

PDC ENERGY

**WELD COUNTY, COLORADO
NE SE SEC. 7 T6N R64W 6th P.M.
CARLSON 7S-312**

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-312
Wellbore: ORIGINAL WELLBORE
Design: PROPOSAL #1

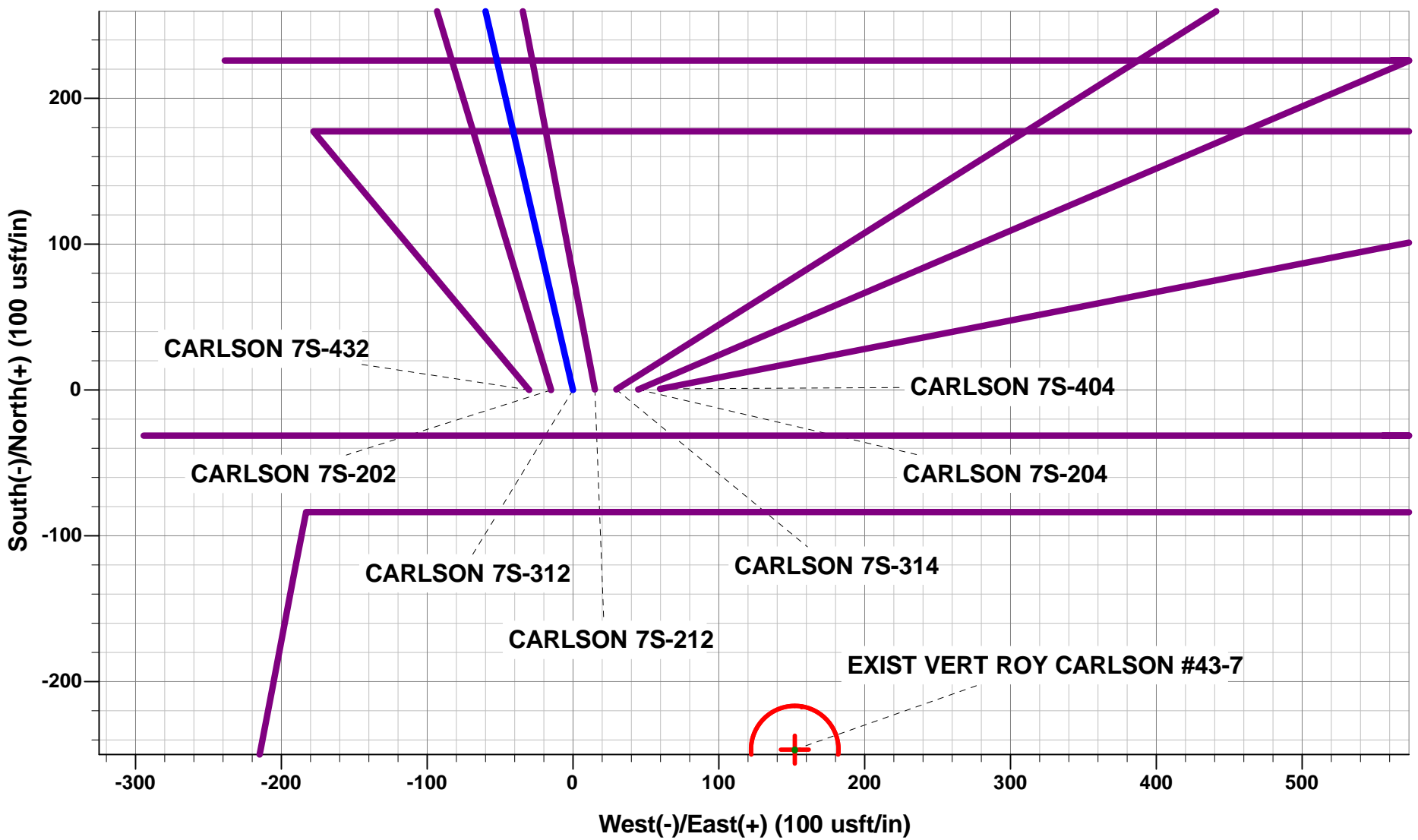


ANNOTATIONS

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 & 773ft FEL of Sec 7
1260.0	1260.0	0.00	0.00	0.0	0.0	0.0	0.0	START NUDGE (2°/100ft BUR)
1855.6	1860.0	12.00	347.00	61.0	-14.1	-5.4	62.6	EOB TO 12° INC
5135.3	5213.0	12.00	347.00	740.2	-170.8	-65.1	759.7	END OF TANGENT
5730.9	5812.9	0.00	0.00	801.2	-184.9	-70.5	822.3	EOD TO VERTICAL
6235.9	6317.9	0.00	0.00	801.2	-184.9	-70.5	822.3	KOP (8°/100ft BUR)
6952.0	7455.5	91.01	90.00	801.2	543.9	651.1	1551.1	7" ICP *NEW*: 2252.5ft FNL & 230ft FEL of Sec 7
6862.0	12557.9	91.01	90.00	801.2	5645.5	5702.1	6652.6	BHL *NEW*: 2326ft FNL & 500ft FEL of Sec 8

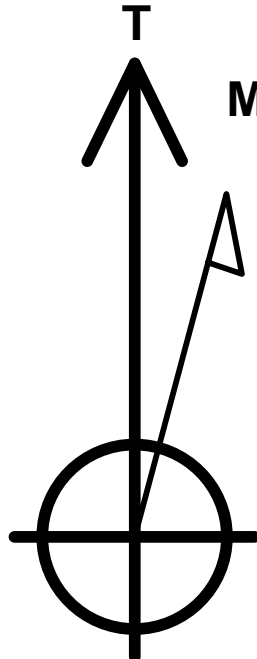
WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
KOP - CARLSON 7S-312	6235.9	801.2	-184.9	40.501566	-104.587132
7" ICP *NEW* - CARLSON 7S-312	6952.0	801.2	543.9	40.501566	-104.584511
BHL *NEW* - CARLSON 7S-312	6862.0	801.2	5645.5	40.501564	-104.566167



