

# **PDC ENERGY**

**WELD COUNTY, COLORADO  
NW NE SEC 30 T4N R67W 6th P.M.  
OLSON 30R-343**

## **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-343  
Wellbore: ORIGINAL WELLBORE  
Design: PROPOSAL #2

#### ANNOTATIONS

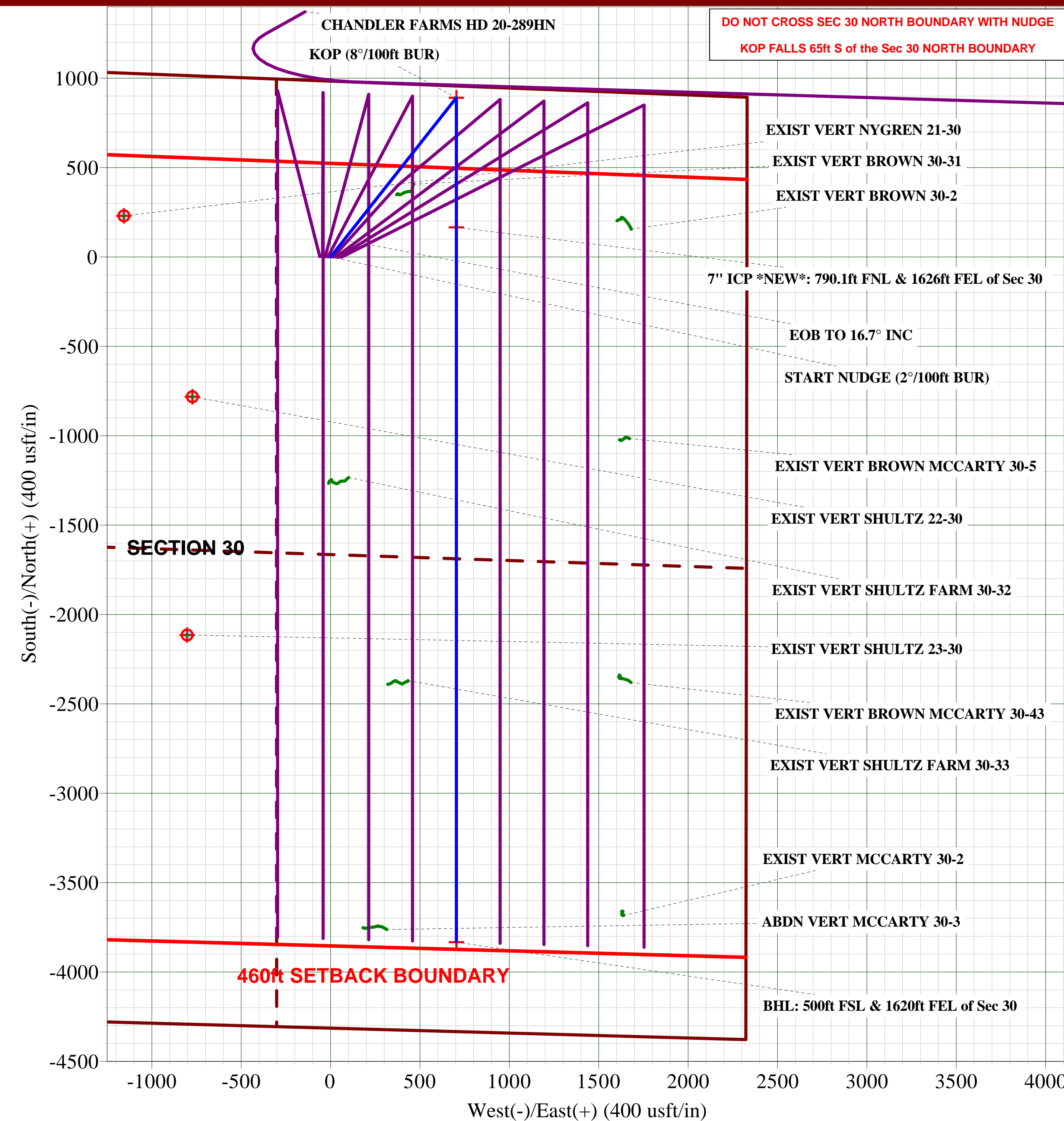
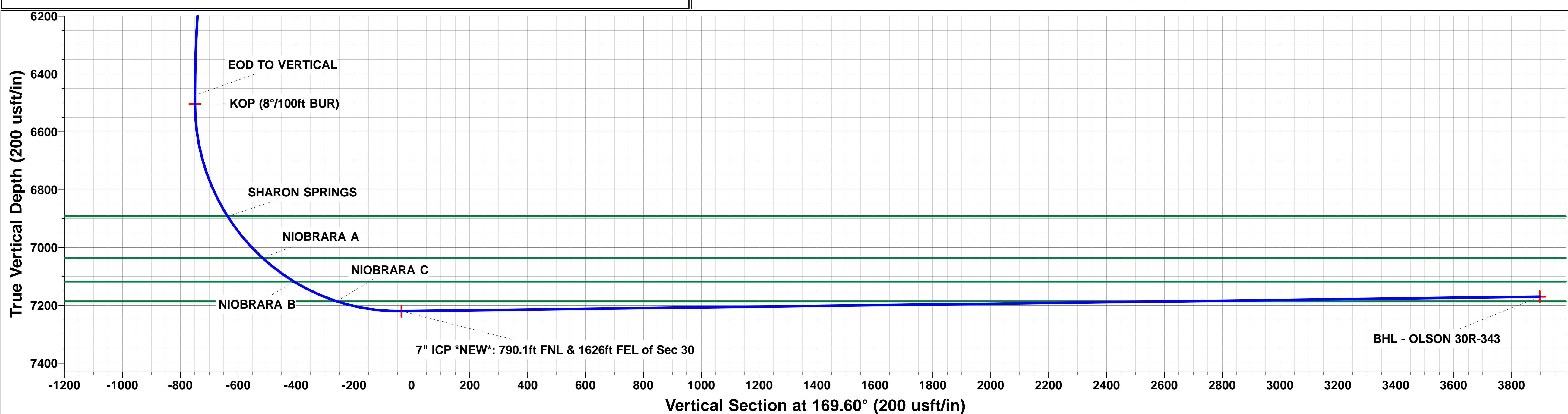
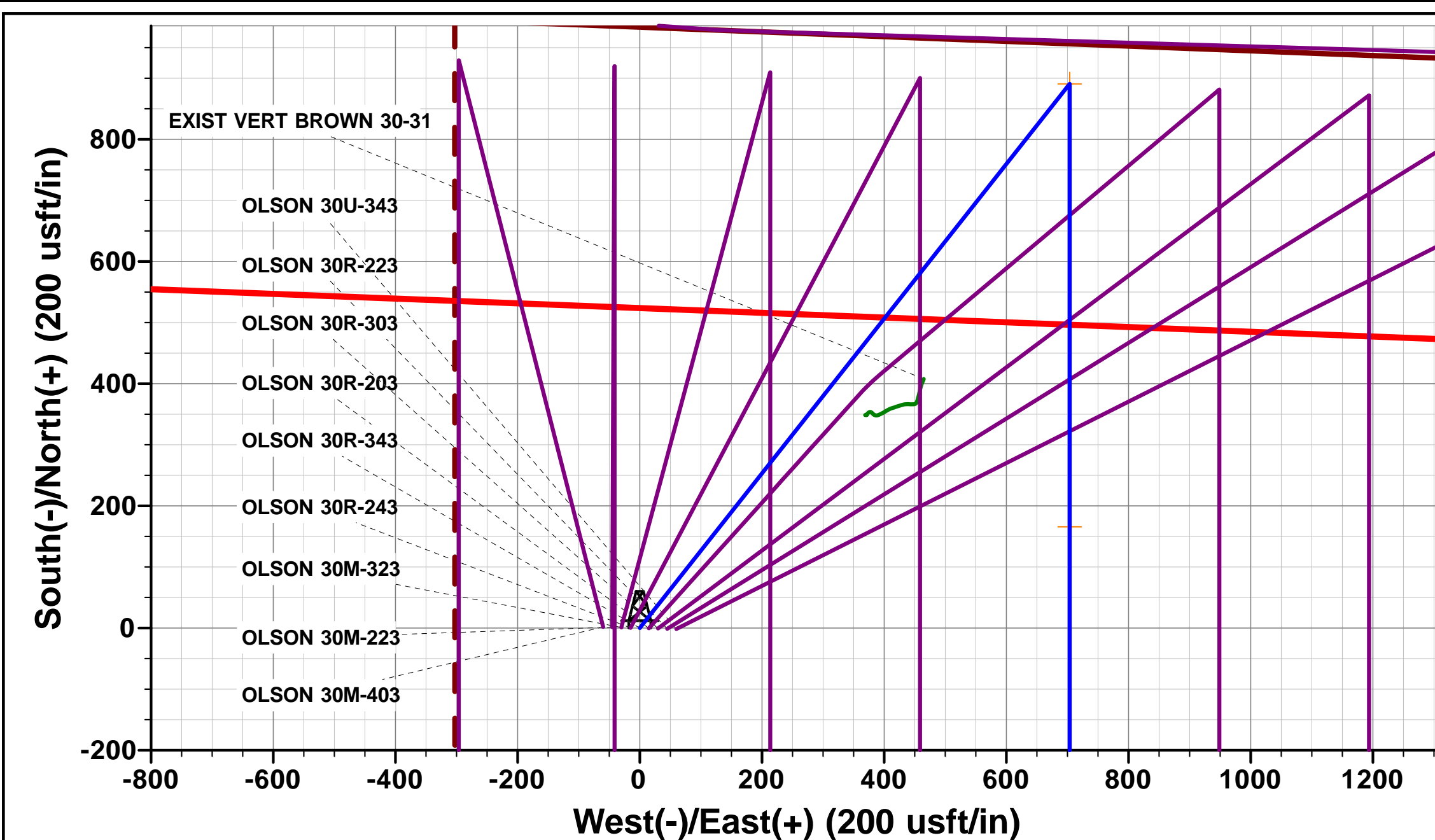
