

PDC ENERGY

**WELD COUNTY, COLORADO
NE SE SEC. 7 T6N R64W 6th P.M.
CARLSON 7S-212**

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-212
 Wellbore: ORIGINAL WELLBORE
 Design: PROPOSAL #1

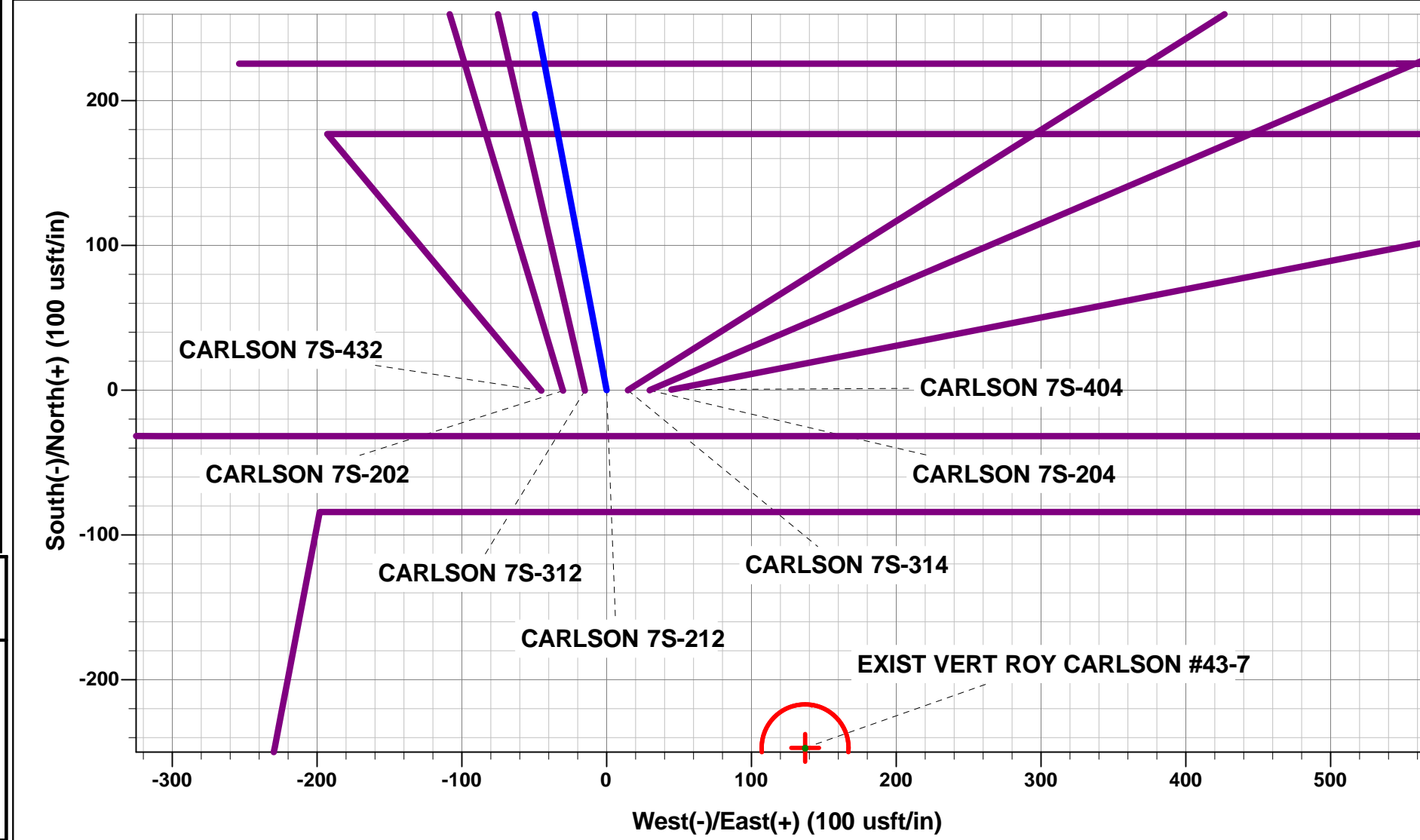


ANNOTATIONS

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 & 758ft FEL of Sec 7
1360.0	1360.0	0.00	0.00	0.0	0.0	0.0	0.0	START NUDGE (2°/100ft BUR)
2087.9	2096.0	14.72	349.24	92.4	-17.6	-0.5	94.0	EOB TO 14.72° INC
5398.0	5518.4	14.72	349.24	946.6	-179.9	-5.2	963.6	END OF TANGENT
6125.9	6254.4	0.00	0.00	1039.0	-197.5	-5.7	1057.6	EOD TO VERTICAL
6155.9	6284.4	0.00	0.00	1039.0	-197.5	-5.7	1057.6	KOP (8°/100ft BUR)
6872.0	7419.8	90.84	90.00	1039.0	529.2	708.9	1784.3	7" ICP *NEW*: 2014.5ft FNL & 230ft FEL of Sec 7
6797.0	12523.0	90.84	90.00	1039.0	5631.8	5726.8	6886.9	BHL: 2088ft FNL & 500ft FEL of Sec 8

