

# **PDC ENERGY**

**WELD COUNTY, COLORADO  
SE SW SEC. 21 T4N R67W 6th P.M.  
WALTERS 21P-204**

## **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-204  
Wellbore: ORIGINAL WELLBORE  
Design: PROPOSAL #1

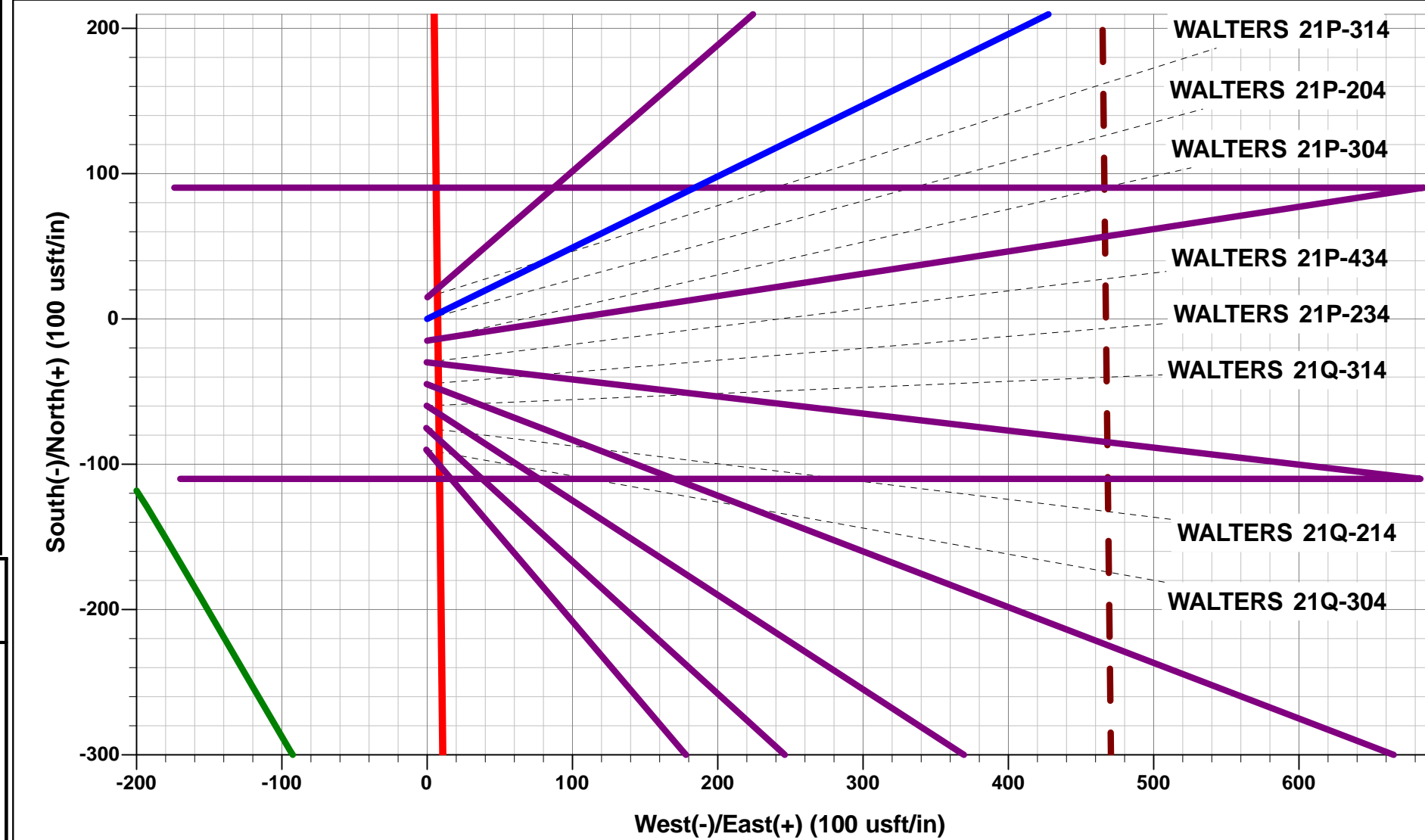


#### ANNOTATIONS

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: 1091ft FSL & 2202ft FWL of Sec 21
400.0	400.0	0.00	0.00	0.0	0.0	0.0	0.0	START NUDGE (2°/100ft BUR)
995.8	1000.1	12.00	63.88	27.6	56.2	-53.8	62.6	EOB TO 12° INC
3988.0	4059.3	12.00	63.88	307.6	627.5	-600.7	698.8	END OF TANGENT
4583.8	4659.4	0.00	0.00	335.2	683.7	-654.6	761.4	EOD TO VERTICAL
6359.8	6435.4	0.00	0.00	335.2	683.7	-654.6	761.4	KOP (8°/100ft BUR)
7076.0	7563.9	90.28	270.00	335.2	-36.0	62.8	1481.1	HZ LP *NEW*: 1425ft FSL & 2171ft FWL of Sec 21
7056.0	11686.6	90.28	270.00	335.2	-4158.6	4172.1	5603.8	BHL: 1355ft FSL & 1951ft FEL of Sec 20

