10.3	2.00	2.00	0.00
700.0	8.00	49.01	698.7	4,251.80	18.3	21.0	-18.3	2.00	2.00	0.00
800.0	10.00	49.01	797.5	4,153.03	28.5	32.9	-28.5	2.00	2.00	0.00
900.0	12.00	49.01	895.6	4,054.88	41.1	47.3	-41.0	2.00	2.00	0.00
<b>EOB TO 12° INC</b>										
900.1	12.00	49.01	895.7	4,054.78	41.1	47.3	-41.0	2.00	2.00	0.00
1,000.0	12.00	49.01	993.4	3,957.06	54.7	62.9	-54.6	0.00	0.00	0.00
1,100.0	12.00	49.01	1,091.3	3,859.25	68.3	78.6	-68.3	0.00	0.00	0.00
1,200.0	12.00	49.01	1,189.1	3,761.43	82.0	94.3	-81.9	0.00	0.00	0.00
1,300.0	12.00	49.01	1,286.9	3,663.62	95.6	110.0	-95.5	0.00	0.00	0.00
1,400.0	12.00	49.01	1,384.7	3,565.81	109.3	125.7	-109.1	0.00	0.00	0.00
1,500.0	12.00	49.01	1,482.5	3,467.99	122.9	141.4	-122.8	0.00	0.00	0.00
1,600.0	12.00	49.01	1,580.3	3,370.18	136.5	157.1	-136.4	0.00	0.00	0.00
1,700.0	12.00	49.01	1,678.1	3,272.36	150.2	172.8	-150.0	0.00	0.00	0.00
1,800.0	12.00	49.01	1,775.9	3,174.55	163.8	188.5	-163.6	0.00	0.00	0.00
1,900.0	12.00	49.01	1,873.8	3,076.74	177.5	204.2	-177.2	0.00	0.00	0.00
2,000.0	12.00	49.01	1,971.6	2,978.92	191.1	219.9	-190.9	0.00	0.00	0.00
2,100.0	12.00	49.01	2,069.4	2,881.11	204.7	235.6	-204.5	0.00	0.00	0.00
2,200.0	12.00	49.01	2,167.2	2,783.29	218.4	251.3	-218.1	0.00	0.00	0.00
2,300.0	12.00	49.01	2,265.0	2,685.48	232.0	267.0	-231.7	0.00	0.00	0.00
2,400.0	12.00	49.01	2,362.8	2,587.67	245.7	282.7	-245.4	0.00	0.00	0.00
2,500.0	12.00	49.01	2,460.6	2,489.85	259.3	298.4	-259.0	0.00	0.00	0.00
2,600.0	12.00	49.01	2,558.5	2,392.04	272.9	314.1	-272.6	0.00	0.00	0.00
2,700.0	12.00	49.01	2,656.3	2,294.22	286.6	329.8	-286.2	0.00	0.00	0.00
2,800.0	12.00	49.01	2,754.1	2,196.41	300.2	345.5	-299.9	0.00	0.00	0.00
2,900.0	12.00	49.01	2,851.9	2,098.60	313.9	361.2	-313.5	0.00	0.00	0.00
3,000.0	12.00	49.01	2,949.7	2,000.78	327.5	376.9	-327.1	0.00	0.00	0.00
3,100.0	12.00	49.01	3,047.5	1,902.97	341.1	392.6	-340.7	0.00	0.00	0.00
3,200.0	12.00	49.01	3,145.3	1,805.15	354.8	408.3	-354.4	0.00	0.00	0.00
3,300.0	12.00	49.01	3,243.2	1,707.34	368.4	424.0	-368.0	0.00	0.00	0.00
3,400.0	12.00	49.01	3,341.0	1,609.53	382.1	439.7	-381.6	0.00	0.00	0.00
3,500.0	12.00	49.01	3,438.8	1,511.71	395.7	455.3	-395.2	0.00	0.00	0.00
3,600.0	12.00	49.01	3,536.6	1,413.90	409.3	471.0	-408.9	0.00	0.00	0.00
3,700.0	12.00	49.01	3,634.4	1,316.08	423.0	486.7	-422.5	0.00	0.00	0.00
<b>PARKMAN SANDSTONE</b>										
3,700.6	12.00	49.01	3,635.0	1,315.50	423.1	486.8	-422.6	0.00	0.00	0.00
3,800.0	12.00	49.01	3,732.2	1,218.27	436.6	502.4	-436.1	0.00	0.00	0.00
3,900.0	12.00	49.01	3,830.0	1,120.46	450.3	518.1	-449.7	0.00	0.00	0.00
4,000.0	12.00	49.01	3,927.9	1,022.64	463.9	533.8	-463.3	0.00	0.00	0.00
4,100.0	12.00	49.01	4,025.7	924.83	477.5	549.5	-477.0	0.00	0.00	0.00
4,200.0	12.00	49.01	4,123.5	827.01	491.2	565.2	-490.6	0.00	0.00	0.00
<b>SUSSEX SANDSTONE</b>										
4,278.2	12.00	49.01	4,200.0	750.50	501.9	577.5	-501.2	0.00	0.00	0.00
4,300.0	12.00	49.01	4,221.3	729.20	504.8	580.9	-504.2	0.00	0.00	0.00
4,400.0	12.00	49.01	4,319.1	631.39	518.5	596.6	-517.8	0.00	0.00	0.00
4,500.0	12.00	49.01	4,416.9	533.57	532.1	612.3	-531.5	0.00	0.00	0.00



