

PDC ENERGY

**WELD COUNTY, COLORADO
NE SE SEC. 7 T6N R64W 6th P.M.
CARLSON 7S-432**

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-432
Wellbore: ORIGINAL WELLBORE
Design: PROPOSAL #1

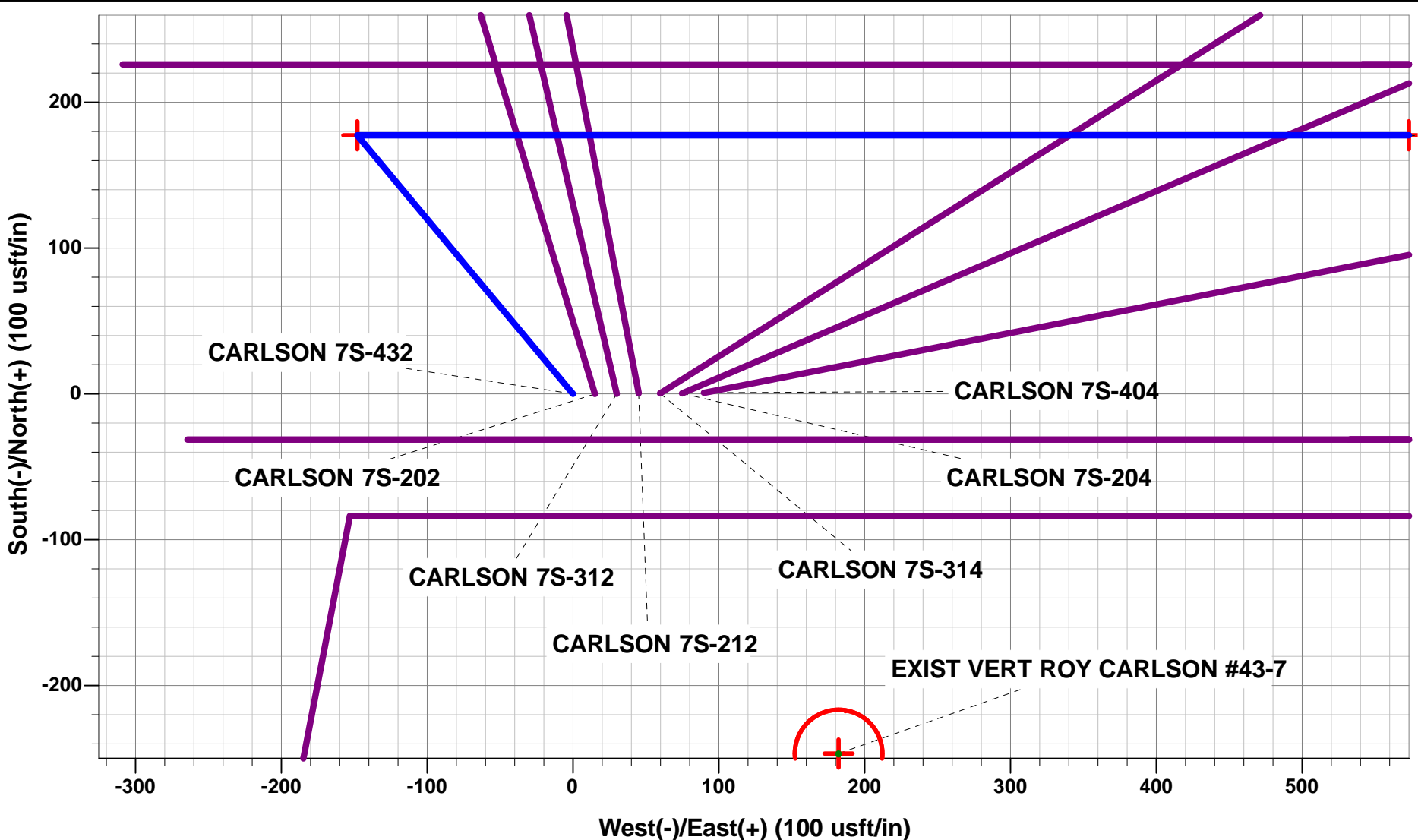


ANNOTATIONS

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 & 803ft 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)
1655.6	1660.0	12.00	320.17	48.1	-40.1	-38.6	62.6	EOB TO 12° INC
2152.9	2168.4	12.00	320.17	129.2	-107.8	-103.7	168.3	END OF TANGENT
2748.5	2768.4	0.00	0.00	177.3	-147.9	-142.3	230.9	EOD TO VERTICAL
6295.8	6315.7	0.00	0.00	177.3	-147.9	-142.3	230.9	KOP (8°/100ft BUR)
7012.0	7445.6	90.39	90.00	177.3	573.2	578.5	952.0	7" ICP *NEW*: 2392.5ft FSL & 230ft FEL of Sec 7
6977.0	12543.4	90.40	90.00	177.3	5670.9	5673.7	6049.7	BHL *NEW*: 2416ft FSL & 500ft FEL of Sec 8