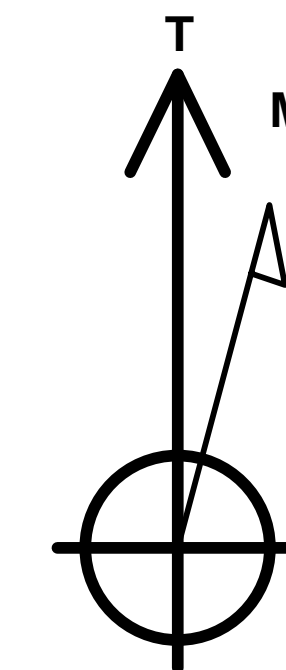
#### WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
KOP - WALTERS 21P-204	6359.8	335.2	683.7	40.295022	-104.895100
HZ LANDING PNT *NEW* - WALTERS 21P-204	7076.0	335.2	-36.0	40.295022	-104.897680
BHL - WALTERS 21P-204	7056.0	335.2	-4158.6	40.295021	-104.912459



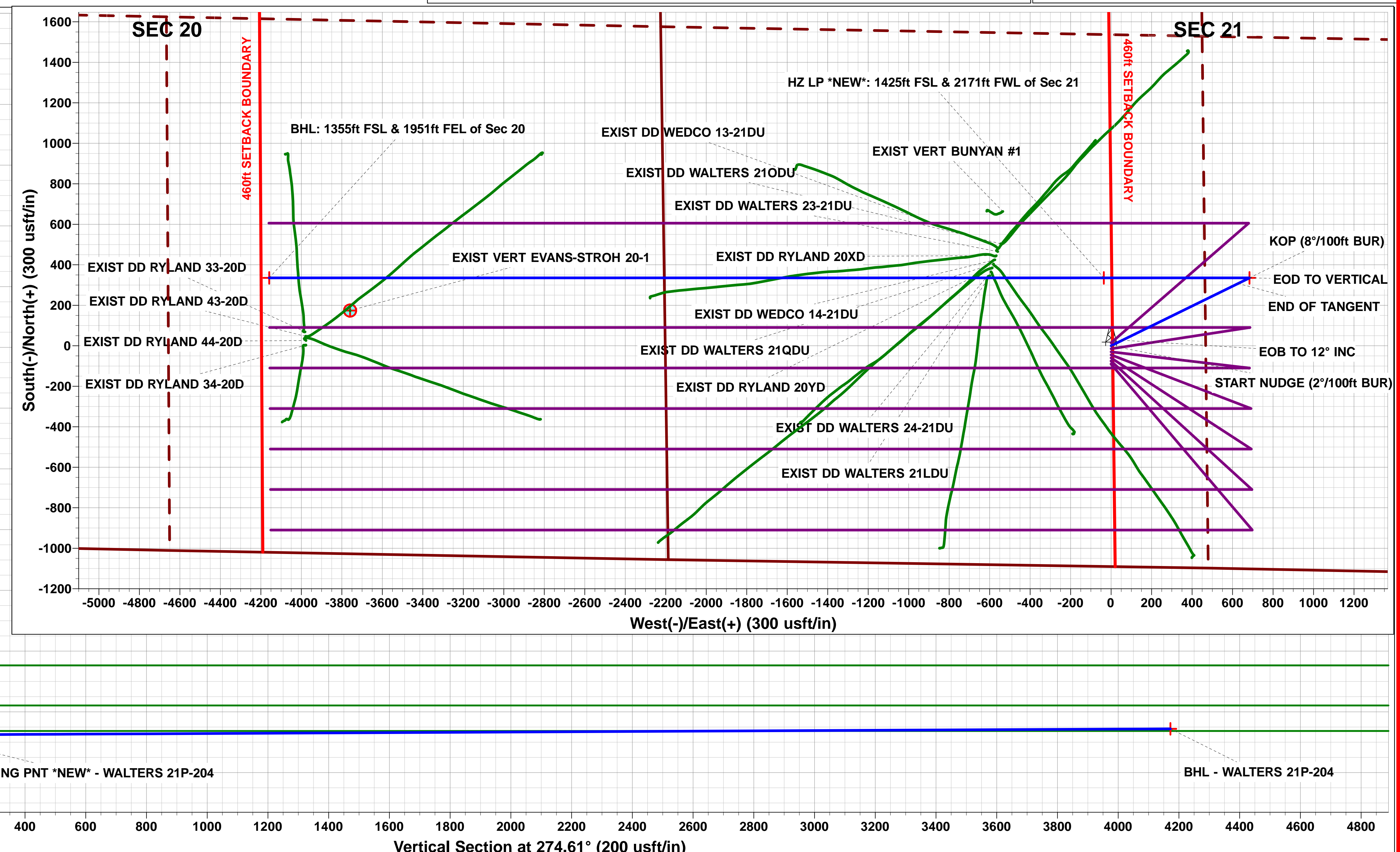
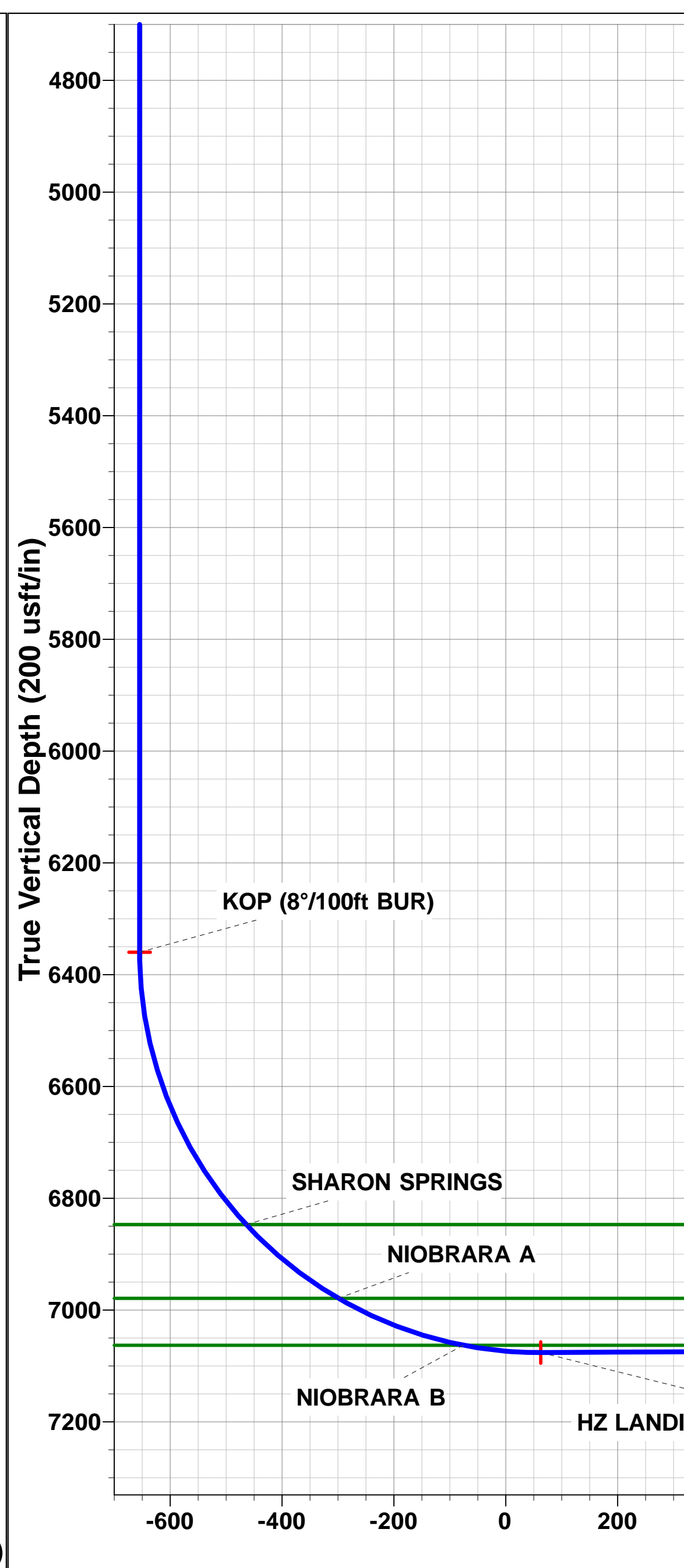
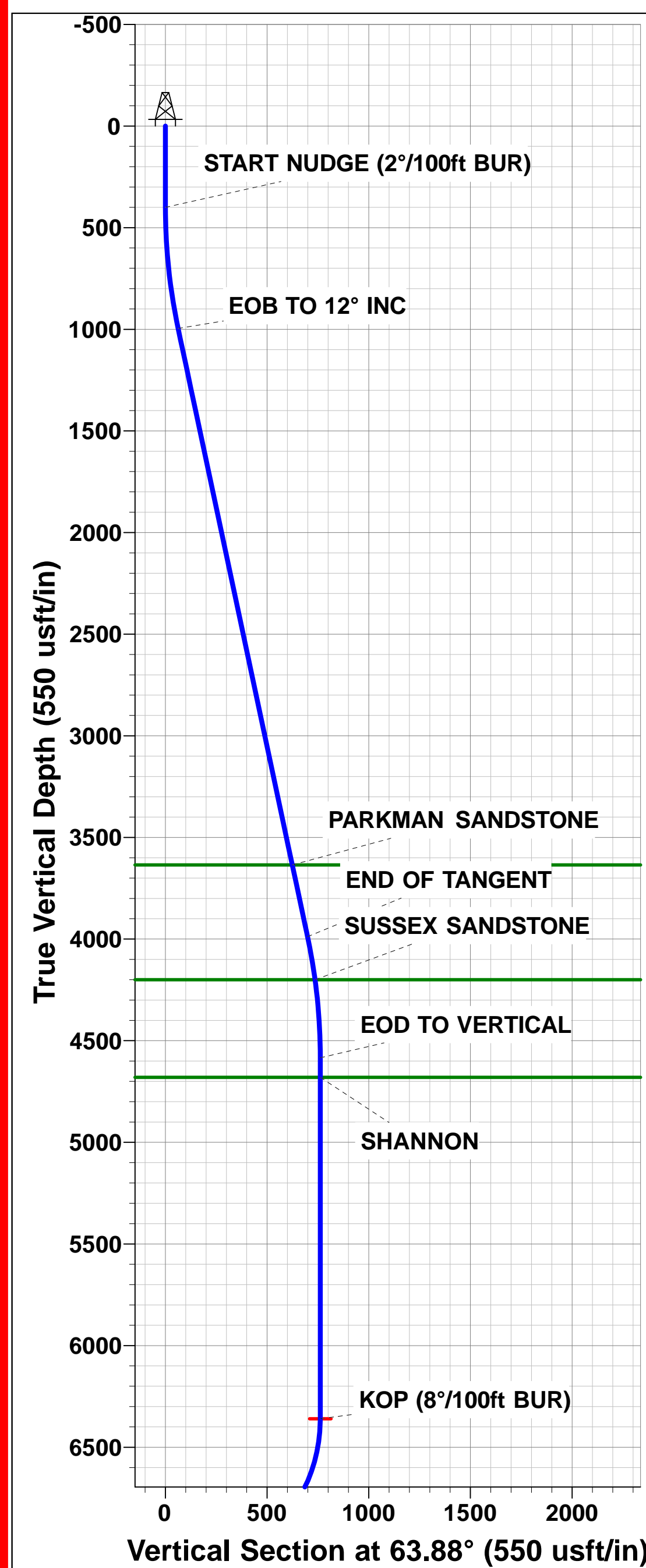
#### PROPOSED LOCAL COORDINATES:

