

# **BISON OIL & GAS II, LLC**

**WELD COUNTY, COLORADO (NAD 83)**

**SW SW SEC. 20 T8N R59W 6th P.M.**

**WADE 8-59 20A-29-32-7**

**ORIGINAL WELLBORE**

**10 December, 2017**

**Plan: PROPOSAL #1**





Project: WELD COUNTY, COLORADO (NAD 83)  
Site: SW SW SEC. 20 T8N R59W 6th P.M.  
Well: WADE 8-59 20A-29-32-7  
Wellbore: ORIGINAL WELLBORE  
Design: PROPOSAL #1

ANNOTATIONS										
TVD	MD	Inc	Azi	+N/-S	+E/-W	VSect	Dep	Annotation		
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	SHL: 310ft FSL & 590ft FWL of Sec 20		
400.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00	START NUDGE (2°/100ft BUR)		
1242.96	1255.63	17.11	106.66	-36.36	121.51	48.07	126.83	EOB TO 17.11° INC		
4511.98	4676.07	17.11	106.66	-324.86	1085.73	429.50	1133.29	END OF TANGENT		
5354.94	5531.70	0.00	0.00	-361.22	1207.24	477.57	1260.12	EOD TO VERTICAL		
5454.94	5631.70	0.00	0.00	-361.22	1207.24	477.57	1260.12	KOP (10°/100ft BUR)		
6027.90	6531.69	90.00	180.94	-934.10	1197.84	1046.78	1833.08	BPI: 600ft FNL & 1799ft FWL of Sec 29		
6027.90	15881.16	90.00	180.93	-10282.32	1045.04	10335.23	11182.55	EPI: 600ft FSL & 1797ft FWL of Sec 32		
6027.90	16181.04	90.00	180.97	-10582.16	1040.05	10633.14	11482.43	BHL: 300ft FSL & 1799ft FWL of Sec 32		

PROPOSED LOCAL COORDINATES:

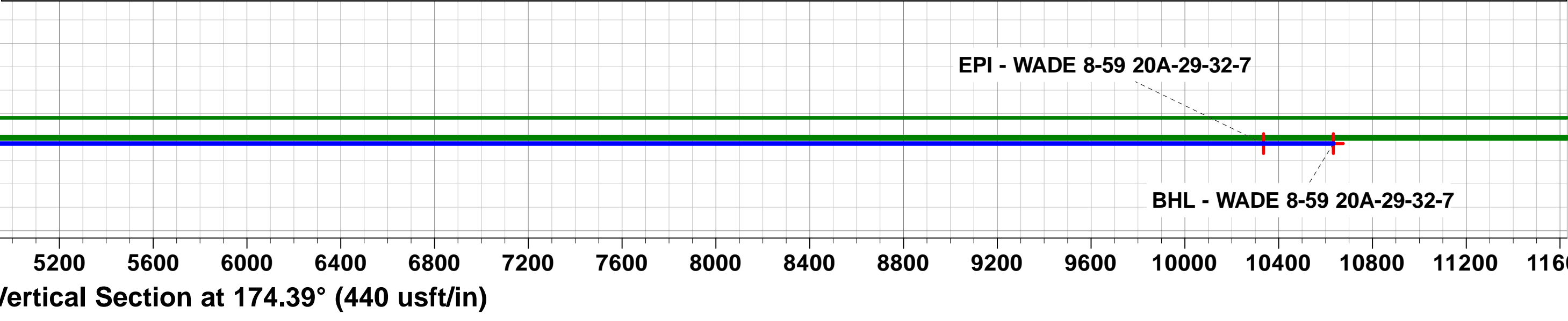
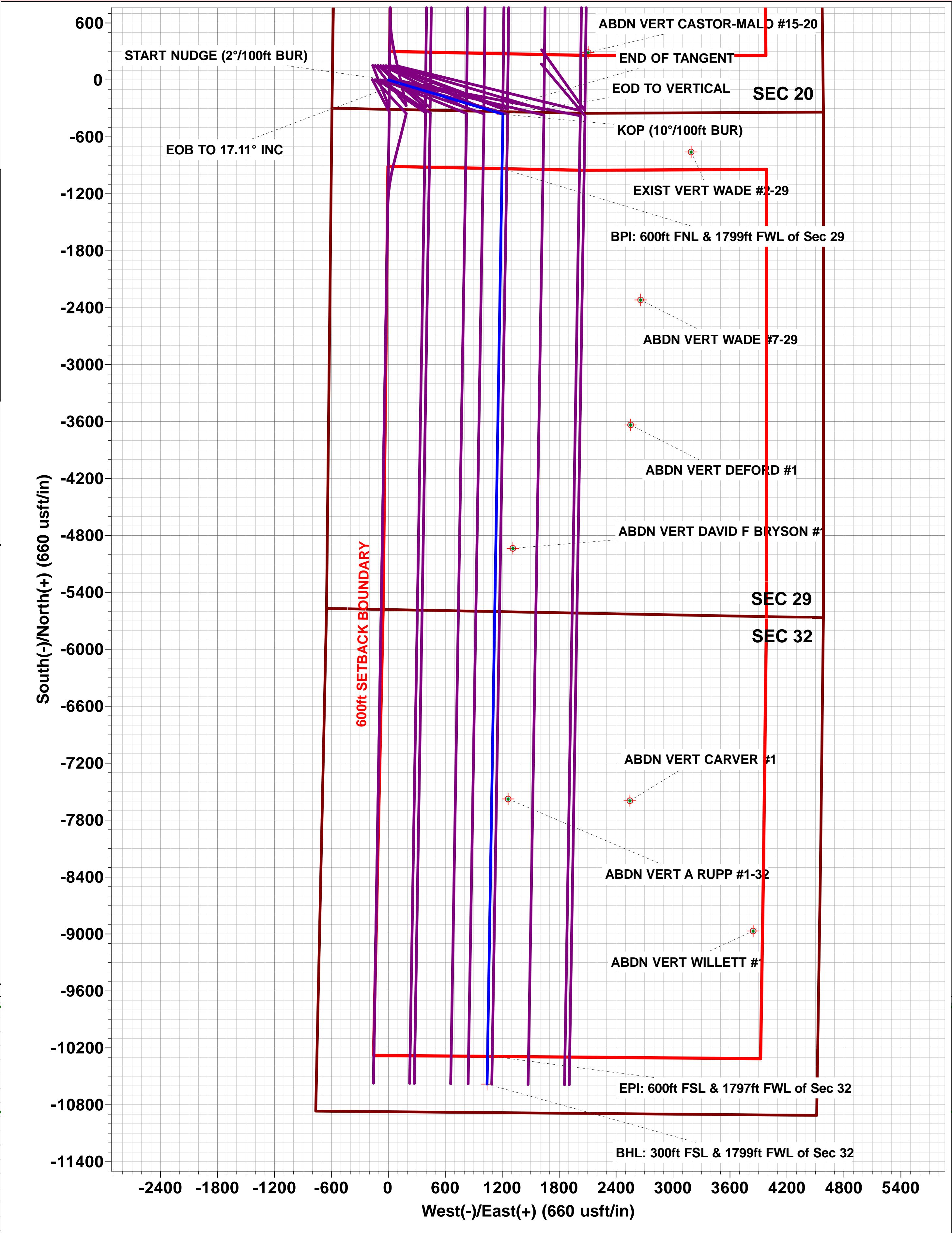
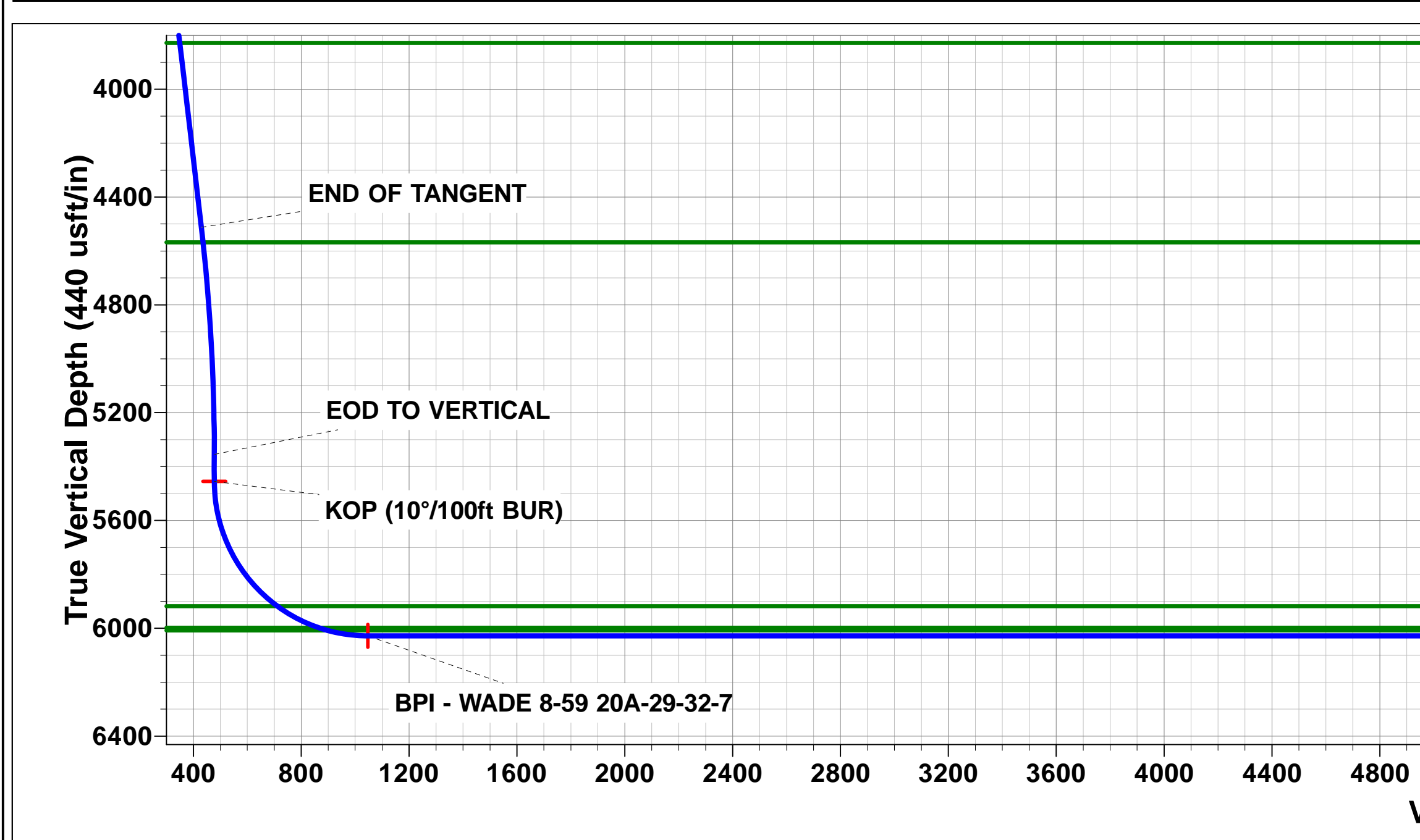