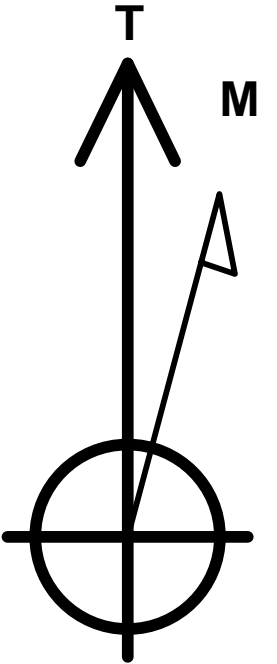
WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
KOP - CARLSON 7S-432	6295.8	177.3	-147.9	40.499854	-104.587107
7" ICP *NEW* - CARLSON 7S-432	7012.0	177.3	573.2	40.499854	-104.584514
BHL *NEW* - CARLSON 7S-432	6977.0	177.3	5670.9	40.499852	-104.566184



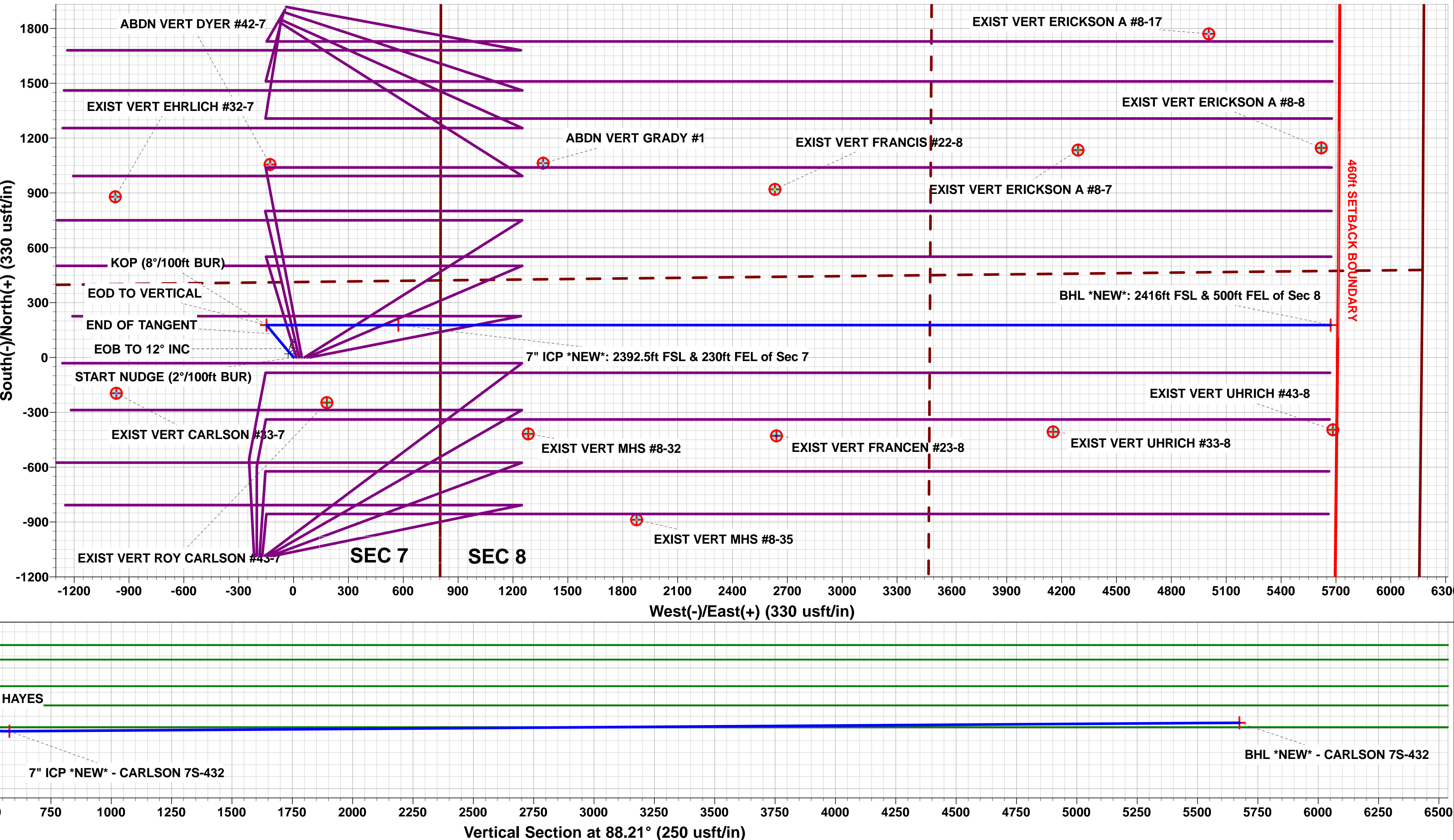
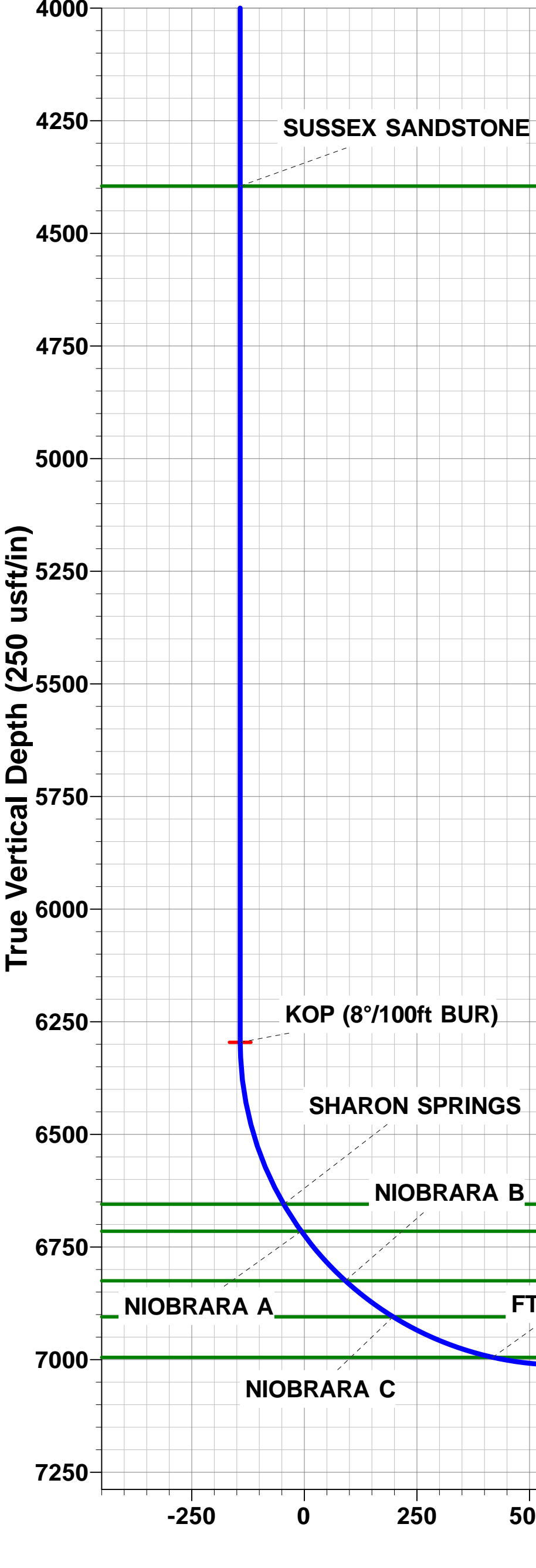
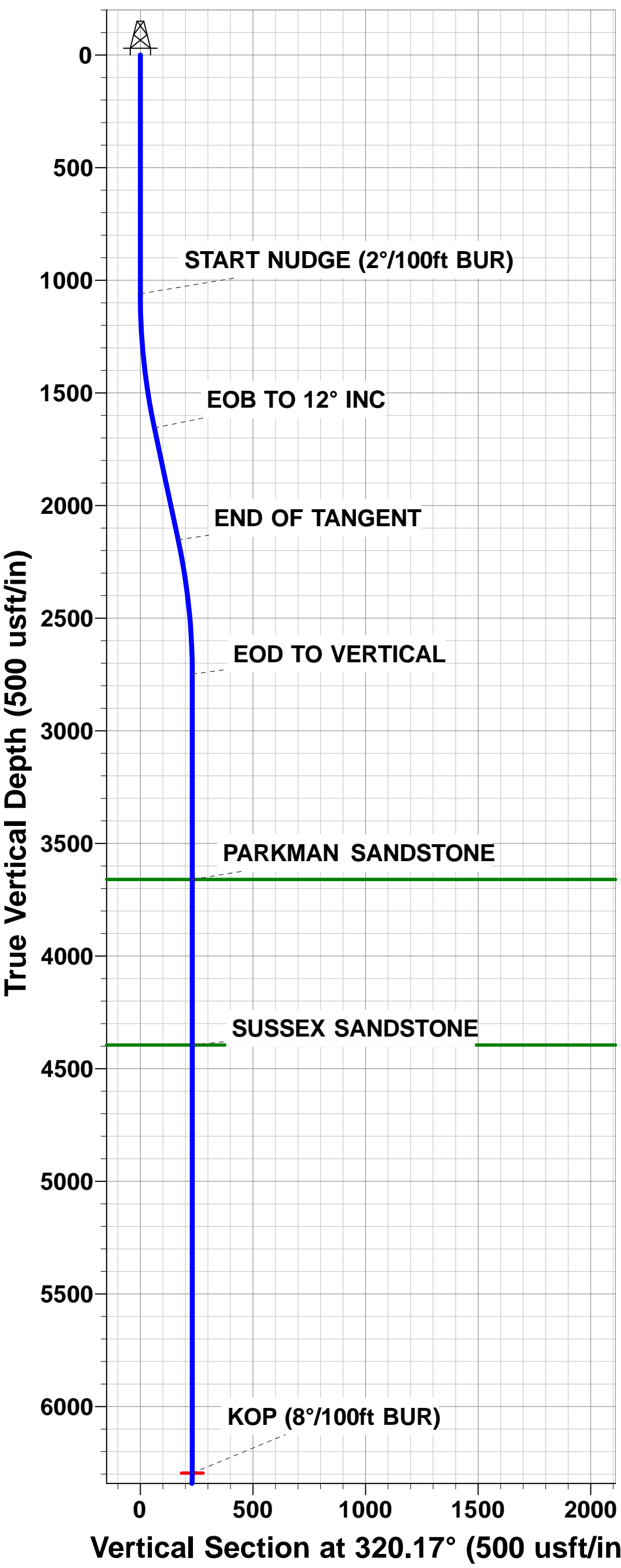
PROPOSED LOCAL COORDINATES:

SHL: 2220ft FSL & 803ft FEL of Sec 7
7" ICP *NEW*: 2392.5ft FSL & 230ft FEL of Sec 7
BHL: 2416ft FSL & 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-432
Company:	PDC ENERGY	TVD Reference:	KB-EST @ 4760.0usft
Project:	WELD COUNTY, COLORADO	MD Reference:	KB-EST @ 4760.0usft
Site:	NE SE SEC. 7 T6N R64W 6th P.M.	North Reference:	True
Well:	CARLSON 7S-432	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-432		
Well Position	+N/-S	-0.4 usft	Northing:
	+E/-W	-45.1 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	88.21

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	-4,760.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,060.0	0.00	0.00	1,060.0	-3,700.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,660.0	12.00	320.17	1,655.6	-3,104.4	48.1	-40.1	2.00	2.00	0.00	320.17	
2,168.4	12.00	320.17	2,152.9	-2,607.1	129.2	-107.8	0.00	0.00	0.00	0.00	
2,768.4	0.00	0.00	2,748.5	-2,011.5	177.3	-147.9	2.00	-2.00	0.00	180.00	
6,315.7	0.00	0.00	6,295.8	1,535.8	177.3	-147.9	0.00	0.00	0.00	0.00	KOP - CARLSON 7
7,445.6	90.39	90.00	7,012.0	2,252.0	177.3	573.2	8.00	8.00	7.97	90.00	7" ICP *NEW* - CA
12,543.4	90.40	90.00	6,977.0	2,217.0	177.3	5,670.9	0.00	0.00	0.00	0.00	BHL *NEW* - CARL