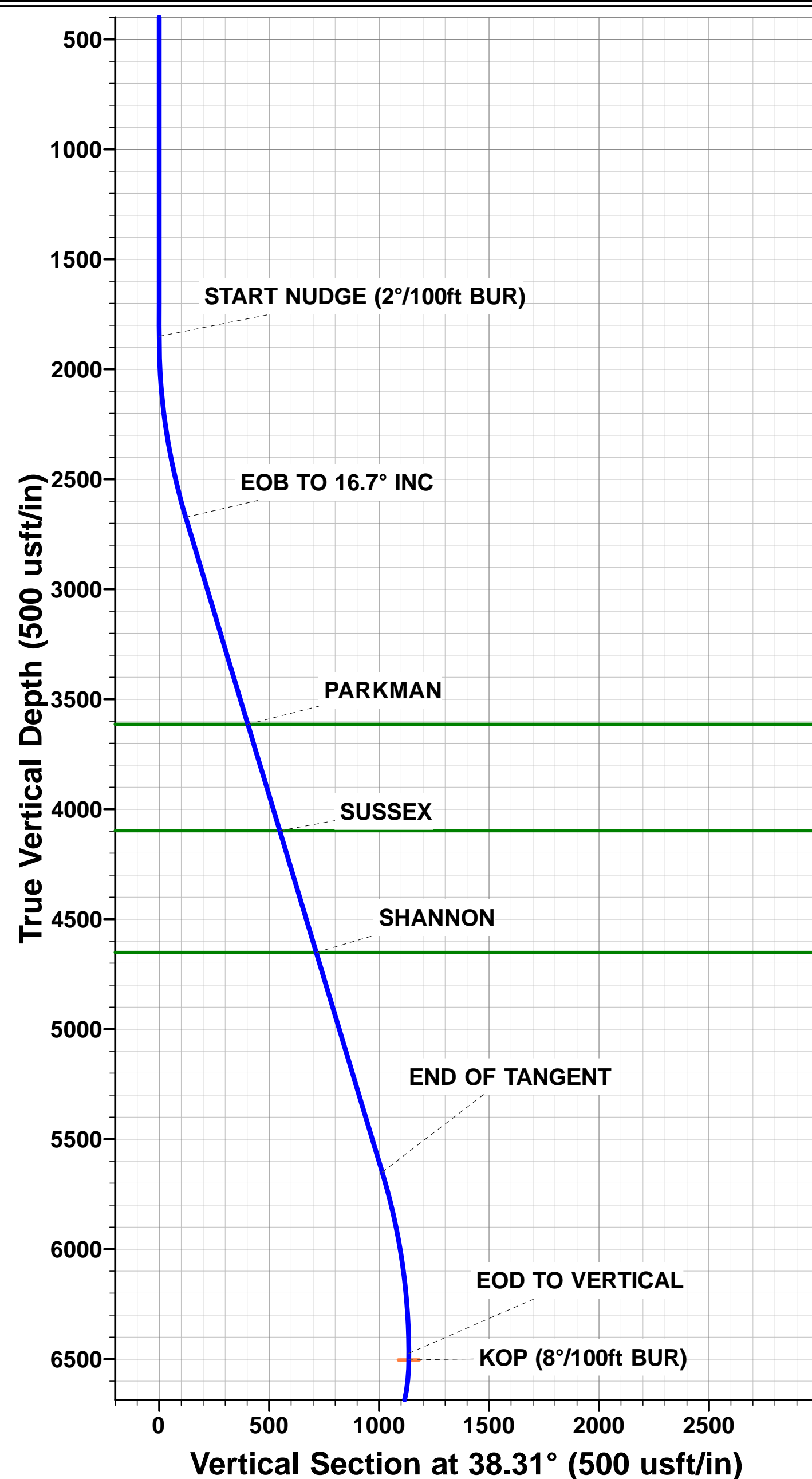
TVD	MD	Inc	Azi	+N/-S	+E/-W	VSect	Dep	Annotation
0.0	0.0	0.00	0.00	0.0	0.0	0.0	0.0	SHL: 983ft FNL & 2329ft FEL of Sec 30
1850.0	1850.0	0.00	0.00	0.0	0.0	0.0	0.0	START NUDGE (2°/100ft BUR)
2673.4	2685.2	16.70	38.31	94.9	74.9	-79.8	120.9	EOB TO 16.7° INC
5650.4	5793.4	16.70	38.31	795.9	628.8	-669.3	1014.3	END OF TANGENT
6473.9	6628.6	0.00	38.31	890.8	703.7	-749.1	1135.2	EOD TO VERTICAL
6503.9	6658.6	0.00	0.00	890.8	703.7	-749.1	1135.2	KOP (8°/100ft BUR)
7220.0	7792.5	90.71	180.00	165.7	703.7	-35.9	1860.3	7" ICP *NEW*: 790.1ft FNL & 1626ft FEL of Sec 30
7170.0	11791.4	90.72	180.00	-3832.8	703.7	3896.9	5858.8	BHL: 500ft FSL & 1620ft FEL of Sec 30