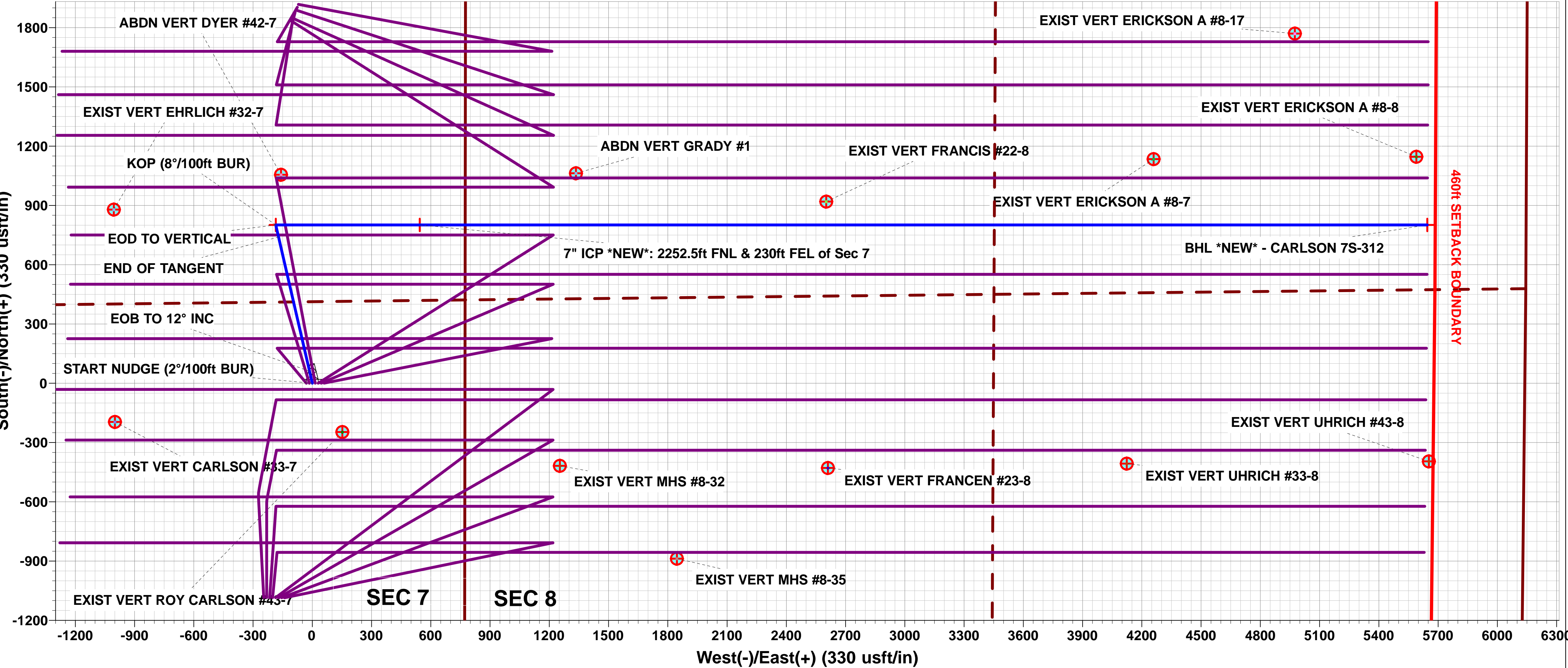
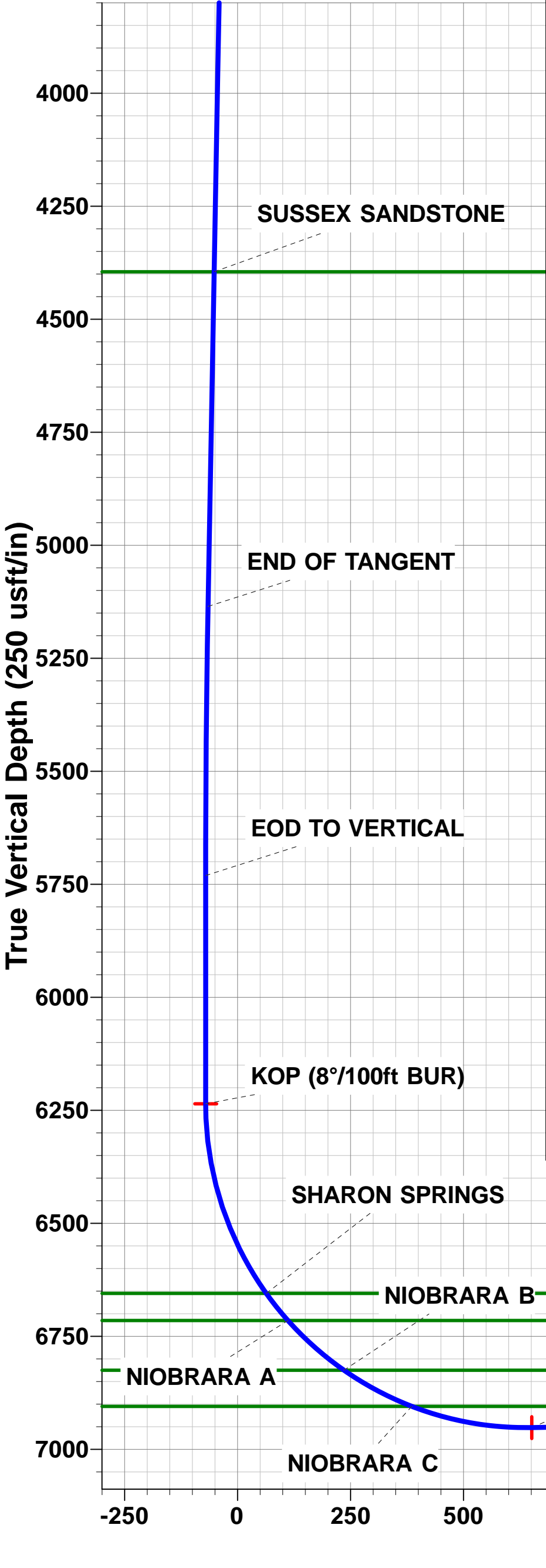