SHL: 1091ft FSL & 2202ft FWL of Sec 21  
HZ LP \*NEW\*: 1425ft FSL & 2171ft FWL of Sec 21  
BHL: 1355ft FSL & 1951ft 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-204
<b>Company:</b>	PDC ENERGY	<b>TVD Reference:</b>	KB-EST @ 4951.5usft (Original Well Elev)
<b>Project:</b>	WELD COUNTY, COLORADO	<b>MD Reference:</b>	KB-EST @ 4951.5usft (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-204	<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-204					
Well Position	+N-S	90.0 usft	Northing:	1,350,553.35 usft	Latitude:	40.294102
	+E-W	0.6 usft	Easting:	3,168,049.09 usft	Longitude:	-104.897551
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level:	4,938.0 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>
	7,056.0	0.0	0.0	274.61

<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	-4,951.5	0.0	0.0	0.00	0.00	0.00	0.00	
400.0	0.00	0.00	400.0	-4,551.5	0.0	0.0	0.00	0.00	0.00	0.00	
1,000.1	12.00	63.88	995.8	-3,955.7	27.6	56.2	2.00	2.00	0.00	63.88	
4,059.3	12.00	63.88	3,988.0	-963.5	307.6	627.5	0.00	0.00	0.00	0.00	
4,659.4	0.00	0.00	4,583.8	-367.7	335.2	683.7	2.00	-2.00	0.00	180.00	
6,435.4	0.00	0.00	6,359.8	1,408.3	335.2	683.7	0.00	0.00	0.00	0.00	KOP - WALTERS 2
7,563.9	90.28	270.00	7,076.0	2,124.5	335.2	-36.0	8.00	8.00	-7.98	270.00	HZ LANDING PNT
11,686.6	90.28	270.00	7,056.0	2,104.5	335.2	-4,158.6	0.00	0.00	0.00	0.00	BHL - WALTERS 2