#### PROPOSED LOCAL COORDINATES:

SHL: 983ft FNL & 2329t FEL Sec 30  
7" ICP \*NEW\*: 790.1ft FNL & 1626ft FEL Sec 30  
BHL: 500ft FSL & 1620ft FEL Sec 30

#### WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
KOP - OLSON 30R-343 (P2)	6503.9	890.8	703.7	40.291462	-104.928885
BHL - OLSON 30R-343	7170.0	-3832.8	703.7	40.278496	-104.928886
7" ICP *NEW* - OLSON 30R-343 (P2)	7220.0	165.7	703.7	40.289472	-104.928886



# Planning Report



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well OLSON 30R-343
<b>Company:</b>	PDC ENERGY	<b>TVD Reference:</b>	KB-EST @ 4990.0usft (Original Well Elev)
<b>Project:</b>	WELD COUNTY, COLORADO	<b>MD Reference:</b>	KB-EST @ 4990.0usft (Original Well Elev)
<b>Site:</b>	NW NE SEC 30 T4N R67W 6th P.M.	<b>North Reference:</b>	True
<b>Well:</b>	OLSON 30R-343	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	PROPOSAL #2		

<b>Project</b>	WELD COUNTY, COLORADO		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	Colorado Northern Zone		Using geodetic scale factor

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

<b>Well</b>	OLSON 30R-343		
<b>Well Position</b>	<b>+N-S</b>	1.4 usft	<b>Northing:</b>
	<b>+E-W</b>	-60.0 usft	<b>Easting:</b>
<b>Position Uncertainty</b>		0.0 usft	<b>Wellhead Elevation:</b>
			usft
			<b>Latitude:</b>
			40.289017
			<b>Longitude:</b>
			-104.931408
			<b>Ground Level:</b>
			4,967.0 usft

<b>Wellbore</b>	ORIGINAL WELLBORE				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2015	25/02/2016	8.43	66.77	52,465

<b>Design</b>	PROPOSAL #2			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PROTOTYPE	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N-S (usft)</b>	<b>+E-W (usft)</b>	<b>Direction (°)</b>
	0.0	0.0	0.0	169.60

<b>Plan Sections</b>											
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	
1,850.0	0.00	0.00	1,850.0	-3,140.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,685.2	16.70	38.31	2,673.5	-2,316.5	94.9	74.9	2.00	2.00	0.00	38.31	
5,793.4	16.70	38.31	5,650.4	660.4	795.9	628.8	0.00	0.00	0.00	0.00	
6,628.6	0.00	0.00	6,473.9	1,483.9	890.8	703.7	2.00	-2.00	0.00	180.00	
6,658.6	0.00	0.00	6,503.9	1,513.9	890.8	703.7	0.00	0.00	0.00	0.00	KOP - OLSON 30R
7,792.5	90.71	180.00	7,220.0	2,230.0	165.7	703.7	8.00	8.00	0.00	180.00	
11,791.4	90.72	180.00	7,170.0	2,180.0	-3,832.8	703.7	0.00	0.00	0.00	0.91	BHL - OLSON 30R-