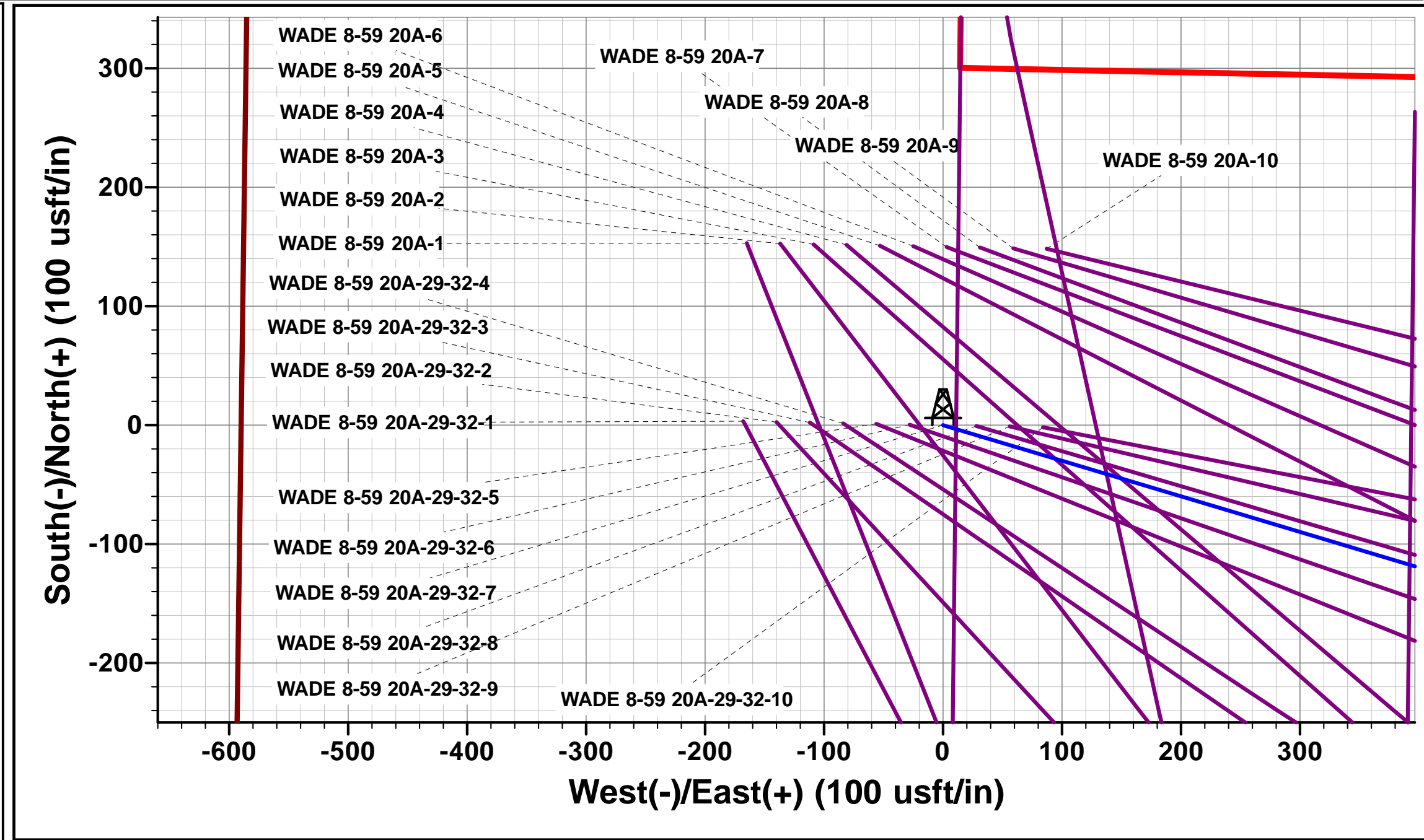
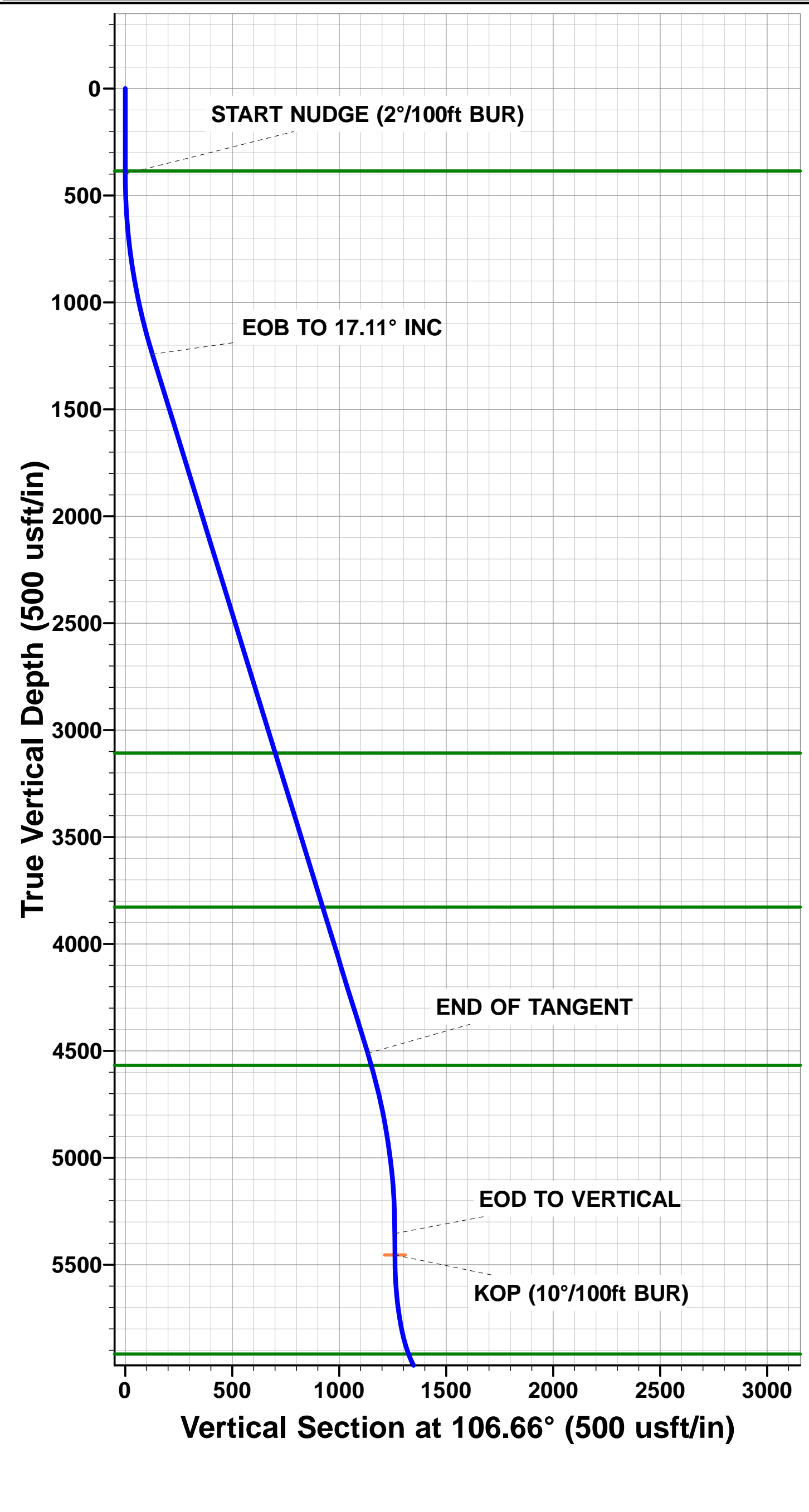
SHL: 310ft FSL & 590ft FWL Sec 20

