

PDC ENERGY

**WELD COUNTY, COLORADO
NE SE SEC. 7 T6N R64W 6th P.M.
CARLSON 7S-202**

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-202
Wellbore: ORIGINAL WELLBORE
Design: PROPOSAL #1

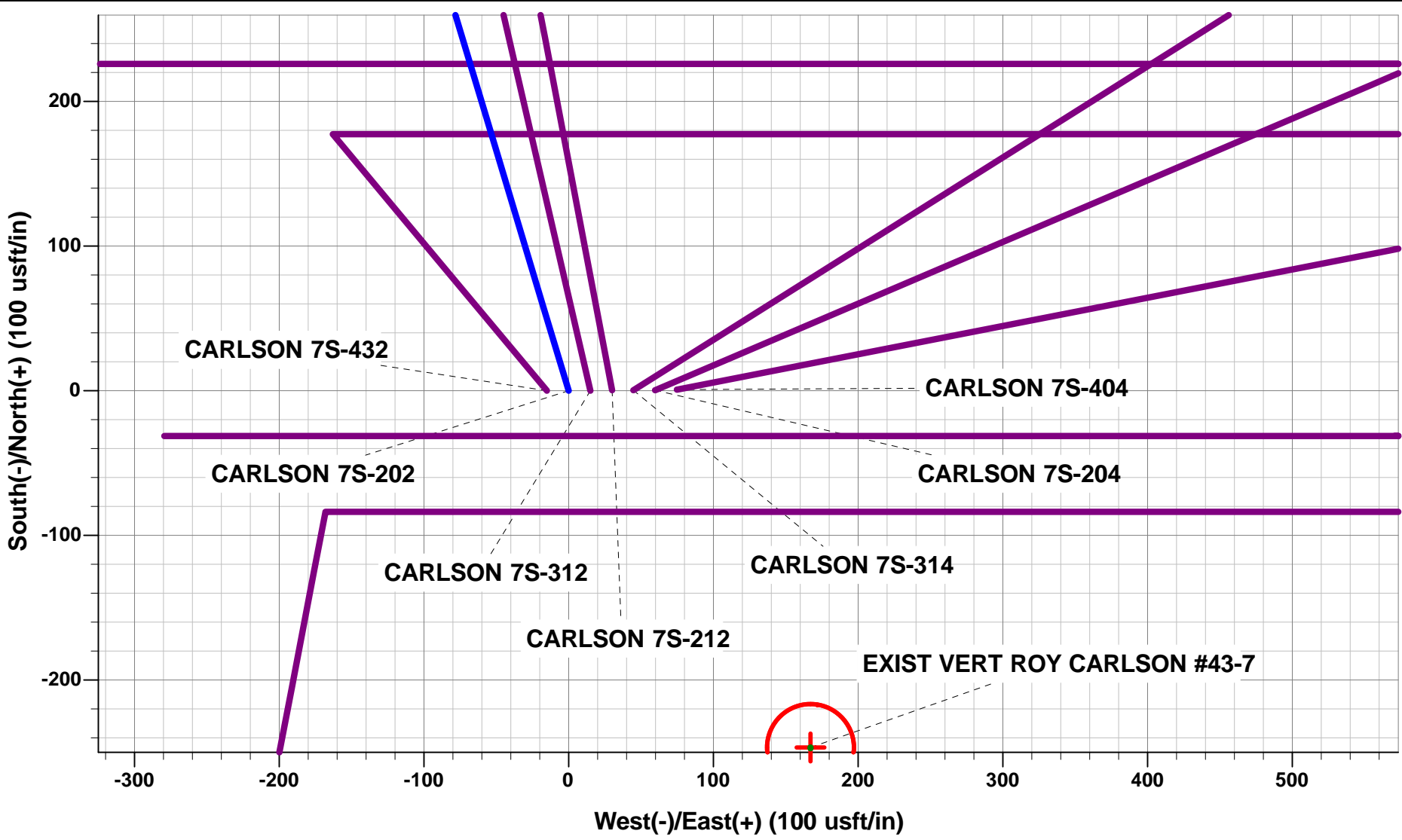


ANNOTATIONS

TVD	MD	Inc	Azi	+N/-S	+E/-W	VSec	Dep	Annotation
0.0	0.0	0.00	0.00	0.0	0.0	0.0	0.0	SHL: 2220ft FSL & 788ft FEL of Sec 7
1160.0	1160.0	0.00	0.00	0.0	0.0	0.0	0.0	START NUDGE (2°/100ft BUR)
1755.5	1759.8	12.00	343.25	59.9	-18.0	-12.1	62.6	EOB TO 12° INC
3875.4	3927.1	12.00	343.25	491.3	-147.9	-99.6	513.1	END OF TANGENT
4470.9	4527.0	0.00	0.00	551.2	-165.9	-111.7	575.6	EOD TO VERTICAL
6135.9	6192.0	0.00	0.00	551.2	-165.9	-111.7	575.6	KOP (8°/100ft BUR)
6852.0	7325.4	90.68	90.00	551.2	558.7	609.5	1300.2	7" ICP *NEW*: 2502.4ft FNL & 230ft FEL of Sec 7
6792.0	12426.5	90.67	90.00	551.2	5659.4	5686.2	6401.0	BHL: 2576ft FNL & 500ft FEL of Sec 8

