

# **PDC ENERGY**

**WELD COUNTY, COLORADO  
NE SE SEC. 7 T6N R64W 6th P.M.  
CARLSON 7S-404**

**ORIGINAL WELLBORE**

**03 March, 2016**

**Plan: PROPOSAL #1**





Project: WELD COUNTY, COLORADO  
 Site: NE SE SEC. 7 T6N R64W 6th P.M.  
 Well: CARLSON 7S-404  
 Wellbore: ORIGINAL WELLBORE  
 Design: PROPOSAL #1

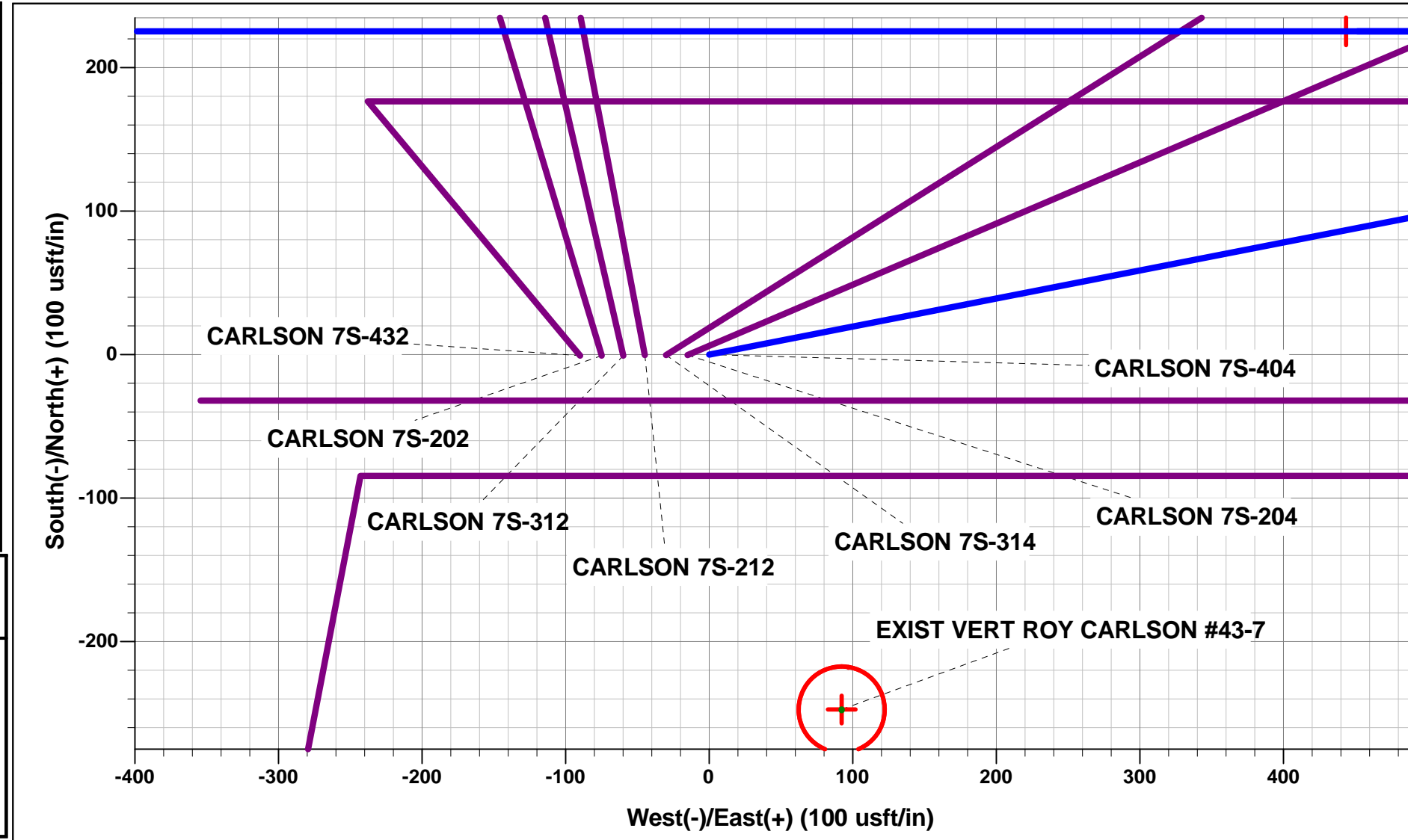


ANNOTATIONS

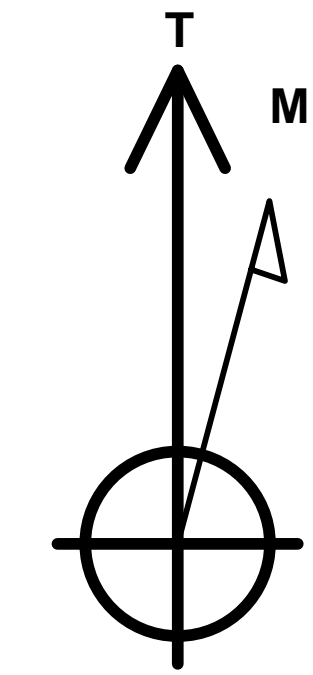
TVD	MD	Inc	Azi	+N/-S	+E/-W	Vsect	Dep	Annotation
0.0	0.0	0.00	0.00	0.0	0.0	0.0	0.0	SHL: 2220ft FSL & 713ft FEL of Sec 7
1060.0	1060.0	0.00	0.00	0.0	0.0	0.0	0.0	START NUDGE (2°/100ft BUR)
1789.0	1797.1	14.74	78.95	18.1	92.6	-91.5	94.3	EOB TO 14.74° INC
5536.8	5672.5	14.74	78.95	207.1	1060.4	-1048.1	1080.5	END OF TANGENT
6265.8	6409.6	0.00	0.00	225.2	1153.0	-1139.6	1174.8	EOD TO VERTICAL
6295.8	6439.6	0.00	0.00	225.2	1153.0	-1139.6	1174.8	KOP (8°/100ft BUR)
7012.0	7557.8	89.45	270.00	225.2	443.6	-431.2	1884.2	7" ICP *NEW*: 2440.9ft FSL & 270ft FEL of Sec 7
7057.0	12291.2	89.46	270.00	225.2	-4289.6	4295.5	6617.3	BHL: 2505ft FSL & 0ft FWL of Sec 7

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
KOP - CARLSON 7S-404	6295.8	225.2	1153.0	40.499987	-104.582106
7" ICP *NEW* - CARLSON 7S-404	7012.0	225.2	443.6	40.499987	-104.584657
BHL - CARLSON 7S-404	7057.0	225.2	-4289.6	40.499986	-104.601676

