

PDC ENERGY

**WELD COUNTY, COLORADO
NW NE SEC 30 T4N R67W 6th P.M.
OLSON 30R-223**

ORIGINAL WELLBORE

26 February, 2016

Plan: PROPOSAL #2





Project: WELD COUNTY, COLORADO
Site: NW NE SEC 30 T4N R67W 6th P.M.
Well: OLSON 30R-223
Wellbore: ORIGINAL WELLBORE
Design: PROPOSAL #2

ANNOTATIONS

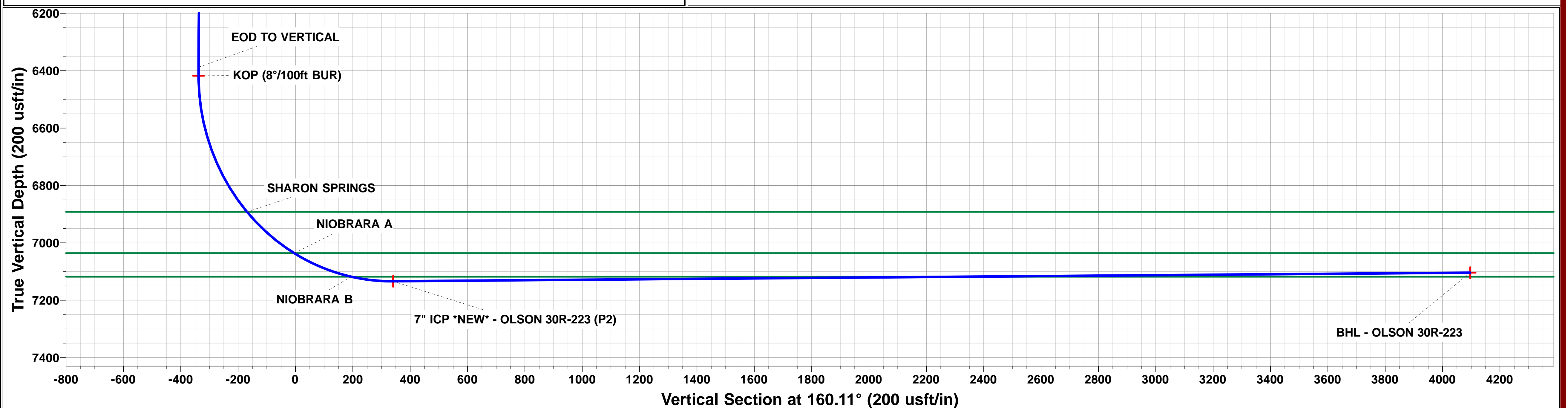
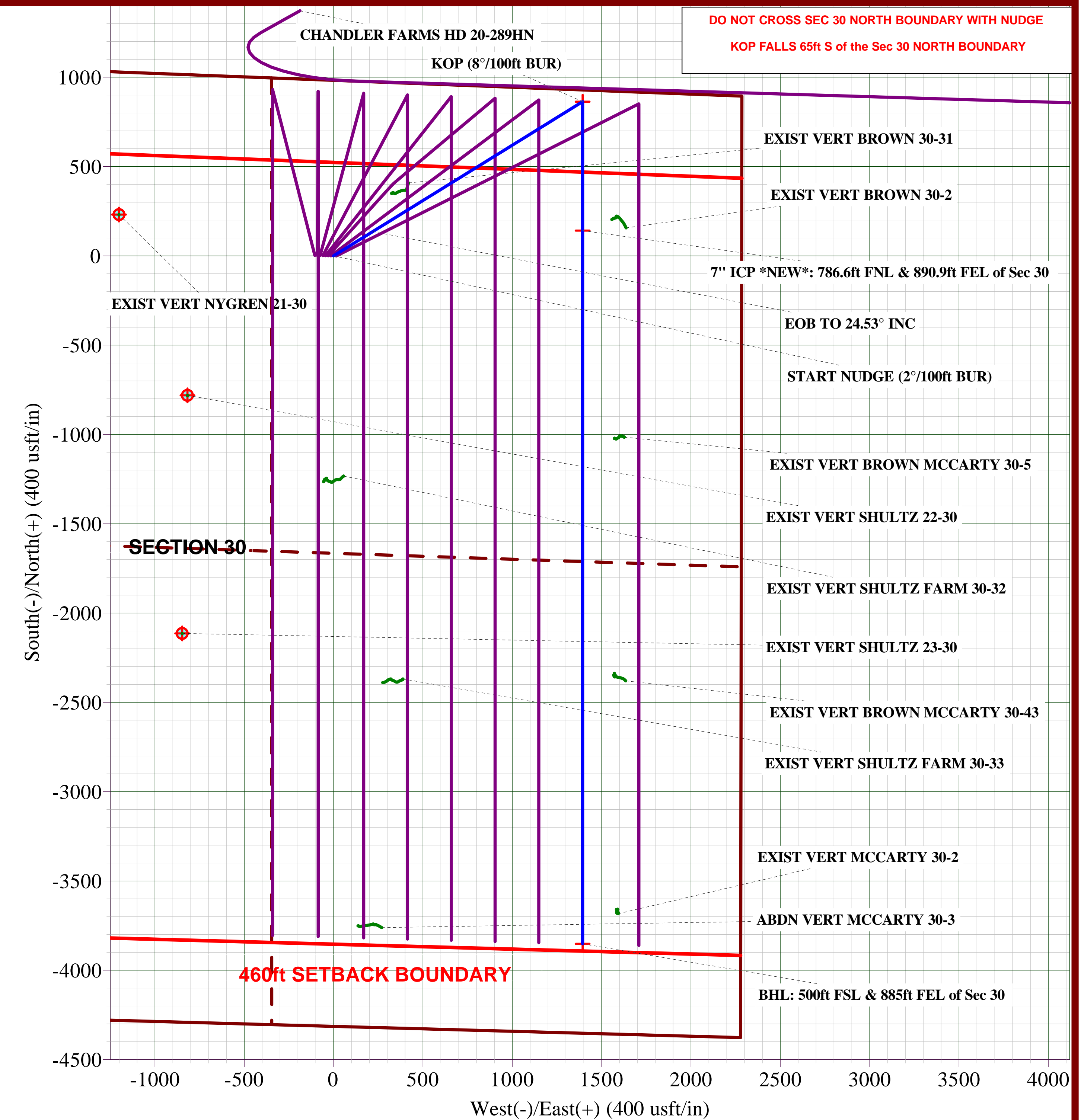