BPI: 600ft FNL & 1799ft FWL Sec 29

EPI: 600ft FSL & 1797ft FWL Sec 32

BHL: 300ft FSL & 1799ft FWL of Sec 32

WELLBORE TARGET DETAILS (LAT/LONG)					
Name	TVD	+N/-S	+E/-W	Latitude	Longitude
KOP - WADE 8-59 20A-29-32-7	5454.94	-361.22	1207.24	40.640312	-104.004096
BPI - WADE 8-59 20A-29-32-7	6027.90	-934.10	1197.84	40.638740	-104.004130
EPI - WADE 8-59 20A-29-32-7	6027.90	-10282.32	1045.04	40.613081	-104.004682
BHL - WADE 8-59 20A-29-32-7	6027.90	-10582.16	1040.05	40.612258	-104.004700



# Planning Report



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well WADE 8-59 20A-29-32-7
<b>Company:</b>	BISON OIL & GAS II, LLC	<b>TVD Reference:</b>	KB-EST @ 4897.90usft (Original Well Elev)
<b>Project:</b>	WELD COUNTY, COLORADO (NAD 83)	<b>MD Reference:</b>	KB-EST @ 4897.90usft (Original Well Elev)
<b>Site:</b>	SW SW SEC. 20 T8N R59W 6th P.M.	<b>North Reference:</b>	True
<b>Well:</b>	WADE 8-59 20A-29-32-7	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	PROPOSAL #1		

<b>Project</b>	WELD COUNTY, COLORADO (NAD 83)		
<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>	SW SW SEC. 20 T8N R59W 6th P.M.		
<b>Site Position:</b>		<b>Northing:</b>	1,480,100.70 usft
<b>From:</b>	Lat/Long	<b>Easting:</b>	3,413,747.65 usft
<b>Position Uncertainty:</b>	0.00 usft	<b>Slot Radius:</b>	1.10000 ft
		<b>Latitude:</b>	40.641724
		<b>Longitude:</b>	-104.009040
		<b>Grid Convergence:</b>	0.96 °

<b>Well</b>	WADE 8-59 20A-29-32-7		
<b>Well Position</b>	<b>+N/-S</b>	-153.02 usft	<b>Northing:</b> 1,479,950.47 usft
	<b>+E/-W</b>	164.85 usft	<b>Easting:</b> 3,413,915.05 usft
<b>Position Uncertainty</b>	0.00 usft	<b>Wellhead Elevation:</b>	usft
		<b>Latitude:</b>	40.641304
		<b>Longitude:</b>	-104.008446
		<b>Ground Level:</b>	4,872.90 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	10/12/2017	7.77	67.15	52,538

<b>Design</b>	PROPOSAL #1			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PROTOTYPE	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>
	6,027.90	0.00	0.00	174.39

<b>Plan Sections</b>											
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
0.00	0.00	0.00	0.00	-4,897.90	0.00	0.00	0.00	0.00	0.00	0.00	
400.00	0.00	0.00	400.00	-4,497.90	0.00	0.00	0.00	0.00	0.00	0.00	
1,255.63	17.11	106.66	1,242.96	-3,654.94	-36.36	121.51	2.00	2.00	0.00	106.66	
4,676.07	17.11	106.66	4,511.98	-385.92	-324.86	1,085.73	0.00	0.00	0.00	0.00	
5,531.70	0.00	0.00	5,354.94	457.04	-361.22	1,207.24	2.00	-2.00	0.00	180.00	
5,631.70	0.00	0.00	5,454.94	557.04	-361.22	1,207.24	0.00	0.00	0.00	0.00	KOP - WADE 8-59 2
6,531.69	90.00	180.94	6,027.90	1,130.00	-934.10	1,197.84	10.00	10.00	-19.90	180.94	BPI - WADE 8-59 2
15,881.16	90.00	180.93	6,027.90	1,130.00	-10,282.32	1,045.04	0.00	0.00	0.00	-78.70	EPI - WADE 8-59 2
16,181.04	90.00	180.97	6,027.90	1,130.00	-10,582.16	1,040.05	0.01	0.00	0.01	92.03	BHL - WADE 8-59 2