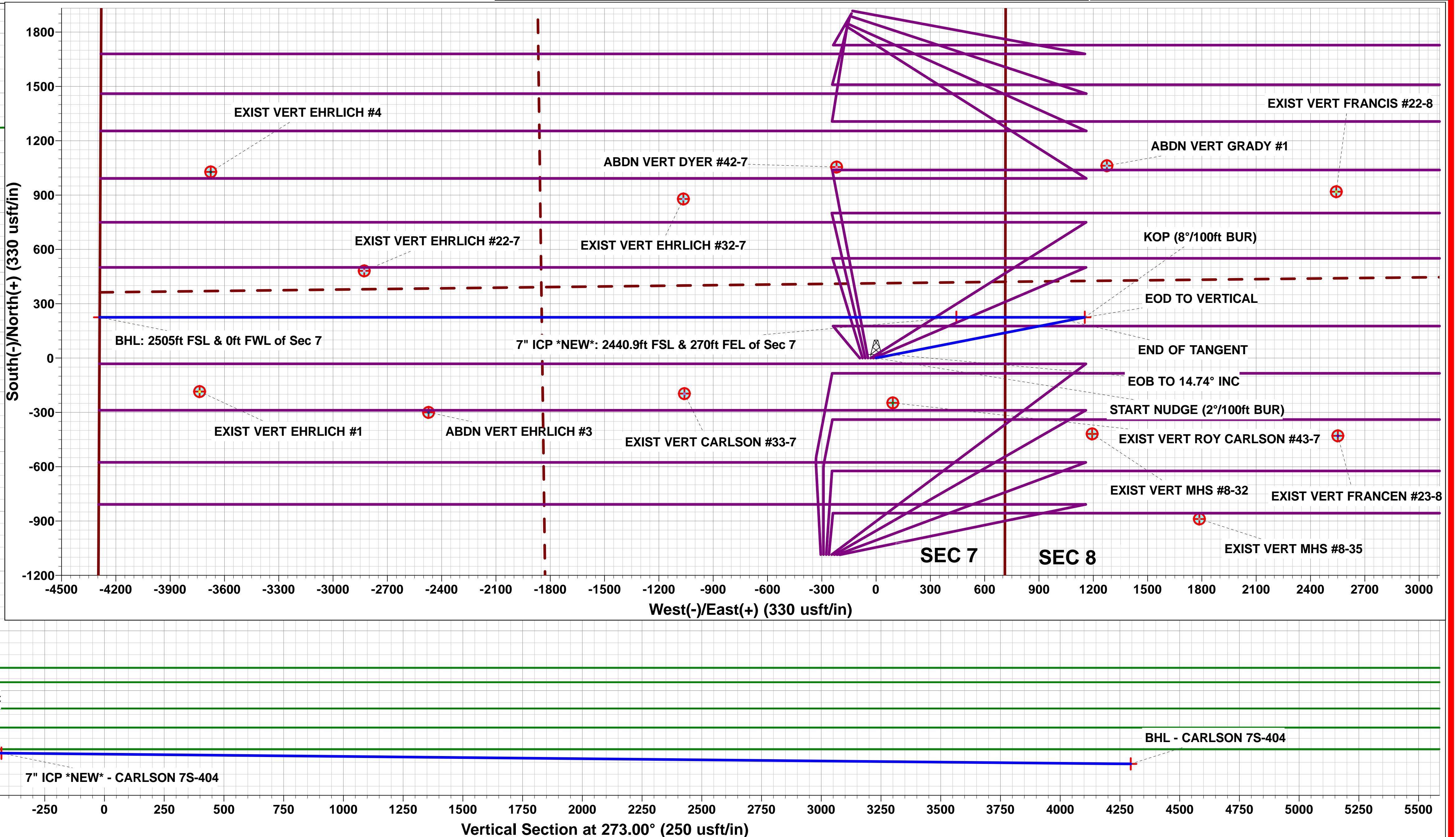
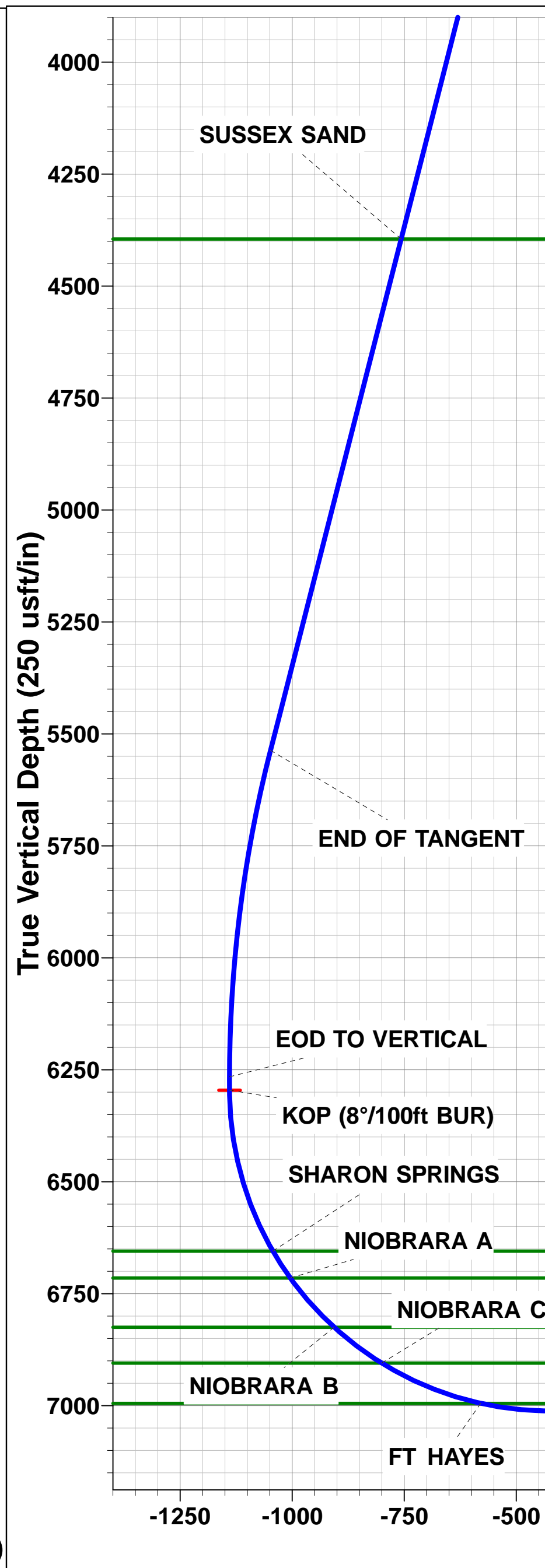
