

PDC ENERGY

**WELD COUNTY, COLORADO
NW NE SEC 30 T4N R67W 6th P.M.
OLSON 30M-403**

ORIGINAL WELLBORE

26 February, 2016

Plan: PROPOSAL #2





Project: WELD COUNTY, COLORADO
Site: NW NE SEC 30 T4N R67W 6th P.M.
Well: OLSON 30M-403
Wellbore: ORIGINAL WELLBORE
Design: PROPOSAL #2

ANNOTATIONS

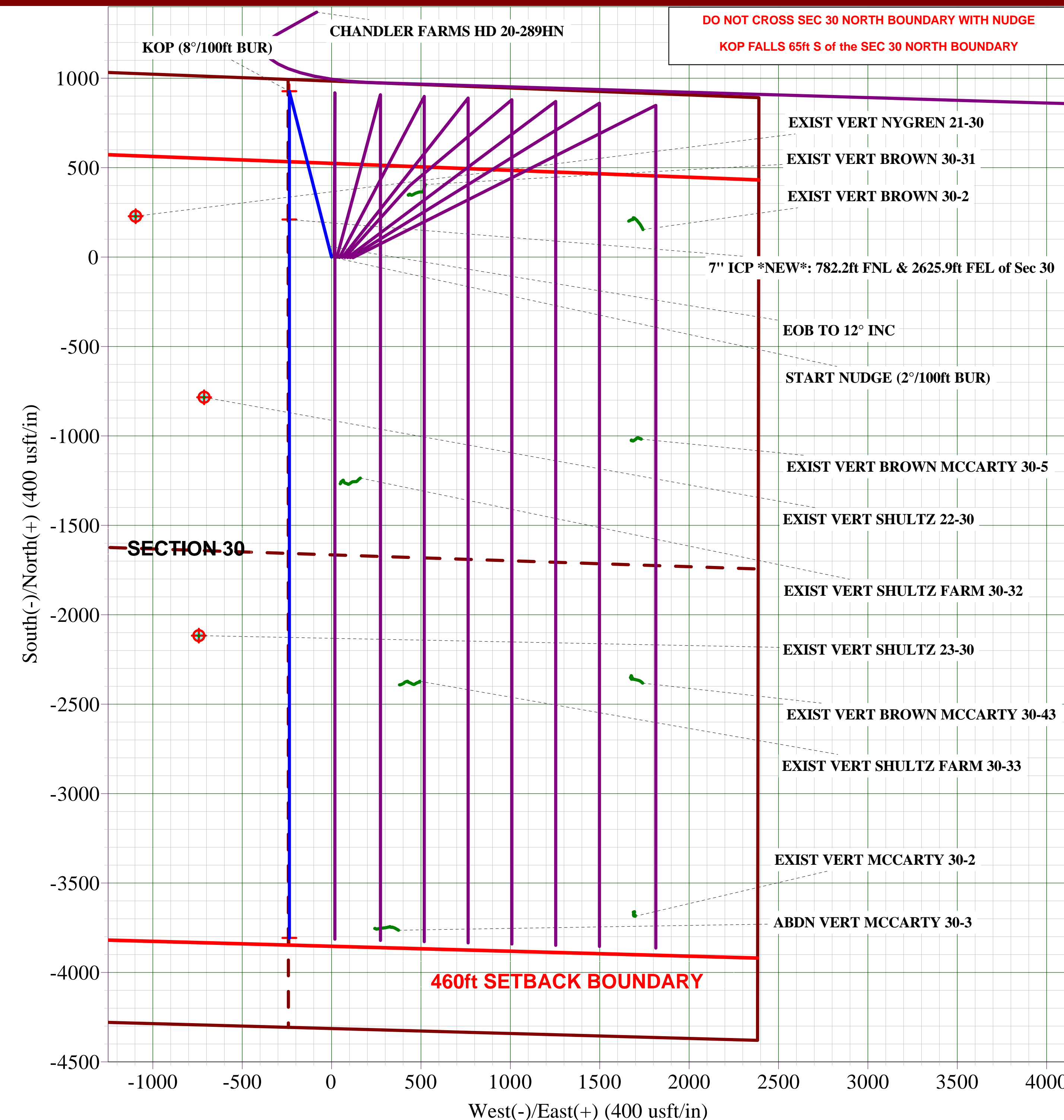
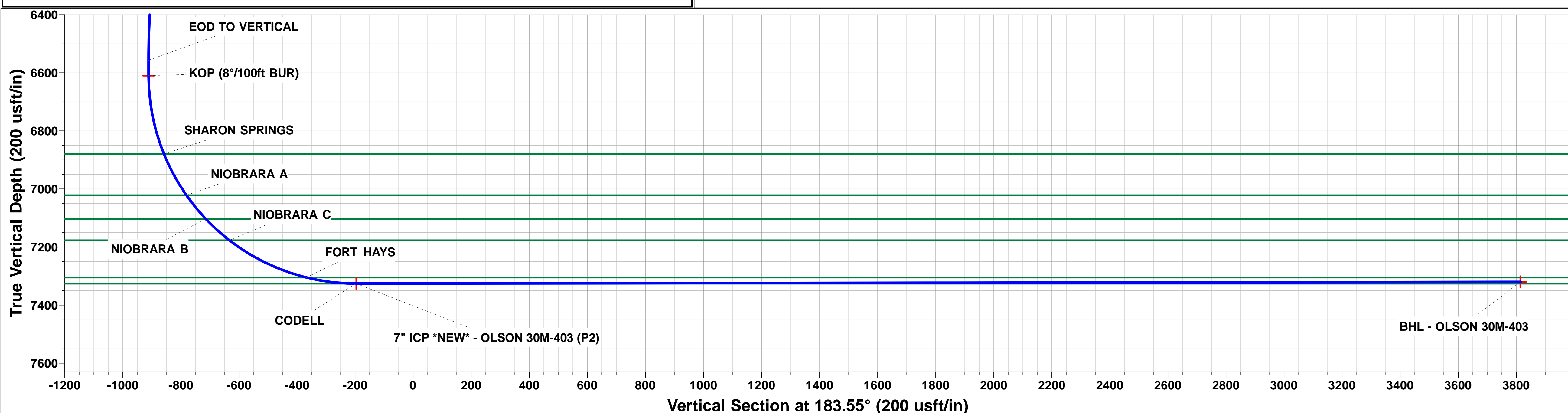