# Planning Report



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well WALTERS 21P-204
<b>Company:</b>	PDC ENERGY	<b>TVD Reference:</b>	KB-EST @ 4951.5usft (Original Well Elev)
<b>Project:</b>	WELD COUNTY, COLORADO	<b>MD Reference:</b>	KB-EST @ 4951.5usft (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-204	<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: 1091ft FSL &amp; 2202ft FWL of Sec 21</b>										
0.0	0.00	0.00	0.0	4,951.50	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	4,851.50	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	4,751.50	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	4,651.50	0.0	0.0	0.0	0.00	0.00	0.00
<b>START NUDGE (2°/100ft BUR)</b>										
400.0	0.00	0.00	400.0	4,551.50	0.0	0.0	0.0	0.00	0.00	0.00
500.0	2.00	63.88	500.0	4,451.52	0.8	1.6	-1.5	2.00	2.00	0.00
600.0	4.00	63.88	599.8	4,351.66	3.1	6.3	-6.0	2.00	2.00	0.00
700.0	6.00	63.88	699.5	4,252.05	6.9	14.1	-13.5	2.00	2.00	0.00
800.0	8.00	63.88	798.7	4,152.80	12.3	25.0	-24.0	2.00	2.00	0.00
900.0	10.00	63.88	897.5	4,054.03	19.2	39.1	-37.4	2.00	2.00	0.00
1,000.0	12.00	63.88	995.6	3,955.88	27.6	56.2	-53.8	2.00	2.00	0.00
<b>EOB TO 12° INC</b>										
1,000.1	12.00	63.88	995.8	3,955.74	27.6	56.2	-53.8	2.00	2.00	0.00
1,100.0	12.00	63.88	1,093.4	3,858.06	36.7	74.9	-71.7	0.00	0.00	0.00
1,200.0	12.00	63.88	1,191.3	3,760.25	45.9	93.6	-89.6	0.00	0.00	0.00
1,300.0	12.00	63.88	1,289.1	3,662.44	55.0	112.2	-107.4	0.00	0.00	0.00
1,400.0	12.00	63.88	1,386.9	3,564.62	64.2	130.9	-125.3	0.00	0.00	0.00
1,500.0	12.00	63.88	1,484.7	3,466.81	73.3	149.6	-143.2	0.00	0.00	0.00
1,600.0	12.00	63.88	1,582.5	3,368.99	82.5	168.2	-161.1	0.00	0.00	0.00
1,700.0	12.00	63.88	1,680.3	3,271.18	91.6	186.9	-179.0	0.00	0.00	0.00
1,800.0	12.00	63.88	1,778.1	3,173.37	100.8	205.6	-196.8	0.00	0.00	0.00
1,900.0	12.00	63.88	1,875.9	3,075.55	110.0	224.3	-214.7	0.00	0.00	0.00
2,000.0	12.00	63.88	1,973.8	2,977.74	119.1	242.9	-232.6	0.00	0.00	0.00
2,100.0	12.00	63.88	2,071.6	2,879.93	128.3	261.6	-250.5	0.00	0.00	0.00
2,200.0	12.00	63.88	2,169.4	2,782.11	137.4	280.3	-268.3	0.00	0.00	0.00
2,300.0	12.00	63.88	2,267.2	2,684.30	146.6	299.0	-286.2	0.00	0.00	0.00
2,400.0	12.00	63.88	2,365.0	2,586.48	155.7	317.6	-304.1	0.00	0.00	0.00
2,500.0	12.00	63.88	2,462.8	2,488.67	164.9	336.3	-322.0	0.00	0.00	0.00
2,600.0	12.00	63.88	2,560.6	2,390.86	174.0	355.0	-339.8	0.00	0.00	0.00
2,700.0	12.00	63.88	2,658.5	2,293.04	183.2	373.6	-357.7	0.00	0.00	0.00
2,800.0	12.00	63.88	2,756.3	2,195.23	192.3	392.3	-375.6	0.00	0.00	0.00
2,900.0	12.00	63.88	2,854.1	2,097.42	201.5	411.0	-393.5	0.00	0.00	0.00
3,000.0	12.00	63.88	2,951.9	1,999.60	210.7	429.7	-411.4	0.00	0.00	0.00
3,100.0	12.00	63.88	3,049.7	1,901.79	219.8	448.3	-429.2	0.00	0.00	0.00
3,200.0	12.00	63.88	3,147.5	1,803.98	229.0	467.0	-447.1	0.00	0.00	0.00
3,300.0	12.00	63.88	3,245.3	1,706.16	238.1	485.7	-465.0	0.00	0.00	0.00
3,400.0	12.00	63.88	3,343.2	1,608.35	247.3	504.4	-482.9	0.00	0.00	0.00
3,500.0	12.00	63.88	3,441.0	1,510.53	256.4	523.0	-500.7	0.00	0.00	0.00
3,600.0	12.00	63.88	3,538.8	1,412.72	265.6	541.7	-518.6	0.00	0.00	0.00
<b>PARKMAN SANDSTONE</b>										
3,698.4	12.00	63.88	3,635.0	1,316.50	274.6	560.1	-536.2	0.00	0.00	0.00
3,700.0	12.00	63.88	3,636.6	1,314.91	274.7	560.4	-536.5	0.00	0.00	0.00
3,800.0	12.00	63.88	3,734.4	1,217.09	283.9	579.0	-554.4	0.00	0.00	0.00
3,900.0	12.00	63.88	3,832.2	1,119.28	293.0	597.7	-572.2	0.00	0.00	0.00
4,000.0	12.00	63.88	3,930.0	1,021.47	302.2	616.4	-590.1	0.00	0.00	0.00
<b>END OF TANGENT</b>										
4,059.3	12.00	63.88	3,988.0	963.46	307.6	627.5	-600.7	0.00	0.00	0.00
4,100.0	11.19	63.88	4,027.9	923.59	311.2	634.8	-607.8	2.00	-2.00	0.00
4,200.0	9.19	63.88	4,126.3	825.17	319.0	650.7	-623.0	2.00	-2.00	0.00
<b>SUSSEX SANDSTONE</b>										
4,274.5	7.70	63.88	4,200.0	751.50	323.8	660.5	-632.4	2.00	-2.00	0.00