# Planning Report



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<b>Project:</b>	WELD COUNTY, COLORADO	<b>MD Reference:</b>	KB-EST @ 4950.5usft (Original Well Elev)
<b>Site:</b>	SE SW SEC. 21 T4N R67W 6th P.M.	<b>North Reference:</b>	True
<b>Well:</b>	WALTERS 21P-314	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	PROPOSAL #1		

## 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)
4,600.0	12.00	49.01	4,514.7	435.76	545.7	628.0	-545.1	0.00	0.00	0.00
<b>END OF TANGENT</b>										
<b>4,626.9</b>	<b>12.00</b>	<b>49.01</b>	<b>4,541.1</b>	<b>409.42</b>	<b>549.4</b>	<b>632.2</b>	<b>-548.8</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
4,700.0	10.54	49.01	4,612.7	337.76	558.8	643.0	-558.1	2.00	-2.00	0.00
<b>SHANNON</b>										
<b>4,768.3</b>	<b>9.18</b>	<b>49.01</b>	<b>4,680.0</b>	<b>270.50</b>	<b>566.5</b>	<b>651.8</b>	<b>-565.8</b>	<b>2.00</b>	<b>-2.00</b>	<b>0.00</b>
4,800.0	8.54	49.01	4,711.4	239.15	569.7	655.5	-569.0	2.00	-2.00	0.00
4,900.0	6.54	49.01	4,810.5	140.02	578.3	665.4	-577.6	2.00	-2.00	0.00
5,000.0	4.54	49.01	4,910.0	40.49	584.6	672.7	-583.9	2.00	-2.00	0.00
5,100.0	2.54	49.01	5,009.8	-59.32	588.7	677.4	-587.9	2.00	-2.00	0.00
5,200.0	0.54	49.01	5,109.8	-159.27	590.4	679.4	-589.7	2.00	-2.00	0.00
<b>EOD TO VERTICAL</b>										
<b>5,227.0</b>	<b>0.00</b>	<b>0.00</b>	<b>5,136.8</b>	<b>-186.30</b>	<b>590.5</b>	<b>679.5</b>	<b>-589.8</b>	<b>2.00</b>	<b>-2.00</b>	<b>0.00</b>
5,300.0	0.00	0.00	5,209.8	-259.27	590.5	679.5	-589.8	0.00	0.00	0.00
5,400.0	0.00	0.00	5,309.8	-359.27	590.5	679.5	-589.8	0.00	0.00	0.00
5,500.0	0.00	0.00	5,409.8	-459.27	590.5	679.5	-589.8	0.00	0.00	0.00
5,600.0	0.00	0.00	5,509.8	-559.27	590.5	679.5	-589.8	0.00	0.00	0.00
5,700.0	0.00	0.00	5,609.8	-659.27	590.5	679.5	-589.8	0.00	0.00	0.00
5,800.0	0.00	0.00	5,709.8	-759.27	590.5	679.5	-589.8	0.00	0.00	0.00
5,900.0	0.00	0.00	5,809.8	-859.27	590.5	679.5	-589.8	0.00	0.00	0.00
6,000.0	0.00	0.00	5,909.8	-959.27	590.5	679.5	-589.8	0.00	0.00	0.00
6,100.0	0.00	0.00	6,009.8	-1,059.27	590.5	679.5	-589.8	0.00	0.00	0.00
6,200.0	0.00	0.00	6,109.8	-1,159.27	590.5	679.5	-589.8	0.00	0.00	0.00
6,300.0	0.00	0.00	6,209.8	-1,259.27	590.5	679.5	-589.8	0.00	0.00	0.00
6,400.0	0.00	0.00	6,309.8	-1,359.27	590.5	679.5	-589.8	0.00	0.00	0.00