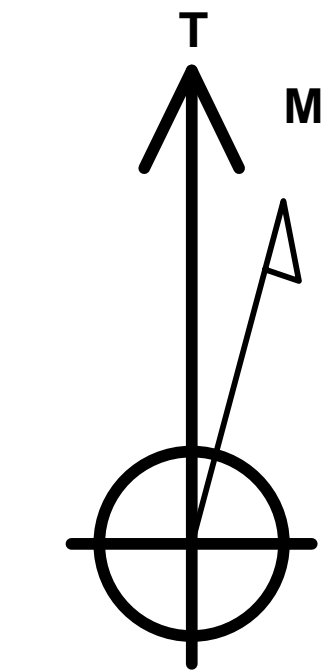
WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
KOP - CARLSON 7S-212	6155.9	1039.0	-197.5	40.502220	-104.587123
7" ICP *NEW* - CARLSON 7S-212	6872.0	1039.0	529.2	40.502220	-104.584510
BHL - CARLSON 7S-212	6797.0	1039.0	5631.8	40.502218	-104.566162



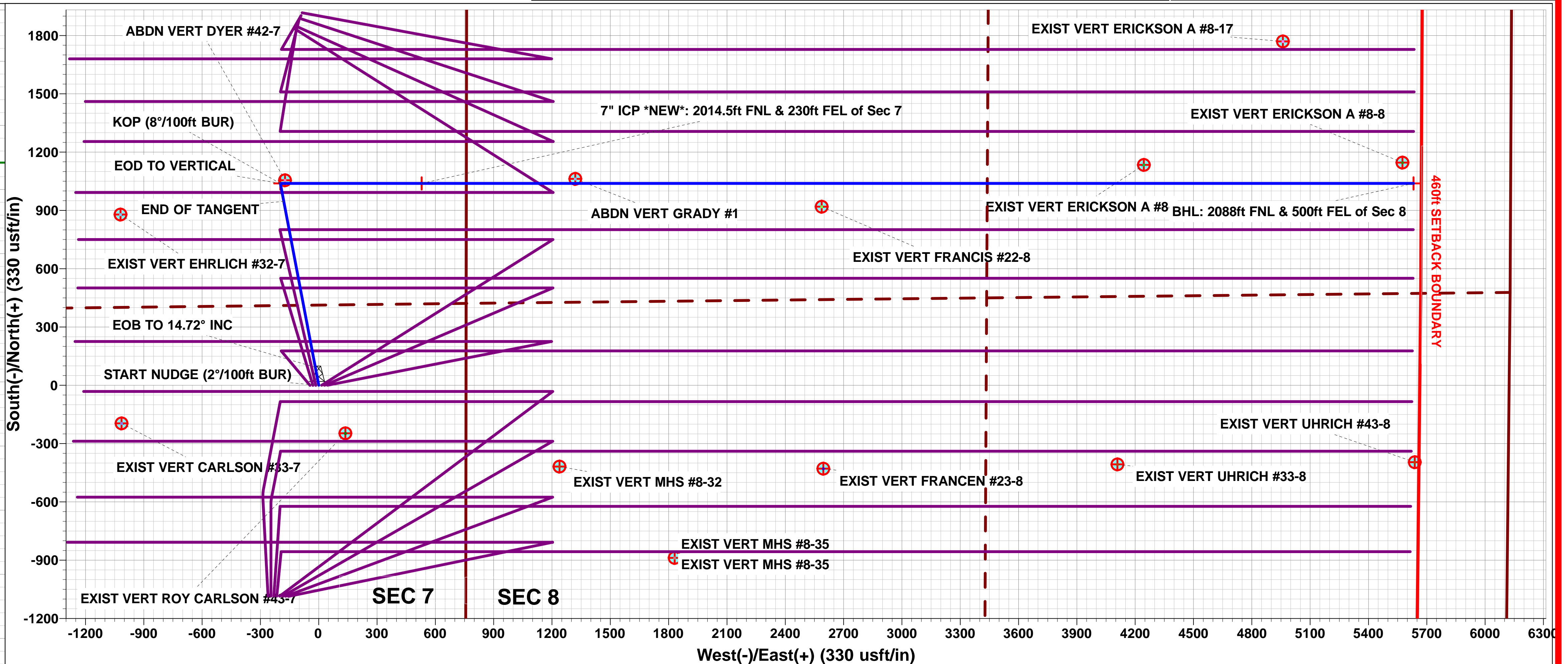
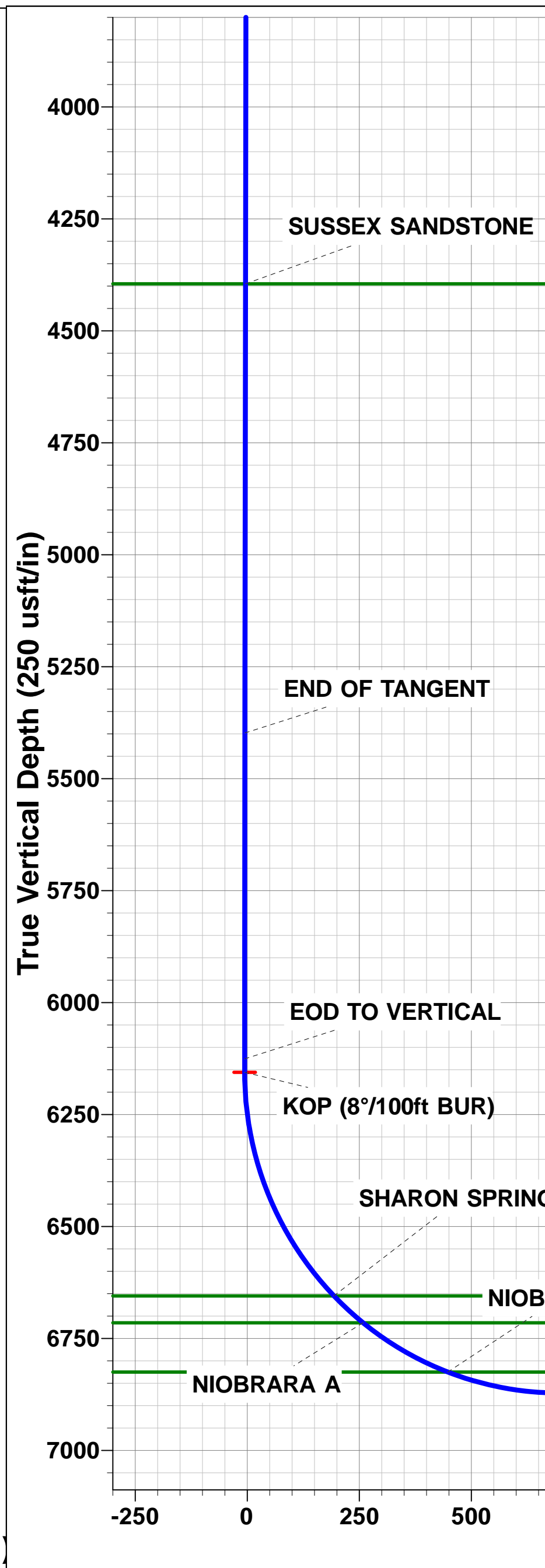
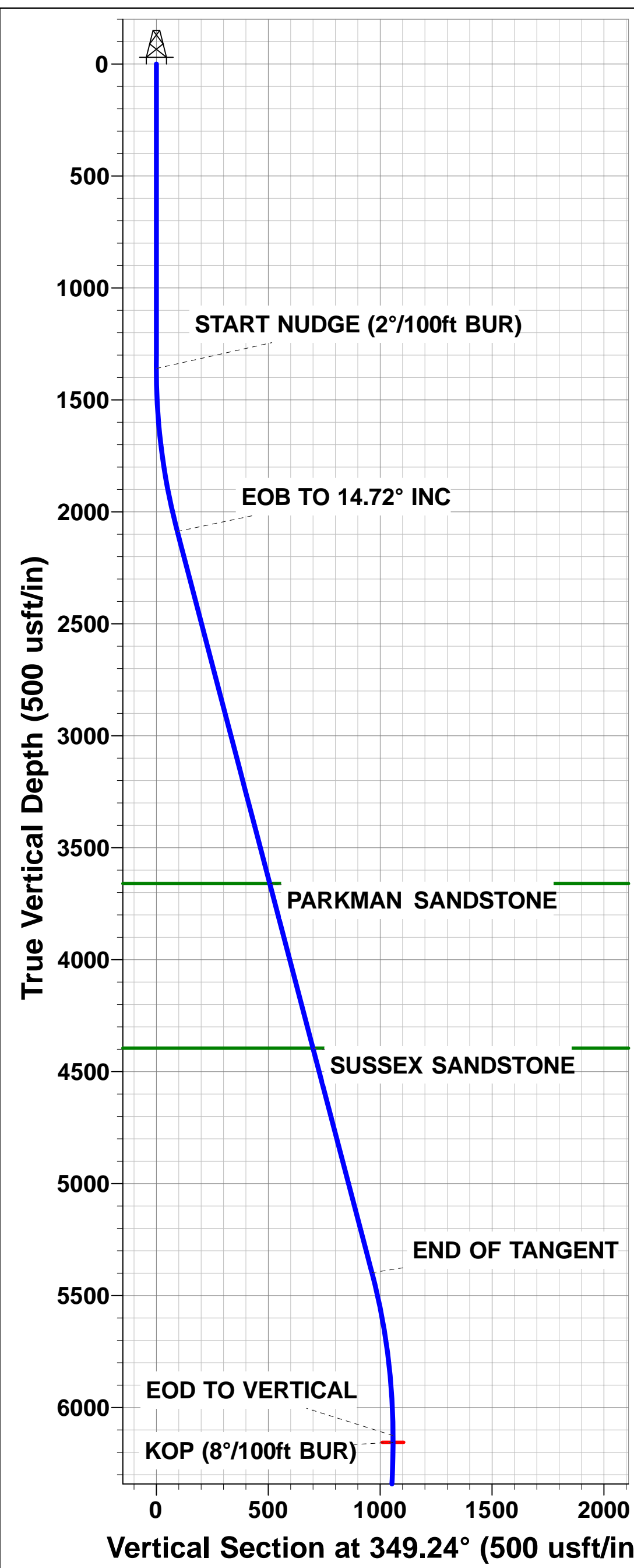
PROPOSED LOCAL COORDINATES:

SHL: 2220ft FSL & 758ft FEL of Sec 7
 7" ICP *NEW*: 2014.5ft FNL & 230ft FEL of Sec 7
 BHL: 2088ft FNL & 500ft FEL of Sec 8



Azimuths to True North
 Magnetic North: 8.26°

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



BHL - CARLSON 7S-212

Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well CARLSON 7S-212
Company:	PDC ENERGY	TVD Reference:	KB-EST @ 4762.0usft
Project:	WELD COUNTY, COLORADO	MD Reference:	KB-EST @ 4762.0usft
Site:	NE SE SEC. 7 T6N R64W 6th P.M.	North Reference:	True
Well:	CARLSON 7S-212	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #1		

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

Well CARLSON 7S-212			
Well Position	+N-S	0.0 usft	Northing: 1,426,069.04 usft
	+E-W	0.0 usft	Easting: 3,254,065.99 usft
Position Uncertainty		0.0 usft	Wellhead Elevation: usft
			Latitude: 40.499368
			Longitude: -104.586413
			Ground Level: 4,739.0 usft

Wellbore ORIGINAL WELLBORE					
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	01/03/2016	8.26	66.99	52,611

Design PROPOSAL #1				
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	79.55

Plan Sections											
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	-4,762.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,360.0	0.00	0.00	1,360.0	-3,402.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,096.0	14.72	349.24	2,087.9	-2,674.1	92.4	-17.6	2.00	2.00	0.00	349.24	
5,518.4	14.72	349.24	5,398.0	636.0	946.6	-179.9	0.00	0.00	0.00	0.00	
6,254.4	0.00	0.00	6,125.9	1,363.9	1,039.0	-197.5	2.00	-2.00	0.00	180.00	
6,284.4	0.00	0.00	6,155.9	1,393.9	1,039.0	-197.5	0.00	0.00	0.00	0.00	KOP - CARLSON 7
7,419.8	90.84	90.00	6,872.0	2,110.0	1,039.0	529.2	8.00	8.00	7.93	90.00	7" ICP *NEW* - CA
12,523.0	90.84	90.00	6,797.0	2,035.0	1,039.0	5,631.8	0.00	0.00	0.00	0.00	BHL - CARLSON 7:

Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well CARLSON 7S-212
Company:	PDC ENERGY	TVD Reference:	KB-EST @ 4762.0usft
Project:	WELD COUNTY, COLORADO	MD Reference:	KB-EST @ 4762.0usft
Site:	NE SE SEC. 7 T6N R64W 6th P.M.	North Reference:	True
Well:	CARLSON 7S-212	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	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)
SHL: 2220ft FSL & 758ft FEL of Sec 7										
0.0	0.00	0.00	0.0	4,762.00	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	4,662.00	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	4,562.00	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	4,462.00	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	4,362.00	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	4,262.00	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	4,162.00	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	4,062.00	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	3,962.00	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	3,862.00	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	3,762.00	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	3,662.00	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	3,562.00	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	3,462.00	0.0	0.0	0.0	0.00	0.00	0.00
START NUDGE (2°/100ft BUR)										
1,360.0	0.00	0.00	1,360.0	3,402.00	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.80	349.24	1,400.0	3,362.00	0.3	-0.1	0.0	2.00	2.00	0.00
1,500.0	2.80	349.24	1,499.9	3,262.06	3.4	-0.6	0.0	2.00	2.00	0.00
1,600.0	4.80	349.24	1,599.7	3,162.28	9.9	-1.9	-0.1	2.00	2.00	0.00
1,700.0	6.80	349.24	1,699.2	3,062.80	19.8	-3.8	-0.1	2.00	2.00	0.00
1,800.0	8.80	349.24	1,798.3	2,963.73	33.1	-6.3	-0.2	2.00	2.00	0.00
1,900.0	10.80	349.24	1,896.8	2,865.19	49.9	-9.5	-0.3	2.00	2.00	0.00
2,000.0	12.80	349.24	1,994.7	2,767.31	69.9	-13.3	-0.4	2.00	2.00	0.00
EOB TO 14.72° INC										
2,096.0	14.72	349.24	2,087.9	2,674.11	92.4	-17.6	-0.5	2.00	2.00	0.00
2,100.0	14.72	349.24	2,091.8	2,670.20	93.4	-17.7	-0.5	0.00	0.00	0.00
2,200.0	14.72	349.24	2,188.5	2,573.48	118.3	-22.5	-0.7	0.00	0.00	0.00
2,300.0	14.72	349.24	2,285.2	2,476.76	143.3	-27.2	-0.8	0.00	0.00	0.00
2,400.0	14.72	349.24	2,382.0	2,380.05	168.3	-32.0	-0.9	0.00	0.00	0.00
2,500.0	14.72	349.24	2,478.7	2,283.33	193.2	-36.7	-1.1	0.00	0.00	0.00
2,600.0	14.72	349.24	2,575.4	2,186.61	218.2	-41.5	-1.2	0.00	0.00	0.00
2,700.0	14.72	349.24	2,672.1	2,089.89	243.1	-46.2	-1.3	0.00	0.00	0.00
2,800.0	14.72	349.24	2,768.8	1,993.17	268.1	-51.0	-1.5	0.00	0.00	0.00
2,900.0	14.72	349.24	2,865.5	1,896.45	293.1	-55.7	-1.6	0.00	0.00	0.00
3,000.0	14.72	349.24	2,962.3	1,799.74	318.0	-60.5	-1.8	0.00	0.00	0.00
3,100.0	14.72	349.24	3,059.0	1,703.02	343.0	-65.2	-1.9	0.00	0.00	0.00
3,200.0	14.72	349.24	3,155.7	1,606.30	367.9	-69.9	-2.0	0.00	0.00	0.00
3,300.0	14.72	349.24	3,252.4	1,509.58	392.9	-74.7	-2.2	0.00	0.00	0.00
3,400.0	14.72	349.24	3,349.1	1,412.86	417.9	-79.4	-2.3	0.00	0.00	0.00
3,500.0	14.72	349.24	3,445.9	1,316.15	442.8	-84.2	-2.4	0.00	0.00	0.00
3,600.0	14.72	349.24	3,542.6	1,219.43	467.8	-88.9	-2.6	0.00	0.00	0.00
3,700.0	14.72	349.24	3,639.3	1,122.71	492.7	-93.7	-2.7	0.00	0.00	0.00
PARKMAN SANDSTONE										
3,721.4	14.72	349.24	3,660.0	1,102.00	498.1	-94.7	-2.7	0.00	0.00	0.00
3,800.0	14.72	349.24	3,736.0	1,025.99	517.7	-98.4	-2.9	0.00	0.00	0.00
3,900.0	14.72	349.24	3,832.7	929.27	542.7	-103.2	-3.0	0.00	0.00	0.00
4,000.0	14.72	349.24	3,929.4	832.55	567.6	-107.9	-3.1	0.00	0.00	0.00
4,100.0	14.72	349.24	4,026.2	735.84	592.6	-112.6	-3.3	0.00	0.00	0.00
4,200.0	14.72	349.24	4,122.9	639.12	617.6	-117.4	-3.4	0.00	0.00	0.00
4,300.0	14.72	349.24	4,219.6	542.40	642.5	-122.1	-3.5	0.00	0.00	0.00
4,400.0	14.72	349.24	4,316.3	445.68	667.5	-126.9	-3.7	0.00	0.00	0.00
SUSSEX SANDSTONE										
4,481.4	14.72	349.24	4,395.0	367.00	687.8	-130.7	-3.8	0.00	0.00	0.00