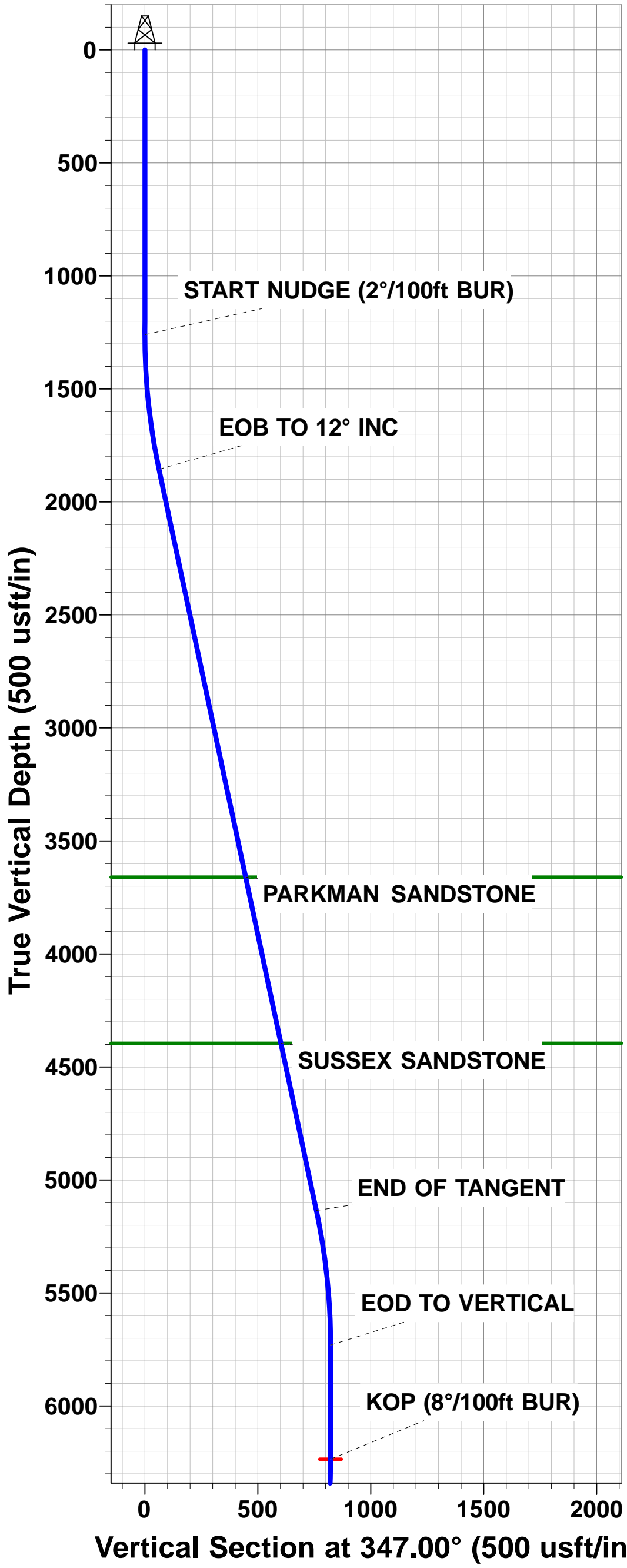
PROPOSED LOCAL COORDINATES:

SHL: 2220ft FSL & 773ft FEL of Sec 7
7" ICP *NEW*: 2252.5ft FNL & 230ft FEL of Sec 7
BHL: 2326ft 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



Vertical Section at 81.92° (250 usft/in)

Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well CARLSON 7S-312
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-312	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-312		
Well Position	+N/-S	-0.4 usft	Northing:
	+E/-W	-15.0 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	81.92

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	
1,260.0	0.00	0.00	1,260.0	-3,501.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,860.0	12.00	347.00	1,855.6	-2,905.4	61.0	-14.1	2.00	2.00	0.00	347.00	
5,213.0	12.00	347.00	5,135.3	374.3	740.2	-170.8	0.00	0.00	0.00	0.00	
5,812.9	0.00	0.00	5,730.9	969.9	801.2	-184.9	2.00	-2.00	0.00	180.00	
6,317.9	0.00	0.00	6,235.9	1,474.9	801.2	-184.9	0.00	0.00	0.00	0.00	KOP - CARLSON 7
7,455.5	91.01	90.00	6,952.0	2,191.0	801.2	543.9	8.00	8.00	7.91	90.00	7" ICP *NEW* - CA
12,557.9	91.01	90.00	6,862.0	2,101.0	801.2	5,645.5	0.00	0.00	0.00	0.00	BHL *NEW* - CARL