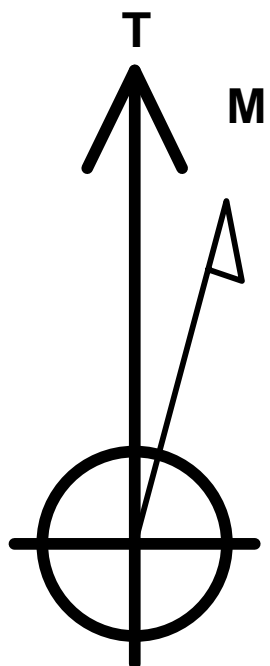
WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
KOP - CARLSON 7S-202	6135.9	551.2	-165.9	40.500880	-104.587118
7" ICP *NEW* - CARLSON 7S-202	6852.0	551.2	558.7	40.500880	-104.584512
BHL - CARLSON 7S-202	6792.0	551.2	5659.4	40.500878	-104.566171



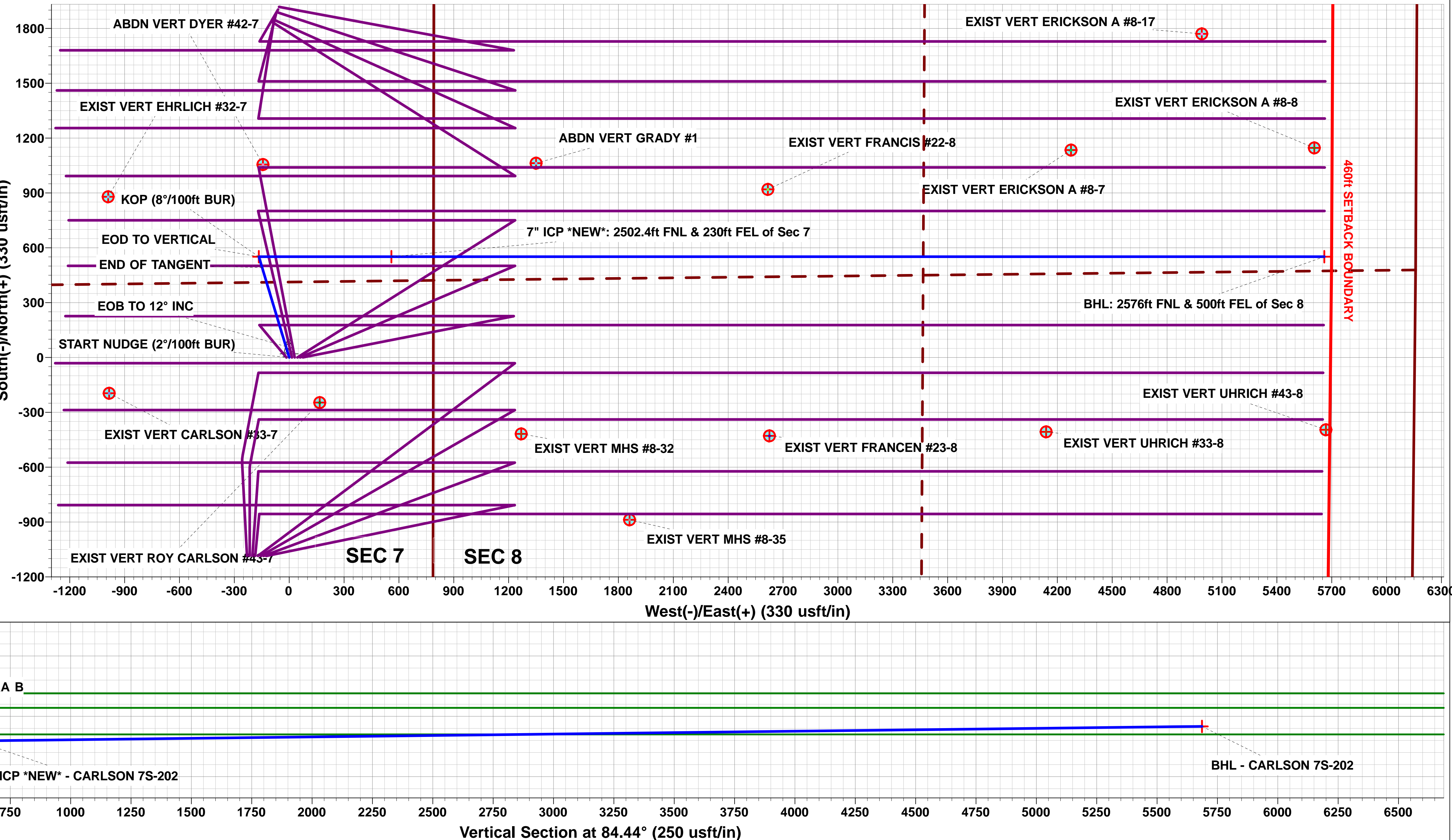
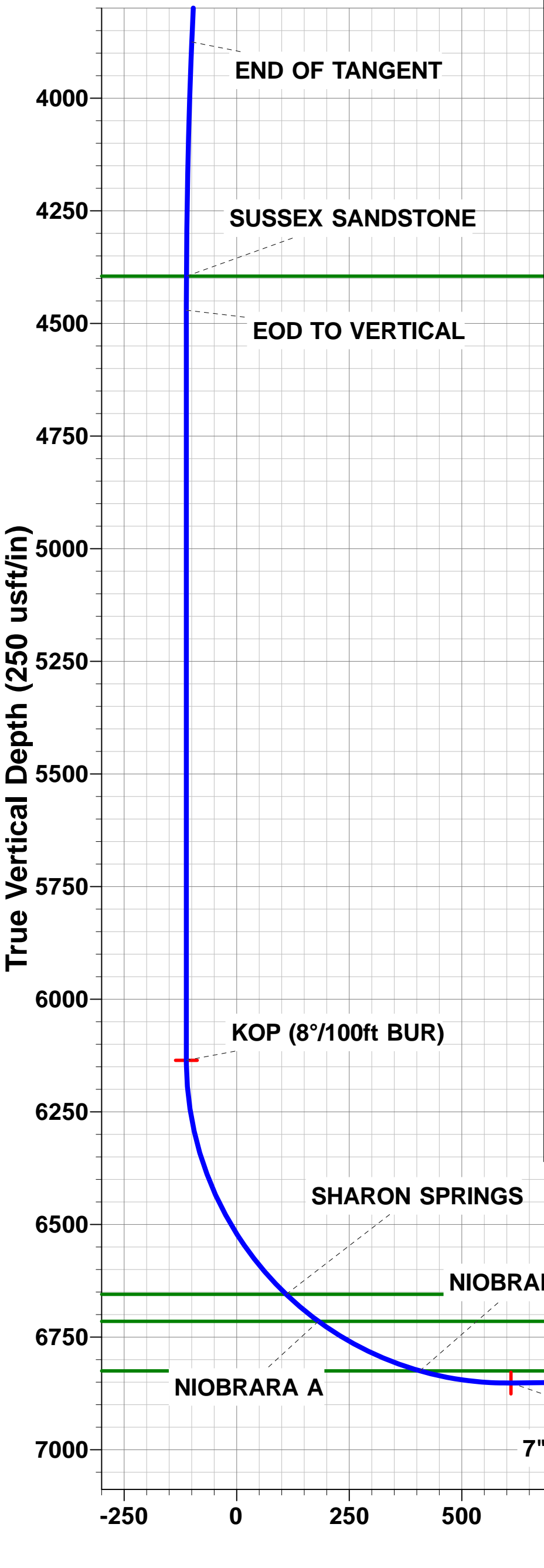
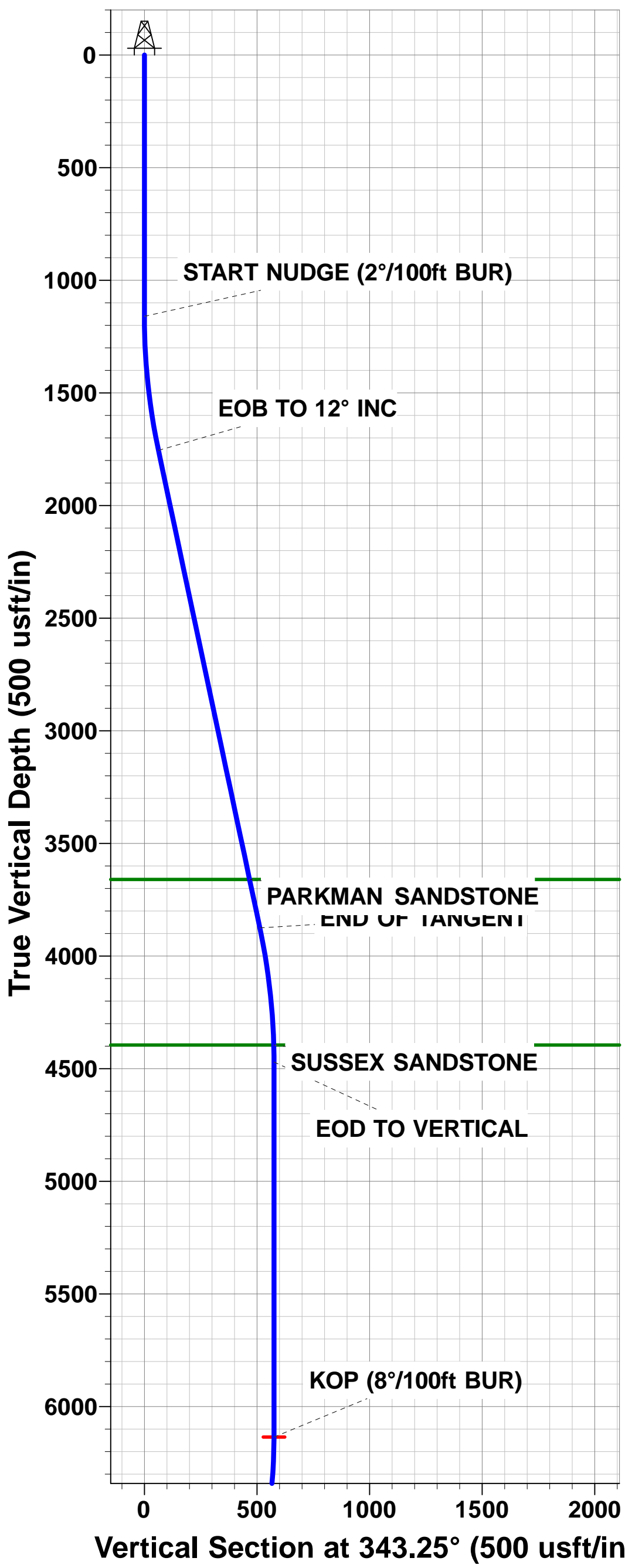
PROPOSED LOCAL COORDINATES:

SHL: 2220ft FSL & 788ft FEL of Sec 7
7" ICP *NEW*: 2502.4ft FNL & 230ft FEL of Sec 7
BHL: 2576ft 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



Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well CARLSON 7S-202
Company:	PDC ENERGY	TVD Reference:	KB-EST @ 4761.0usft
Project:	WELD COUNTY, COLORADO	MD Reference:	KB-EST @ 4761.0usft
Site:	NE SE SEC. 7 T6N R64W 6th P.M.	North Reference:	True
Well:	CARLSON 7S-202	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:	1.10000 ft
		Latitude:	40.499368
		Longitude:	-104.586413
		Grid Convergence:	0.59 °

Well	CARLSON 7S-202		
Well Position	+N/-S	-0.4 usft	Northing:
	+E/-W	-30.0 usft	Easting:
Position Uncertainty	0.0 usft		Wellhead Elevation:
			Latitude:
			Longitude:
			Ground Level:

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	84.44

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	-4,761.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,160.0	0.00	0.00	1,160.0	-3,601.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,759.8	12.00	343.25	1,755.5	-3,005.5	59.9	-18.0	2.00	2.00	0.00	343.25	
3,927.1	12.00	343.25	3,875.4	-885.6	491.3	-147.9	0.00	0.00	0.00	0.00	
4,527.0	0.00	0.00	4,470.9	-290.1	551.2	-165.9	2.00	-2.00	0.00	180.00	
6,192.0	0.00	0.00	6,135.9	1,374.9	551.2	-165.9	0.00	0.00	0.00	0.00	KOP - CARLSON 7
7,325.4	90.68	90.00	6,852.0	2,091.0	551.2	558.7	8.00	8.00	7.94	90.00	7" ICP *NEW* - CA
12,426.5	90.67	90.00	6,792.0	2,031.0	551.2	5,659.4	0.00	0.00	0.00	166.31	BHL - CARLSON 7