6,500.0	0.00	0.00	6,409.8	-1,459.27	590.5	679.5	-589.8	0.00	0.00	0.00
<b>KOP (8°/100ft BUR)</b>										
<b>6,553.0</b>	<b>0.00</b>	<b>0.00</b>	<b>6,462.8</b>	<b>-1,512.30</b>	<b>590.5</b>	<b>679.5</b>	<b>-589.8</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
6,600.0	3.76	270.00	6,509.7	-1,559.24	590.5	678.0	-588.3	8.00	8.00	0.00
6,700.0	11.76	270.00	6,608.7	-1,658.24	590.5	664.5	-574.9	8.00	8.00	0.00
6,800.0	19.76	270.00	6,704.9	-1,754.41	590.5	637.3	-548.0	8.00	8.00	0.00
6,900.0	27.76	270.00	6,796.4	-1,845.86	590.5	597.1	-508.2	8.00	8.00	0.00
<b>SHARON SPRINGS</b>										
<b>6,958.5</b>	<b>32.44</b>	<b>270.00</b>	<b>6,847.0</b>	<b>-1,896.50</b>	<b>590.5</b>	<b>567.7</b>	<b>-479.1</b>	<b>8.00</b>	<b>8.00</b>	<b>0.00</b>
7,000.0	35.76	270.00	6,881.3	-1,930.82	590.5	544.5	-456.1	8.00	8.00	0.00
7,100.0	43.76	270.00	6,958.1	-2,007.63	590.5	480.6	-392.8	8.00	8.00	0.00
<b>NIOBRARA A</b>										
<b>7,129.5</b>	<b>46.12</b>	<b>270.00</b>	<b>6,979.0</b>	<b>-2,028.50</b>	<b>590.5</b>	<b>459.8</b>	<b>-372.2</b>	<b>8.00</b>	<b>8.00</b>	<b>0.00</b>
7,200.0	51.76	270.00	7,025.3	-2,074.80	590.5	406.6	-319.6	8.00	8.00	0.00
<b>NIOBRARA B</b>										
<b>7,264.7</b>	<b>56.93</b>	<b>270.00</b>	<b>7,063.0</b>	<b>-2,112.50</b>	<b>590.5</b>	<b>354.1</b>	<b>-267.6</b>	<b>8.00</b>	<b>8.00</b>	<b>0.00</b>
7,300.0	59.76	270.00	7,081.5	-2,131.03	590.5	324.0	-237.8	8.00	8.00	0.00
7,400.0	67.76	270.00	7,125.7	-2,175.21	590.5	234.4	-149.1	8.00	8.00	0.00
<b>NIOBRARA C</b>										
<b>7,443.7</b>	<b>71.25</b>	<b>270.00</b>	<b>7,141.0</b>	<b>-2,190.50</b>	<b>590.5</b>	<b>193.5</b>	<b>-108.6</b>	<b>8.00</b>	<b>8.00</b>	<b>0.00</b>
7,500.0	75.76	270.00	7,157.0	-2,206.49	590.5	139.5	-55.1	8.00	8.00	0.00
7,600.0	83.76	270.00	7,174.8	-2,224.26	590.5	41.2	42.2	8.00	8.00	0.00
<b>HZ LP *NEW*: 1695.3ft FSL &amp; 2171ft FWL of Sec 21</b>										
<b>7,680.7</b>	<b>90.21</b>	<b>270.00</b>	<b>7,179.0</b>	<b>-2,228.50</b>	<b>590.5</b>	<b>-39.3</b>	<b>121.9</b>	<b>8.00</b>	<b>8.00</b>	<b>0.00</b>
7,700.0	90.21	270.00	7,178.9	-2,228.43	590.5	-58.7	141.1	0.00	0.00	0.00
7,800.0	90.21	270.00	7,178.6	-2,228.06	590.5	-158.7	240.1	0.00	0.00	0.00
7,900.0	90.21	270.00	7,178.2	-2,227.70	590.5	-258.7	339.1	0.00	0.00	0.00
8,000.0	90.21	270.00	7,177.8	-2,227.33	590.5	-358.7	438.1	0.00	0.00	0.00