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-312	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 & 773ft 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
1,200.0	0.00	0.00	1,200.0	3,561.00	0.0	0.0	0.0	0.00	0.00	0.00
START NUDGE (2°/100ft BUR)										
1,260.0	0.00	0.00	1,260.0	3,501.00	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.80	347.00	1,300.0	3,461.00	0.3	-0.1	0.0	2.00	2.00	0.00
1,400.0	2.80	347.00	1,399.9	3,361.06	3.3	-0.8	-0.3	2.00	2.00	0.00
1,500.0	4.80	347.00	1,499.7	3,261.28	9.8	-2.3	-0.9	2.00	2.00	0.00
1,600.0	6.80	347.00	1,599.2	3,161.80	19.6	-4.5	-1.7	2.00	2.00	0.00
1,700.0	8.80	347.00	1,698.3	3,062.73	32.9	-7.6	-2.9	2.00	2.00	0.00
1,800.0	10.80	347.00	1,796.8	2,964.19	49.4	-11.4	-4.3	2.00	2.00	0.00
EOB TO 12° INC										
1,860.0	12.00	347.00	1,855.6	2,905.42	61.0	-14.1	-5.4	2.00	2.00	0.00
1,900.0	12.00	347.00	1,894.7	2,866.25	69.1	-15.9	-6.1	0.00	0.00	0.00
2,000.0	12.00	347.00	1,992.6	2,768.44	89.4	-20.6	-7.9	0.00	0.00	0.00
2,100.0	12.00	347.00	2,090.4	2,670.62	109.6	-25.3	-9.6	0.00	0.00	0.00
2,200.0	12.00	347.00	2,188.2	2,572.81	129.9	-30.0	-11.4	0.00	0.00	0.00
2,300.0	12.00	347.00	2,286.0	2,474.99	150.1	-34.6	-13.2	0.00	0.00	0.00
2,400.0	12.00	347.00	2,383.8	2,377.18	170.4	-39.3	-15.0	0.00	0.00	0.00
2,500.0	12.00	347.00	2,481.6	2,279.36	190.6	-44.0	-16.8	0.00	0.00	0.00
2,600.0	12.00	347.00	2,579.5	2,181.55	210.9	-48.7	-18.6	0.00	0.00	0.00
2,700.0	12.00	347.00	2,677.3	2,083.73	231.2	-53.3	-20.3	0.00	0.00	0.00
2,800.0	12.00	347.00	2,775.1	1,985.92	251.4	-58.0	-22.1	0.00	0.00	0.00
2,900.0	12.00	347.00	2,872.9	1,888.10	271.7	-62.7	-23.9	0.00	0.00	0.00
3,000.0	12.00	347.00	2,970.7	1,790.28	291.9	-67.4	-25.7	0.00	0.00	0.00
3,100.0	12.00	347.00	3,068.5	1,692.47	312.2	-72.0	-27.5	0.00	0.00	0.00
3,200.0	12.00	347.00	3,166.3	1,594.65	332.4	-76.7	-29.2	0.00	0.00	0.00
3,300.0	12.00	347.00	3,264.2	1,496.84	352.7	-81.4	-31.0	0.00	0.00	0.00
3,400.0	12.00	347.00	3,362.0	1,399.02	373.0	-86.1	-32.8	0.00	0.00	0.00
3,500.0	12.00	347.00	3,459.8	1,301.21	393.2	-90.7	-34.6	0.00	0.00	0.00
3,600.0	12.00	347.00	3,557.6	1,203.39	413.5	-95.4	-36.4	0.00	0.00	0.00
3,700.0	12.00	347.00	3,655.4	1,105.58	433.7	-100.1	-38.2	0.00	0.00	0.00
PARKMAN SANDSTONE										
3,704.7	12.00	347.00	3,660.0	1,101.00	434.7	-100.3	-38.2	0.00	0.00	0.00
3,800.0	12.00	347.00	3,753.2	1,007.76	454.0	-104.8	-39.9	0.00	0.00	0.00
3,900.0	12.00	347.00	3,851.1	909.95	474.2	-109.4	-41.7	0.00	0.00	0.00
4,000.0	12.00	347.00	3,948.9	812.13	494.5	-114.1	-43.5	0.00	0.00	0.00
4,100.0	12.00	347.00	4,046.7	714.32	514.8	-118.8	-45.3	0.00	0.00	0.00
4,200.0	12.00	347.00	4,144.5	616.50	535.0	-123.5	-47.1	0.00	0.00	0.00
4,300.0	12.00	347.00	4,242.3	518.69	555.3	-128.1	-48.9	0.00	0.00	0.00
4,400.0	12.00	347.00	4,340.1	420.87	575.5	-132.8	-50.6	0.00	0.00	0.00
SUSSEX SANDSTONE										
4,456.1	12.00	347.00	4,395.0	366.00	586.9	-135.4	-51.6	0.00	0.00	0.00