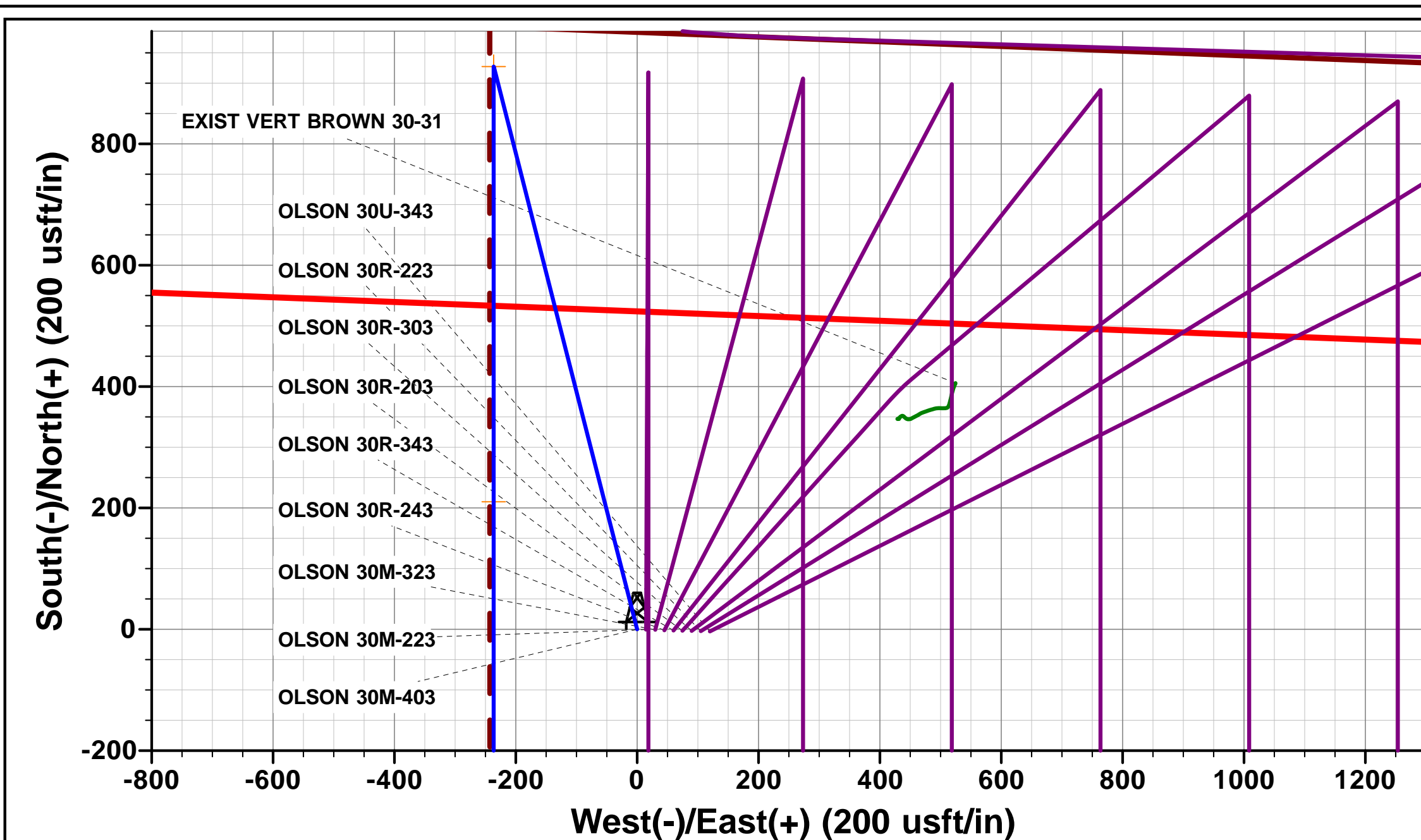
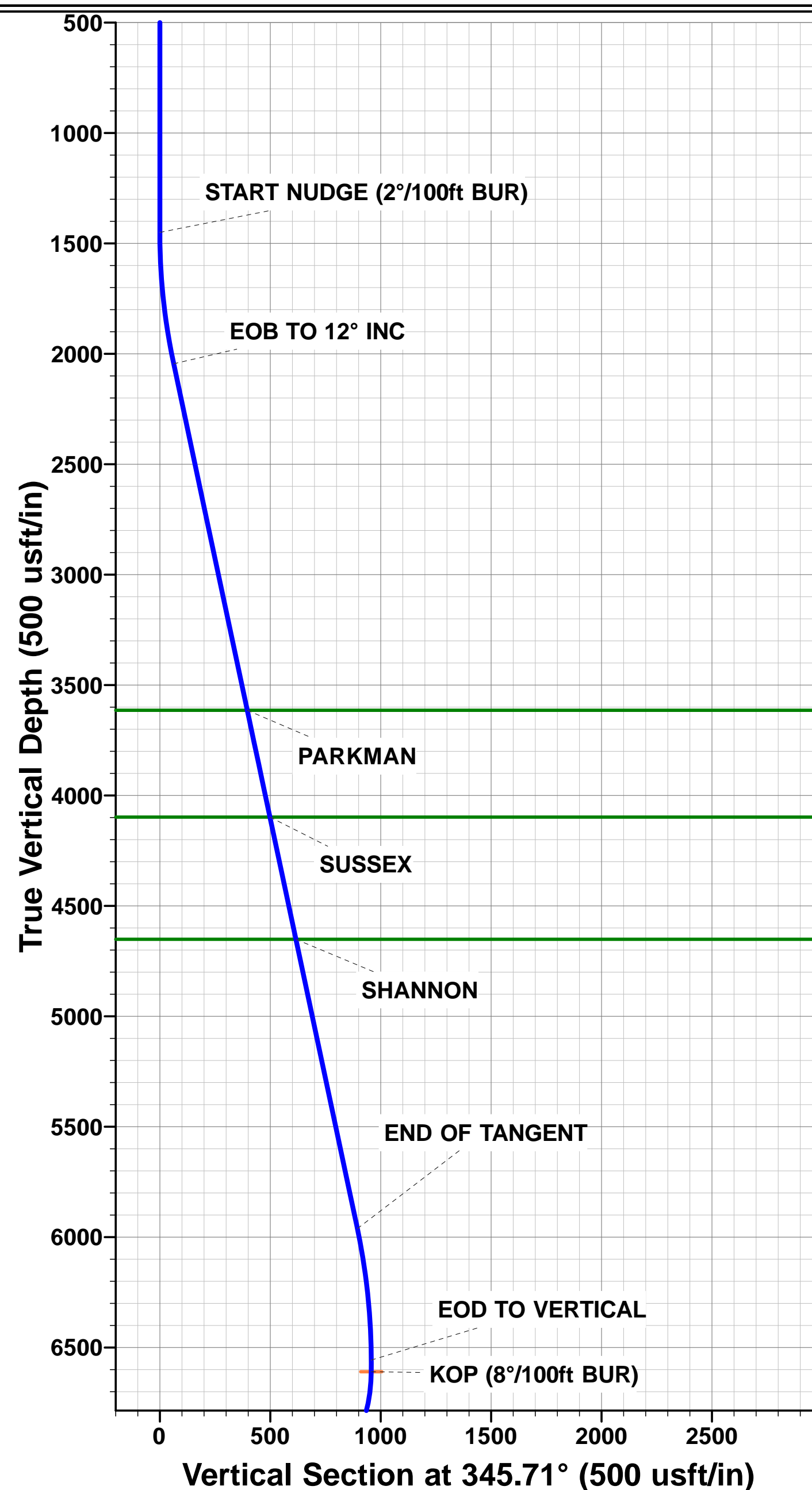
TVD	MD	Inc	Azi	+N/-S	+E/-W	Vsect	Dep	Annotation
0.0	0.0	0.00	0.00	0.0	0.0	0.0	0.0	SHL: 983ft FNL & 2389ft FEL of Sec 30
1450.0	1450.0	0.00	0.00	0.0	0.0	0.0	0.0	START NUDGE (2°/100ft BUR)
2045.4	2049.8	12.00	345.71	60.6	-15.4	-59.6	62.6	EOB TO 12° INC
5961.4	6053.2	12.00	345.71	866.9	-220.9	-851.5	894.6	END OF TANGENT
6556.8	6653.0	0.00	0.00	927.5	-236.3	-911.1	957.1	EOD TO VERTICAL
6609.8	6706.0	0.00	0.00	927.5	-236.3	-911.1	957.1	KOP (8°/100ft BUR)
7326.0	7832.0	90.08	180.00	210.3	-236.3	-195.2	1674.4	7" ICP *NEW*: 782.2ft FNL & 2625.9ft FEL of Sec 30
7320.0	11849.2	90.09	180.00	-3806.9	-236.3	3814.3	5691.6	BHL: 500ft FNL & 2620ft FEL of Sec 30