Planning Report



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Company:	PDC ENERGY	TVD Reference:	KB-EST @ 4760.0usft
Project:	WELD COUNTY, COLORADO	MD Reference:	KB-EST @ 4760.0usft
Site:	NE SE SEC. 7 T6N R64W 6th P.M.	North Reference:	True
Well:	CARLSON 7S-432	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 & 803ft FEL of Sec 7										
0.0	0.00	0.00	0.0	4,760.00	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	4,660.00	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	4,560.00	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	4,460.00	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	4,360.00	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	4,260.00	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	4,160.00	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	4,060.00	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	3,960.00	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	3,860.00	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	3,760.00	0.0	0.0	0.0	0.00	0.00	0.00
START NUDGE (2°/100ft BUR)										
1,060.0	0.00	0.00	1,060.0	3,700.00	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.80	320.17	1,100.0	3,660.00	0.2	-0.2	-0.2	2.00	2.00	0.00
1,200.0	2.80	320.17	1,199.9	3,560.06	2.6	-2.2	-2.1	2.00	2.00	0.00
1,300.0	4.80	320.17	1,299.7	3,460.28	7.7	-6.4	-6.2	2.00	2.00	0.00
1,400.0	6.80	320.17	1,399.2	3,360.80	15.5	-12.9	-12.4	2.00	2.00	0.00
1,500.0	8.80	320.17	1,498.3	3,261.73	25.9	-21.6	-20.8	2.00	2.00	0.00
1,600.0	10.80	320.17	1,596.8	3,163.19	39.0	-32.5	-31.3	2.00	2.00	0.00
EOB TO 12° INC										
1,660.0	12.00	320.17	1,655.6	3,104.42	48.1	-40.1	-38.6	2.00	2.00	0.00
1,700.0	12.00	320.17	1,694.7	3,065.25	54.5	-45.4	-43.7	0.00	0.00	0.00
1,800.0	12.00	320.17	1,792.6	2,967.44	70.4	-58.7	-56.5	0.00	0.00	0.00
1,900.0	12.00	320.17	1,890.4	2,869.62	86.4	-72.1	-69.3	0.00	0.00	0.00
2,000.0	12.00	320.17	1,988.2	2,771.81	102.4	-85.4	-82.1	0.00	0.00	0.00
2,100.0	12.00	320.17	2,086.0	2,673.99	118.3	-98.7	-95.0	0.00	0.00	0.00
END OF TANGENT										
2,168.4	12.00	320.17	2,152.9	2,607.08	129.2	-107.8	-103.7	0.00	0.00	0.00
2,200.0	11.37	320.17	2,183.9	2,576.14	134.2	-111.9	-107.7	2.00	-2.00	0.00
2,300.0	9.37	320.17	2,282.2	2,477.78	148.0	-123.4	-118.7	2.00	-2.00	0.00
2,400.0	7.37	320.17	2,381.2	2,378.85	159.1	-132.8	-127.7	2.00	-2.00	0.00
2,500.0	5.37	320.17	2,480.5	2,279.47	167.7	-139.9	-134.5	2.00	-2.00	0.00
2,600.0	3.37	320.17	2,580.2	2,179.76	173.5	-144.7	-139.2	2.00	-2.00	0.00
2,700.0	1.37	320.17	2,680.1	2,079.85	176.7	-147.4	-141.8	2.00	-2.00	0.00
EOD TO VERTICAL										
2,768.4	0.00	0.00	2,748.5	2,011.50	177.3	-147.9	-142.3	2.00	-2.00	0.00
2,800.0	0.00	0.00	2,780.1	1,979.86	177.3	-147.9	-142.3	0.00	0.00	0.00
2,900.0	0.00	0.00	2,880.1	1,879.86	177.3	-147.9	-142.3	0.00	0.00	0.00
3,000.0	0.00	0.00	2,980.1	1,779.86	177.3	-147.9	-142.3	0.00	0.00	0.00
3,100.0	0.00	0.00	3,080.1	1,679.86	177.3	-147.9	-142.3	0.00	0.00	0.00
3,200.0	0.00	0.00	3,180.1	1,579.86	177.3	-147.9	-142.3	0.00	0.00	0.00
3,300.0	0.00	0.00	3,280.1	1,479.86	177.3	-147.9	-142.3	0.00	0.00	0.00
3,400.0	0.00	0.00	3,380.1	1,379.86	177.3	-147.9	-142.3	0.00	0.00	0.00
3,500.0	0.00	0.00	3,480.1	1,279.86	177.3	-147.9	-142.3	0.00	0.00	0.00
3,600.0	0.00	0.00	3,580.1	1,179.86	177.3	-147.9	-142.3	0.00	0.00	0.00
PARKMAN SANDSTONE										
3,679.9	0.00	0.00	3,660.0	1,100.00	177.3	-147.9	-142.3	0.00	0.00	0.00
3,700.0	0.00	0.00	3,680.1	1,079.86	177.3	-147.9	-142.3	0.00	0.00	0.00
3,800.0	0.00	0.00	3,780.1	979.86	177.3	-147.9	-142.3	0.00	0.00	0.00
3,900.0	0.00	0.00	3,880.1	879.86	177.3	-147.9	-142.3	0.00	0.00	0.00
4,000.0	0.00	0.00	3,980.1	779.86	177.3	-147.9	-142.3	0.00	0.00	0.00
4,100.0	0.00	0.00	4,080.1	679.86	177.3	-147.9	-142.3	0.00	0.00	0.00