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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	12.00	347.00	4,437.9	323.06	595.8	-137.5	-52.4	0.00	0.00	0.00
4,600.0	12.00	347.00	4,535.8	225.24	616.0	-142.2	-54.2	0.00	0.00	0.00
4,700.0	12.00	347.00	4,633.6	127.43	636.3	-146.8	-56.0	0.00	0.00	0.00
4,800.0	12.00	347.00	4,731.4	29.61	656.6	-151.5	-57.8	0.00	0.00	0.00
4,900.0	12.00	347.00	4,829.2	-68.20	676.8	-156.2	-59.5	0.00	0.00	0.00
5,000.0	12.00	347.00	4,927.0	-166.02	697.1	-160.9	-61.3	0.00	0.00	0.00
5,100.0	12.00	347.00	5,024.8	-263.83	717.3	-165.5	-63.1	0.00	0.00	0.00
5,200.0	12.00	347.00	5,122.6	-361.65	737.6	-170.2	-64.9	0.00	0.00	0.00
END OF TANGENT										
5,213.0	12.00	347.00	5,135.3	-374.32	740.2	-170.8	-65.1	0.00	0.00	0.00
5,300.0	10.26	347.00	5,220.7	-459.72	756.6	-174.6	-66.6	2.00	-2.00	0.00
5,400.0	8.26	347.00	5,319.4	-558.42	772.3	-178.2	-67.9	2.00	-2.00	0.00
5,500.0	6.26	347.00	5,418.6	-657.61	784.6	-181.1	-69.0	2.00	-2.00	0.00
5,600.0	4.26	347.00	5,518.2	-757.18	793.5	-183.1	-69.8	2.00	-2.00	0.00
5,700.0	2.26	347.00	5,618.0	-857.02	799.0	-184.4	-70.3	2.00	-2.00	0.00
5,800.0	0.26	347.00	5,718.0	-956.99	801.2	-184.9	-70.5	2.00	-2.00	0.00
EOD TO VERTICAL										
5,812.9	0.00	0.00	5,730.9	-969.90	801.2	-184.9	-70.5	2.00	-2.00	0.00
5,900.0	0.00	0.00	5,818.0	-1,056.99	801.2	-184.9	-70.5	0.00	0.00	0.00
6,000.0	0.00	0.00	5,918.0	-1,156.99	801.2	-184.9	-70.5	0.00	0.00	0.00
6,100.0	0.00	0.00	6,018.0	-1,256.99	801.2	-184.9	-70.5	0.00	0.00	0.00
6,200.0	0.00	0.00	6,118.0	-1,356.99	801.2	-184.9	-70.5	0.00	0.00	0.00
6,300.0	0.00	0.00	6,218.0	-1,456.99	801.2	-184.9	-70.5	0.00	0.00	0.00
KOP (8°/100ft BUR)										
6,317.9	0.00	0.00	6,235.9	-1,474.90	801.2	-184.9	-70.5	0.00	0.00	0.00
6,400.0	6.57	90.00	6,317.8	-1,556.81	801.2	-180.2	-65.8	8.00	8.00	0.00
6,500.0	14.57	90.00	6,416.0	-1,655.03	801.2	-161.9	-47.7	8.00	8.00	0.00
6,600.0	22.57	90.00	6,510.8	-1,749.75	801.2	-130.1	-16.2	8.00	8.00	0.00
6,700.0	30.57	90.00	6,600.1	-1,839.12	801.2	-85.4	28.1	8.00	8.00	0.00
SHARON SPRINGS										
6,765.6	35.81	90.00	6,655.0	-1,894.00	801.2	-49.5	63.6	8.00	8.00	0.00
6,800.0	38.57	90.00	6,682.4	-1,921.40	801.2	-28.7	84.2	8.00	8.00	0.00
NIOBRARA A										
6,842.7	41.99	90.00	6,715.0	-1,954.00	801.2	-1.1	111.5	8.00	8.00	0.00
6,900.0	46.57	90.00	6,756.0	-1,994.99	801.2	38.9	151.1	8.00	8.00	0.00
7,000.0	54.57	90.00	6,819.5	-2,058.46	801.2	116.1	227.5	8.00	8.00	0.00
NIOBRARA B										
7,009.7	55.34	90.00	6,825.0	-2,064.00	801.2	124.0	235.3	8.00	8.00	0.00
7,100.0	62.57	90.00	6,871.6	-2,110.57	801.2	201.3	311.9	8.00	8.00	0.00
NIOBRARA C										
7,181.7	69.10	90.00	6,905.0	-2,144.00	801.2	275.8	385.7	8.00	8.00	0.00