# Planning Report



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<b>Project:</b>	WELD COUNTY, COLORADO	<b>MD Reference:</b>	KB-EST @ 4951.5usft (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-204	<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)
4,300.0	7.19	63.88	4,225.3	726.20	325.3	663.5	-635.2	2.00	-2.00	0.00
4,400.0	5.19	63.88	4,324.7	626.79	330.0	673.2	-644.5	2.00	-2.00	0.00
4,500.0	3.19	63.88	4,424.4	527.06	333.2	679.7	-650.8	2.00	-2.00	0.00
4,600.0	1.19	63.88	4,524.4	427.14	334.9	683.1	-654.0	2.00	-2.00	0.00
<b>EOD TO VERTICAL</b>										
<b>4,659.4</b>	<b>0.00</b>	<b>0.00</b>	<b>4,583.8</b>	<b>367.70</b>	<b>335.2</b>	<b>683.7</b>	<b>-654.6</b>	<b>2.00</b>	<b>-2.00</b>	<b>0.00</b>
4,700.0	0.00	0.00	4,624.4	327.14	335.2	683.7	-654.6	0.00	0.00	0.00
<b>SHANNON</b>										
<b>4,755.6</b>	<b>0.00</b>	<b>0.00</b>	<b>4,680.0</b>	<b>271.50</b>	<b>335.2</b>	<b>683.7</b>	<b>-654.6</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
4,800.0	0.00	0.00	4,724.4	227.14	335.2	683.7	-654.6	0.00	0.00	0.00
4,900.0	0.00	0.00	4,824.4	127.14	335.2	683.7	-654.6	0.00	0.00	0.00
5,000.0	0.00	0.00	4,924.4	27.14	335.2	683.7	-654.6	0.00	0.00	0.00
5,100.0	0.00	0.00	5,024.4	-72.86	335.2	683.7	-654.6	0.00	0.00	0.00
5,200.0	0.00	0.00	5,124.4	-172.86	335.2	683.7	-654.6	0.00	0.00	0.00
5,300.0	0.00	0.00	5,224.4	-272.86	335.2	683.7	-654.6	0.00	0.00	0.00
5,400.0	0.00	0.00	5,324.4	-372.86	335.2	683.7	-654.6	0.00	0.00	0.00
5,500.0	0.00	0.00	5,424.4	-472.86	335.2	683.7	-654.6	0.00	0.00	0.00
5,600.0	0.00	0.00	5,524.4	-572.86	335.2	683.7	-654.6	0.00	0.00	0.00
5,700.0	0.00	0.00	5,624.4	-672.86	335.2	683.7	-654.6	0.00	0.00	0.00
5,800.0	0.00	0.00	5,724.4	-772.86	335.2	683.7	-654.6	0.00	0.00	0.00
5,900.0	0.00	0.00	5,824.4	-872.86	335.2	683.7	-654.6	0.00	0.00	0.00
6,000.0	0.00	0.00	5,924.4	-972.86	335.2	683.7	-654.6	0.00	0.00	0.00
6,100.0	0.00	0.00	6,024.4	-1,072.86	335.2	683.7	-654.6	0.00	0.00	0.00
6,200.0	0.00	0.00	6,124.4	-1,172.86	335.2	683.7	-654.6	0.00	0.00	0.00
6,300.0	0.00	0.00	6,224.4	-1,272.86	335.2	683.7	-654.6	0.00	0.00	0.00
6,400.0	0.00	0.00	6,324.4	-1,372.86	335.2	683.7	-654.6	0.00	0.00	0.00
<b>KOP (8°/100ft BUR)</b>										
<b>6,435.4</b>	<b>0.00</b>	<b>0.00</b>	<b>6,359.8</b>	<b>-1,408.30</b>	<b>335.2</b>	<b>683.7</b>	<b>-654.6</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
6,500.0	5.16	270.00	6,424.3	-1,472.77	335.2	680.8	-651.7	8.00	8.00	0.00
6,600.0	13.16	270.00	6,522.9	-1,571.41	335.2	664.9	-635.8	8.00	8.00	0.00
6,700.0	21.16	270.00	6,618.4	-1,666.88	335.2	635.4	-606.4	8.00	8.00	0.00
6,800.0	29.16	270.00	6,708.8	-1,757.32	335.2	592.9	-564.1	8.00	8.00	0.00
6,900.0	37.16	270.00	6,792.5	-1,840.96	335.2	538.2	-509.6	8.00	8.00	0.00
<b>SHARON SPRINGS</b>										
<b>6,971.2</b>	<b>42.86</b>	<b>270.00</b>	<b>6,847.0</b>	<b>-1,895.50</b>	<b>335.2</b>	<b>492.5</b>	<b>-463.9</b>	<b>8.00</b>	<b>8.00</b>	<b>0.00</b>
7,000.0	45.16	270.00	6,867.7	-1,916.18	335.2	472.5	-444.0	8.00	8.00	0.00
7,100.0	53.16	270.00	6,933.0	-1,981.52	335.2	396.9	-368.7	8.00	8.00	0.00
<b>NIORARA A</b>										
<b>7,183.3</b>	<b>59.83</b>	<b>270.00</b>	<b>6,979.0</b>	<b>-2,027.50</b>	<b>335.2</b>	<b>327.4</b>	<b>-299.4</b>	<b>8.00</b>	<b>8.00</b>	<b>0.00</b>
7,200.0	61.16	270.00	6,987.2	-2,035.70	335.2	312.9	-285.0	8.00	8.00	0.00
7,300.0	69.16	270.00	7,029.2	-2,077.67	335.2	222.2	-194.6	8.00	8.00	0.00
7,400.0	77.16	270.00	7,058.1	-2,106.61	335.2	126.6	-99.3	8.00	8.00	0.00
<b>NIORARA B</b>										
<b>7,423.7</b>	<b>79.06</b>	<b>270.00</b>	<b>7,063.0</b>	<b>-2,111.50</b>	<b>335.2</b>	<b>103.4</b>	<b>-76.1</b>	<b>8.00</b>	<b>8.00</b>	<b>0.00</b>
7,500.0	85.16	270.00	7,073.5	-2,121.96	335.2	27.9	-0.9	8.00	8.00	0.00
<b>HZ LP *NEW*: 1425ft FSL &amp; 2171ft FWL of Sec 21</b>										