# Planning Report



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well WADE 8-59 20A-29-32-7
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<b>Project:</b>	WELD COUNTY, COLORADO (NAD 83)	<b>MD Reference:</b>	KB-EST @ 4897.90usft (Original Well Elev)
<b>Site:</b>	SW SW SEC. 20 T8N R59W 6th P.M.	<b>North Reference:</b>	True
<b>Well:</b>	WADE 8-59 20A-29-32-7	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	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)
<b>SHL: 310ft FSL &amp; 590ft FWL of Sec 20</b>										
0.00	0.00	0.00	0.00	4,897.90	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	4,797.90	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	4,697.90	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	4,597.90	0.00	0.00	0.00	0.00	0.00	0.00
<b>PIERRE SHALE (BASE OF FOX HILLS)</b>										
385.90	0.00	0.00	385.90	4,512.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>START NUDGE (2°/100ft BUR)</b>										
400.00	0.00	0.00	400.00	4,497.90	0.00	0.00	0.00	0.00	0.00	0.00
500.00	2.00	106.66	499.98	4,397.92	-0.50	1.67	0.66	2.00	2.00	0.00
600.00	4.00	106.66	599.84	4,298.06	-2.00	6.69	2.64	2.00	2.00	0.00
700.00	6.00	106.66	699.45	4,198.45	-4.50	15.04	5.95	2.00	2.00	0.00
800.00	8.00	106.66	798.70	4,099.20	-7.99	26.71	10.57	2.00	2.00	0.00
900.00	10.00	106.66	897.47	4,000.43	-12.48	41.70	16.49	2.00	2.00	0.00
1,000.00	12.00	106.66	995.62	3,902.28	-17.95	59.98	23.73	2.00	2.00	0.00
1,100.00	14.00	106.66	1,093.06	3,804.84	-24.39	81.53	32.25	2.00	2.00	0.00
1,200.00	16.00	106.66	1,189.64	3,708.26	-31.81	106.32	42.06	2.00	2.00	0.00
<b>EOB TO 17.11° INC</b>										
1,255.63	17.11	106.66	1,242.96	3,654.94	-36.36	121.51	48.07	2.00	2.00	0.00
1,300.00	17.11	106.66	1,285.37	3,612.53	-40.10	134.01	53.01	0.00	0.00	0.00
1,400.00	17.11	106.66	1,380.94	3,516.96	-48.53	162.20	64.17	0.00	0.00	0.00
1,500.00	17.11	106.66	1,476.52	3,421.38	-56.97	190.39	75.32	0.00	0.00	0.00
1,600.00	17.11	106.66	1,572.09	3,325.81	-65.40	218.58	86.47	0.00	0.00	0.00
1,700.00	17.11	106.66	1,667.66	3,230.24	-73.84	246.78	97.62	0.00	0.00	0.00
1,800.00	17.11	106.66	1,763.24	3,134.66	-82.27	274.97	108.77	0.00	0.00	0.00
1,900.00	17.11	106.66	1,858.81	3,039.09	-90.71	303.16	119.93	0.00	0.00	0.00
2,000.00	17.11	106.66	1,954.38	2,943.52	-99.14	331.35	131.08	0.00	0.00	0.00
2,100.00	17.11	106.66	2,049.95	2,847.95	-107.58	359.54	142.23	0.00	0.00	0.00
2,200.00	17.11	106.66	2,145.53	2,752.37	-116.01	387.73	153.38	0.00	0.00	0.00
2,300.00	17.11	106.66	2,241.10	2,656.80	-124.45	415.92	164.53	0.00	0.00	0.00
2,400.00	17.11	106.66	2,336.67	2,561.23	-132.88	444.11	175.68	0.00	0.00	0.00
2,500.00	17.11	106.66	2,432.25	2,465.65	-141.32	472.30	186.84	0.00	0.00	0.00
2,600.00	17.11	106.66	2,527.82	2,370.08	-149.75	500.49	197.99	0.00	0.00	0.00
2,700.00	17.11	106.66	2,623.39	2,274.51	-158.19	528.68	209.14	0.00	0.00	0.00
2,800.00	17.11	106.66	2,718.96	2,178.94	-166.62	556.87	220.29	0.00	0.00	0.00
2,900.00	17.11	106.66	2,814.54	2,083.36	-175.06	585.06	231.44	0.00	0.00	0.00
3,000.00	17.11	106.66	2,910.11	1,987.79	-183.49	613.25	242.59	0.00	0.00	0.00
3,100.00	17.11	106.66	3,005.68	1,892.22	-191.93	641.44	253.75	0.00	0.00	0.00
3,200.00	17.11	106.66	3,101.26	1,796.64	-200.36	669.63	264.90	0.00	0.00	0.00
<b>PARKMAN</b>										
3,206.95	17.11	106.66	3,107.90	1,790.00	-200.95	671.59	265.67	0.00	0.00	0.00
3,300.00	17.11	106.66	3,196.83	1,701.07	-208.80	697.82	276.05	0.00	0.00	0.00
3,400.00	17.11	106.66	3,292.40	1,605.50	-217.23	726.01	287.20	0.00	0.00	0.00
3,500.00	17.11	106.66	3,387.97	1,509.93	-225.66	754.20	298.35	0.00	0.00	0.00
3,600.00	17.11	106.66	3,483.55	1,414.35	-234.10	782.39	309.50	0.00	0.00	0.00
3,700.00	17.11	106.66	3,579.12	1,318.78	-242.53	810.58	320.66	0.00	0.00	0.00
3,800.00	17.11	106.66	3,674.69	1,223.21	-250.97	838.77	331.81	0.00	0.00	0.00
3,900.00	17.11	106.66	3,770.27	1,127.63	-259.40	866.96	342.96	0.00	0.00	0.00
<b>SUSSEX</b>										
3,960.30	17.11	106.66	3,827.90	1,070.00	-264.49	883.96	349.68	0.00	0.00	0.00
4,000.00	17.11	106.66	3,865.84	1,032.06	-267.84	895.15	354.11	0.00	0.00	0.00
4,100.00	17.11	106.66	3,961.41	936.49	-276.27	923.34	365.26	0.00	0.00	0.00
4,200.00	17.11	106.66	4,056.98	840.92	-284.71	951.53	376.41	0.00	0.00	0.00