7,200.0	70.57	90.00	6,911.3	-2,150.30	801.2	293.0	402.7	8.00	8.00	0.00
7,300.0	78.57	90.00	6,937.9	-2,176.90	801.2	389.3	498.0	8.00	8.00	0.00
7,400.0	86.57	90.00	6,950.8	-2,189.82	801.2	488.4	596.1	8.00	8.00	0.00
7" ICP *NEW*: 2252.5ft FNL & 230ft FEL of Sec 7										
7,455.5	91.01	90.00	6,952.0	-2,191.00	801.2	543.9	651.1	8.00	8.00	0.00
7,500.0	91.01	90.00	6,951.2	-2,190.22	801.2	588.4	695.1	0.00	0.00	0.00
7,600.0	91.01	90.00	6,949.5	-2,188.46	801.2	688.4	794.1	0.00	0.00	0.00
7,700.0	91.01	90.00	6,947.7	-2,186.70	801.2	788.3	893.1	0.00	0.00	0.00
7,800.0	91.01	90.00	6,945.9	-2,184.94	801.2	888.3	992.1	0.00	0.00	0.00
7,900.0	91.01	90.00	6,944.2	-2,183.18	801.2	988.3	1,091.1	0.00	0.00	0.00
8,000.0	91.01	90.00	6,942.4	-2,181.43	801.2	1,088.3	1,190.1	0.00	0.00	0.00
8,100.0	91.01	90.00	6,940.7	-2,179.67	801.2	1,188.3	1,289.1	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
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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)
8,200.0	91.01	90.00	6,938.9	-2,177.91	801.2	1,288.3	1,388.1	0.00	0.00	0.00
8,300.0	91.01	90.00	6,937.1	-2,176.15	801.2	1,388.2	1,487.1	0.00	0.00	0.00
8,400.0	91.01	90.00	6,935.4	-2,174.39	801.2	1,488.2	1,586.0	0.00	0.00	0.00
8,500.0	91.01	90.00	6,933.6	-2,172.63	801.2	1,588.2	1,685.0	0.00	0.00	0.00
8,600.0	91.01	90.00	6,931.9	-2,170.87	801.2	1,688.2	1,784.0	0.00	0.00	0.00
8,700.0	91.01	90.00	6,930.1	-2,169.11	801.2	1,788.2	1,883.0	0.00	0.00	0.00
8,800.0	91.01	90.00	6,928.3	-2,167.35	801.2	1,888.2	1,982.0	0.00	0.00	0.00
8,900.0	91.01	90.00	6,926.6	-2,165.58	801.2	1,988.2	2,081.0	0.00	0.00	0.00
9,000.0	91.01	90.00	6,924.8	-2,163.82	801.2	2,088.1	2,180.0	0.00	0.00	0.00
9,100.0	91.01	90.00	6,923.1	-2,162.06	801.2	2,188.1	2,279.0	0.00	0.00	0.00
9,200.0	91.01	90.00	6,921.3	-2,160.30	801.2	2,288.1	2,378.0	0.00	0.00	0.00
9,300.0	91.01	90.00	6,919.5	-2,158.54	801.2	2,388.1	2,477.0	0.00	0.00	0.00
9,400.0	91.01	90.00	6,917.8	-2,156.78	801.2	2,488.1	2,576.0	0.00	0.00	0.00
9,500.0	91.01	90.00	6,916.0	-2,155.01	801.2	2,588.1	2,675.0	0.00	0.00	0.00
9,600.0	91.01	90.00	6,914.2	-2,153.25	801.2	2,688.0	2,774.0	0.00	0.00	0.00
9,700.0	91.01	90.00	6,912.5	-2,151.49	801.2	2,788.0	2,872.9	0.00	0.00	0.00
9,800.0	91.01	90.00	6,910.7	-2,149.72	801.2	2,888.0	2,971.9	0.00	0.00	0.00
9,900.0	91.01	90.00	6,909.0	-2,147.96	801.2	2,988.0	3,070.9	0.00	0.00	0.00
10,000.0	91.01	90.00	6,907.2	-2,146.20	801.2	3,088.0	3,169.9	0.00	0.00	0.00
10,100.0	91.01	90.00	6,905.4	-2,144.43	801.2	3,188.0	3,268.9	0.00	0.00	0.00
10,200.0	91.01	90.00	6,903.7	-2,142.67	801.2	3,288.0	3,367.9	0.00	0.00	0.00
10,300.0	91.01	90.00	6,901.9	-2,140.90	801.2	3,387.9	3,466.9	0.00	0.00	0.00
10,400.0	91.01	90.00	6,900.1	-2,139.14	801.2	3,487.9	3,565.9	0.00	0.00	0.00