# Planning Report



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well OLSON 30R-343
<b>Company:</b>	PDC ENERGY	<b>TVD Reference:</b>	KB-EST @ 4990.0usft (Original Well Elev)
<b>Project:</b>	WELD COUNTY, COLORADO	<b>MD Reference:</b>	KB-EST @ 4990.0usft (Original Well Elev)
<b>Site:</b>	NW NE SEC 30 T4N R67W 6th P.M.	<b>North Reference:</b>	True
<b>Well:</b>	OLSON 30R-343	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	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)
<b>SHL: 983ft FNL &amp; 2329ft FEL of Sec 30</b>										
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
1,500.0	0.00	0.00	1,500.0	3,490.00	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	3,390.00	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	0.00	0.00	1,700.0	3,290.00	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	3,190.00	0.0	0.0	0.0	0.00	0.00	0.00
<b>START NUDGE (2°/100ft BUR)</b>										
1,850.0	0.00	0.00	1,850.0	3,140.00	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	1.00	38.31	1,900.0	3,090.00	0.3	0.3	-0.3	2.00	2.00	0.00
2,000.0	3.00	38.31	1,999.9	2,990.07	3.1	2.4	-2.6	2.00	2.00	0.00
2,100.0	5.00	38.31	2,099.7	2,890.32	8.6	6.8	-7.2	2.00	2.00	0.00
2,200.0	7.00	38.31	2,199.1	2,790.87	16.8	13.2	-14.1	2.00	2.00	0.00
2,300.0	9.00	38.31	2,298.2	2,691.85	27.7	21.9	-23.3	2.00	2.00	0.00
2,400.0	11.00	38.31	2,396.6	2,593.37	41.3	32.6	-34.7	2.00	2.00	0.00
2,500.0	13.00	38.31	2,494.4	2,495.56	57.6	45.5	-48.4	2.00	2.00	0.00
2,600.0	15.00	38.31	2,591.5	2,398.54	76.6	60.5	-64.4	2.00	2.00	0.00
<b>EOB TO 16.7° INC</b>										
2,685.2	16.70	38.31	2,673.4	2,316.58	94.9	74.9	-79.8	2.00	2.00	0.00
2,700.0	16.70	38.31	2,687.6	2,302.41	98.2	77.6	-82.6	0.01	0.01	0.00
2,800.0	16.70	38.31	2,783.4	2,206.63	120.8	95.4	-101.5	0.00	0.00	0.00
2,900.0	16.70	38.31	2,879.2	2,110.85	143.3	113.2	-120.5	0.00	0.00	0.00
3,000.0	16.70	38.31	2,974.9	2,015.07	165.9	131.0	-139.5	0.00	0.00	0.00
3,100.0	16.70	38.31	3,070.7	1,919.29	188.4	148.8	-158.4	0.00	0.00	0.00
3,200.0	16.70	38.31	3,166.5	1,823.51	211.0	166.7	-177.4	0.00	0.00	0.00
3,300.0	16.70	38.31	3,262.3	1,727.73	233.5	184.5	-196.4	0.00	0.00	0.00
3,400.0	16.70	38.31	3,358.1	1,631.95	256.1	202.3	-215.3	0.00	0.00	0.00
3,500.0	16.70	38.31	3,453.8	1,536.17	278.6	220.1	-234.3	0.00	0.00	0.00
3,600.0	16.70	38.31	3,549.6	1,440.39	301.2	237.9	-253.3	0.00	0.00	0.00
<b>PARKMAN</b>										
3,667.2	16.70	38.31	3,614.0	1,376.00	316.4	249.9	-266.0	0.00	0.00	0.00
3,700.0	16.70	38.31	3,645.4	1,344.61	323.8	255.8	-272.2	0.00	0.00	0.00
3,800.0	16.70	38.31	3,741.2	1,248.83	346.3	273.6	-291.2	0.00	0.00	0.00
3,900.0	16.70	38.31	3,837.0	1,153.05	368.9	291.4	-310.2	0.00	0.00	0.00
4,000.0	16.70	38.31	3,932.7	1,057.27	391.4	309.2	-329.1	0.00	0.00	0.00
4,100.0	16.70	38.31	4,028.5	961.49	414.0	327.0	-348.1	0.00	0.00	0.00
<b>SUSSEX</b>										
4,172.6	16.70	38.31	4,098.0	892.00	430.3	340.0	-361.9	0.00	0.00	0.00
4,200.0	16.70	38.31	4,124.3	865.71	436.5	344.8	-367.1	0.00	0.00	0.00
4,300.0	16.70	38.31	4,220.1	769.93	459.1	362.7	-386.1	0.00	0.00	0.00
4,400.0	16.70	38.31	4,315.9	674.15	481.6	380.5	-405.0	0.00	0.00	0.00