Planning Report



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Project:	WELD COUNTY, COLORADO	MD Reference:	KB-EST @ 4760.0usft
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Well:	CARLSON 7S-432	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)
4,200.0	0.00	0.00	4,180.1	579.86	177.3	-147.9	-142.3	0.00	0.00	0.00
4,300.0	0.00	0.00	4,280.1	479.86	177.3	-147.9	-142.3	0.00	0.00	0.00
4,400.0	0.00	0.00	4,380.1	379.86	177.3	-147.9	-142.3	0.00	0.00	0.00
SUSSEX SANDSTONE										
4,414.9	0.00	0.00	4,395.0	365.00	177.3	-147.9	-142.3	0.00	0.00	0.00
4,500.0	0.00	0.00	4,480.1	279.86	177.3	-147.9	-142.3	0.00	0.00	0.00
4,600.0	0.00	0.00	4,580.1	179.86	177.3	-147.9	-142.3	0.00	0.00	0.00
4,700.0	0.00	0.00	4,680.1	79.86	177.3	-147.9	-142.3	0.00	0.00	0.00
4,800.0	0.00	0.00	4,780.1	-20.14	177.3	-147.9	-142.3	0.00	0.00	0.00
4,900.0	0.00	0.00	4,880.1	-120.14	177.3	-147.9	-142.3	0.00	0.00	0.00
5,000.0	0.00	0.00	4,980.1	-220.14	177.3	-147.9	-142.3	0.00	0.00	0.00
5,100.0	0.00	0.00	5,080.1	-320.14	177.3	-147.9	-142.3	0.00	0.00	0.00
5,200.0	0.00	0.00	5,180.1	-420.14	177.3	-147.9	-142.3	0.00	0.00	0.00
5,300.0	0.00	0.00	5,280.1	-520.14	177.3	-147.9	-142.3	0.00	0.00	0.00
5,400.0	0.00	0.00	5,380.1	-620.14	177.3	-147.9	-142.3	0.00	0.00	0.00
5,500.0	0.00	0.00	5,480.1	-720.14	177.3	-147.9	-142.3	0.00	0.00	0.00
5,600.0	0.00	0.00	5,580.1	-820.14	177.3	-147.9	-142.3	0.00	0.00	0.00
5,700.0	0.00	0.00	5,680.1	-920.14	177.3	-147.9	-142.3	0.00	0.00	0.00
5,800.0	0.00	0.00	5,780.1	-1,020.14	177.3	-147.9	-142.3	0.00	0.00	0.00
5,900.0	0.00	0.00	5,880.1	-1,120.14	177.3	-147.9	-142.3	0.00	0.00	0.00
6,000.0	0.00	0.00	5,980.1	-1,220.14	177.3	-147.9	-142.3	0.00	0.00	0.00
6,100.0	0.00	0.00	6,080.1	-1,320.14	177.3	-147.9	-142.3	0.00	0.00	0.00
6,200.0	0.00	0.00	6,180.1	-1,420.14	177.3	-147.9	-142.3	0.00	0.00	0.00
6,300.0	0.00	0.00	6,280.1	-1,520.14	177.3	-147.9	-142.3	0.00	0.00	0.00
KOP (8°/100ft BUR)										
6,315.7	0.00	0.00	6,295.8	-1,535.80	177.3	-147.9	-142.3	0.00	0.00	0.00
6,400.0	6.75	90.00	6,379.9	-1,619.94	177.3	-142.9	-137.3	8.00	8.00	0.00
6,500.0	14.75	90.00	6,478.1	-1,718.11	177.3	-124.3	-118.7	8.00	8.00	0.00
6,600.0	22.75	90.00	6,572.7	-1,812.73	177.3	-92.2	-86.6	8.00	8.00	0.00
SHARON SPRINGS										
6,691.9	30.10	90.00	6,655.0	-1,895.00	177.3	-51.3	-45.7	8.00	8.00	0.00
6,700.0	30.75	90.00	6,662.0	-1,901.96	177.3	-47.2	-41.7	8.00	8.00	0.00
NIOBRARA A										
6,763.5	35.82	90.00	6,715.0	-1,955.00	177.3	-12.4	-6.9	8.00	8.00	0.00
6,800.0	38.75	90.00	6,744.1	-1,984.06	177.3	9.7	15.3	8.00	8.00	0.00
6,900.0	46.75	90.00	6,817.4	-2,057.44	177.3	77.5	83.0	8.00	8.00	0.00
NIOBRARA B										
6,911.1	47.64	90.00	6,825.0	-2,065.00	177.3	85.7	91.2	8.00	8.00	0.00
7,000.0	54.75	90.00	6,880.7	-2,120.66	177.3	154.9	160.4	8.00	8.00	0.00
NIOBRARA C										
7,044.1	58.27	90.00	6,905.0	-2,145.00	177.3	191.7	197.1	8.00	8.00	0.00
7,100.0	62.75	90.00	6,932.5	-2,172.50	177.3	240.3	245.8	8.00	8.00	0.00
7,200.0	70.75	90.00	6,972.0	-2,211.95	177.3	332.1	337.5	8.00	8.00	0.00
FT HAYES										
7,284.3	77.49	90.00	6,995.0	-2,235.00	177.3	413.1	418.5	8.00	8.00	0.00
7,300.0	78.74	90.00	6,998.2	-2,238.24	177.3	428.5	433.9	8.00	8.00	0.00
7,400.0	86.74	90.00	7,010.9	-2,250.86	177.3	527.6	532.9	8.00	8.00	0.00
7" ICP *NEW*: 2392.5ft FSL & 230ft FEL of Sec 7										
7,445.6	90.39	90.00	7,012.0	-2,252.00	177.3	573.2	578.5	8.00	8.00	0.00
7,500.0	90.39	90.00	7,011.6	-2,251.63	177.3	627.6	632.9	0.00	0.00	0.00
7,600.0	90.39	90.00	7,010.9	-2,250.95	177.3	727.6	732.8	0.00	0.00	0.00
7,700.0	90.39	90.00	7,010.3	-2,250.26	177.3	827.6	832.8	0.00	0.00	0.00
7,800.0	90.39	90.00	7,009.6	-2,249.58	177.3	927.6	932.7	0.00	0.00	0.00

Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well CARLSON 7S-432
Company:	PDC ENERGY	TVD Reference:	KB-EST @ 4760.0usft
Project:	WELD COUNTY, COLORADO	MD Reference:	KB-EST @ 4760.0usft
Site:	NE SE SEC. 7 T6N R64W 6th P.M.	North Reference:	True
Well:	CARLSON 7S-432	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)
7,900.0	90.39	90.00	7,008.9	-2,248.90	177.3	1,027.6	1,032.7	0.00	0.00	0.00
8,000.0	90.39	90.00	7,008.2	-2,248.22	177.3	1,127.6	1,132.6	0.00	0.00	0.00
8,100.0	90.39	90.00	7,007.5	-2,247.53	177.3	1,227.6	1,232.6	0.00	0.00	0.00
8,200.0	90.39	90.00	7,006.9	-2,246.85	177.3	1,327.6	1,332.5	0.00	0.00	0.00
8,300.0	90.39	90.00	7,006.2	-2,246.17	177.3	1,427.6	1,432.4	0.00	0.00	0.00
8,400.0	90.39	90.00	7,005.5	-2,245.48	177.3	1,527.6	1,532.4	0.00	0.00	0.00
8,500.0	90.39	90.00	7,004.8	-2,244.80	177.3	1,627.6	1,632.3	0.00	0.00	0.00
8,600.0	90.39	90.00	7,004.1	-2,244.12	177.3	1,727.6	1,732.3	0.00	0.00	0.00
8,700.0	90.39	90.00	7,003.4	-2,243.43	177.3	1,827.6	1,832.2	0.00	0.00	0.00
8,800.0	90.39	90.00	7,002.7	-2,242.75	177.3	1,927.6	1,932.2	0.00	0.00	0.00
8,900.0	90.39	90.00	7,002.1	-2,242.06	177.3	2,027.6	2,032.1	0.00	0.00	0.00
9,000.0	90.39	90.00	7,001.4	-2,241.38	177.3	2,127.6	2,132.1	0.00	0.00	0.00
9,100.0	90.39	90.00	7,000.7	-2,240.69	177.3	2,227.6	2,232.0	0.00	0.00	0.00
9,200.0	90.39	90.00	7,000.0	-2,240.01	177.3	2,327.6	2,332.0	0.00	0.00	0.00
9,300.0	90.39	90.00	6,999.3	-2,239.32	177.3	2,427.6	2,431.9	0.00	0.00	0.00
9,400.0	90.39	90.00	6,998.6	-2,238.64	177.3	2,527.6	2,531.9	0.00	0.00	0.00
9,500.0	90.39	90.00	6,998.0	-2,237.95	177.3	2,627.6	2,631.8	0.00	0.00	0.00
9,600.0	90.39	90.00	6,997.3	-2,237.27	177.3	2,727.6	2,731.8	0.00	0.00	0.00
9,700.0	90.39	90.00	6,996.6	-2,236.58	177.3	2,827.6	2,831.7	0.00	0.00	0.00
9,800.0	90.39	90.00	6,995.9	-2,235.90	177.3	2,927.6	2,931.7	0.00	0.00	0.00
9,900.0	90.39	90.00	6,995.2	-2,235.21	177.3	3,027.6	3,031.6	0.00	0.00	0.00
10,000.0	90.39	90.00	6,994.5	-2,234.52	177.3	3,127.6	3,131.6	0.00	0.00	0.00
10,100.0	90.39	90.00	6,993.8	-2,233.84	177.3	3,227.6	3,231.5	0.00	0.00	0.00
10,200.0	90.39	90.00	6,993.1	-2,233.15	177.3	3,327.6	3,331.5	0.00	0.00	0.00
10,300.0	90.39	90.00	6,992.5	-2,232.46	177.3	3,427.6	3,431.4	0.00	0.00	0.00
10,400.0	90.39	90.00	6,991.8	-2,231.77	177.3	3,527.6	3,531.4	0.00	0.00	0.00
10,500.0	90.39	90.00	6,991.1	-2,231.09	177.3	3,627.6	3,631.3	0.00	0.00	0.00
10,600.0	90.39	90.00	6,990.4	-2,230.40	177.3	3,727.6	3,731.3	0.00	0.00	0.00
10,700.0	90.39	90.00	6,989.7	-2,229.71	177.3	3,827.5	3,831.2	0.00	0.00	0.00
10,800.0	90.39	90.00	6,989.0	-2,229.02	177.3	3,927.5	3,931.2	0.00	0.00	0.00
10,900.0	90.39	90.00	6,988.3	-2,228.34	177.3	4,027.5	4,031.1	0.00	0.00	0.00
11,000.0	90.39	90.00	6,987.6	-2,227.65	177.3	4,127.5	4,131.1	0.00	0.00	0.00
11,100.0	90.39	90.00	6,987.0	-2,226.96	177.3	4,227.5	4,231.0	0.00	0.00	0.00
11,200.0	90.39	90.00	6,986.3	-2,226.27	177.3	4,327.5	4,331.0	0.00	0.00	0.00
11,300.0	90.39	90.00	6,985.6	-2,225.58	177.3	4,427.5	4,430.9	0.00	0.00	0.00
11,400.0	90.39	90.00	6,984.9	-2,224.89	177.3	4,527.5	4,530.9	0.00	0.00	0.00
11,500.0	90.39	90.00	6,984.2	-2,224.20	177.3	4,627.5	4,630.8	0.00	0.00	0.00
11,600.0	90.40	90.00	6,983.5	-2,223.51	177.3	4,727.5	4,730.8	0.00	0.00	0.00
11,700.0	90.40	90.00	6,982.8	-2,222.82	177.3	4,827.5	4,830.7	0.00	0.00	0.00
11,800.0	90.40	90.00	6,982.1	-2,222.13	177.3	4,927.5	4,930.7	0.00	0.00	0.00
11,900.0	90.40	90.00	6,981.4	-2,221.44	177.3	5,027.5	5,030.6	0.00	0.00	0.00
12,000.0	90.40	90.00	6,980.8	-2,220.75	177.3	5,127.5	5,130.6	0.00	0.00	0.00
12,100.0	90.40	90.00	6,980.1	-2,220.06	177.3	5,227.5	5,230.5	0.00	0.00	0.00
12,200.0	90.40	90.00	6,979.4	-2,219.37	177.3	5,327.5	5,330.5	0.00	0.00	0.00
12,300.0	90.40	90.00	6,978.7	-2,218.68	177.3	5,427.5	5,430.4	0.00	0.00	0.00
12,400.0	90.40	90.00	6,978.0	-2,217.99	177.3	5,527.5	5,530.3	0.00	0.00	0.00
12,500.0	90.40	90.00	6,977.3	-2,217.30	177.3	5,627.5	5,630.3	0.00	0.00	0.00
BHL *NEW*: 2416ft FSL & 500ft FEL of Sec 8										
12,543.4	90.40	90.00	6,977.0	-2,217.00	177.3	5,670.9	5,673.7	0.00	0.00	0.00