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Project:	WELD COUNTY, COLORADO	MD Reference:	KB-EST @ 4762.0usft
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Well:	CARLSON 7S-212	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	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	14.72	349.24	4,413.0	348.96	692.4	-131.6	-3.8	0.00	0.00	0.00
4,600.0	14.72	349.24	4,509.8	252.24	717.4	-136.4	-4.0	0.00	0.00	0.00
4,700.0	14.72	349.24	4,606.5	155.53	742.4	-141.1	-4.1	0.00	0.00	0.00
4,800.0	14.72	349.24	4,703.2	58.81	767.3	-145.9	-4.2	0.00	0.00	0.00
4,900.0	14.72	349.24	4,799.9	-37.91	792.3	-150.6	-4.4	0.00	0.00	0.00
5,000.0	14.72	349.24	4,896.6	-134.63	817.2	-155.3	-4.5	0.00	0.00	0.00
5,100.0	14.72	349.24	4,993.3	-231.35	842.2	-160.1	-4.6	0.00	0.00	0.00
5,200.0	14.72	349.24	5,090.1	-328.07	867.2	-164.8	-4.8	0.00	0.00	0.00
5,300.0	14.72	349.24	5,186.8	-424.78	892.1	-169.6	-4.9	0.00	0.00	0.00
5,400.0	14.72	349.24	5,283.5	-521.50	917.1	-174.3	-5.1	0.00	0.00	0.00
5,500.0	14.72	349.24	5,380.2	-618.22	942.1	-179.1	-5.2	0.00	0.00	0.00
END OF TANGENT										
5,518.4	14.72	349.24	5,398.0	-636.01	946.6	-179.9	-5.2	0.00	0.00	0.00
5,600.0	13.09	349.24	5,477.2	-715.22	965.9	-183.6	-5.3	2.00	-2.00	0.00
5,700.0	11.09	349.24	5,575.0	-813.00	986.5	-187.5	-5.4	2.00	-2.00	0.00
5,800.0	9.09	349.24	5,673.5	-911.45	1,003.7	-190.8	-5.5	2.00	-2.00	0.00
5,900.0	7.09	349.24	5,772.5	-1,010.45	1,017.5	-193.4	-5.6	2.00	-2.00	0.00
6,000.0	5.09	349.24	5,871.9	-1,109.88	1,027.9	-195.4	-5.7	2.00	-2.00	0.00
6,100.0	3.09	349.24	5,971.6	-1,209.62	1,034.9	-196.7	-5.7	2.00	-2.00	0.00
6,200.0	1.09	349.24	6,071.6	-1,309.55	1,038.5	-197.4	-5.7	2.00	-2.00	0.00
EOD TO VERTICAL										
6,254.4	0.00	0.00	6,125.9	-1,363.90	1,039.0	-197.5	-5.7	2.00	-2.00	0.00
KOP (8°/100ft BUR)										
6,284.4	0.00	0.00	6,155.9	-1,393.90	1,039.0	-197.5	-5.7	0.00	0.00	0.00
6,300.0	1.25	90.00	6,171.5	-1,409.55	1,039.0	-197.3	-5.6	8.00	8.00	0.00
6,400.0	9.25	90.00	6,271.0	-1,509.05	1,039.0	-188.2	3.4	8.00	8.00	0.00
6,500.0	17.25	90.00	6,368.3	-1,606.30	1,039.0	-165.3	26.0	8.00	8.00	0.00
6,600.0	25.25	90.00	6,461.4	-1,699.43	1,039.0	-129.1	61.6	8.00	8.00	0.00
6,700.0	33.25	90.00	6,548.6	-1,786.60	1,039.0	-80.2	109.6	8.00	8.00	0.00
6,800.0	41.25	90.00	6,628.1	-1,866.14	1,039.0	-19.7	169.1	8.00	8.00	0.00
SHARON SPRINGS										
6,836.6	44.18	90.00	6,655.0	-1,893.00	1,039.0	5.1	193.5	8.00	8.00	0.00
6,900.0	49.25	90.00	6,698.5	-1,936.48	1,039.0	51.2	238.9	8.00	8.00	0.00
NIOBRARA A										
6,925.9	51.32	90.00	6,715.0	-1,953.00	1,039.0	71.1	258.4	8.00	8.00	0.00
7,000.0	57.25	90.00	6,758.3	-1,996.26	1,039.0	131.3	317.6	8.00	8.00	0.00
7,100.0	65.25	90.00	6,806.3	-2,044.31	1,039.0	218.9	403.7	8.00	8.00	0.00
NIOBRARA B										
7,148.2	69.11	90.00	6,825.0	-2,063.00	1,039.0	263.3	447.4	8.00	8.00	0.00
7,200.0	73.25	90.00	6,841.7	-2,079.70	1,039.0	312.3	495.6	8.00	8.00	0.00
7,300.0	81.25	90.00	6,863.7	-2,101.75	1,039.0	409.8	591.5	8.00	8.00	0.00
7,400.0	89.25	90.00	6,872.0	-2,110.02	1,039.0	509.4	689.4	8.00	8.00	0.00
7" ICP *NEW*: 2014.5ft FNL & 230ft FEL of Sec 7										
7,419.8	90.84	90.00	6,872.0	-2,110.00	1,039.0	529.2	708.9	8.00	8.00	0.00
7,500.0	90.84	90.00	6,870.8	-2,108.82	1,039.0	609.3	787.7	0.00	0.00	0.00
7,600.0	90.84	90.00	6,869.4	-2,107.35	1,039.0	709.3	886.1	0.00	0.00	0.00
7,700.0	90.84	90.00	6,867.9	-2,105.88	1,039.0	809.3	984.4	0.00	0.00	0.00
7,800.0	90.84	90.00	6,866.4	-2,104.41	1,039.0	909.3	1,082.7	0.00	0.00	0.00
7,900.0	90.84	90.00	6,864.9	-2,102.95	1,039.0	1,009.3	1,181.1	0.00	0.00	0.00
8,000.0	90.84	90.00	6,863.5	-2,101.48	1,039.0	1,109.3	1,279.4	0.00	0.00	0.00
8,100.0	90.84	90.00	6,862.0	-2,100.01	1,039.0	1,209.3	1,377.7	0.00	0.00	0.00
8,200.0	90.84	90.00	6,860.5	-2,098.54	1,039.0	1,309.3	1,476.0	0.00	0.00	0.00
8,300.0	90.84	90.00	6,859.1	-2,097.07	1,039.0	1,409.3	1,574.4	0.00	0.00	0.00

Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well CARLSON 7S-212
Company:	PDC ENERGY	TVD Reference:	KB-EST @ 4762.0usft
Project:	WELD COUNTY, COLORADO	MD Reference:	KB-EST @ 4762.0usft
Site:	NE SE SEC. 7 T6N R64W 6th P.M.	North Reference:	True
Well:	CARLSON 7S-212	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	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)
8,400.0	90.84	90.00	6,857.6	-2,095.60	1,039.0	1,509.3	1,672.7	0.00	0.00	0.00
8,500.0	90.84	90.00	6,856.1	-2,094.13	1,039.0	1,609.2	1,771.0	0.00	0.00	0.00
8,600.0	90.84	90.00	6,854.7	-2,092.66	1,039.0	1,709.2	1,869.4	0.00	0.00	0.00
8,700.0	90.84	90.00	6,853.2	-2,091.19	1,039.0	1,809.2	1,967.7	0.00	0.00	0.00
8,800.0	90.84	90.00	6,851.7	-2,089.72	1,039.0	1,909.2	2,066.0	0.00	0.00	0.00
8,900.0	90.84	90.00	6,850.3	-2,088.25	1,039.0	2,009.2	2,164.4	0.00	0.00	0.00
9,000.0	90.84	90.00	6,848.8	-2,086.78	1,039.0	2,109.2	2,262.7	0.00	0.00	0.00
9,100.0	90.84	90.00	6,847.3	-2,085.31	1,039.0	2,209.2	2,361.0	0.00	0.00	0.00
9,200.0	90.84	90.00	6,845.8	-2,083.84	1,039.0	2,309.2	2,459.3	0.00	0.00	0.00
9,300.0	90.84	90.00	6,844.4	-2,082.38	1,039.0	2,409.2	2,557.7	0.00	0.00	0.00
9,400.0	90.84	90.00	6,842.9	-2,080.91	1,039.0	2,509.1	2,656.0	0.00	0.00	0.00
9,500.0	90.84	90.00	6,841.4	-2,079.44	1,039.0	2,609.1	2,754.3	0.00	0.00	0.00
9,600.0	90.84	90.00	6,840.0	-2,077.97	1,039.0	2,709.1	2,852.7	0.00	0.00	0.00
9,700.0	90.84	90.00	6,838.5	-2,076.50	1,039.0	2,809.1	2,951.0	0.00	0.00	0.00
9,800.0	90.84	90.00	6,837.0	-2,075.03	1,039.0	2,909.1	3,049.3	0.00	0.00	0.00
9,900.0	90.84	90.00	6,835.6	-2,073.56	1,039.0	3,009.1	3,147.7	0.00	0.00	0.00
10,000.0	90.84	90.00	6,834.1	-2,072.09	1,039.0	3,109.1	3,246.0	0.00	0.00	0.00
10,100.0	90.84	90.00	6,832.6	-2,070.62	1,039.0	3,209.1	3,344.3	0.00	0.00	0.00
10,200.0	90.84	90.00	6,831.2	-2,069.15	1,039.0	3,309.1	3,442.6	0.00	0.00	0.00
10,300.0	90.84	90.00	6,829.7	-2,067.68	1,039.0	3,409.0	3,541.0	0.00	0.00	0.00
10,400.0	90.84	90.00	6,828.2	-2,066.21	1,039.0	3,509.0	3,639.3	0.00	0.00	0.00
10,500.0	90.84	90.00	6,826.7	-2,064.74	1,039.0	3,609.0	3,737.6	0.00	0.00	0.00
10,600.0	90.84	90.00	6,825.3	-2,063.27	1,039.0	3,709.0	3,836.0	0.00	0.00	0.00
10,700.0	90.84	90.00	6,823.8	-2,061.81	1,039.0	3,809.0	3,934.3	0.00	0.00	0.00
10,800.0	90.84	90.00	6,822.3	-2,060.34	1,039.0	3,909.0	4,032.6	0.00	0.00	0.00
10,900.0	90.84	90.00	6,820.9	-2,058.87	1,039.0	4,009.0	4,131.0	0.00	0.00	0.00
11,000.0	90.84	90.00	6,819.4	-2,057.40	1,039.0	4,109.0	4,229.3	0.00	0.00	0.00
11,100.0	90.84	90.00	6,817.9	-2,055.93	1,039.0	4,209.0	4,327.6	0.00	0.00	0.00
11,200.0	90.84	90.00	6,816.5	-2,054.46	1,039.0	4,308.9	4,425.9	0.00	0.00	0.00
11,300.0	90.84	90.00	6,815.0	-2,052.99	1,039.0	4,408.9	4,524.3	0.00	0.00	0.00
11,400.0	90.84	90.00	6,813.5	-2,051.52	1,039.0	4,508.9	4,622.6	0.00	0.00	0.00
11,500.0	90.84	90.00	6,812.1	-2,050.05	1,039.0	4,608.9	4,720.9	0.00	0.00	0.00
11,600.0	90.84	90.00	6,810.6	-2,048.58	1,039.0	4,708.9	4,819.3	0.00	0.00	0.00
11,700.0	90.84	90.00	6,809.1	-2,047.11	1,039.0	4,808.9	4,917.6	0.00	0.00	0.00
11,800.0	90.84	90.00	6,807.6	-2,045.64	1,039.0	4,908.9	5,015.9	0.00	0.00	0.00
11,900.0	90.84	90.00	6,806.2	-2,044.17	1,039.0	5,008.9	5,114.2	0.00	0.00	0.00
12,000.0	90.84	90.00	6,804.7	-2,042.70	1,039.0	5,108.9	5,212.6	0.00	0.00	0.00
12,100.0	90.84	90.00	6,803.2	-2,041.24	1,039.0	5,208.9	5,310.9	0.00	0.00	0.00
12,200.0	90.84	90.00	6,801.8	-2,039.77	1,039.0	5,308.8	5,409.2	0.00	0.00	0.00
12,300.0	90.84	90.00	6,800.3	-2,038.30	1,039.0	5,408.8	5,507.6	0.00	0.00	0.00
12,400.0	90.84	90.00	6,798.8	-2,036.83	1,039.0	5,508.8	5,605.9	0.00	0.00	0.00
12,500.0	90.84	90.00	6,797.4	-2,035.36	1,039.0	5,608.8	5,704.2	0.00	0.00	0.00
BHL: 2088ft FNL & 500ft FEL of Sec 8										
12,523.0	90.84	90.00	6,797.0	-2,035.00	1,039.0	5,631.8	5,726.8	0.00	0.00	0.00