<b>7,563.9</b>	<b>90.28</b>	<b>270.00</b>	<b>7,076.0</b>	<b>-2,124.50</b>	<b>335.2</b>	<b>-36.0</b>	<b>62.8</b>	<b>8.00</b>	<b>8.00</b>	<b>0.00</b>
7,600.0	90.28	270.00	7,075.8	-2,124.32	335.2	-72.0	98.7	0.00	0.00	0.00
7,700.0	90.28	270.00	7,075.3	-2,123.84	335.2	-172.0	198.4	0.00	0.00	0.00
7,800.0	90.28	270.00	7,074.9	-2,123.35	335.2	-272.0	298.1	0.00	0.00	0.00
7,900.0	90.28	270.00	7,074.4	-2,122.87	335.2	-372.0	397.8	0.00	0.00	0.00
8,000.0	90.28	270.00	7,073.9	-2,122.38	335.2	-472.0	497.4	0.00	0.00	0.00
8,100.0	90.28	270.00	7,073.4	-2,121.90	335.2	-572.0	597.1	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-204
<b>Company:</b>	PDC ENERGY	<b>TVD Reference:</b>	KB-EST @ 4951.5usft (Original Well Elev)
<b>Project:</b>	WELD COUNTY, COLORADO	<b>MD Reference:</b>	KB-EST @ 4951.5usft (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-204	<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)
8,200.0	90.28	270.00	7,072.9	-2,121.41	335.2	-672.0	696.8	0.00	0.00	0.00
8,300.0	90.28	270.00	7,072.4	-2,120.93	335.2	-772.0	796.5	0.00	0.00	0.00
8,400.0	90.28	270.00	7,071.9	-2,120.44	335.2	-872.0	896.1	0.00	0.00	0.00
8,500.0	90.28	270.00	7,071.5	-2,119.96	335.2	-972.0	995.8	0.00	0.00	0.00
8,600.0	90.28	270.00	7,071.0	-2,119.47	335.2	-1,072.0	1,095.5	0.00	0.00	0.00
8,700.0	90.28	270.00	7,070.5	-2,118.99	335.2	-1,172.0	1,195.2	0.00	0.00	0.00
8,800.0	90.28	270.00	7,070.0	-2,118.50	335.2	-1,272.0	1,294.9	0.00	0.00	0.00
8,900.0	90.28	270.00	7,069.5	-2,118.01	335.2	-1,372.0	1,394.5	0.00	0.00	0.00
9,000.0	90.28	270.00	7,069.0	-2,117.53	335.2	-1,472.0	1,494.2	0.00	0.00	0.00
9,100.0	90.28	270.00	7,068.5	-2,117.04	335.2	-1,572.0	1,593.9	0.00	0.00	0.00
9,200.0	90.28	270.00	7,068.1	-2,116.56	335.2	-1,672.0	1,693.6	0.00	0.00	0.00
9,300.0	90.28	270.00	7,067.6	-2,116.07	335.2	-1,772.0	1,793.2	0.00	0.00	0.00
9,400.0	90.28	270.00	7,067.1	-2,115.59	335.2	-1,872.0	1,892.9	0.00	0.00	0.00
9,500.0	90.28	270.00	7,066.6	-2,115.10	335.2	-1,972.0	1,992.6	0.00	0.00	0.00
9,600.0	90.28	270.00	7,066.1	-2,114.62	335.2	-2,072.0	2,092.3	0.00	0.00	0.00
9,700.0	90.28	270.00	7,065.6	-2,114.13	335.2	-2,172.0	2,191.9	0.00	0.00	0.00
9,800.0	90.28	270.00	7,065.1	-2,113.65	335.2	-2,272.0	2,291.6	0.00	0.00	0.00
9,900.0	90.28	270.00	7,064.7	-2,113.16	335.2	-2,372.0	2,391.3	0.00	0.00	0.00
10,000.0	90.28	270.00	7,064.2	-2,112.67	335.2	-2,472.0	2,491.0	0.00	0.00	0.00
10,100.0	90.28	270.00	7,063.7	-2,112.19	335.2	-2,572.0	2,590.6	0.00	0.00	0.00
10,200.0	90.28	270.00	7,063.2	-2,111.70	335.2	-2,672.0	2,690.3	0.00	0.00	0.00
10,300.0	90.28	270.00	7,062.7	-2,111.22	335.2	-2,772.0	2,790.0	0.00	0.00	0.00
10,400.0	90.28	270.00	7,062.2	-2,110.73	335.2	-2,872.0	2,889.7	0.00	0.00	0.00
10,500.0	90.28	270.00	7,061.7	-2,110.25	335.2	-2,972.0	2,989.3	0.00	0.00	0.00
10,600.0	90.28	270.00	7,061.3	-2,109.76	335.2	-3,072.0	3,089.0	0.00	0.00	0.00
10,700.0	90.28	270.00	7,060.8	-2,109.28	335.2	-3,172.0	3,188.7	0.00	0.00	0.00
10,800.0	90.28	270.00	7,060.3	-2,108.79	335.2	-3,272.0	3,288.4	0.00	0.00	0.00
10,900.0	90.28	270.00	7,059.8	-2,108.31	335.2	-3,372.0	3,388.0	0.00	0.00	0.00
11,000.0	90.28	270.00	7,059.3	-2,107.82	335.2	-3,472.0	3,487.7	0.00	0.00	0.00
11,100.0	90.28	270.00	7,058.8	-2,107.33	335.2	-3,572.0	3,587.4	0.00	0.00	0.00
11,200.0	90.28	270.00	7,058.3	-2,106.85	335.2	-3,672.0	3,687.1	0.00	0.00	0.00
11,300.0	90.28	270.00	7,057.9	-2,106.36	335.2	-3,772.0	3,786.7	0.00	0.00	0.00
11,400.0	90.28	270.00	7,057.4	-2,105.88	335.2	-3,872.0	3,886.4	0.00	0.00	0.00
11,500.0	90.28	270.00	7,056.9	-2,105.39	335.2	-3,972.0	3,986.1	0.00	0.00	0.00
11,600.0	90.28	270.00	7,056.4	-2,104.91	335.2	-4,072.0	4,085.8	0.00	0.00	0.00
<b>BHL: 1355ft FSL &amp; 1951ft FEL of Sec 20</b>										
<b>11,686.6</b>	<b>90.28</b>	<b>270.00</b>	<b>7,056.0</b>	<b>-2,104.50</b>	<b>335.2</b>	<b>-4,158.6</b>	<b>4,172.1</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