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well CARLSON 7S-432
Company:	PDC ENERGY	TVD Reference:	KB-EST @ 4760.0usft
Project:	WELD COUNTY, COLORADO	MD Reference:	KB-EST @ 4760.0usft
Site:	NE SE SEC. 7 T6N R64W 6th P.M.	North Reference:	True
Well:	CARLSON 7S-432	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #1		

Formations					
MD (usft)	TVD (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,679.9	3,660.0	PARKMAN SANDSTONE			
4,414.9	4,395.0	SUSSEX SANDSTONE			
6,691.9	6,655.0	SHARON SPRINGS			
6,763.5	6,715.0	NIOBRARA A			
6,911.1	6,825.0	NIOBRARA B			
7,044.1	6,905.0	NIOBRARA C			
7,284.3	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 & 803ft FEL of Sec 7
1,060.0	1,060.0	0.0	0.0	START NUDGE (2°/100ft BUR)
1,660.0	1,655.6	48.1	-40.1	EOB TO 12° INC
2,168.4	2,152.9	129.2	-107.8	END OF TANGENT
2,768.4	2,748.5	177.3	-147.9	EOD TO VERTICAL
6,315.7	6,295.8	177.3	-147.9	KOP (8°/100ft BUR)
7,445.6	7,012.0	177.3	573.2	7" ICP *NEW*: 2392.5ft FSL & 230ft FEL of Sec 7
12,543.4	6,977.0	177.3	5,670.9	BHL *NEW*: 2416ft FSL & 500ft FEL of Sec 8