# Planning Report



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<b>Project:</b>	WELD COUNTY, COLORADO (NAD 83)	<b>MD Reference:</b>	KB-EST @ 4897.90usft (Original Well Elev)
<b>Site:</b>	SW SW SEC. 20 T8N R59W 6th P.M.	<b>North Reference:</b>	True
<b>Well:</b>	WADE 8-59 20A-29-32-7	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	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)
4,300.00	17.11	106.66	4,152.56	745.34	-293.14	979.72	387.57	0.00	0.00	0.00
4,400.00	17.11	106.66	4,248.13	649.77	-301.58	1,007.91	398.72	0.00	0.00	0.00
4,500.00	17.11	106.66	4,343.70	554.20	-310.01	1,036.10	409.87	0.00	0.00	0.00
4,600.00	17.11	106.66	4,439.28	458.62	-318.45	1,064.29	421.02	0.00	0.00	0.00
<b>END OF TANGENT</b>										
<b>4,676.07</b>	<b>17.11</b>	<b>106.66</b>	<b>4,511.98</b>	<b>385.92</b>	<b>-324.86</b>	<b>1,085.73</b>	<b>429.50</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
4,700.00	16.63	106.66	4,534.88	363.02	-326.86	1,092.39	432.14	2.00	-2.00	0.00
<b>SHANNON</b>										
<b>4,734.40</b>	<b>15.95</b>	<b>106.66</b>	<b>4,567.90</b>	<b>330.00</b>	<b>-329.62</b>	<b>1,101.63</b>	<b>435.79</b>	<b>2.00</b>	<b>-2.00</b>	<b>0.00</b>
4,800.00	14.63	106.66	4,631.17	266.73	-334.58	1,118.21	442.35	2.00	-2.00	0.00
4,900.00	12.63	106.66	4,728.35	169.55	-341.34	1,140.79	451.28	2.00	-2.00	0.00
5,000.00	10.63	106.66	4,826.29	71.61	-347.12	1,160.11	458.93	2.00	-2.00	0.00
5,100.00	8.63	106.66	4,924.88	-26.98	-351.91	1,176.14	465.27	2.00	-2.00	0.00
5,200.00	6.63	106.66	5,023.98	-126.08	-355.72	1,188.86	470.30	2.00	-2.00	0.00
5,300.00	4.63	106.66	5,123.50	-225.60	-358.54	1,198.27	474.02	2.00	-2.00	0.00
5,400.00	2.63	106.66	5,223.29	-325.39	-360.35	1,204.34	476.42	2.00	-2.00	0.00
5,500.00	0.63	106.66	5,323.24	-425.34	-361.17	1,207.07	477.50	2.00	-2.00	0.00
<b>EOD TO VERTICAL</b>										
<b>5,531.70</b>	<b>0.00</b>	<b>0.00</b>	<b>5,354.94</b>	<b>-457.04</b>	<b>-361.22</b>	<b>1,207.24</b>	<b>477.57</b>	<b>2.00</b>	<b>-2.00</b>	<b>0.00</b>
5,600.00	0.00	0.00	5,423.24	-525.34	-361.22	1,207.24	477.57	0.00	0.00	0.00
<b>KOP (10°/100ft BUR)</b>										
<b>5,631.70</b>	<b>0.00</b>	<b>0.00</b>	<b>5,454.94</b>	<b>-557.04</b>	<b>-361.22</b>	<b>1,207.24</b>	<b>477.57</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
5,700.00	6.83	180.94	5,523.08	-625.18	-365.29	1,207.17	481.61	10.00	10.00	0.00
5,800.00	16.83	180.94	5,620.83	-722.93	-385.76	1,206.84	501.95	10.00	10.00	0.00
5,900.00	26.83	180.94	5,713.54	-815.64	-422.89	1,206.23	538.85	10.00	10.00	0.00
6,000.00	36.83	180.94	5,798.40	-900.50	-475.56	1,205.36	591.18	10.00	10.00	0.00
6,100.00	46.83	180.94	5,872.82	-974.92	-542.16	1,204.27	657.35	10.00	10.00	0.00
<b>SHARON SPRINGS SHALE</b>										
<b>6,170.72</b>	<b>53.90</b>	<b>180.94</b>	<b>5,917.90</b>	<b>-1,020.00</b>	<b>-596.58</b>	<b>1,203.38</b>	<b>711.43</b>	<b>10.00</b>	<b>10.00</b>	<b>0.00</b>
6,200.00	56.83	180.94	5,934.54	-1,036.64	-620.67	1,202.98	735.36	10.00	10.00	0.00
6,300.00	66.83	180.94	5,981.69	-1,083.79	-708.70	1,201.54	822.82	10.00	10.00	0.00
<b>NIOBRARA FORMATION</b>										
<b>6,345.47</b>	<b>71.38</b>	<b>180.94</b>	<b>5,997.90</b>	<b>-1,100.00</b>	<b>-751.16</b>	<b>1,200.84</b>	<b>865.01</b>	<b>10.00</b>	<b>10.00</b>	<b>0.00</b>
<b>NIOBRARA A CHALK</b>										
<b>6,379.87</b>	<b>74.82</b>	<b>180.94</b>	<b>6,007.90</b>	<b>-1,110.00</b>	<b>-784.06</b>	<b>1,200.30</b>	<b>897.71</b>	<b>10.00</b>	<b>10.00</b>	<b>0.00</b>
6,400.00	76.83	180.94	6,012.83	-1,114.93	-803.58	1,199.98	917.10	10.00	10.00	0.00
6,500.00	86.83	180.94	6,027.02	-1,129.12	-902.42	1,198.36	1,015.31	10.00	10.00	0.00
<b>BPI: 600ft FNL &amp; 1799ft FWL of Sec 29</b>										
<b>6,531.69</b>	<b>90.00</b>	<b>180.94</b>	<b>6,027.90</b>	<b>-1,130.00</b>	<b>-934.10</b>	<b>1,197.84</b>	<b>1,046.78</b>	<b>10.00</b>	<b>10.00</b>	<b>0.00</b>
6,600.00	90.00	180.94	6,027.90	-1,130.00	-1,002.39	1,196.72	1,114.64	0.00	0.00	0.00
6,700.00	90.00	180.94	6,027.90	-1,130.00	-1,102.38	1,195.08	1,213.99	0.00	0.00	0.00
6,800.00	90.00	180.94	6,027.90	-1,130.00	-1,202.37	1,193.44	1,313.33	0.00	0.00	0.00
6,900.00	90.00	180.94	6,027.90	-1,130.00	-1,302.35	1,191.80	1,412.68	0.00	0.00	0.00
7,000.00	90.00	180.94	6,027.91	-1,130.01	-1,402.34	1,190.16	1,512.03	0.00	0.00	0.00
7,100.00	90.00	180.94	6,027.91	-1,130.01	-1,502.33	1,188.52	1,611.37	0.00	0.00	0.00
7,200.00	90.00	180.94	6,027.91	-1,130.01	-1,602.31	1,186.88	1,710.72	0.00	0.00	0.00
7,300.00	90.00	180.94	6,027.91	-1,130.01	-1,702.30	1,185.24	1,810.07	0.00	0.00	0.00
7,400.00	90.00	180.94	6,027.91	-1,130.01	-1,802.29	1,183.60	1,909.41	0.00	0.00	0.00
7,500.00	90.00	180.94	6,027.91	-1,130.01	-1,902.27	1,181.96	2,008.76	0.00	0.00	0.00
7,600.00	90.00	180.94	6,027.91	-1,130.01	-2,002.26	1,180.32	2,108.11	0.00	0.00	0.00
7,700.00	90.00	180.94	6,027.91	-1,130.01	-2,102.25	1,178.69	2,207.46	0.00	0.00	0.00
7,800.00	90.00	180.94	6,027.91	-1,130.01	-2,202.23	1,177.05	2,306.80	0.00	0.00	0.00
7,900.00	90.00	180.94	6,027.91	-1,130.01	-2,302.22	1,175.41	2,406.15	0.00	0.00	0.00