Planning Report



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Company:	PDC ENERGY	TVD Reference:	KB-EST @ 4761.0usft
Project:	WELD COUNTY, COLORADO	MD Reference:	KB-EST @ 4761.0usft
Site:	NE SE SEC. 7 T6N R64W 6th P.M.	North Reference:	True
Well:	CARLSON 7S-202	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 & 788ft FEL of Sec 7										
0.0	0.00	0.00	0.0	4,761.00	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	4,661.00	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	4,561.00	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	4,461.00	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	4,361.00	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	4,261.00	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	4,161.00	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	4,061.00	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	3,961.00	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	3,861.00	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	3,761.00	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	3,661.00	0.0	0.0	0.0	0.00	0.00	0.00
START NUDGE (2°/100ft BUR)										
1,160.0	0.00	0.00	1,160.0	3,601.00	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.80	343.25	1,200.0	3,561.00	0.3	-0.1	-0.1	2.00	2.00	0.00
1,300.0	2.80	343.25	1,299.9	3,461.06	3.3	-1.0	-0.7	2.00	2.00	0.00
1,400.0	4.80	343.25	1,399.7	3,361.28	9.6	-2.9	-1.9	2.00	2.00	0.00
1,500.0	6.80	343.25	1,499.2	3,261.80	19.3	-5.8	-3.9	2.00	2.00	0.00
1,600.0	8.80	343.25	1,598.3	3,162.73	32.3	-9.7	-6.5	2.00	2.00	0.00
1,700.0	10.80	343.25	1,696.8	3,064.19	48.6	-14.6	-9.8	2.00	2.00	0.00
EOB TO 12° INC										
1,759.8	12.00	343.25	1,755.5	3,005.53	59.9	-18.0	-12.1	2.00	2.00	0.00
1,800.0	12.00	343.25	1,794.7	2,966.25	67.9	-20.4	-13.8	0.00	0.00	0.00
1,900.0	12.00	343.25	1,892.6	2,868.43	87.8	-26.4	-17.8	0.00	0.00	0.00
2,000.0	12.00	343.25	1,990.4	2,770.62	107.7	-32.4	-21.8	0.00	0.00	0.00
2,100.0	12.00	343.25	2,088.2	2,672.80	127.6	-38.4	-25.9	0.00	0.00	0.00
2,200.0	12.00	343.25	2,186.0	2,574.99	147.5	-44.4	-29.9	0.00	0.00	0.00
2,300.0	12.00	343.25	2,283.8	2,477.17	167.4	-50.4	-33.9	0.00	0.00	0.00
2,400.0	12.00	343.25	2,381.6	2,379.36	187.3	-56.4	-38.0	0.00	0.00	0.00
2,500.0	12.00	343.25	2,479.5	2,281.54	207.2	-62.4	-42.0	0.00	0.00	0.00
2,600.0	12.00	343.25	2,577.3	2,183.72	227.1	-68.4	-46.0	0.00	0.00	0.00
2,700.0	12.00	343.25	2,675.1	2,085.91	247.0	-74.4	-50.1	0.00	0.00	0.00
2,800.0	12.00	343.25	2,772.9	1,988.09	266.9	-80.3	-54.1	0.00	0.00	0.00
2,900.0	12.00	343.25	2,870.7	1,890.28	286.8	-86.3	-58.1	0.00	0.00	0.00
3,000.0	12.00	343.25	2,968.5	1,792.46	306.8	-92.3	-62.2	0.00	0.00	0.00
3,100.0	12.00	343.25	3,066.4	1,694.64	326.7	-98.3	-66.2	0.00	0.00	0.00
3,200.0	12.00	343.25	3,164.2	1,596.83	346.6	-104.3	-70.2	0.00	0.00	0.00
3,300.0	12.00	343.25	3,262.0	1,499.01	366.5	-110.3	-74.3	0.00	0.00	0.00
3,400.0	12.00	343.25	3,359.8	1,401.20	386.4	-116.3	-78.3	0.00	0.00	0.00
3,500.0	12.00	343.25	3,457.6	1,303.38	406.3	-122.3	-82.3	0.00	0.00	0.00
3,600.0	12.00	343.25	3,555.4	1,205.56	426.2	-128.3	-86.4	0.00	0.00	0.00
3,700.0	12.00	343.25	3,653.3	1,107.75	446.1	-134.3	-90.4	0.00	0.00	0.00
PARKMAN SANDSTONE										
3,706.9	12.00	343.25	3,660.0	1,101.00	447.5	-134.7	-90.7	0.00	0.00	0.00
3,800.0	12.00	343.25	3,751.1	1,009.93	466.0	-140.3	-94.4	0.00	0.00	0.00
3,900.0	12.00	343.25	3,848.9	912.12	485.9	-146.2	-98.5	0.00	0.00	0.00
END OF TANGENT										
3,927.1	12.00	343.25	3,875.4	885.57	491.3	-147.9	-99.6	0.00	0.00	0.00
4,000.0	10.54	343.25	3,946.9	814.12	504.9	-152.0	-102.3	2.00	-2.00	0.00
4,100.0	8.54	343.25	4,045.5	715.50	520.8	-156.7	-105.5	2.00	-2.00	0.00
4,200.0	6.54	343.25	4,144.6	616.37	533.4	-160.5	-108.1	2.00	-2.00	0.00
4,300.0	4.54	343.25	4,244.2	516.85	542.6	-163.3	-109.9	2.00	-2.00	0.00
4,400.0	2.54	343.25	4,344.0	417.04	548.5	-165.1	-111.1	2.00	-2.00	0.00