PROPOSED LOCAL COORDINATES:

SHL: 983ft FNL & 2389t FEL Sec 30
7" ICP *NEW*: 782.2ft FNL & 2625.9ft FEL Sec 30
BHL: 500ft FSL & 2620ft FEL Sec 30

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
KOP - OLSON 30M-403 (P2)	6609.8	927.5	-236.3	40.291568	-104.932470
BHL - OLSON 30M-403	7320.0	-3807.0	-236.3	40.278572	-104.932470
7" ICP *NEW* - OLSON 30M-403 (P2)	7326.0	210.3	-236.3	40.289599	-104.932470



Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well OLSON 30M-403
Company:	PDC ENERGY	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Project:	WELD COUNTY, COLORADO	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site:	NW NE SEC 30 T4N R67W 6th P.M.	North Reference:	True
Well:	OLSON 30M-403	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 30M-403		
Well Position	+N/-S	3.3 usft	Northing:
	+E/-W	-120.0 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	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	183.55

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	-4,990.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,450.0	0.00	0.00	1,450.0	-3,540.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,049.8	12.00	345.71	2,045.4	-2,944.6	60.6	-15.4	2.00	2.00	0.00	345.71	
6,053.2	12.00	345.71	5,961.4	971.4	866.9	-220.9	0.00	0.00	0.00	0.00	
6,653.0	0.00	0.00	6,556.8	1,566.8	927.5	-236.3	2.00	-2.00	0.00	180.00	
6,706.0	0.00	0.00	6,609.8	1,619.8	927.5	-236.3	0.00	0.00	0.00	0.00	KOP - OLSON 30M
7,832.0	90.08	180.00	7,326.0	2,336.0	210.3	-236.3	8.00	8.00	0.00	180.00	
11,849.2	90.09	180.00	7,320.0	2,330.0	-3,807.0	-236.3	0.00	0.00	0.00	4.57	BHL - OLSON 30M