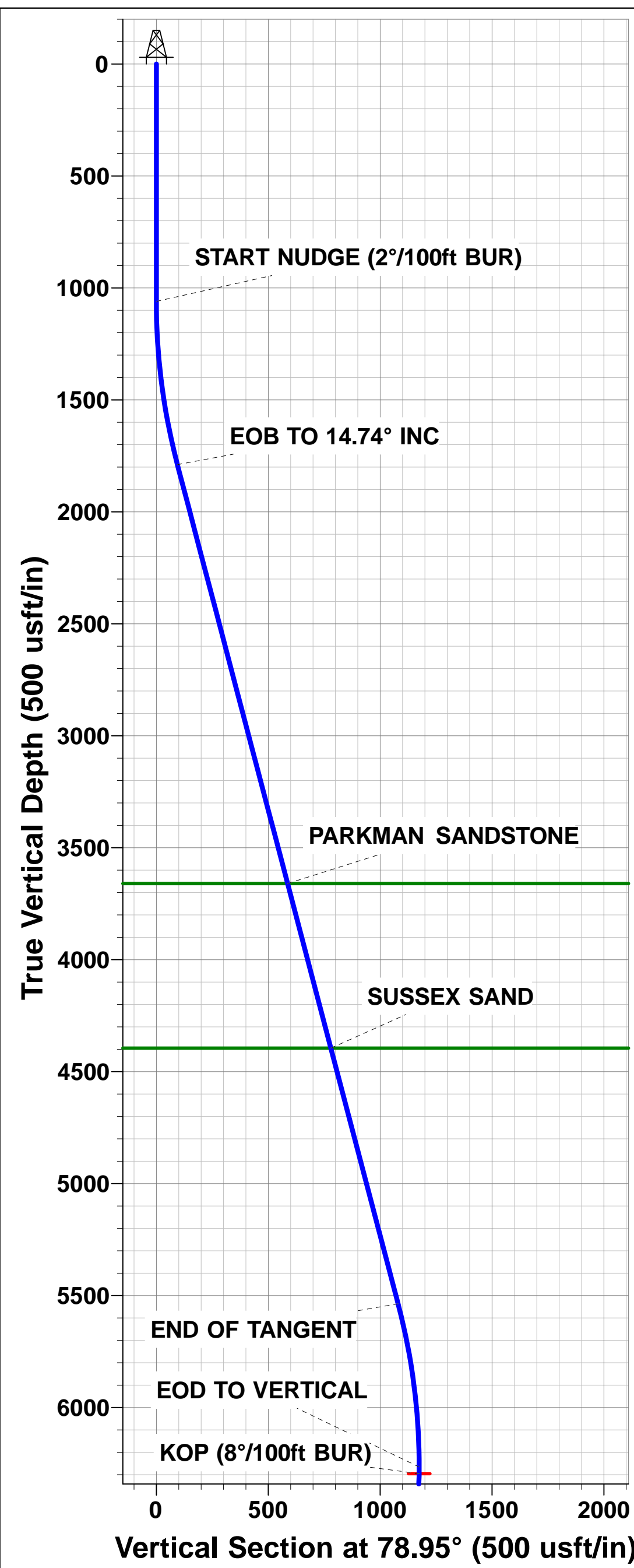