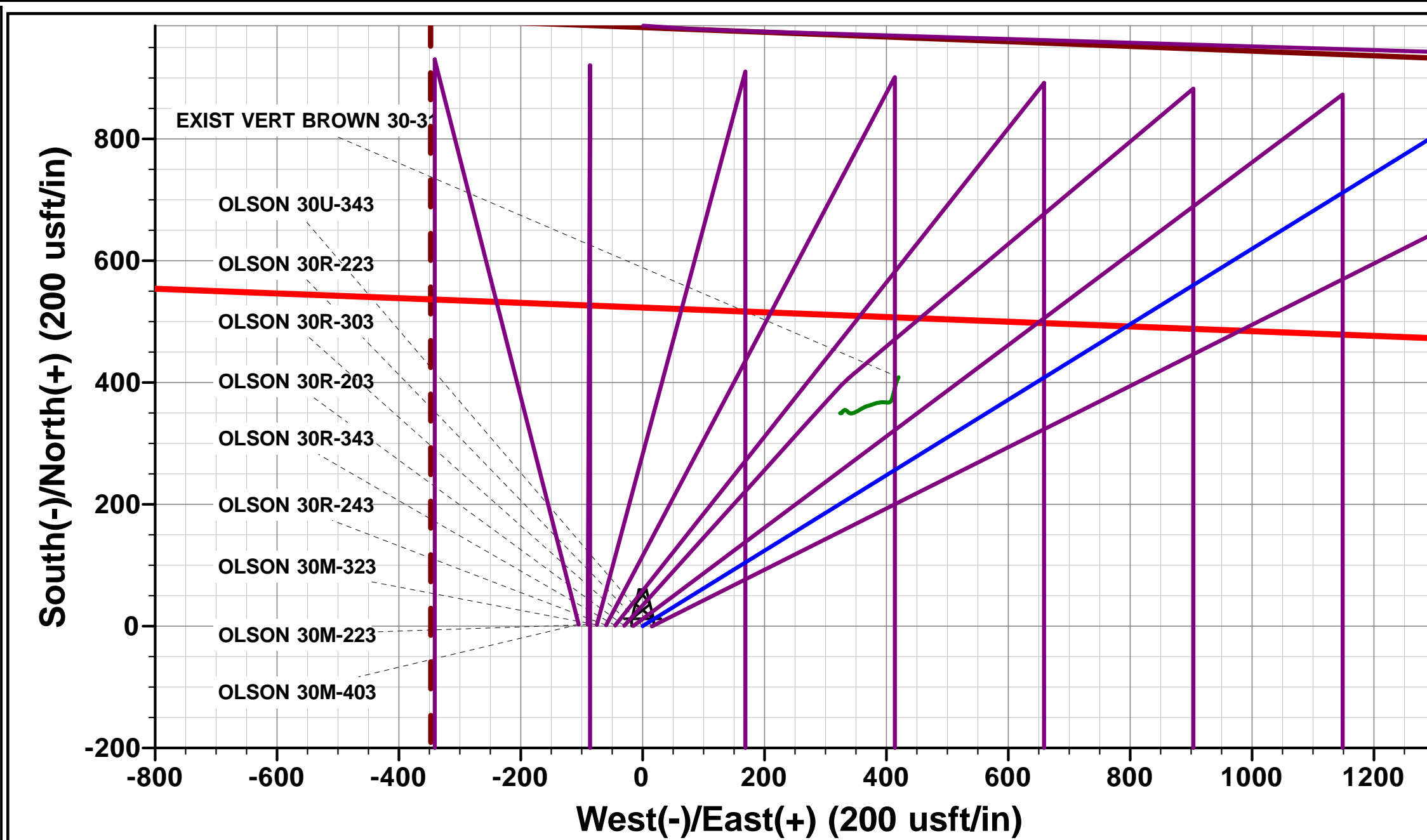
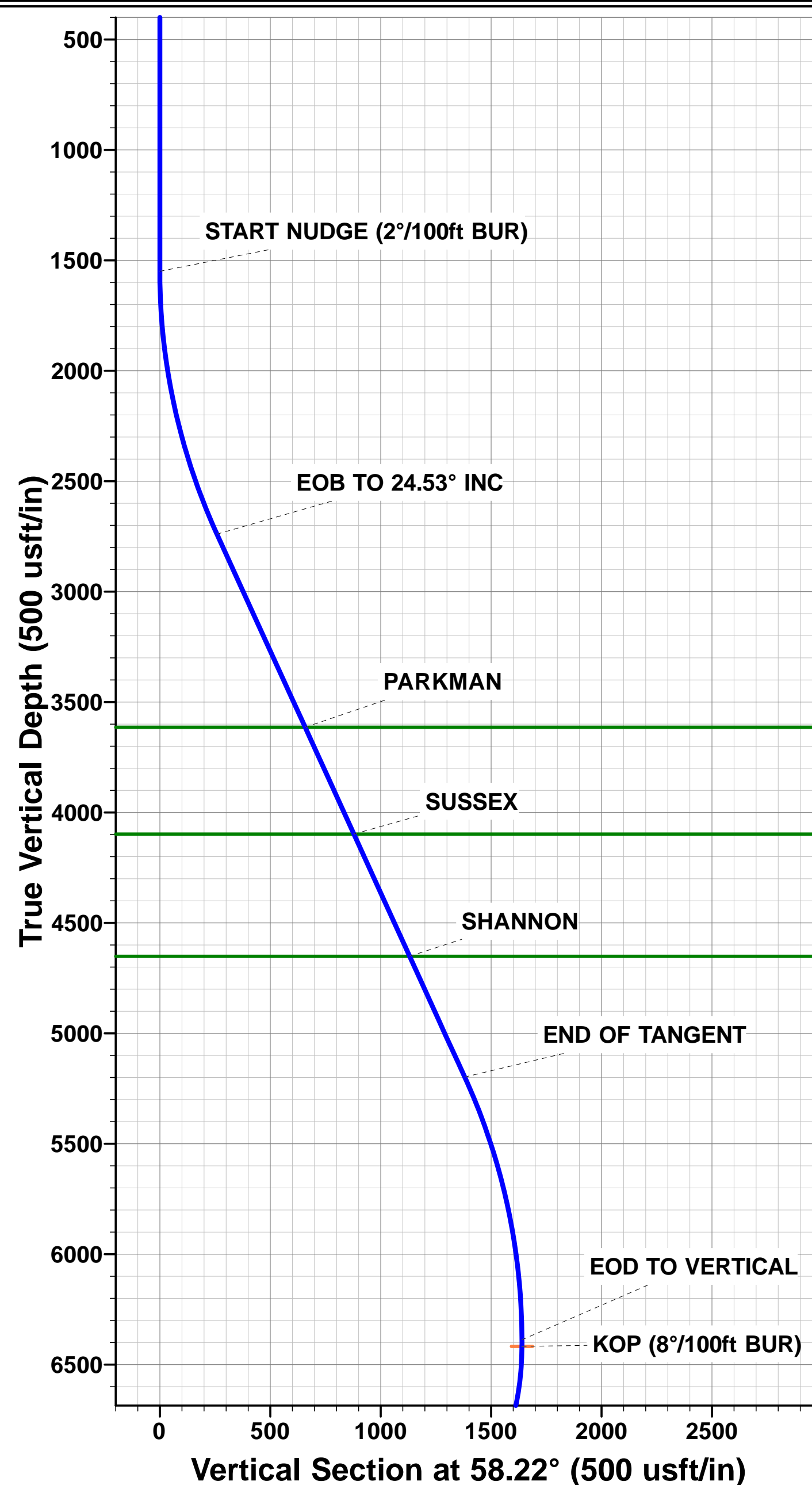
TVD	MD	Inc	Azi	+N/-S	+E/-W	Vsect	Dep	Annotation
0.0	0.0	0.00	0.00	0.0	0.0	0.0	0.0	SHL: 982ft FNL & 2284ft FEL of Sec 30
1550.0	1550.0	0.00	0.00	0.0	0.0	0.0	0.0	START NUDGE (2°/100ft BUR)
2739.6	2776.7	24.53	58.22	136.2	219.9	-53.3	258.6	EOB TO 24.53° INC
5198.3	5479.4	24.53	58.22	727.3	1173.8	-284.5	1380.9	END OF TANGENT
6387.8	6706.1	0.00	0.00	863.5	1393.7	-337.8	1639.5	EOD TO VERTICAL
6417.8	6736.1	0.00	0.00	863.5	1393.7	-337.8	1639.5	KOP (8°/100ft BUR)
7134.0	7866.5	90.43	180.00	141.9	1393.7	340.8	2361.1	7" ICP *NEW*: 786.6ft FNL & 890.9ft FEL of Sec 30
7104.0	11860.2	90.43	180.00	-3851.7	1393.7	4096.1	6354.7	BHL: 500ft FSL & 885ft FEL of Sec 30