Planning Report



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Project:	WELD COUNTY, COLORADO	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site:	NW NE SEC 30 T4N R67W 6th P.M.	North Reference:	True
Well:	OLSON 30M-403	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: 983ft FNL & 2389ft FEL of Sec 30										
0.0	0.00	0.00	0.0	4,990.00	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	4,890.00	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	4,790.00	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	4,690.00	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	4,590.00	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	4,490.00	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	4,390.00	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	4,290.00	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	4,190.00	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	4,090.00	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	3,990.00	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	3,890.00	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	3,790.00	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	3,690.00	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	3,590.00	0.0	0.0	0.0	0.00	0.00	0.00
START NUDGE (2°/100ft BUR)										
1,450.0	0.00	0.00	1,450.0	3,540.00	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	1.00	345.71	1,500.0	3,490.00	0.4	-0.1	-0.4	2.00	2.00	0.00
1,600.0	3.00	345.71	1,599.9	3,390.07	3.8	-1.0	-3.7	2.00	2.00	0.00
1,700.0	5.00	345.71	1,699.7	3,290.32	10.6	-2.7	-10.4	2.00	2.00	0.00
1,800.0	7.00	345.71	1,799.1	3,190.87	20.7	-5.3	-20.3	2.00	2.00	0.00
1,900.0	9.00	345.71	1,898.2	3,091.85	34.2	-8.7	-33.6	2.00	2.00	0.00
2,000.0	11.00	345.71	1,996.6	2,993.37	51.0	-13.0	-50.1	2.00	2.00	0.00
EOB TO 12° INC										
2,049.8	12.00	345.71	2,045.4	2,944.57	60.6	-15.4	-59.6	2.00	2.00	0.00
2,100.0	12.00	345.71	2,094.5	2,895.47	70.7	-18.0	-69.5	0.00	0.00	0.00
2,200.0	12.00	345.71	2,192.3	2,797.65	90.9	-23.2	-89.3	0.00	0.00	0.00
2,300.0	12.00	345.71	2,290.2	2,699.84	111.0	-28.3	-109.0	0.00	0.00	0.00
2,400.0	12.00	345.71	2,388.0	2,602.02	131.2	-33.4	-128.8	0.00	0.00	0.00
2,500.0	12.00	345.71	2,485.8	2,504.20	151.3	-38.5	-148.6	0.00	0.00	0.00
2,600.0	12.00	345.71	2,583.6	2,406.39	171.4	-43.7	-168.4	0.00	0.00	0.00
2,700.0	12.00	345.71	2,681.4	2,308.57	191.6	-48.8	-188.2	0.00	0.00	0.00
2,800.0	12.00	345.71	2,779.2	2,210.75	211.7	-53.9	-208.0	0.00	0.00	0.00
2,900.0	12.00	345.71	2,877.1	2,112.94	231.8	-59.1	-227.7	0.00	0.00	0.00
3,000.0	12.00	345.71	2,974.9	2,015.12	252.0	-64.2	-247.5	0.00	0.00	0.00
3,100.0	12.00	345.71	3,072.7	1,917.30	272.1	-69.3	-267.3	0.00	0.00	0.00
3,200.0	12.00	345.71	3,170.5	1,819.49	292.3	-74.5	-287.1	0.00	0.00	0.00
3,300.0	12.00	345.71	3,268.3	1,721.67	312.4	-79.6	-306.9	0.00	0.00	0.00
3,400.0	12.00	345.71	3,366.1	1,623.85	332.5	-84.7	-326.7	0.00	0.00	0.00
3,500.0	12.00	345.71	3,464.0	1,526.04	352.7	-89.9	-346.4	0.00	0.00	0.00
3,600.0	12.00	345.71	3,561.8	1,428.22	372.8	-95.0	-366.2	0.00	0.00	0.00
PARKMAN										
3,653.4	12.00	345.71	3,614.0	1,376.00	383.6	-97.7	-376.8	0.00	0.00	0.00
3,700.0	12.00	345.71	3,659.6	1,330.40	393.0	-100.1	-386.0	0.00	0.00	0.00
3,800.0	12.00	345.71	3,757.4	1,232.59	413.1	-105.2	-405.8	0.00	0.00	0.00
3,900.0	12.00	345.71	3,855.2	1,134.77	433.2	-110.4	-425.6	0.00	0.00	0.00
4,000.0	12.00	345.71	3,953.0	1,036.95	453.4	-115.5	-445.4	0.00	0.00	0.00
4,100.0	12.00	345.71	4,050.9	939.14	473.5	-120.6	-465.1	0.00	0.00	0.00
SUSSEX										
4,148.2	12.00	345.71	4,098.0	892.00	483.2	-123.1	-474.7	0.00	0.00	0.00
4,200.0	12.00	345.71	4,148.7	841.32	493.7	-125.8	-484.9	0.00	0.00	0.00
4,300.0	12.00	345.71	4,246.5	743.50	513.8	-130.9	-504.7	0.00	0.00	0.00
4,400.0	12.00	345.71	4,344.3	645.69	533.9	-136.0	-524.5	0.00	0.00	0.00