# Planning Report



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<b>Project:</b>	WELD COUNTY, COLORADO	<b>MD Reference:</b>	KB-EST @ 4990.0usft (Original Well Elev)
<b>Site:</b>	NW NE SEC 30 T4N R67W 6th P.M.	<b>North Reference:</b>	True
<b>Well:</b>	OLSON 30R-343	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	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	16.70	38.31	4,411.6	578.37	504.2	398.3	-424.0	0.00	0.00	0.00
4,600.0	16.70	38.31	4,507.4	482.59	526.8	416.1	-443.0	0.00	0.00	0.00
4,700.0	16.70	38.31	4,603.2	386.81	549.3	433.9	-461.9	0.00	0.00	0.00
<b>SHANNON</b>										
<b>4,749.9</b>	<b>16.70</b>	<b>38.31</b>	<b>4,651.0</b>	<b>339.00</b>	<b>560.6</b>	<b>442.8</b>	<b>-471.4</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
4,800.0	16.70	38.31	4,699.0	291.03	571.9	451.8	-480.9	0.00	0.00	0.00
4,900.0	16.70	38.31	4,794.7	195.25	594.4	469.6	-499.9	0.00	0.00	0.00
5,000.0	16.70	38.31	4,890.5	99.47	617.0	487.4	-518.8	0.00	0.00	0.00
5,100.0	16.70	38.31	4,986.3	3.69	639.5	505.2	-537.8	0.00	0.00	0.00
5,200.0	16.70	38.31	5,082.1	-92.09	662.1	523.0	-556.8	0.00	0.00	0.00
5,300.0	16.70	38.31	5,177.9	-187.87	684.6	540.8	-575.7	0.00	0.00	0.00
5,400.0	16.70	38.31	5,273.6	-283.65	707.2	558.7	-594.7	0.00	0.00	0.00
5,500.0	16.70	38.31	5,369.4	-379.43	729.8	576.5	-613.7	0.00	0.00	0.00
5,600.0	16.70	38.31	5,465.2	-475.21	752.3	594.3	-632.6	0.00	0.00	0.00
5,700.0	16.70	38.31	5,561.0	-570.99	774.9	612.1	-651.6	0.00	0.00	0.00
<b>END OF TANGENT</b>										
<b>5,793.4</b>	<b>16.70</b>	<b>38.31</b>	<b>5,650.4</b>	<b>-660.45</b>	<b>795.9</b>	<b>628.8</b>	<b>-669.3</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
5,800.0	16.57	38.31	5,656.8	-666.77	797.4	629.9	-670.6	2.00	-2.00	0.00
5,900.0	14.57	38.31	5,753.1	-763.09	818.5	646.6	-688.3	2.00	-2.00	0.00
6,000.0	12.57	38.31	5,850.3	-860.30	836.9	661.1	-703.8	2.00	-2.00	0.00
6,100.0	10.57	38.31	5,948.3	-958.26	852.6	673.6	-717.0	2.00	-2.00	0.00
6,200.0	8.57	38.31	6,046.9	-1,056.86	865.7	683.9	-728.0	2.00	-2.00	0.00
6,300.0	6.57	38.31	6,146.0	-1,155.98	876.0	692.0	-736.7	2.00	-2.00	0.00
6,400.0	4.57	38.31	6,245.5	-1,255.51	883.6	698.0	-743.1	2.00	-2.00	0.00
6,500.0	2.57	38.31	6,345.3	-1,355.31	888.5	701.9	-747.2	2.00	-2.00	0.00
6,600.0	0.57	38.31	6,445.3	-1,455.26	890.7	703.6	-749.0	2.00	-2.00	0.00
<b>EOD TO VERTICAL</b>										
<b>6,628.6</b>	<b>0.00</b>	<b>38.31</b>	<b>6,473.9</b>	<b>-1,483.86</b>	<b>890.8</b>	<b>703.7</b>	<b>-749.1</b>	<b>2.00</b>	<b>-2.00</b>	<b>0.00</b>
<b>KOP (8°/100ft BUR)</b>										
<b>6,658.6</b>	<b>0.00</b>	<b>0.00</b>	<b>6,503.9</b>	<b>-1,513.86</b>	<b>890.8</b>	<b>703.7</b>	<b>-749.1</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
6,700.0	3.31	180.00	6,545.2	-1,555.24	889.6	703.7	-747.9	7.99	7.99	0.00
6,800.0	11.31	180.00	6,644.3	-1,654.35	876.9	703.7	-735.4	8.00	8.00	0.00
6,900.0	19.31	180.00	6,740.7	-1,750.72	850.5	703.7	-709.5	8.00	8.00	0.00
7,000.0	27.31	180.00	6,832.5	-1,842.48	811.0	703.7	-670.6	8.00	8.00	0.00
<b>SHARON SPRINGS</b>										
<b>7,068.8</b>	<b>32.81</b>	<b>180.00</b>	<b>6,892.0</b>	<b>-1,902.00</b>	<b>776.5</b>	<b>703.7</b>	<b>-636.7</b>	<b>8.00</b>	<b>8.00</b>	<b>0.00</b>
7,100.0	35.31	180.00	6,917.9	-1,927.85	759.1	703.7	-619.5	8.00	8.00	0.00
7,200.0	43.31	180.00	6,995.2	-2,005.16	695.8	703.7	-557.2	8.00	8.00	0.00
<b>NIOBRARA A</b>										
<b>7,258.4</b>	<b>47.98</b>	<b>180.00</b>	<b>7,036.0</b>	<b>-2,046.00</b>	<b>654.0</b>	<b>703.7</b>	<b>-516.2</b>	<b>8.00</b>	<b>8.00</b>	<b>0.00</b>
7,300.0	51.31	180.00	7,062.9	-2,072.91	622.3	703.7	-485.0	8.00	8.00	0.00
<b>NIOBRARA B</b>										
<b>7,396.5</b>	<b>59.03</b>	<b>180.00</b>	<b>7,118.0</b>	<b>-2,128.00</b>	<b>543.1</b>	<b>703.7</b>	<b>-407.1</b>	<b>8.00</b>	<b>8.00</b>	<b>0.00</b>
7,400.0	59.31	180.00	7,119.8	-2,129.78	540.2	703.7	-404.2	8.00	8.00	0.00
7,500.0	67.31	180.00	7,164.7	-2,174.66	450.9	703.7	-316.4	8.00	8.00	0.00
<b>NIOBRARA C</b>										
<b>7,561.8</b>	<b>72.25</b>	<b>180.00</b>	<b>7,186.0</b>	<b>-2,196.00</b>	<b>393.0</b>	<b>703.7</b>	<b>-259.4</b>	<b>8.00</b>	<b>8.00</b>	<b>0.00</b>
7,600.0	75.31	180.00	7,196.7	-2,206.68	356.2	703.7	-223.3	8.00	8.00	0.00
7,700.0	83.31	180.00	7,215.2	-2,225.22	258.1	703.7	-126.7	8.00	8.00	0.00
<b>7" ICP *NEW*: 790.1ft FNL &amp; 1626ft FEL of Sec 30</b>										
<b>7,792.5</b>	<b>90.71</b>	<b>180.00</b>	<b>7,220.0</b>	<b>-2,230.04</b>	<b>165.7</b>	<b>703.7</b>	<b>-35.9</b>	<b>8.00</b>	<b>8.00</b>	<b>0.00</b>
7,800.0	90.71	180.00	7,219.9	-2,229.95	158.2	703.7	-28.6	0.01	0.01	0.00
7,900.0	90.71	180.00	7,218.7	-2,228.71	58.2	703.7	69.8	0.00	0.00	0.00