PROPOSED LOCAL COORDINATES:

SHL: 982ft FNL & 2284ft FEL Sec 30
7" ICP *NEW*: 786.6ft FNL & 890.9ft FEL Sec 30
BHL: 500ft FSL & 885ft FEL Sec 30

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
KOP - OLSON 30R-223 (P2)	6417.8	863.5	1393.7	40.291384	-104.926251
BHL - OLSON 30R-223	7104.0	-3851.7	1393.7	40.278441	-104.926252
7" ICP *NEW* - OLSON 30R-223 (P2)	7134.0	141.9	1393.7	40.289403	-104.926251



Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well OLSON 30R-223
Company:	PDC ENERGY	TVD Reference:	KB-EST @ 4989.0usft (Original Well Elev)
Project:	WELD COUNTY, COLORADO	MD Reference:	KB-EST @ 4989.0usft (Original Well Elev)
Site:	NW NE SEC 30 T4N R67W 6th P.M.	North Reference:	True
Well:	OLSON 30R-223	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #2		

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	NW NE SEC 30 T4N R67W 6th P.M.		
Site Position:		Northing:	1,348,637.56 usft
From:	Lat/Long	Easting:	3,158,676.90 usft
Position Uncertainty:	0.0 usft	Slot Radius:	1.10000ft
		Latitude:	40.289013
		Longitude:	-104.931193
		Grid Convergence:	0.37 °

Well	OLSON 30R-223		
Well Position	+N/-S	0.4 usft	Northing:
	+E/-W	-15.1 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	25/02/2016	8.43	66.77	52,465

Design	PROPOSAL #2			
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	160.11

Plan Sections											
MD (usft)	Inc (°)	Azi (°)	Vertical Depth	SS (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	-4,989.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,550.0	0.00	0.00	1,550.0	-3,439.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,776.7	24.53	58.22	2,739.5	-2,249.5	136.2	219.9	2.00	2.00	0.00	58.22	
5,479.4	24.53	58.22	5,198.3	209.3	727.3	1,173.8	0.00	0.00	0.00	0.00	
6,706.1	0.00	0.00	6,387.8	1,398.8	863.5	1,393.7	2.00	-2.00	0.00	180.00	
6,736.1	0.00	0.00	6,417.8	1,428.8	863.5	1,393.7	0.00	0.00	0.00	0.00	KOP - OLSON 30R
7,866.5	90.43	180.00	7,134.0	2,145.0	141.9	1,393.7	8.00	8.00	0.00	180.00	
11,860.2	90.43	180.00	7,104.0	2,115.0	-3,851.7	1,393.7	0.00	0.00	0.00	0.00	BHL - OLSON 30R-

Planning Report



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Well:	OLSON 30R-223	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #2		