Planning Report



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Well:	OLSON 30M-403	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	12.00	345.71	4,442.1	547.87	554.1	-141.2	-544.3	0.00	0.00	0.00
4,600.0	12.00	345.71	4,539.9	450.05	574.2	-146.3	-564.1	0.00	0.00	0.00
4,700.0	12.00	345.71	4,637.8	352.24	594.4	-151.4	-583.8	0.00	0.00	0.00
SHANNON										
4,713.5	12.00	345.71	4,651.0	339.00	597.1	-152.1	-586.5	0.00	0.00	0.00
4,800.0	12.00	345.71	4,735.6	254.42	614.5	-156.6	-603.6	0.00	0.00	0.00
4,900.0	12.00	345.71	4,833.4	156.61	634.6	-161.7	-623.4	0.00	0.00	0.00
5,000.0	12.00	345.71	4,931.2	58.79	654.8	-166.8	-643.2	0.00	0.00	0.00
5,100.0	12.00	345.71	5,029.0	-39.03	674.9	-171.9	-663.0	0.00	0.00	0.00
5,200.0	12.00	345.71	5,126.8	-136.84	695.1	-177.1	-682.7	0.00	0.00	0.00
5,300.0	12.00	345.71	5,224.7	-234.66	715.2	-182.2	-702.5	0.00	0.00	0.00
5,400.0	12.00	345.71	5,322.5	-332.48	735.3	-187.3	-722.3	0.00	0.00	0.00
5,500.0	12.00	345.71	5,420.3	-430.29	755.5	-192.5	-742.1	0.00	0.00	0.00
5,600.0	12.00	345.71	5,518.1	-528.11	775.6	-197.6	-761.9	0.00	0.00	0.00
5,700.0	12.00	345.71	5,615.9	-625.93	795.8	-202.7	-781.7	0.00	0.00	0.00
5,800.0	12.00	345.71	5,713.7	-723.74	815.9	-207.9	-801.4	0.00	0.00	0.00
5,900.0	12.00	345.71	5,811.6	-821.56	836.0	-213.0	-821.2	0.00	0.00	0.00
6,000.0	12.00	345.71	5,909.4	-919.38	856.2	-218.1	-841.0	0.00	0.00	0.00
END OF TANGENT										
6,053.2	12.00	345.71	5,961.4	-971.42	866.9	-220.9	-851.5	0.00	0.00	0.00
6,100.0	11.06	345.71	6,007.3	-1,017.27	875.9	-223.2	-860.4	2.00	-2.00	0.00
6,200.0	9.06	345.71	6,105.7	-1,115.73	892.9	-227.5	-877.1	2.00	-2.00	0.00
6,300.0	7.06	345.71	6,204.7	-1,214.74	906.5	-230.9	-890.4	2.00	-2.00	0.00
6,400.0	5.06	345.71	6,304.2	-1,314.17	916.7	-233.5	-900.5	2.00	-2.00	0.00
6,500.0	3.06	345.71	6,403.9	-1,413.92	923.5	-235.3	-907.2	2.00	-2.00	0.00
6,600.0	1.06	345.71	6,503.8	-1,513.85	927.0	-236.2	-910.6	2.00	-2.00	0.00
EOD TO VERTICAL										
6,653.0	0.00	0.00	6,556.8	-1,566.84	927.5	-236.3	-911.1	2.00	-2.00	0.00
6,700.0	0.00	0.00	6,603.8	-1,613.84	927.5	-236.3	-911.1	0.00	0.00	0.00
KOP (8°/100ft BUR)										
6,706.0	0.00	0.00	6,609.8	-1,619.84	927.5	-236.3	-911.1	0.00	0.00	0.00
6,800.0	7.52	180.00	6,703.6	-1,713.57	921.3	-236.3	-904.9	8.00	8.00	0.00
6,900.0	15.52	180.00	6,801.5	-1,811.48	901.4	-236.3	-885.0	8.00	8.00	0.00
SHARON SPRINGS										
6,983.0	22.16	180.00	6,880.0	-1,890.00	874.6	-236.3	-858.3	8.00	8.00	0.00
7,000.0	23.52	180.00	6,895.7	-1,905.65	868.0	-236.3	-851.7	8.00	8.00	0.00
7,100.0	31.52	180.00	6,984.3	-1,994.26	821.8	-236.3	-805.6	8.00	8.00	0.00
NIOBRARA A										
7,145.2	35.14	180.00	7,022.0	-2,032.00	797.0	-236.3	-780.8	8.00	8.00	0.00
7,200.0	39.52	180.00	7,065.6	-2,075.58	763.8	-236.3	-747.6	8.00	8.00	0.00
NIOBRARA B										
7,250.0	43.52	180.00	7,103.0	-2,113.00	730.6	-236.3	-714.6	8.00	8.00	0.00
7,300.0	47.52	180.00	7,138.0	-2,148.03	694.9	-236.3	-679.0	8.00	8.00	0.00
NIOBRARA C										
7,360.6	52.37	180.00	7,177.0	-2,187.00	648.6	-236.3	-632.7	8.00	8.00	0.00
7,400.0	55.52	180.00	7,200.2	-2,210.20	616.7	-236.3	-600.9	8.00	8.00	0.00
7,500.0	63.52	180.00	7,250.9	-2,260.88	530.6	-236.3	-514.9	8.00	8.00	0.00
7,600.0	71.52	180.00	7,289.1	-2,299.08	438.3	-236.3	-422.8	8.00	8.00	0.00
FORT HAYS										
7,657.1	76.09	180.00	7,305.0	-2,315.00	383.5	-236.3	-368.1	8.00	8.00	0.00
7,700.0	79.52	180.00	7,314.1	-2,324.06	341.5	-236.3	-326.2	8.00	8.00	0.00
7,800.0	87.52	180.00	7,325.3	-2,335.33	242.2	-236.3	-227.1	8.00	8.00	0.00

Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well OLSON 30M-403
Company:	PDC ENERGY	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Project:	WELD COUNTY, COLORADO	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site:	NW NE SEC 30 T4N R67W 6th P.M.	North Reference:	True
Well:	OLSON 30M-403	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)
CODELL										
7,829.5	90.08	180.00	7,326.0	-2,336.00	212.8	-236.3	-197.7	8.67	8.67	0.00
7" ICP *NEW*: 782.2ft FNL & 2625.9ft FEL of Sec 30										
7,832.0	90.08	180.00	7,326.0	-2,336.00	210.3	-236.3	-195.2	0.00	0.00	0.00
7,900.0	90.08	180.00	7,325.9	-2,335.90	142.3	-236.3	-127.3	0.00	0.00	0.00
8,000.0	90.08	180.00	7,325.8	-2,335.76	42.3	-236.3	-27.5	0.00	0.00	0.00
8,100.0	90.08	180.00	7,325.6	-2,335.62	-57.7	-236.3	72.3	0.00	0.00	0.00
8,200.0	90.08	180.00	7,325.5	-2,335.48	-157.7	-236.3	172.1	0.00	0.00	0.00
8,300.0	90.08	180.00	7,325.3	-2,335.34	-257.7	-236.3	271.9	0.00	0.00	0.00
8,400.0	90.08	180.00	7,325.2	-2,335.20	-357.7	-236.3	371.7	0.00	0.00	0.00
8,500.0	90.08	180.00	7,325.1	-2,335.05	-457.7	-236.3	471.5	0.00	0.00	0.00
8,600.0	90.08	180.00	7,324.9	-2,334.91	-557.7	-236.3	571.3	0.00	0.00	0.00
8,700.0	90.08	180.00	7,324.8	-2,334.77	-657.7	-236.3	671.1	0.00	0.00	0.00
8,800.0	90.08	180.00	7,324.6	-2,334.62	-757.7	-236.3	770.9	0.00	0.00	0.00
8,900.0	90.08	180.00	7,324.5	-2,334.48	-857.7	-236.3	870.7	0.00	0.00	0.00
9,000.0	90.08	180.00	7,324.3	-2,334.33	-957.7	-236.3	970.5	0.00	0.00	0.00
9,100.0	90.08	180.00	7,324.2	-2,334.19	-1,057.7	-236.3	1,070.3	0.00	0.00	0.00
9,200.0	90.08	180.00	7,324.0	-2,334.04	-1,157.7	-236.3	1,170.2	0.00	0.00	0.00
9,300.0	90.08	180.00	7,323.9	-2,333.90	-1,257.7	-236.3	1,270.0	0.00	0.00	0.00
9,400.0	90.08	180.00	7,323.7	-2,333.75	-1,357.7	-236.3	1,369.8	0.00	0.00	0.00
9,500.0	90.08	180.00	7,323.6	-2,333.60	-1,457.7	-236.3	1,469.6	0.00	0.00	0.00
9,600.0	90.08	180.00	7,323.5	-2,333.45	-1,557.7	-236.3	1,569.4	0.00	0.00	0.00
9,700.0	90.09	180.00	7,323.3	-2,333.30	-1,657.7	-236.3	1,669.2	0.00	0.00	0.00
9,800.0	90.09	180.00	7,323.2	-2,333.16	-1,757.7	-236.3	1,769.0	0.00	0.00	0.00
9,900.0	90.09	180.00	7,323.0	-2,333.01	-1,857.7	-236.3	1,868.8	0.00	0.00	0.00
10,000.0	90.09	180.00	7,322.9	-2,332.86	-1,957.7	-236.3	1,968.6	0.00	0.00	0.00
10,100.0	90.09	180.00	7,322.7	-2,332.71	-2,057.7	-236.3	2,068.4	0.00	0.00	0.00
10,200.0	90.09	180.00	7,322.6	-2,332.56	-2,157.7	-236.3	2,168.2	0.00	0.00	0.00
10,300.0	90.09	180.00	7,322.4	-2,332.40	-2,257.7	-236.3	2,268.0	0.00	0.00	0.00
10,400.0	90.09	180.00	7,322.3	-2,332.25	-2,357.7	-236.3	2,367.9	0.00	0.00	0.00
10,500.0	90.09	180.00	7,322.1	-2,332.10	-2,457.7	-236.3	2,467.7	0.00	0.00	0.00
10,600.0	90.09	180.00	7,321.9	-2,331.95	-2,557.7	-236.3	2,567.5	0.00	0.00	0.00
10,700.0	90.09	180.00	7,321.8	-2,331.79	-2,657.7	-236.3	2,667.3	0.00	0.00	0.00
10,800.0	90.09	180.00	7,321.6	-2,331.64	-2,757.7	-236.3	2,767.1	0.00	0.00	0.00
10,900.0	90.09	180.00	7,321.5	-2,331.49	-2,857.7	-236.3	2,866.9	0.00	0.00	0.00
11,000.0	90.09	180.00	7,321.3	-2,331.33	-2,957.7	-236.3	2,966.7	0.00	0.00	0.00
11,100.0	90.09	180.00	7,321.2	-2,331.18	-3,057.7	-236.3	3,066.5	0.00	0.00	0.00
11,200.0	90.09	180.00	7,321.0	-2,331.02	-3,157.7	-236.3	3,166.3	0.00	0.00	0.00
11,300.0	90.09	180.00	7,320.9	-2,330.87	-3,257.7	-236.3	3,266.1	0.00	0.00	0.00
11,400.0	90.09	180.00	7,320.7	-2,330.71	-3,357.7	-236.3	3,365.9	0.00	0.00	0.00
11,500.0	90.09	180.00	7,320.6	-2,330.55	-3,457.7	-236.3	3,465.7	0.00	0.00	0.00
11,600.0	90.09	180.00	7,320.4	-2,330.39	-3,557.7	-236.3	3,565.5	0.00	0.00	0.00
11,700.0	90.09	180.00	7,320.2	-2,330.24	-3,657.7	-236.3	3,665.4	0.00	0.00	0.00
11,800.0	90.09	180.00	7,320.1	-2,330.08	-3,757.7	-236.3	3,765.2	0.00	0.00	0.00
BHL: 500ft FNL & 2620ft FEL of Sec 30										
11,849.2	90.09	180.00	7,320.0	-2,330.00	-3,806.9	-236.3	3,814.3	0.00	0.00	0.00