# Planning Report



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well OLSON 30R-343
<b>Company:</b>	PDC ENERGY	<b>TVD Reference:</b>	KB-EST @ 4990.0usft (Original Well Elev)
<b>Project:</b>	WELD COUNTY, COLORADO	<b>MD Reference:</b>	KB-EST @ 4990.0usft (Original Well Elev)
<b>Site:</b>	NW NE SEC 30 T4N R67W 6th P.M.	<b>North Reference:</b>	True
<b>Well:</b>	OLSON 30R-343	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	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)
8,000.0	90.71	180.00	7,217.5	-2,227.47	-41.7	703.7	168.1	0.00	0.00	0.00
8,100.0	90.71	180.00	7,216.2	-2,226.23	-141.7	703.7	266.5	0.00	0.00	0.00
8,200.0	90.71	180.00	7,215.0	-2,224.99	-241.7	703.7	364.8	0.00	0.00	0.00
8,300.0	90.71	180.00	7,213.7	-2,223.75	-341.7	703.7	463.2	0.00	0.00	0.00
8,400.0	90.71	180.00	7,212.5	-2,222.50	-441.7	703.7	561.5	0.00	0.00	0.00
8,500.0	90.71	180.00	7,211.3	-2,221.26	-541.7	703.7	659.9	0.00	0.00	0.00
8,600.0	90.71	180.00	7,210.0	-2,220.02	-641.7	703.7	758.2	0.00	0.00	0.00
8,700.0	90.71	180.00	7,208.8	-2,218.77	-741.7	703.7	856.6	0.00	0.00	0.00
8,800.0	90.71	180.00	7,207.5	-2,217.53	-841.7	703.7	954.9	0.00	0.00	0.00
8,900.0	90.71	180.00	7,206.3	-2,216.28	-941.7	703.7	1,053.3	0.00	0.00	0.00
9,000.0	90.71	180.00	7,205.0	-2,215.03	-1,041.7	703.7	1,151.6	0.00	0.00	0.00
9,100.0	90.71	180.00	7,203.8	-2,213.79	-1,141.7	703.7	1,250.0	0.00	0.00	0.00
9,200.0	90.71	180.00	7,202.5	-2,212.54	-1,241.7	703.7	1,348.3	0.00	0.00	0.00
9,300.0	90.72	180.00	7,201.3	-2,211.29	-1,341.6	703.7	1,446.7	0.00	0.00	0.00
9,400.0	90.72	180.00	7,200.0	-2,210.04	-1,441.6	703.7	1,545.0	0.00	0.00	0.00
9,500.0	90.72	180.00	7,198.8	-2,208.79	-1,541.6	703.7	1,643.4	0.00	0.00	0.00
9,600.0	90.72	180.00	7,197.5	-2,207.54	-1,641.6	703.7	1,741.7	0.00	0.00	0.00
9,700.0	90.72	180.00	7,196.3	-2,206.29	-1,741.6	703.7	1,840.1	0.00	0.00	0.00
9,800.0	90.72	180.00	7,195.0	-2,205.04	-1,841.6	703.7	1,938.4	0.00	0.00	0.00
9,900.0	90.72	180.00	7,193.8	-2,203.79	-1,941.6	703.7	2,036.7	0.00	0.00	0.00
10,000.0	90.72	180.00	7,192.5	-2,202.54	-2,041.6	703.7	2,135.1	0.00	0.00	0.00
10,100.0	90.72	180.00	7,191.3	-2,201.29	-2,141.6	703.7	2,233.4	0.00	0.00	0.00
10,200.0	90.72	180.00	7,190.0	-2,200.03	-2,241.6	703.7	2,331.8	0.00	0.00	0.00
10,300.0	90.72	180.00	7,188.8	-2,198.78	-2,341.6	703.7	2,430.1	0.00	0.00	0.00
10,400.0	90.72	180.00	7,187.5	-2,197.52	-2,441.6	703.7	2,528.5	0.00	0.00	0.00