10,500.0	91.01	90.00	6,898.4	-2,137.37	801.2	3,587.9	3,664.9	0.00	0.00	0.00
10,600.0	91.01	90.00	6,896.6	-2,135.61	801.2	3,687.9	3,763.9	0.00	0.00	0.00
10,700.0	91.01	90.00	6,894.8	-2,133.84	801.2	3,787.9	3,862.9	0.00	0.00	0.00
10,800.0	91.01	90.00	6,893.1	-2,132.08	801.2	3,887.9	3,961.9	0.00	0.00	0.00
10,900.0	91.01	90.00	6,891.3	-2,130.31	801.2	3,987.8	4,060.9	0.00	0.00	0.00
11,000.0	91.01	90.00	6,889.5	-2,128.55	801.2	4,087.8	4,159.9	0.00	0.00	0.00
11,100.0	91.01	90.00	6,887.8	-2,126.78	801.2	4,187.8	4,258.8	0.00	0.00	0.00
11,200.0	91.01	90.00	6,886.0	-2,125.01	801.2	4,287.8	4,357.8	0.00	0.00	0.00
11,300.0	91.01	90.00	6,884.2	-2,123.25	801.2	4,387.8	4,456.8	0.00	0.00	0.00
11,400.0	91.01	90.00	6,882.5	-2,121.48	801.2	4,487.8	4,555.8	0.00	0.00	0.00
11,500.0	91.01	90.00	6,880.7	-2,119.71	801.2	4,587.7	4,654.8	0.00	0.00	0.00
11,600.0	91.01	90.00	6,878.9	-2,117.94	801.2	4,687.7	4,753.8	0.00	0.00	0.00
11,700.0	91.01	90.00	6,877.2	-2,116.18	801.2	4,787.7	4,852.8	0.00	0.00	0.00
11,800.0	91.01	90.00	6,875.4	-2,114.41	801.2	4,887.7	4,951.8	0.00	0.00	0.00
11,900.0	91.01	90.00	6,873.6	-2,112.64	801.2	4,987.7	5,050.8	0.00	0.00	0.00
12,000.0	91.01	90.00	6,871.9	-2,110.87	801.2	5,087.7	5,149.8	0.00	0.00	0.00
12,100.0	91.01	90.00	6,870.1	-2,109.10	801.2	5,187.7	5,248.8	0.00	0.00	0.00
12,200.0	91.01	90.00	6,868.3	-2,107.33	801.2	5,287.6	5,347.8	0.00	0.00	0.00
12,300.0	91.01	90.00	6,866.6	-2,105.56	801.2	5,387.6	5,446.8	0.00	0.00	0.00
12,400.0	91.01	90.00	6,864.8	-2,103.79	801.2	5,487.6	5,545.7	0.00	0.00	0.00
12,500.0	91.01	90.00	6,863.0	-2,102.02	801.2	5,587.6	5,644.7	0.00	0.00	0.00
BHL *NEW*: 2326ft FNL & 500ft FEL of Sec 8										
12,557.9	91.01	90.00	6,862.0	-2,101.00	801.2	5,645.5	5,702.1	0.00	0.00	0.00

Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well CARLSON 7S-312
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-312	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #1		

Formations					
MD (usft)	TVD (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,704.7	3,660.0	PARKMAN SANDSTONE			
4,456.1	4,395.0	SUSSEX SANDSTONE			
6,765.6	6,655.0	SHARON SPRINGS			
6,842.7	6,715.0	NIOBRARA A			
7,009.7	6,825.0	NIOBRARA B			
7,181.7	6,905.0	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: 2220ft FSL & 773ft FEL of Sec 7
1,260.0	1,260.0	0.0	0.0	START NUDGE (2°/100ft BUR)
1,860.0	1,855.6	61.0	-14.1	EOB TO 12° INC
5,213.0	5,135.3	740.2	-170.8	END OF TANGENT
5,812.9	5,730.9	801.2	-184.9	EOD TO VERTICAL
6,317.9	6,235.9	801.2	-184.9	KOP (8°/100ft BUR)
7,455.5	6,952.0	801.2	543.9	7" ICP *NEW*: 2252.5ft FNL & 230ft FEL of Sec 7
12,557.9	6,862.0	801.2	5,645.5	BHL *NEW*: 2326ft FNL & 500ft FEL of Sec 8