# Planning Report



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well WADE 8-59 20A-29-32-7
<b>Company:</b>	BISON OIL & GAS II, LLC	<b>TVD Reference:</b>	KB-EST @ 4897.90usft (Original Well Elev)
<b>Project:</b>	WELD COUNTY, COLORADO (NAD 83)	<b>MD Reference:</b>	KB-EST @ 4897.90usft (Original Well Elev)
<b>Site:</b>	SW SW SEC. 20 T8N R59W 6th P.M.	<b>North Reference:</b>	True
<b>Well:</b>	WADE 8-59 20A-29-32-7	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	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)
8,000.00	90.00	180.94	6,027.91	-1,130.01	-2,402.21	1,173.77	2,505.50	0.00	0.00	0.00
8,100.00	90.00	180.94	6,027.92	-1,130.02	-2,502.19	1,172.13	2,604.84	0.00	0.00	0.00
8,200.00	90.00	180.94	6,027.92	-1,130.02	-2,602.18	1,170.49	2,704.19	0.00	0.00	0.00
8,300.00	90.00	180.94	6,027.92	-1,130.02	-2,702.16	1,168.85	2,803.54	0.00	0.00	0.00
8,400.00	90.00	180.94	6,027.92	-1,130.02	-2,802.15	1,167.22	2,902.88	0.00	0.00	0.00
8,500.00	90.00	180.94	6,027.92	-1,130.02	-2,902.14	1,165.58	3,002.23	0.00	0.00	0.00
8,600.00	90.00	180.94	6,027.92	-1,130.02	-3,002.12	1,163.94	3,101.58	0.00	0.00	0.00
8,700.00	90.00	180.94	6,027.92	-1,130.02	-3,102.11	1,162.30	3,200.92	0.00	0.00	0.00
8,800.00	90.00	180.94	6,027.92	-1,130.02	-3,202.10	1,160.67	3,300.27	0.00	0.00	0.00
8,900.00	90.00	180.94	6,027.92	-1,130.02	-3,302.08	1,159.03	3,399.62	0.00	0.00	0.00
9,000.00	90.00	180.94	6,027.92	-1,130.02	-3,402.07	1,157.39	3,498.96	0.00	0.00	0.00
9,100.00	90.00	180.94	6,027.92	-1,130.02	-3,502.06	1,155.75	3,598.31	0.00	0.00	0.00
9,200.00	90.00	180.94	6,027.92	-1,130.02	-3,602.04	1,154.12	3,697.66	0.00	0.00	0.00
9,300.00	90.00	180.94	6,027.92	-1,130.02	-3,702.03	1,152.48	3,797.01	0.00	0.00	0.00
9,400.00	90.00	180.94	6,027.92	-1,130.02	-3,802.02	1,150.84	3,896.35	0.00	0.00	0.00
9,500.00	90.00	180.94	6,027.92	-1,130.02	-3,902.00	1,149.21	3,995.70	0.00	0.00	0.00
9,600.00	90.00	180.94	6,027.92	-1,130.02	-4,001.99	1,147.57	4,095.05	0.00	0.00	0.00
9,700.00	90.00	180.94	6,027.93	-1,130.03	-4,101.98	1,145.93	4,194.39	0.00	0.00	0.00
9,800.00	90.00	180.94	6,027.93	-1,130.03	-4,201.96	1,144.30	4,293.74	0.00	0.00	0.00
9,900.00	90.00	180.94	6,027.93	-1,130.03	-4,301.95	1,142.66	4,393.09	0.00	0.00	0.00
10,000.00	90.00	180.94	6,027.93	-1,130.03	-4,401.94	1,141.03	4,492.44	0.00	0.00	0.00
10,100.00	90.00	180.94	6,027.93	-1,130.03	-4,501.92	1,139.39	4,591.78	0.00	0.00	0.00
10,200.00	90.00	180.94	6,027.93	-1,130.03	-4,601.91	1,137.75	4,691.13	0.00	0.00	0.00
10,300.00	90.00	180.94	6,027.93	-1,130.03	-4,701.90	1,136.12	4,790.48	0.00	0.00	0.00
10,400.00	90.00	180.94	6,027.93	-1,130.03	-4,801.88	1,134.48	4,889.82	0.00	0.00	0.00
10,500.00	90.00	180.94	6,027.93	-1,130.03	-4,901.87	1,132.85	4,989.17	0.00	0.00	0.00
10,600.00	90.00	180.94	6,027.93	-1,130.03	-5,001.86	1,131.21	5,088.52	0.00	0.00	0.00
10,700.00	90.00	180.94	6,027.93	-1,130.03	-5,101.84	1,129.58	5,187.87	0.00	0.00	0.00
10,800.00	90.00	180.94	6,027.93	-1,130.03	-5,201.83	1,127.94	5,287.21	0.00	0.00	0.00
10,900.00	90.00	180.94	6,027.93	-1,130.03	-5,301.82	1,126.31	5,386.56	0.00	0.00	0.00
11,000.00	90.00	180.94	6,027.93	-1,130.03	-5,401.80	1,124.67	5,485.91	0.00	0.00	0.00
11,100.00	90.00	180.94	6,027.93	-1,130.03	-5,501.79	1,123.04	5,585.26	0.00	0.00	0.00
11,200.00	90.00	180.94	6,027.93	-1,130.03	-5,601.78	1,121.40	5,684.60	0.00	0.00	0.00
11,300.00	90.00	180.94	6,027.93	-1,130.03	-5,701.76	1,119.77	5,783.95	0.00	0.00	0.00
11,400.00	90.00	180.94	6,027.93	-1,130.03	-5,801.75	1,118.14	5,883.30	0.00	0.00	0.00
11,500.00	90.00	180.94	6,027.93	-1,130.03	-5,901.74	1,116.50	5,982.64	0.00	0.00	0.00
11,600.00	90.00	180.94	6,027.93	-1,130.03	-6,001.72	1,114.87	6,081.99	0.00	0.00	0.00
11,700.00	90.00	180.94	6,027.93	-1,130.03	-6,101.71	1,113.23	6,181.34	0.00	0.00	0.00
11,800.00	90.00	180.94	6,027.93	-1,130.03	-6,201.70	1,111.60	6,280.69	0.00	0.00	0.00
11,900.00	90.00	180.94	6,027.93	-1,130.03	-6,301.68	1,109.97	6,380.03	0.00	0.00	0.00
12,000.00	90.00	180.94	6,027.93	-1,130.03	-6,401.67	1,108.33	6,479.38	0.00	0.00	0.00
12,100.00	90.00	180.94	6,027.93	-1,130.03	-6,501.66	1,106.70	6,578.73	0.00	0.00	0.00
12,200.00	90.00	180.94	6,027.93	-1,130.03	-6,601.64	1,105.07	6,678.08	0.00	0.00	0.00
12,300.00	90.00	180.94	6,027.93	-1,130.03	-6,701.63	1,103.43	6,777.42	0.00	0.00	0.00
12,400.00	90.00	180.94	6,027.93	-1,130.03	-6,801.62	1,101.80	6,876.77	0.00	0.00	0.00
12,500.00	90.00	180.94	6,027.93	-1,130.03	-6,901.60	1,100.17	6,976.12	0.00	0.00	0.00
12,600.00	90.00	180.94	6,027.93	-1,130.03	-7,001.59	1,098.54	7,075.47	0.00	0.00	0.00
12,700.00	90.00	180.94	6,027.93	-1,130.03	-7,101.58	1,096.90	7,174.81	0.00	0.00	0.00
12,800.00	90.00	180.94	6,027.92	-1,130.02	-7,201.56	1,095.27	7,274.16	0.00	0.00	0.00
12,900.00	90.00	180.94	6,027.92	-1,130.02	-7,301.55	1,093.64	7,373.51	0.00	0.00	0.00
13,000.00	90.00	180.94	6,027.92	-1,130.02	-7,401.54	1,092.01	7,472.86	0.00	0.00	0.00
13,100.00	90.00	180.94	6,027.92	-1,130.02	-7,501.52	1,090.37	7,572.20	0.00	0.00	0.00
13,200.00	90.00	180.93	6,027.92	-1,130.02	-7,601.51	1,088.74	7,671.55	0.00	0.00	0.00
13,300.00	90.00	180.93	6,027.92	-1,130.02	-7,701.50	1,087.11	7,770.90	0.00	0.00	0.00