Planning Report



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Project:	WELD COUNTY, COLORADO	MD Reference:	KB-EST @ 4761.0usft
Site:	NE SE SEC. 7 T6N R64W 6th P.M.	North Reference:	True
Well:	CARLSON 7S-202	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)
SUSSEX SANDSTONE										
4,451.1	1.52	343.25	4,395.0	366.00	550.2	-165.6	-111.5	2.00	-2.00	0.00
4,500.0	0.54	343.25	4,443.9	317.08	551.1	-165.9	-111.7	2.00	-2.00	0.00
EOD TO VERTICAL										
4,527.0	0.00	0.00	4,470.9	290.10	551.2	-165.9	-111.7	2.00	-2.00	0.00
4,600.0	0.00	0.00	4,543.9	217.08	551.2	-165.9	-111.7	0.00	0.00	0.00
4,700.0	0.00	0.00	4,643.9	117.08	551.2	-165.9	-111.7	0.00	0.00	0.00
4,800.0	0.00	0.00	4,743.9	17.08	551.2	-165.9	-111.7	0.00	0.00	0.00
4,900.0	0.00	0.00	4,843.9	-82.92	551.2	-165.9	-111.7	0.00	0.00	0.00
5,000.0	0.00	0.00	4,943.9	-182.92	551.2	-165.9	-111.7	0.00	0.00	0.00
5,100.0	0.00	0.00	5,043.9	-282.92	551.2	-165.9	-111.7	0.00	0.00	0.00
5,200.0	0.00	0.00	5,143.9	-382.92	551.2	-165.9	-111.7	0.00	0.00	0.00
5,300.0	0.00	0.00	5,243.9	-482.92	551.2	-165.9	-111.7	0.00	0.00	0.00
5,400.0	0.00	0.00	5,343.9	-582.92	551.2	-165.9	-111.7	0.00	0.00	0.00
5,500.0	0.00	0.00	5,443.9	-682.92	551.2	-165.9	-111.7	0.00	0.00	0.00
5,600.0	0.00	0.00	5,543.9	-782.92	551.2	-165.9	-111.7	0.00	0.00	0.00
5,700.0	0.00	0.00	5,643.9	-882.92	551.2	-165.9	-111.7	0.00	0.00	0.00
5,800.0	0.00	0.00	5,743.9	-982.92	551.2	-165.9	-111.7	0.00	0.00	0.00
5,900.0	0.00	0.00	5,843.9	-1,082.92	551.2	-165.9	-111.7	0.00	0.00	0.00
6,000.0	0.00	0.00	5,943.9	-1,182.92	551.2	-165.9	-111.7	0.00	0.00	0.00
6,100.0	0.00	0.00	6,043.9	-1,282.92	551.2	-165.9	-111.7	0.00	0.00	0.00
KOP (8°/100ft BUR)										
6,192.0	0.00	0.00	6,135.9	-1,374.90	551.2	-165.9	-111.7	0.00	0.00	0.00
6,200.0	0.64	90.00	6,143.9	-1,382.92	551.2	-165.9	-111.6	8.00	8.00	0.00
6,300.0	8.64	90.00	6,243.5	-1,482.51	551.2	-157.8	-103.6	8.00	8.00	0.00
6,400.0	16.64	90.00	6,341.0	-1,580.00	551.2	-135.9	-81.8	8.00	8.00	0.00
6,500.0	24.64	90.00	6,434.5	-1,673.51	551.2	-100.7	-46.8	8.00	8.00	0.00
6,600.0	32.64	90.00	6,522.2	-1,761.20	551.2	-52.8	0.9	8.00	8.00	0.00
6,700.0	40.64	90.00	6,602.4	-1,841.37	551.2	6.9	60.3	8.00	8.00	0.00
SHARON SPRINGS										
6,772.6	46.46	90.00	6,655.0	-1,894.00	551.2	56.9	110.0	8.00	8.00	0.00
6,800.0	48.64	90.00	6,673.5	-1,912.46	551.2	77.1	130.1	8.00	8.00	0.00
NIOBRARA A										
6,866.5	53.96	90.00	6,715.0	-1,954.00	551.2	128.9	181.7	8.00	8.00	0.00
6,900.0	56.65	90.00	6,734.1	-1,973.09	551.2	156.5	209.2	8.00	8.00	0.00
7,000.0	64.65	90.00	6,783.1	-2,022.07	551.2	243.6	295.9	8.00	8.00	0.00
7,100.0	72.65	90.00	6,819.5	-2,058.45	551.2	336.6	388.5	8.00	8.00	0.00
NIOBRARA B										
7,119.4	74.20	90.00	6,825.0	-2,064.00	551.2	355.3	407.0	8.00	8.00	0.00
7,200.0	80.65	90.00	6,842.5	-2,081.53	551.2	433.9	485.2	8.00	8.00	0.00
7,300.0	88.65	90.00	6,851.9	-2,090.85	551.2	533.3	584.3	8.00	8.00	0.00
7" ICP *NEW*: 2502.4ft FNL & 230ft FEL of Sec 7										
7,325.4	90.68	90.00	6,852.0	-2,091.00	551.2	558.7	609.5	8.00	8.00	0.00
7,400.0	90.68	90.00	6,851.1	-2,090.12	551.2	633.3	683.8	0.00	0.00	0.00
7,500.0	90.68	90.00	6,849.9	-2,088.94	551.2	733.3	783.3	0.00	0.00	0.00
7,600.0	90.68	90.00	6,848.8	-2,087.76	551.2	833.3	882.8	0.00	0.00	0.00
7,700.0	90.68	90.00	6,847.6	-2,086.58	551.2	933.3	982.3	0.00	0.00	0.00
7,800.0	90.68	90.00	6,846.4	-2,085.40	551.2	1,033.3	1,081.9	0.00	0.00	0.00
7,900.0	90.68	90.00	6,845.2	-2,084.22	551.2	1,133.3	1,181.4	0.00	0.00	0.00
8,000.0	90.68	90.00	6,844.0	-2,083.04	551.2	1,233.3	1,280.9	0.00	0.00	0.00
8,100.0	90.68	90.00	6,842.9	-2,081.86	551.2	1,333.3	1,380.4	0.00	0.00	0.00
8,200.0	90.68	90.00	6,841.7	-2,080.69	551.2	1,433.3	1,480.0	0.00	0.00	0.00
8,300.0	90.68	90.00	6,840.5	-2,079.51	551.2	1,533.3	1,579.5	0.00	0.00	0.00