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: 982ft FNL & 2284ft FEL of Sec 30										
0.0	0.00	0.00	0.0	4,989.00	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	4,889.00	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	4,789.00	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	4,689.00	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	4,589.00	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	4,489.00	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	4,389.00	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	4,289.00	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	4,189.00	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	4,089.00	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	3,989.00	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	3,889.00	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	3,789.00	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	3,689.00	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	3,589.00	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	3,489.00	0.0	0.0	0.0	0.00	0.00	0.00
START NUDGE (2°/100ft BUR)										
1,550.0	0.00	0.00	1,550.0	3,439.00	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	1.00	58.22	1,600.0	3,389.00	0.2	0.4	-0.1	2.00	2.00	0.00
1,700.0	3.00	58.22	1,699.9	3,289.07	2.1	3.3	-0.8	2.00	2.00	0.00
1,800.0	5.00	58.22	1,799.7	3,189.32	5.7	9.3	-2.2	2.00	2.00	0.00
1,900.0	7.00	58.22	1,899.1	3,089.87	11.2	18.2	-4.4	2.00	2.00	0.00
2,000.0	9.00	58.22	1,998.2	2,990.85	18.6	30.0	-7.3	2.00	2.00	0.00
2,100.0	11.00	58.22	2,096.6	2,892.37	27.7	44.7	-10.8	2.00	2.00	0.00
2,200.0	13.00	58.22	2,194.4	2,794.56	38.7	62.4	-15.1	2.00	2.00	0.00
2,300.0	15.00	58.22	2,291.5	2,697.54	51.4	83.0	-20.1	2.00	2.00	0.00
2,400.0	17.00	58.22	2,387.6	2,601.42	65.9	106.4	-25.8	2.00	2.00	0.00
2,500.0	19.00	58.22	2,482.7	2,506.32	82.2	132.7	-32.2	2.00	2.00	0.00
2,600.0	21.00	58.22	2,576.6	2,412.35	100.2	161.7	-39.2	2.00	2.00	0.00
2,700.0	23.00	58.22	2,669.4	2,319.64	119.9	193.6	-46.9	2.00	2.00	0.00
EOB TO 24.53° INC										
2,776.7	24.53	58.22	2,739.6	2,249.44	136.2	219.9	-53.3	2.00	2.00	0.00
2,800.0	24.53	58.22	2,760.8	2,228.25	141.3	228.1	-55.3	0.00	0.00	0.00
2,900.0	24.53	58.22	2,851.7	2,137.28	163.2	263.4	-63.8	0.00	0.00	0.00
3,000.0	24.53	58.22	2,942.7	2,046.30	185.1	298.7	-72.4	0.00	0.00	0.00
3,100.0	24.53	58.22	3,033.7	1,955.33	206.9	334.0	-80.9	0.00	0.00	0.00
3,200.0	24.53	58.22	3,124.6	1,864.36	228.8	369.3	-89.5	0.00	0.00	0.00
3,300.0	24.53	58.22	3,215.6	1,773.39	250.7	404.6	-98.1	0.00	0.00	0.00
3,400.0	24.53	58.22	3,306.6	1,682.42	272.5	439.9	-106.6	0.00	0.00	0.00
3,500.0	24.53	58.22	3,397.6	1,591.45	294.4	475.2	-115.2	0.00	0.00	0.00
3,600.0	24.53	58.22	3,488.5	1,500.47	316.3	510.5	-123.7	0.00	0.00	0.00
3,700.0	24.53	58.22	3,579.5	1,409.50	338.1	545.8	-132.3	0.00	0.00	0.00
PARKMAN										
3,737.9	24.53	58.22	3,614.0	1,375.00	346.4	559.1	-135.5	0.00	0.00	0.00
3,800.0	24.53	58.22	3,670.5	1,318.53	360.0	581.1	-140.8	0.00	0.00	0.00
3,900.0	24.53	58.22	3,761.4	1,227.56	381.9	616.4	-149.4	0.00	0.00	0.00
4,000.0	24.53	58.22	3,852.4	1,136.59	403.7	651.7	-157.9	0.00	0.00	0.00
4,100.0	24.53	58.22	3,943.4	1,045.61	425.6	687.0	-166.5	0.00	0.00	0.00
4,200.0	24.53	58.22	4,034.4	954.64	447.5	722.2	-175.0	0.00	0.00	0.00
SUSSEX										
4,270.0	24.53	58.22	4,098.0	891.00	462.8	746.9	-181.0	0.00	0.00	0.00
4,300.0	24.53	58.22	4,125.3	863.67	469.4	757.5	-183.6	0.00	0.00	0.00
4,400.0	24.53	58.22	4,216.3	772.70	491.2	792.8	-192.1	0.00	0.00	0.00