PROPOSED LOCAL COORDINATES:  
 SHL: 2220ft FSL & 713ft FEL of Sec 7  
 7" ICP \*NEW\*: 2440.9ft FSL & 270ft FEL of Sec 7  
 BHL: 2505ft FSL & 0ft FWL of Sec 7



Azimuths to True North  
 Magnetic North: 8.26°

Magnetic Field  
 Strength: 52611.0snT  
 Dip Angle: 66.99°  
 Date: 01/03/2016  
 Model: IGRF2015



Planning Report



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well CARLSON 7S-404
<b>Company:</b>	PDC ENERGY	<b>TVD Reference:</b>	KB-EST @ 4763.0usft
<b>Project:</b>	WELD COUNTY, COLORADO	<b>MD Reference:</b>	KB-EST @ 4763.0usft
<b>Site:</b>	NE SE SEC. 7 T6N R64W 6th P.M.	<b>North Reference:</b>	True
<b>Well:</b>	CARLSON 7S-404	<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

<b>Site</b>	NE SE SEC. 7 T6N R64W 6th P.M.				
<b>Site Position:</b>		<b>Northing:</b>	1,426,069.05 usft	<b>Latitude:</b>	40.499368
<b>From:</b>	Lat/Long	<b>Easting:</b>	3,254,065.99 usft	<b>Longitude:</b>	-104.586413
<b>Position Uncertainty:</b>	0.0 usft	<b>Slot Radius:</b>	1.10000ft	<b>Grid Convergence:</b>	0.59 °

<b>Well</b>	CARLSON 7S-404					
<b>Well Position</b>	<b>+N-S</b>	0.4 usft	<b>Northing:</b>	1,426,069.86 usft	<b>Latitude:</b>	40.499369
	<b>+E-W</b>	44.8 usft	<b>Easting:</b>	3,254,110.76 usft	<b>Longitude:</b>	-104.586252
<b>Position Uncertainty</b>		0.0 usft	<b>Wellhead Elevation:</b>	usft	<b>Ground Level:</b>	4,740.0 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	01/03/2016	8.26	66.99	52,611

<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>
	0.0	0.0	0.0	273.00

<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	-4,763.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,060.0	0.00	0.00	1,060.0	-3,703.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,797.1	14.74	78.95	1,789.0	-2,974.0	18.1	92.6	2.00	2.00	0.00	78.95	
5,672.5	14.74	78.95	5,536.8	773.8	207.1	1,060.4	0.00	0.00	0.00	0.00	
6,409.6	0.00	0.00	6,265.8	1,502.8	225.2	1,153.0	2.00	-2.00	0.00	180.00	
6,439.6	0.00	0.00	6,295.8	1,532.8	225.2	1,153.0	0.00	0.00	0.00	0.00	KOP - CARLSON 7
7,557.8	89.45	270.00	7,012.0	2,249.0	225.2	443.6	8.00	8.00	-8.05	270.00	7" ICP *NEW* - CA
12,291.2	89.46	270.00	7,057.0	2,294.0	225.2	-4,289.6	0.00	0.00	0.00	-12.70	BHL - CARLSON 7:

Planning Report



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well CARLSON 7S-404
<b>Company:</b>	PDC ENERGY	<b>TVD Reference:</b>	KB-EST @ 4763.0usft
<b>Project:</b>	WELD COUNTY, COLORADO	<b>MD Reference:</b>	KB-EST @ 4763.0usft
<b>Site:</b>	NE SE SEC. 7 T6N R64W 6th P.M.	<b>North Reference:</b>	True
<b>Well:</b>	CARLSON 7S-404	<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: 2220ft FSL &amp; 713ft FEL of Sec 7</b>										
0.0	0.00	0.00	0.0	4,763.00	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	4,663.00	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	4,563.00	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	4,463.00	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	4,363.00	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	4,263.00	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	4,163.00	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	4,063.00	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	3,963.00	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	3,863.00	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	3,763.00	0.0	0.0	0.0	0.00	0.00	0.00
<b>START NUDGE (2°/100ft BUR)</b>										
1,060.0	0.00	0.00	1,060.0	3,703.00	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.80	78.95	1,100.0	3,663.00	0.1	0.3	-0.3	2.00	2.00	0.00
1,200.0	2.80	78.95	1,199.9	3,563.06	0.7	3.4	-3.3	2.00	2.00	0.00
1,300.0	4.80	78.95	1,299.7	3,463.28	1.9	9.9	-9.7	2.00	2.00	0.00
1,400.0	6.80	78.95	1,399.2	3,363.80	3.9	19.8	-19.5	2.00	2.00	0.00
1,500.0	8.80	78.95	1,498.3	3,264.73	6.5	33.1	-32.7	2.00	2.00	0.00
1,600.0	10.80	78.95	1,596.8	3,166.19	9.7	49.8	-49.2	2.00	2.00	0.00
1,700.0	12.80	78.95	1,694.7	3,068.31	13.6	69.9	-69.1	2.00	2.00	0.00
<b>EOB TO 14.74° INC</b>										
1,797.1	14.74	78.95	1,789.0	2,973.99	18.1	92.6	-91.5	2.00	2.00	0.00
1,800.0	14.74	78.95	1,791.8	2,971.20	18.2	93.3	-92.2	0.00	0.00	0.00
1,900.0	14.74	78.95	1,888.5	2,874.49	23.1	118.3	-116.9	0.00	0.00	0.00
2,000.0	14.74	78.95	1,985.2	2,777.79	28.0	143.2	-141.6	0.00	0.00	0.00
2,100.0	14.74	78.95	2,081.9	2,681.08	32.9	168.2	-166.3	0.00	0.00	0.00
2,200.0	14.74	78.95	2,178.6	2,584.37	37.7	193.2	-190.9	0.00	0.00	0.00
2,300.0	14.74	78.95	2,275.3	2,487.66	42.6	218.2	-215.6	0.00	0.00	0.00
2,400.0	14.74	78.95	2,372.0	2,390.95	47.5	243.1	-240.3	0.00	0.00	0.00
2,500.0	14.74	78.95	2,468.8	2,294.25	52.4	268.1	-265.0	0.00	0.00	0.00
2,600.0	14.74	78.95	2,565.5	2,197.54	57.2	293.1	-289.7	0.00	0.00	0.00
2,700.0	14.74	78.95	2,662.2	2,100.83	62.1	318.1	-314.4	0.00	0.00	0.00
2,800.0	14.74	78.95	2,758.9	2,004.12	67.0	343.0	-339.0	0.00	0.00	0.00
2,900.0	14.74	78.95	2,855.6	1,907.41	71.9	368.0	-363.7	0.00	0.00	0.00
3,000.0	14.74	78.95	2,952.3	1,810.71	76.8	393.0	-388.4	0.00	0.00	0.00
3,100.0	14.74	78.95	3,049.0	1,714.00	81.6	418.0	-413.1	0.00	0.00	0.00
3,200.0	14.74	78.95	3,145.7	1,617.29	86.5	442.9	-437.8	0.00	0.00	0.00
3,300.0	14.74	78.95	3,242.4	1,520.58	91.4	467.9	-462.5	0.00	0.00	0.00
3,400.0	14.74	78.95	3,339.1	1,423.87	96.3	492.9	-487.2	0.00	0.00	0.00
3,500.0	14.74	78.95	3,435.8	1,327.17	101.1	517.9	-511.8	0.00	0.00	0.00
3,600.0	14.74	78.95	3,532.5	1,230.46	106.0	542.8	-536.5	0.00	0.00	0.00
3,700.0	14.74	78.95	3,629.3	1,133.75	110.9	567.8	-561.2	0.00	0.00	0.00
<b>PARKMAN SANDSTONE</b>										
3,731.8	14.74	78.95	3,660.0	1,103.00	112.5	575.8	-569.1	0.00	0.00	0.00
3,800.0	14.74	78.95	3,726.0	1,037.04	115.8	592.8	-585.9	0.00	0.00	0.00
3,900.0	14.74	78.95	3,822.7	940.33	120.7	617.8	-610.6	0.00	0.00	0.00
4,000.0	14.74	78.95	3,919.4	843.63	125.5	642.7	-635.3	0.00	0.00	0.00
4,100.0	14.74	78.95	4,016.1	746.92	130.4	667.7	-660.0	0.00	0.00	0.00
4,200.0	14.74	78.95	4,112.8	650.21	135.3	692.7	-684.6	0.00	0.00	0.00
4,300.0	14.74	78.95	4,209.5	553.50	140.2	717.7	-709.3	0.00	0.00	0.00
4,400.0	14.74	78.95	4,306.2	456.79	145.1	742.6	-734.0	0.00	0.00	0.00
<b>SUSSEX SANDSTONE</b>										
4,491.8	14.74	78.95	4,395.0	368.00	149.5	765.6	-756.7	0.00	0.00	0.00