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well CARLSON 7S-212
Company:	PDC ENERGY	TVD Reference:	KB-EST @ 4762.0usft
Project:	WELD COUNTY, COLORADO	MD Reference:	KB-EST @ 4762.0usft
Site:	NE SE SEC. 7 T6N R64W 6th P.M.	North Reference:	True
Well:	CARLSON 7S-212	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #1		

Formations					
MD (usft)	TVD (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,721.4	3,660.0	PARKMAN SANDSTONE			
4,481.4	4,395.0	SUSSEX SANDSTONE			
6,836.6	6,655.0	SHARON SPRINGS			
6,925.9	6,715.0	NIOBRARA A			
7,148.2	6,825.0	NIOBRARA B			

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 & 758ft FEL of Sec 7
1,360.0	1,360.0	0.0	0.0	START NUDGE (2°/100ft BUR)
2,096.0	2,087.9	92.4	-17.6	EOB TO 14.72° INC
5,518.4	5,398.0	946.6	-179.9	END OF TANGENT
6,254.4	6,125.9	1,039.0	-197.5	EOD TO VERTICAL
6,284.4	6,155.9	1,039.0	-197.5	KOP (8°/100ft BUR)
7,419.8	6,872.0	1,039.0	529.2	7" ICP *NEW*: 2014.5ft FNL & 230ft FEL of Sec 7
12,523.0	6,797.0	1,039.0	5,631.8	BHL: 2088ft FNL & 500ft FEL of Sec 8