Planning Report



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Well:	OLSON 30R-223	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #2		

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	24.53	58.22	4,307.3	681.73	513.1	828.1	-200.7	0.00	0.00	0.00
4,600.0	24.53	58.22	4,398.2	590.75	535.0	863.4	-209.3	0.00	0.00	0.00
4,700.0	24.53	58.22	4,489.2	499.78	556.8	898.7	-217.8	0.00	0.00	0.00
4,800.0	24.53	58.22	4,580.2	408.81	578.7	934.0	-226.4	0.00	0.00	0.00
SHANNON										
4,877.8	24.53	58.22	4,651.0	338.00	595.7	961.5	-233.0	0.00	0.00	0.00
4,900.0	24.53	58.22	4,671.2	317.84	600.6	969.3	-234.9	0.00	0.00	0.00
5,000.0	24.53	58.22	4,762.1	226.87	622.4	1,004.6	-243.5	0.00	0.00	0.00
5,100.0	24.53	58.22	4,853.1	135.90	644.3	1,039.9	-252.0	0.00	0.00	0.00
5,200.0	24.53	58.22	4,944.1	44.92	666.2	1,075.2	-260.6	0.00	0.00	0.00
5,300.0	24.53	58.22	5,035.0	-46.05	688.0	1,110.5	-269.1	0.00	0.00	0.00
5,400.0	24.53	58.22	5,126.0	-137.02	709.9	1,145.8	-277.7	0.00	0.00	0.00
END OF TANGENT										
5,479.4	24.53	58.22	5,198.3	-209.25	727.3	1,173.8	-284.5	0.00	0.00	0.00
5,500.0	24.12	58.22	5,217.0	-228.02	731.7	1,181.0	-286.2	2.00	-2.00	0.00
5,600.0	22.12	58.22	5,309.0	-319.98	752.4	1,214.4	-294.3	2.00	-2.00	0.00
5,700.0	20.12	58.22	5,402.3	-413.26	771.4	1,245.1	-301.7	2.00	-2.00	0.00
5,800.0	18.12	58.22	5,496.7	-507.74	788.7	1,272.9	-308.5	2.00	-2.00	0.00
5,900.0	16.12	58.22	5,592.3	-603.30	804.2	1,297.9	-314.6	2.00	-2.00	0.00
6,000.0	14.12	58.22	5,688.8	-699.83	817.9	1,320.1	-319.9	2.00	-2.00	0.00
6,100.0	12.12	58.22	5,786.2	-797.22	829.9	1,339.4	-324.6	2.00	-2.00	0.00
6,200.0	10.12	58.22	5,884.3	-895.34	840.0	1,355.8	-328.6	2.00	-2.00	0.00
6,300.0	8.12	58.22	5,983.1	-994.07	848.4	1,369.3	-331.9	2.00	-2.00	0.00
6,400.0	6.12	58.22	6,082.3	-1,093.29	854.9	1,379.8	-334.4	2.00	-2.00	0.00
6,500.0	4.12	58.22	6,181.9	-1,192.89	859.6	1,387.4	-336.2	2.00	-2.00	0.00
6,600.0	2.12	58.22	6,281.7	-1,292.73	862.5	1,392.0	-337.4	2.00	-2.00	0.00
6,700.0	0.12	58.22	6,381.7	-1,392.71	863.5	1,393.7	-337.8	2.00	-2.00	0.00
EOD TO VERTICAL										
6,706.1	0.00	0.00	6,387.8	-1,398.81	863.5	1,393.7	-337.8	2.00	-2.00	0.00
KOP (8°/100ft BUR)										
6,736.1	0.00	0.00	6,417.8	-1,428.81	863.5	1,393.7	-337.8	0.00	0.00	0.00
6,800.0	5.11	180.00	6,481.6	-1,492.62	860.7	1,393.7	-335.1	8.00	8.00	0.00
6,900.0	13.11	180.00	6,580.3	-1,591.28	844.8	1,393.7	-320.2	8.00	8.00	0.00
7,000.0	21.11	180.00	6,675.8	-1,686.78	815.4	1,393.7	-292.6	8.00	8.00	0.00
7,100.0	29.11	180.00	6,766.2	-1,777.25	773.0	1,393.7	-252.7	8.00	8.00	0.00
7,200.0	37.11	180.00	6,849.9	-1,860.94	718.4	1,393.7	-201.4	8.00	8.00	0.00
SHARON SPRINGS										
7,254.4	41.46	180.00	6,892.0	-1,903.00	684.0	1,393.7	-169.0	8.00	8.00	0.00
7,300.0	45.11	180.00	6,925.2	-1,936.22	652.7	1,393.7	-139.6	8.00	8.00	0.00
7,400.0	53.11	180.00	6,990.6	-2,001.63	577.2	1,393.7	-68.5	8.00	8.00	0.00
NIOBRARA A										
7,482.0	59.67	180.00	7,036.0	-2,047.00	508.9	1,393.7	-4.3	8.00	8.00	0.00
7,500.0	61.11	180.00	7,044.9	-2,055.88	493.3	1,393.7	10.3	8.00	8.00	0.00
7,600.0	69.11	180.00	7,086.9	-2,097.93	402.7	1,393.7	95.6	8.00	8.00	0.00
7,700.0	77.11	180.00	7,116.0	-2,126.96	307.0	1,393.7	185.5	8.00	8.00	0.00
NIOBRARA B										
7,709.4	77.87	180.00	7,118.0	-2,129.00	297.8	1,393.7	194.1	8.00	8.00	0.00
7,800.0	85.11	180.00	7,131.4	-2,142.39	208.3	1,393.7	278.3	8.00	8.00	0.00
7" ICP *NEW*: 786.6ft FNL & 890.9ft FEL of Sec 30										
7,866.5	90.43	180.00	7,134.0	-2,144.98	141.9	1,393.7	340.8	8.00	8.00	0.00
7,900.0	90.43	180.00	7,133.7	-2,144.73	108.4	1,393.7	372.3	0.00	0.00	0.00
8,000.0	90.43	180.00	7,133.0	-2,143.97	8.4	1,393.7	466.3	0.00	0.00	0.00
8,100.0	90.43	180.00	7,132.2	-2,143.22	-91.6	1,393.7	560.3	0.00	0.00	0.00