Planning Report



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<b>Company:</b>	PDC ENERGY	<b>TVD Reference:</b>	KB-EST @ 4763.0usft
<b>Project:</b>	WELD COUNTY, COLORADO	<b>MD Reference:</b>	KB-EST @ 4763.0usft
<b>Site:</b>	NE SE SEC. 7 T6N R64W 6th P.M.	<b>North Reference:</b>	True
<b>Well:</b>	CARLSON 7S-404	<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)
4,500.0	14.74	78.95	4,402.9	360.09	149.9	767.6	-758.7	0.00	0.00	0.00
4,600.0	14.74	78.95	4,499.6	263.38	154.8	792.6	-783.4	0.00	0.00	0.00
4,700.0	14.74	78.95	4,596.3	166.67	159.7	817.6	-808.1	0.00	0.00	0.00
4,800.0	14.74	78.95	4,693.0	69.96	164.6	842.5	-832.8	0.00	0.00	0.00
4,900.0	14.74	78.95	4,789.7	-26.75	169.4	867.5	-857.4	0.00	0.00	0.00
5,000.0	14.74	78.95	4,886.5	-123.45	174.3	892.5	-882.1	0.00	0.00	0.00
5,100.0	14.74	78.95	4,983.2	-220.16	179.2	917.5	-906.8	0.00	0.00	0.00
5,200.0	14.74	78.95	5,079.9	-316.87	184.1	942.4	-931.5	0.00	0.00	0.00
5,300.0	14.74	78.95	5,176.6	-413.58	189.0	967.4	-956.2	0.00	0.00	0.00
5,400.0	14.74	78.95	5,273.3	-510.29	193.8	992.4	-980.9	0.00	0.00	0.00
5,500.0	14.74	78.95	5,370.0	-607.00	198.7	1,017.4	-1,005.5	0.00	0.00	0.00
5,600.0	14.74	78.95	5,466.7	-703.70	203.6	1,042.3	-1,030.2	0.00	0.00	0.00
<b>END OF TANGENT</b>										
<b>5,672.5</b>	<b>14.74</b>	<b>78.95</b>	<b>5,536.8</b>	<b>-773.79</b>	<b>207.1</b>	<b>1,060.4</b>	<b>-1,048.1</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
5,700.0	14.19	78.95	5,563.4	-800.44	208.4	1,067.2	-1,054.8	2.00	-2.00	0.00
5,800.0	12.19	78.95	5,660.8	-897.80	212.8	1,089.6	-1,076.9	2.00	-2.00	0.00
5,900.0	10.19	78.95	5,758.9	-995.89	216.5	1,108.6	-1,095.8	2.00	-2.00	0.00
6,000.0	8.19	78.95	5,857.6	-1,094.60	219.6	1,124.3	-1,111.3	2.00	-2.00	0.00
6,100.0	6.19	78.95	5,956.8	-1,193.81	222.0	1,136.6	-1,123.4	2.00	-2.00	0.00
6,200.0	4.19	78.95	6,056.4	-1,293.40	223.7	1,145.5	-1,132.2	2.00	-2.00	0.00
6,300.0	2.19	78.95	6,156.2	-1,393.24	224.8	1,150.9	-1,137.6	2.00	-2.00	0.00
6,400.0	0.19	78.95	6,256.2	-1,493.21	225.2	1,153.0	-1,139.6	2.00	-2.00	0.00
<b>EOD TO VERTICAL</b>										
<b>6,409.6</b>	<b>0.00</b>	<b>0.00</b>	<b>6,265.8</b>	<b>-1,502.80</b>	<b>225.2</b>	<b>1,153.0</b>	<b>-1,139.6</b>	<b>2.00</b>	<b>-2.00</b>	<b>0.00</b>
<b>KOP (8°/100ft BUR)</b>										
<b>6,439.6</b>	<b>0.00</b>	<b>0.00</b>	<b>6,295.8</b>	<b>-1,532.80</b>	<b>225.2</b>	<b>1,153.0</b>	<b>-1,139.6</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
6,500.0	4.83	270.00	6,356.1	-1,593.14	225.2	1,150.5	-1,137.1	8.00	8.00	0.00
6,600.0	12.83	270.00	6,454.9	-1,691.87	225.2	1,135.1	-1,121.7	8.00	8.00	0.00
6,700.0	20.83	270.00	6,550.5	-1,787.51	225.2	1,106.2	-1,092.9	8.00	8.00	0.00
6,800.0	28.83	270.00	6,641.2	-1,878.19	225.2	1,064.2	-1,050.9	8.00	8.00	0.00
<b>SHARON SPRINGS</b>										
<b>6,815.9</b>	<b>30.10</b>	<b>270.00</b>	<b>6,655.0</b>	<b>-1,892.00</b>	<b>225.2</b>	<b>1,056.4</b>	<b>-1,043.2</b>	<b>8.00</b>	<b>8.00</b>	<b>0.00</b>
<b>NIORARA A</b>										
<b>6,887.4</b>	<b>35.82</b>	<b>270.00</b>	<b>6,715.0</b>	<b>-1,952.00</b>	<b>225.2</b>	<b>1,017.5</b>	<b>-1,004.3</b>	<b>8.00</b>	<b>8.00</b>	<b>0.00</b>
6,900.0	36.83	270.00	6,725.2	-1,962.15	225.2	1,010.0	-996.9	8.00	8.00	0.00
7,000.0	44.83	270.00	6,800.8	-2,037.75	225.2	944.7	-931.6	8.00	8.00	0.00
<b>NIORARA B</b>										
<b>7,035.1</b>	<b>47.63</b>	<b>270.00</b>	<b>6,825.0</b>	<b>-2,062.00</b>	<b>225.2</b>	<b>919.4</b>	<b>-906.3</b>	<b>8.00</b>	<b>8.00</b>	<b>0.00</b>
7,100.0	52.83	270.00	6,866.5	-2,103.53	225.2	869.5	-856.5	8.00	8.00	0.00
<b>NIORARA C</b>										
<b>7,168.0</b>	<b>58.27</b>	<b>270.00</b>	<b>6,905.0</b>	<b>-2,142.00</b>	<b>225.2</b>	<b>813.4</b>	<b>-800.5</b>	<b>8.00</b>	<b>8.00</b>	<b>0.00</b>
7,200.0	60.83	270.00	6,921.2	-2,158.20	225.2	785.9	-773.0	8.00	8.00	0.00
7,300.0	68.83	270.00	6,963.7	-2,200.69	225.2	695.4	-682.7	8.00	8.00	0.00
7,400.0	76.83	270.00	6,993.2	-2,230.19	225.2	600.0	-587.3	8.00	8.00	0.00
<b>FT HAYES</b>										
<b>7,408.1</b>	<b>77.48</b>	<b>270.00</b>	<b>6,995.0</b>	<b>-2,232.00</b>	<b>225.2</b>	<b>592.0</b>	<b>-579.4</b>	<b>8.00</b>	<b>8.00</b>	<b>0.00</b>
7,500.0	84.83	270.00	7,009.1	-2,246.12	225.2	501.3	-488.8	8.00	8.00	0.00
<b>7" ICP *NEW*: 2440.9ft FSL &amp; 270ft FEL of Sec 7</b>										
<b>7,557.8</b>	<b>89.45</b>	<b>270.00</b>	<b>7,012.0</b>	<b>-2,249.00</b>	<b>225.2</b>	<b>443.6</b>	<b>-431.2</b>	<b>8.00</b>	<b>8.00</b>	<b>0.00</b>
7,600.0	89.45	270.00	7,012.4	-2,249.40	225.2	401.4	-389.1	0.00	0.00	0.00
7,700.0	89.45	270.00	7,013.4	-2,250.36	225.2	301.4	-289.2	0.00	0.00	0.00
7,800.0	89.45	270.00	7,014.3	-2,251.31	225.2	201.4	-189.3	0.00	0.00	0.00
7,900.0	89.45	270.00	7,015.3	-2,252.26	225.2	101.4	-89.5	0.00	0.00	0.00