10,500.0	90.72	180.00	7,186.3	-2,196.27	-2,541.5	703.7	2,626.8	0.00	0.00	0.00
10,600.0	90.72	180.00	7,185.0	-2,195.01	-2,641.5	703.7	2,725.2	0.00	0.00	0.00
10,700.0	90.72	180.00	7,183.8	-2,193.75	-2,741.5	703.7	2,823.5	0.00	0.00	0.00
10,800.0	90.72	180.00	7,182.5	-2,192.50	-2,841.5	703.7	2,921.9	0.00	0.00	0.00
10,900.0	90.72	180.00	7,181.2	-2,191.24	-2,941.5	703.7	3,020.2	0.00	0.00	0.00
11,000.0	90.72	180.00	7,180.0	-2,189.98	-3,041.5	703.7	3,118.6	0.00	0.00	0.00
11,100.0	90.72	180.00	7,178.7	-2,188.72	-3,141.5	703.7	3,216.9	0.00	0.00	0.00
11,200.0	90.72	180.00	7,177.5	-2,187.46	-3,241.5	703.7	3,315.3	0.00	0.00	0.00
11,300.0	90.72	180.00	7,176.2	-2,186.20	-3,341.5	703.7	3,413.6	0.00	0.00	0.00
11,400.0	90.72	180.00	7,174.9	-2,184.94	-3,441.5	703.7	3,512.0	0.00	0.00	0.00
11,500.0	90.72	180.00	7,173.7	-2,183.68	-3,541.5	703.7	3,610.3	0.00	0.00	0.00
11,600.0	90.72	180.00	7,172.4	-2,182.42	-3,641.5	703.7	3,708.7	0.00	0.00	0.00
11,700.0	90.72	180.00	7,171.2	-2,181.15	-3,741.5	703.7	3,807.0	0.00	0.00	0.00
<b>BHL: 500ft FSL &amp; 1620ft FEL of Sec 30</b>										
<b>11,791.4</b>	<b>90.72</b>	<b>180.00</b>	<b>7,170.0</b>	<b>-2,180.00</b>	<b>-3,832.8</b>	<b>703.7</b>	<b>3,896.9</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

# Planning Report



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well OLSON 30R-343
<b>Company:</b>	PDC ENERGY	<b>TVD Reference:</b>	KB-EST @ 4990.0usft (Original Well Elev)
<b>Project:</b>	WELD COUNTY, COLORADO	<b>MD Reference:</b>	KB-EST @ 4990.0usft (Original Well Elev)
<b>Site:</b>	NW NE SEC 30 T4N R67W 6th P.M.	<b>North Reference:</b>	True
<b>Well:</b>	OLSON 30R-343	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	PROPOSAL #2		

Formations					
MD (usft)	TVD (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,667.2	3,614.0	PARKMAN		0.00	
4,172.6	4,098.0	SUSSEX		0.00	
4,749.9	4,651.0	SHANNON		0.00	
7,068.8	6,892.0	SHARON SPRINGS		0.00	
7,258.4	7,036.0	NIOBRARA A		0.00	
7,396.5	7,118.0	NIOBRARA B		0.00	
7,561.8	7,186.0	NIOBRARA C		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 & 2329ft FEL of Sec 30
1,850.0	1,850.0	0.0	0.0	START NUDGE (2°/100ft BUR)
2,685.2	2,673.4	94.9	74.9	EOB TO 16.7° INC
5,793.4	5,650.4	795.9	628.8	END OF TANGENT
6,628.6	6,473.9	890.8	703.7	EOD TO VERTICAL
6,658.6	6,503.9	890.8	703.7	KOP (8°/100ft BUR)
7,792.5	7,220.0	165.7	703.7	7" ICP *NEW*: 790.1ft FNL & 1626ft FEL of Sec 30
11,791.4	7,170.0	-3,832.8	703.7	BHL: 500ft FSL & 1620ft FEL of Sec 30