Planning Report



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Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #2		

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	90.43	180.00	7,131.5	-2,142.47	-191.6	1,393.7	654.4	0.00	0.00	0.00
8,300.0	90.43	180.00	7,130.7	-2,141.72	-291.6	1,393.7	748.4	0.00	0.00	0.00
8,400.0	90.43	180.00	7,130.0	-2,140.97	-391.6	1,393.7	842.4	0.00	0.00	0.00
8,500.0	90.43	180.00	7,129.2	-2,140.22	-491.6	1,393.7	936.5	0.00	0.00	0.00
8,600.0	90.43	180.00	7,128.5	-2,139.47	-591.6	1,393.7	1,030.5	0.00	0.00	0.00
8,700.0	90.43	180.00	7,127.7	-2,138.72	-691.6	1,393.7	1,124.5	0.00	0.00	0.00
8,800.0	90.43	180.00	7,127.0	-2,137.97	-791.6	1,393.7	1,218.6	0.00	0.00	0.00
8,900.0	90.43	180.00	7,126.2	-2,137.22	-891.6	1,393.7	1,312.6	0.00	0.00	0.00
9,000.0	90.43	180.00	7,125.5	-2,136.47	-991.6	1,393.7	1,406.6	0.00	0.00	0.00
9,100.0	90.43	180.00	7,124.7	-2,135.72	-1,091.6	1,393.7	1,500.6	0.00	0.00	0.00
9,200.0	90.43	180.00	7,124.0	-2,134.97	-1,191.6	1,393.7	1,594.7	0.00	0.00	0.00
9,300.0	90.43	180.00	7,123.2	-2,134.22	-1,291.6	1,393.7	1,688.7	0.00	0.00	0.00
9,400.0	90.43	180.00	7,122.5	-2,133.47	-1,391.6	1,393.7	1,782.7	0.00	0.00	0.00
9,500.0	90.43	180.00	7,121.7	-2,132.72	-1,491.6	1,393.7	1,876.8	0.00	0.00	0.00
9,600.0	90.43	180.00	7,121.0	-2,131.97	-1,591.6	1,393.7	1,970.8	0.00	0.00	0.00
9,700.0	90.43	180.00	7,120.2	-2,131.22	-1,691.6	1,393.7	2,064.8	0.00	0.00	0.00
9,800.0	90.43	180.00	7,119.5	-2,130.47	-1,791.6	1,393.7	2,158.9	0.00	0.00	0.00
9,900.0	90.43	180.00	7,118.7	-2,129.72	-1,891.5	1,393.7	2,252.9	0.00	0.00	0.00
10,000.0	90.43	180.00	7,118.0	-2,128.97	-1,991.5	1,393.7	2,346.9	0.00	0.00	0.00
10,100.0	90.43	180.00	7,117.2	-2,128.21	-2,091.5	1,393.7	2,441.0	0.00	0.00	0.00
10,200.0	90.43	180.00	7,116.5	-2,127.46	-2,191.5	1,393.7	2,535.0	0.00	0.00	0.00
10,300.0	90.43	180.00	7,115.7	-2,126.71	-2,291.5	1,393.7	2,629.0	0.00	0.00	0.00
10,400.0	90.43	180.00	7,115.0	-2,125.96	-2,391.5	1,393.7	2,723.0	0.00	0.00	0.00
10,500.0	90.43	180.00	7,114.2	-2,125.21	-2,491.5	1,393.7	2,817.1	0.00	0.00	0.00
10,600.0	90.43	180.00	7,113.5	-2,124.46	-2,591.5	1,393.7	2,911.1	0.00	0.00	0.00
10,700.0	90.43	180.00	7,112.7	-2,123.71	-2,691.5	1,393.7	3,005.1	0.00	0.00	0.00