Planning Report



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well CARLSON 7S-404
<b>Company:</b>	PDC ENERGY	<b>TVD Reference:</b>	KB-EST @ 4763.0usft
<b>Project:</b>	WELD COUNTY, COLORADO	<b>MD Reference:</b>	KB-EST @ 4763.0usft
<b>Site:</b>	NE SE SEC. 7 T6N R64W 6th P.M.	<b>North Reference:</b>	True
<b>Well:</b>	CARLSON 7S-404	<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)
8,000.0	89.45	270.00	7,016.2	-2,253.22	225.2	1.4	10.4	0.00	0.00	0.00
8,100.0	89.45	270.00	7,017.2	-2,254.17	225.2	-98.6	110.2	0.00	0.00	0.00
8,200.0	89.45	270.00	7,018.1	-2,255.12	225.2	-198.6	210.1	0.00	0.00	0.00
8,300.0	89.45	270.00	7,019.1	-2,256.08	225.2	-298.6	309.9	0.00	0.00	0.00
8,400.0	89.45	270.00	7,020.0	-2,257.03	225.2	-398.5	409.8	0.00	0.00	0.00
8,500.0	89.45	270.00	7,021.0	-2,257.98	225.2	-498.5	509.7	0.00	0.00	0.00
8,600.0	89.45	270.00	7,021.9	-2,258.93	225.2	-598.5	609.5	0.00	0.00	0.00
8,700.0	89.45	270.00	7,022.9	-2,259.89	225.2	-698.5	709.4	0.00	0.00	0.00
8,800.0	89.45	270.00	7,023.8	-2,260.84	225.2	-798.5	809.2	0.00	0.00	0.00
8,900.0	89.45	270.00	7,024.8	-2,261.79	225.2	-898.5	909.1	0.00	0.00	0.00
9,000.0	89.45	270.00	7,025.7	-2,262.74	225.2	-998.5	1,009.0	0.00	0.00	0.00
9,100.0	89.45	270.00	7,026.7	-2,263.70	225.2	-1,098.5	1,108.8	0.00	0.00	0.00
9,200.0	89.45	270.00	7,027.6	-2,264.65	225.2	-1,198.5	1,208.7	0.00	0.00	0.00
9,300.0	89.45	270.00	7,028.6	-2,265.60	225.2	-1,298.5	1,308.5	0.00	0.00	0.00
9,400.0	89.45	270.00	7,029.6	-2,266.55	225.2	-1,398.5	1,408.4	0.00	0.00	0.00
9,500.0	89.45	270.00	7,030.5	-2,267.50	225.2	-1,498.5	1,508.2	0.00	0.00	0.00
9,600.0	89.46	270.00	7,031.5	-2,268.45	225.2	-1,598.5	1,608.1	0.00	0.00	0.00
9,700.0	89.46	270.00	7,032.4	-2,269.40	225.2	-1,698.5	1,708.0	0.00	0.00	0.00
9,800.0	89.46	270.00	7,033.4	-2,270.35	225.2	-1,798.5	1,807.8	0.00	0.00	0.00
9,900.0	89.46	270.00	7,034.3	-2,271.31	225.2	-1,898.5	1,907.7	0.00	0.00	0.00
10,000.0	89.46	270.00	7,035.3	-2,272.26	225.2	-1,998.5	2,007.5	0.00	0.00	0.00
10,100.0	89.46	270.00	7,036.2	-2,273.21	225.2	-2,098.5	2,107.4	0.00	0.00	0.00
10,200.0	89.46	270.00	7,037.2	-2,274.16	225.2	-2,198.5	2,207.3	0.00	0.00	0.00
10,300.0	89.46	270.00	7,038.1	-2,275.11	225.2	-2,298.5	2,307.1	0.00	0.00	0.00
10,400.0	89.46	270.00	7,039.1	-2,276.06	225.2	-2,398.5	2,407.0	0.00	0.00	0.00
10,500.0	89.46	270.00	7,040.0	-2,277.01	225.2	-2,498.5	2,506.8	0.00	0.00	0.00
10,600.0	89.46	270.00	7,041.0	-2,277.96	225.2	-2,598.5	2,606.7	0.00	0.00	0.00
10,700.0	89.46	270.00	7,041.9	-2,278.91	225.2	-2,698.4	2,706.5	0.00	0.00	0.00