Planning Report



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Company:	PDC ENERGY	TVD Reference:	KB-EST @ 4761.0usft
Project:	WELD COUNTY, COLORADO	MD Reference:	KB-EST @ 4761.0usft
Site:	NE SE SEC. 7 T6N R64W 6th P.M.	North Reference:	True
Well:	CARLSON 7S-202	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	90.68	90.00	6,839.3	-2,078.33	551.2	1,633.3	1,679.0	0.00	0.00	0.00
8,500.0	90.68	90.00	6,838.1	-2,077.15	551.2	1,733.3	1,778.5	0.00	0.00	0.00
8,600.0	90.68	90.00	6,837.0	-2,075.97	551.2	1,833.3	1,878.0	0.00	0.00	0.00
8,700.0	90.67	90.00	6,835.8	-2,074.79	551.2	1,933.2	1,977.6	0.00	0.00	0.00
8,800.0	90.67	90.00	6,834.6	-2,073.62	551.2	2,033.2	2,077.1	0.00	0.00	0.00
8,900.0	90.67	90.00	6,833.4	-2,072.44	551.2	2,133.2	2,176.6	0.00	0.00	0.00
9,000.0	90.67	90.00	6,832.3	-2,071.26	551.2	2,233.2	2,276.1	0.00	0.00	0.00
9,100.0	90.67	90.00	6,831.1	-2,070.08	551.2	2,333.2	2,375.7	0.00	0.00	0.00
9,200.0	90.67	90.00	6,829.9	-2,068.91	551.2	2,433.2	2,475.2	0.00	0.00	0.00
9,300.0	90.67	90.00	6,828.7	-2,067.73	551.2	2,533.2	2,574.7	0.00	0.00	0.00
9,400.0	90.67	90.00	6,827.6	-2,066.55	551.2	2,633.2	2,674.2	0.00	0.00	0.00
9,500.0	90.67	90.00	6,826.4	-2,065.38	551.2	2,733.2	2,773.7	0.00	0.00	0.00
9,600.0	90.67	90.00	6,825.2	-2,064.20	551.2	2,833.2	2,873.3	0.00	0.00	0.00
9,700.0	90.67	90.00	6,824.0	-2,063.02	551.2	2,933.2	2,972.8	0.00	0.00	0.00
9,800.0	90.67	90.00	6,822.8	-2,061.85	551.2	3,033.2	3,072.3	0.00	0.00	0.00
9,900.0	90.67	90.00	6,821.7	-2,060.67	551.2	3,133.2	3,171.8	0.00	0.00	0.00
10,000.0	90.67	90.00	6,820.5	-2,059.49	551.2	3,233.2	3,271.4	0.00	0.00	0.00
10,100.0	90.67	90.00	6,819.3	-2,058.32	551.2	3,333.1	3,370.9	0.00	0.00	0.00
10,200.0	90.67	90.00	6,818.1	-2,057.14	551.2	3,433.1	3,470.4	0.00	0.00	0.00
10,300.0	90.67	90.00	6,817.0	-2,055.97	551.2	3,533.1	3,569.9	0.00	0.00	0.00
10,400.0	90.67	90.00	6,815.8	-2,054.79	551.2	3,633.1	3,669.4	0.00	0.00	0.00
10,500.0	90.67	90.00	6,814.6	-2,053.61	551.2	3,733.1	3,769.0	0.00	0.00	0.00
10,600.0	90.67	90.00	6,813.4	-2,052.44	551.2	3,833.1	3,868.5	0.00	0.00	0.00
10,700.0	90.67	90.00	6,812.3	-2,051.26	551.2	3,933.1	3,968.0	0.00	0.00	0.00
10,800.0	90.67	90.00	6,811.1	-2,050.09	551.2	4,033.1	4,067.5	0.00	0.00	0.00
10,900.0	90.67	90.00	6,809.9	-2,048.91	551.2	4,133.1	4,167.1	0.00	0.00	0.00