10,800.0	90.43	180.00	7,112.0	-2,122.96	-2,791.5	1,393.7	3,099.2	0.00	0.00	0.00
10,900.0	90.43	180.00	7,111.2	-2,122.21	-2,891.5	1,393.7	3,193.2	0.00	0.00	0.00
11,000.0	90.43	180.00	7,110.5	-2,121.46	-2,991.5	1,393.7	3,287.2	0.00	0.00	0.00
11,100.0	90.43	180.00	7,109.7	-2,120.71	-3,091.5	1,393.7	3,381.3	0.00	0.00	0.00
11,200.0	90.43	180.00	7,109.0	-2,119.96	-3,191.5	1,393.7	3,475.3	0.00	0.00	0.00
11,300.0	90.43	180.00	7,108.2	-2,119.21	-3,291.5	1,393.7	3,569.3	0.00	0.00	0.00
11,400.0	90.43	180.00	7,107.5	-2,118.46	-3,391.5	1,393.7	3,663.4	0.00	0.00	0.00
11,500.0	90.43	180.00	7,106.7	-2,117.71	-3,491.5	1,393.7	3,757.4	0.00	0.00	0.00
11,600.0	90.43	180.00	7,106.0	-2,116.96	-3,591.5	1,393.7	3,851.4	0.00	0.00	0.00
11,700.0	90.43	180.00	7,105.2	-2,116.21	-3,691.5	1,393.7	3,945.5	0.00	0.00	0.00
11,800.0	90.43	180.00	7,104.5	-2,115.46	-3,791.5	1,393.7	4,039.5	0.00	0.00	0.00
BHL: 500ft FSL & 885ft FEL of Sec 30										
11,860.2	90.43	180.00	7,104.0	-2,115.00	-3,851.7	1,393.7	4,096.1	0.00	0.00	0.00

Formations

MD (usft)	TVD (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,737.9	3,614.0	PARKMAN		0.00	
4,270.0	4,098.0	SUSSEX		0.00	
4,877.8	4,651.0	SHANNON		0.00	
7,254.4	6,892.0	SHARON SPRINGS		0.00	
7,482.0	7,036.0	NIOBRARA A		0.00	
7,709.4	7,118.0	NIOBRARA B		0.00	

Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well OLSON 30R-223
Company:	PDC ENERGY	TVD Reference:	KB-EST @ 4989.0usft (Original Well Elev)
Project:	WELD COUNTY, COLORADO	MD Reference:	KB-EST @ 4989.0usft (Original Well Elev)
Site:	NW NE SEC 30 T4N R67W 6th P.M.	North Reference:	True
Well:	OLSON 30R-223	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #2		

Plan Annotations

MD (usft)	TVD (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
0.0	0.0	0.0	0.0	SHL: 982ft FNL & 2284ft FEL of Sec 30
1,550.0	1,550.0	0.0	0.0	START NUDGE (2°/100ft BUR)
2,776.7	2,739.6	136.2	219.9	EOB TO 24.53° INC
5,479.4	5,198.3	727.3	1,173.8	END OF TANGENT
6,706.1	6,387.8	863.5	1,393.7	EOD TO VERTICAL
6,736.1	6,417.8	863.5	1,393.7	KOP (8°/100ft BUR)
7,866.5	7,134.0	141.9	1,393.7	7" ICP *NEW*: 786.6ft FNL & 890.9ft FEL of Sec 30
11,860.2	7,104.0	-3,851.7	1,393.7	BHL: 500ft FSL & 885ft FEL of Sec 30