# Planning Report



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well WALTERS 21P-314
<b>Company:</b>	PDC ENERGY	<b>TVD Reference:</b>	KB-EST @ 4950.5usft (Original Well Elev)
<b>Project:</b>	WELD COUNTY, COLORADO	<b>MD Reference:</b>	KB-EST @ 4950.5usft (Original Well Elev)
<b>Site:</b>	SE SW SEC. 21 T4N R67W 6th P.M.	<b>North Reference:</b>	True
<b>Well:</b>	WALTERS 21P-314	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	PROPOSAL #1		

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)
8,100.0	90.21	270.00	7,177.5	-2,226.96	590.5	-458.7	537.1	0.00	0.00	0.00
8,200.0	90.21	270.00	7,177.1	-2,226.60	590.5	-558.7	636.1	0.00	0.00	0.00
8,300.0	90.21	270.00	7,176.7	-2,226.23	590.5	-658.7	735.1	0.00	0.00	0.00
8,400.0	90.21	270.00	7,176.4	-2,225.86	590.5	-758.7	834.1	0.00	0.00	0.00
8,500.0	90.21	270.00	7,176.0	-2,225.50	590.5	-858.7	933.1	0.00	0.00	0.00
8,600.0	90.21	270.00	7,175.6	-2,225.13	590.5	-958.7	1,032.1	0.00	0.00	0.00
8,700.0	90.21	270.00	7,175.3	-2,224.77	590.5	-1,058.7	1,131.1	0.00	0.00	0.00
8,800.0	90.21	270.00	7,174.9	-2,224.40	590.5	-1,158.7	1,230.1	0.00	0.00	0.00
8,900.0	90.21	270.00	7,174.5	-2,224.04	590.5	-1,258.7	1,329.1	0.00	0.00	0.00
9,000.0	90.21	270.00	7,174.2	-2,223.67	590.5	-1,358.7	1,428.2	0.00	0.00	0.00
9,100.0	90.21	270.00	7,173.8	-2,223.31	590.5	-1,458.7	1,527.2	0.00	0.00	0.00
9,200.0	90.21	270.00	7,173.4	-2,222.94	590.5	-1,558.7	1,626.2	0.00	0.00	0.00
9,300.0	90.21	270.00	7,173.1	-2,222.58	590.5	-1,658.7	1,725.2	0.00	0.00	0.00
9,400.0	90.21	270.00	7,172.7	-2,222.21	590.5	-1,758.7	1,824.2	0.00	0.00	0.00
9,500.0	90.21	270.00	7,172.3	-2,221.85	590.5	-1,858.7	1,923.2	0.00	0.00	0.00
9,600.0	90.21	270.00	7,172.0	-2,221.49	590.5	-1,958.7	2,022.2	0.00	0.00	0.00
9,700.0	90.21	270.00	7,171.6	-2,221.12	590.5	-2,058.7	2,121.2	0.00	0.00	0.00
9,800.0	90.21	270.00	7,171.3	-2,220.76	590.5	-2,158.7	2,220.2	0.00	0.00	0.00
9,900.0	90.21	270.00	7,170.9	-2,220.39	590.5	-2,258.7	2,319.2	0.00	0.00	0.00
10,000.0	90.21	270.00	7,170.5	-2,220.03	590.5	-2,358.7	2,418.2	0.00	0.00	0.00
10,100.0	90.21	270.00	7,170.2	-2,219.67	590.5	-2,458.7	2,517.2	0.00	0.00	0.00
10,200.0	90.21	270.00	7,169.8	-2,219.30	590.5	-2,558.7	2,616.2	0.00	0.00	0.00
10,300.0	90.21	270.00	7,169.4	-2,218.94	590.5	-2,658.6	2,715.2	0.00	0.00	0.00
10,400.0	90.21	270.00	7,169.1	-2,218.58	590.5	-2,758.6	2,814.3	0.00	0.00	0.00
10,500.0	90.21	270.00	7,168.7	-2,218.21	590.5	-2,858.6	2,913.3	0.00	0.00	0.00
10,600.0	90.21	270.00	7,168.4	-2,217.85	590.5	-2,958.6	3,012.3	0.00	0.00	0.00
10,700.0	90.21	270.00	7,168.0	-2,217.49	590.5	-3,058.6	3,111.3	0.00	0.00	0.00
10,800.0	90.21	270.00	7,167.6	-2,217.13	590.5	-3,158.6	3,210.3	0.00	0.00	0.00
10,900.0	90.21	270.00	7,167.3	-2,216.76	590.5	-3,258.6	3,309.3	0.00	0.00	0.00
11,000.0	90.21	270.00	7,166.9	-2,216.40	590.5	-3,358.6	3,408.3	0.00	0.00	0.00
11,100.0	90.21	270.00	7,166.5	-2,216.04	590.5	-3,458.6	3,507.3	0.00	0.00	0.00
11,200.0	90.21	270.00	7,166.2	-2,215.68	590.5	-3,558.6	3,606.3	0.00	0.00	0.00
11,300.0	90.21	270.00	7,165.8	-2,215.31	590.5	-3,658.6	3,705.3	0.00	0.00	0.00
11,400.0	90.21	270.00	7,165.5	-2,214.95	590.5	-3,758.6	3,804.3	0.00	0.00	0.00
11,500.0	90.21	270.00	7,165.1	-2,214.59	590.5	-3,858.6	3,903.3	0.00	0.00	0.00
11,600.0	90.21	270.00	7,164.7	-2,214.23	590.5	-3,958.6	4,002.3	0.00	0.00	0.00
11,700.0	90.21	270.00	7,164.4	-2,213.87	590.5	-4,058.6	4,101.4	0.00	0.00	0.00
11,800.0	90.21	270.00	7,164.0	-2,213.51	590.5	-4,158.6	4,200.4	0.00	0.00	0.00
<b>BHL: 1625ft FSL &amp; 1949ft FEL of Sec 20</b>										
<b>11,802.2</b>	<b>90.21</b>	<b>270.00</b>	<b>7,164.0</b>	<b>-2,213.50</b>	<b>590.5</b>	<b>-4,160.8</b>	<b>4,202.5</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