11,000.0	90.67	90.00	6,808.7	-2,047.74	551.2	4,233.1	4,266.6	0.00	0.00	0.00
11,100.0	90.67	90.00	6,807.6	-2,046.57	551.2	4,333.1	4,366.1	0.00	0.00	0.00
11,200.0	90.67	90.00	6,806.4	-2,045.39	551.2	4,433.1	4,465.6	0.00	0.00	0.00
11,300.0	90.67	90.00	6,805.2	-2,044.22	551.2	4,533.1	4,565.1	0.00	0.00	0.00
11,400.0	90.67	90.00	6,804.0	-2,043.04	551.2	4,633.1	4,664.7	0.00	0.00	0.00
11,500.0	90.67	90.00	6,802.9	-2,041.87	551.2	4,733.1	4,764.2	0.00	0.00	0.00
11,600.0	90.67	90.00	6,801.7	-2,040.70	551.2	4,833.0	4,863.7	0.00	0.00	0.00
11,700.0	90.67	90.00	6,800.5	-2,039.52	551.2	4,933.0	4,963.2	0.00	0.00	0.00
11,800.0	90.67	90.00	6,799.3	-2,038.35	551.2	5,033.0	5,062.8	0.00	0.00	0.00
11,900.0	90.67	90.00	6,798.2	-2,037.17	551.2	5,133.0	5,162.3	0.00	0.00	0.00
12,000.0	90.67	90.00	6,797.0	-2,036.00	551.2	5,233.0	5,261.8	0.00	0.00	0.00
12,100.0	90.67	90.00	6,795.8	-2,034.83	551.2	5,333.0	5,361.3	0.00	0.00	0.00
12,200.0	90.67	90.00	6,794.7	-2,033.66	551.2	5,433.0	5,460.8	0.00	0.00	0.00
12,300.0	90.67	90.00	6,793.5	-2,032.48	551.2	5,533.0	5,560.4	0.00	0.00	0.00
12,400.0	90.67	90.00	6,792.3	-2,031.31	551.2	5,633.0	5,659.9	0.00	0.00	0.00
BHL: 2576ft FNL & 500ft FEL of Sec 8										
12,426.5	90.67	90.00	6,792.0	-2,031.00	551.2	5,659.4	5,686.2	0.00	0.00	0.00



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well CARLSON 7S-202
Company:	PDC ENERGY	TVD Reference:	KB-EST @ 4761.0usft
Project:	WELD COUNTY, COLORADO	MD Reference:	KB-EST @ 4761.0usft
Site:	NE SE SEC. 7 T6N R64W 6th P.M.	North Reference:	True
Well:	CARLSON 7S-202	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #1		

Formations					
MD (usft)	TVD (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,706.9	3,660.0	PARKMAN SANDSTONE			
4,451.1	4,395.0	SUSSEX SANDSTONE			
6,772.6	6,655.0	SHARON SPRINGS			
6,866.5	6,715.0	NIOBRARA A			
7,119.4	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 & 788ft FEL of Sec 7
1,160.0	1,160.0	0.0	0.0	START NUDGE (2°/100ft BUR)
1,759.8	1,755.5	59.9	-18.0	EOB TO 12° INC
3,927.1	3,875.4	491.3	-147.9	END OF TANGENT
4,527.0	4,470.9	551.2	-165.9	EOD TO VERTICAL
6,192.0	6,135.9	551.2	-165.9	KOP (8°/100ft BUR)
7,325.4	6,852.0	551.2	558.7	7" ICP *NEW*: 2502.4ft FNL & 230ft FEL of Sec 7
12,426.5	6,792.0	551.2	5,659.4	BHL: 2576ft FNL & 500ft FEL of Sec 8