## Formations

MD (usft)	TVD (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,698.4	3,635.0	PARKMAN SANDSTONE			
4,274.5	4,200.0	SUSSEX SANDSTONE			
4,755.6	4,680.0	SHANNON			
6,971.2	6,847.0	SHARON SPRINGS			
7,183.3	6,979.0	NIOBRARA A			
7,423.7	7,063.0	NIOBRARA B			

# Planning Report



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well WALTERS 21P-204
<b>Company:</b>	PDC ENERGY	<b>TVD Reference:</b>	KB-EST @ 4951.5usft (Original Well Elev)
<b>Project:</b>	WELD COUNTY, COLORADO	<b>MD Reference:</b>	KB-EST @ 4951.5usft (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-204	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	PROPOSAL #1		

Plan Annotations				
Local Coordinates				
MD (usft)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Comment
0.0	0.0	0.0	0.0	SHL: 1091ft FSL & 2202ft FWL of Sec 21
400.0	400.0	0.0	0.0	START NUDGE (2°/100ft BUR)
1,000.1	995.8	27.6	56.2	EOB TO 12° INC
4,059.3	3,988.0	307.6	627.5	END OF TANGENT
4,659.4	4,583.8	335.2	683.7	EOD TO VERTICAL
6,435.4	6,359.8	335.2	683.7	KOP (8°/100ft BUR)
7,563.9	7,076.0	335.2	-36.0	HZ LP *NEW*: 1425ft FSL & 2171ft FWL of Sec 21
11,686.6	7,056.0	335.2	-4,158.6	BHL: 1355ft FSL & 1951ft FEL of Sec 20