# Planning Report



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well WALTERS 21P-314
<b>Company:</b>	PDC ENERGY	<b>TVD Reference:</b>	KB-EST @ 4950.5usft (Original Well Elev)
<b>Project:</b>	WELD COUNTY, COLORADO	<b>MD Reference:</b>	KB-EST @ 4950.5usft (Original Well Elev)
<b>Site:</b>	SE SW SEC. 21 T4N R67W 6th P.M.	<b>North Reference:</b>	True
<b>Well:</b>	WALTERS 21P-314	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	PROPOSAL #1		

Formations					
MD (usft)	TVD (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,700.6	3,635.0	PARKMAN SANDSTONE			
4,278.2	4,200.0	SUSSEX SANDSTONE			
4,768.3	4,680.0	SHANNON			
6,958.5	6,847.0	SHARON SPRINGS			
7,129.5	6,979.0	NIOBRARA A			
7,264.7	7,063.0	NIOBRARA B			
7,443.7	7,141.0	NIOBRARA C			

Plan Annotations				
MD (usft)	TVD (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
0.0	0.0	0.0	0.0	SHL: 1106ft FSL & 2203ft FWL of Sec 21
300.0	300.0	0.0	0.0	START NUDGE (2°/100ft BUR)
900.1	895.7	41.1	47.3	EOB TO 12° INC
4,626.9	4,541.1	549.4	632.2	END OF TANGENT
5,227.0	5,136.8	590.5	679.5	EOD TO VERTICAL
6,553.0	6,462.8	590.5	679.5	KOP (8°/100ft BUR)
7,680.7	7,179.0	590.5	-39.3	HZ LP *NEW*: 1695.3ft FSL & 2171ft FWL of Sec 21
11,802.2	7,164.0	590.5	-4,160.8	BHL: 1625ft FSL & 1949ft FEL of Sec 20