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well OLSON 30M-403
Company:	PDC ENERGY	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Project:	WELD COUNTY, COLORADO	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site:	NW NE SEC 30 T4N R67W 6th P.M.	North Reference:	True
Well:	OLSON 30M-403	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #2		

Formations					
MD (usft)	TVD (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,653.4	3,614.0	PARKMAN		0.00	
4,148.2	4,098.0	SUSSEX		0.00	
4,713.5	4,651.0	SHANNON		0.00	
6,983.0	6,880.0	SHARON SPRINGS		0.00	
7,145.2	7,022.0	NIOBRARA A		0.00	
7,250.0	7,103.0	NIOBRARA B		0.00	
7,360.6	7,177.0	NIOBRARA C		0.00	
7,657.1	7,305.0	FORT HAYS		0.00	
7,829.5	7,326.0	CODELL		0.00	

Plan Annotations				
MD (usft)	TVD (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
0.0	0.0	0.0	0.0	SHL: 983ft FNL & 2389ft FEL of Sec 30
1,450.0	1,450.0	0.0	0.0	START NUDGE (2°/100ft BUR)
2,049.8	2,045.4	60.6	-15.4	EOB TO 12° INC
6,053.2	5,961.4	866.9	-220.9	END OF TANGENT
6,653.0	6,556.8	927.5	-236.3	EOD TO VERTICAL
6,706.0	6,609.8	927.5	-236.3	KOP (8°/100ft BUR)
7,832.0	7,326.0	210.3	-236.3	7" ICP *NEW*: 782.2ft FNL & 2625.9ft FEL of Sec 30
11,849.2	7,320.0	-3,806.9	-236.3	BHL: 500ft FNL & 2620ft FEL of Sec 30