10,800.0	89.46	270.00	7,042.9	-2,279.86	225.2	-2,798.4	2,806.4	0.00	0.00	0.00
10,900.0	89.46	270.00	7,043.8	-2,280.81	225.2	-2,898.4	2,906.3	0.00	0.00	0.00
11,000.0	89.46	270.00	7,044.8	-2,281.76	225.2	-2,998.4	3,006.1	0.00	0.00	0.00
11,100.0	89.46	270.00	7,045.7	-2,282.70	225.2	-3,098.4	3,106.0	0.00	0.00	0.00
11,200.0	89.46	270.00	7,046.7	-2,283.65	225.2	-3,198.4	3,205.8	0.00	0.00	0.00
11,300.0	89.46	270.00	7,047.6	-2,284.60	225.2	-3,298.4	3,305.7	0.00	0.00	0.00
11,400.0	89.46	270.00	7,048.6	-2,285.55	225.2	-3,398.4	3,405.5	0.00	0.00	0.00
11,500.0	89.46	270.00	7,049.5	-2,286.50	225.2	-3,498.4	3,505.4	0.00	0.00	0.00
11,600.0	89.46	270.00	7,050.4	-2,287.45	225.2	-3,598.4	3,605.3	0.00	0.00	0.00
11,700.0	89.46	270.00	7,051.4	-2,288.40	225.2	-3,698.4	3,705.1	0.00	0.00	0.00
11,800.0	89.46	270.00	7,052.3	-2,289.34	225.2	-3,798.4	3,805.0	0.00	0.00	0.00
11,900.0	89.46	270.00	7,053.3	-2,290.29	225.2	-3,898.4	3,904.8	0.00	0.00	0.00
12,000.0	89.46	270.00	7,054.2	-2,291.24	225.2	-3,998.4	4,004.7	0.00	0.00	0.00
12,100.0	89.46	270.00	7,055.2	-2,292.19	225.2	-4,098.4	4,104.6	0.00	0.00	0.00
12,200.0	89.46	270.00	7,056.1	-2,293.14	225.2	-4,198.4	4,204.4	0.00	0.00	0.00
<b>BHL: 2505ft FSL &amp; 0ft FWL of Sec 7</b>										
<b>12,291.2</b>	<b>89.46</b>	<b>270.00</b>	<b>7,057.0</b>	<b>-2,294.00</b>	<b>225.2</b>	<b>-4,289.6</b>	<b>4,295.5</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well CARLSON 7S-404
<b>Company:</b>	PDC ENERGY	<b>TVD Reference:</b>	KB-EST @ 4763.0usft
<b>Project:</b>	WELD COUNTY, COLORADO	<b>MD Reference:</b>	KB-EST @ 4763.0usft
<b>Site:</b>	NE SE SEC. 7 T6N R64W 6th P.M.	<b>North Reference:</b>	True
<b>Well:</b>	CARLSON 7S-404	<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 (°)
3,731.8	3,660.0	PARKMAN SANDSTONE			
4,491.8	4,395.0	SUSSEX SANDSTONE			
6,815.9	6,655.0	SHARON SPRINGS			
6,887.4	6,715.0	NIOBRARA A			
7,035.1	6,825.0	NIOBRARA B			
7,168.0	6,905.0	NIOBRARA C			
7,408.1	6,995.0	FT HAYES			

Plan Annotations				
MD (usft)	TVD (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
0.0	0.0	0.0	0.0	SHL: 2220ft FSL & 713ft FEL of Sec 7
1,060.0	1,060.0	0.0	0.0	START NUDGE (2°/100ft BUR)
1,797.1	1,789.0	18.1	92.6	EOB TO 14.74° INC
5,672.5	5,536.8	207.1	1,060.4	END OF TANGENT
6,409.6	6,265.8	225.2	1,153.0	EOD TO VERTICAL
6,439.6	6,295.8	225.2	1,153.0	KOP (8°/100ft BUR)
7,557.8	7,012.0	225.2	443.6	7" ICP *NEW*: 2440.9ft FSL & 270ft FEL of Sec 7
12,291.2	7,057.0	225.2	-4,289.6	BHL: 2505ft FSL & 0ft FWL of Sec 7