# Planning Report



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well WADE 8-59 20A-29-32-7
<b>Company:</b>	BISON OIL & GAS II, LLC	<b>TVD Reference:</b>	KB-EST @ 4897.90usft (Original Well Elev)
<b>Project:</b>	WELD COUNTY, COLORADO (NAD 83)	<b>MD Reference:</b>	KB-EST @ 4897.90usft (Original Well Elev)
<b>Site:</b>	SW SW SEC. 20 T8N R59W 6th P.M.	<b>North Reference:</b>	True
<b>Well:</b>	WADE 8-59 20A-29-32-7	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	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)
13,400.00	90.00	180.93	6,027.92	-1,130.02	-7,801.48	1,085.48	7,870.25	0.00	0.00	0.00
13,500.00	90.00	180.93	6,027.92	-1,130.02	-7,901.47	1,083.85	7,969.60	0.00	0.00	0.00
13,600.00	90.00	180.93	6,027.92	-1,130.02	-8,001.46	1,082.22	8,068.94	0.00	0.00	0.00
13,700.00	90.00	180.93	6,027.92	-1,130.02	-8,101.44	1,080.59	8,168.29	0.00	0.00	0.00
13,800.00	90.00	180.93	6,027.92	-1,130.02	-8,201.43	1,078.95	8,267.64	0.00	0.00	0.00
13,900.00	90.00	180.93	6,027.92	-1,130.02	-8,301.42	1,077.32	8,366.99	0.00	0.00	0.00
14,000.00	90.00	180.93	6,027.92	-1,130.02	-8,401.40	1,075.69	8,466.33	0.00	0.00	0.00
14,100.00	90.00	180.93	6,027.92	-1,130.02	-8,501.39	1,074.06	8,565.68	0.00	0.00	0.00
14,200.00	90.00	180.93	6,027.92	-1,130.02	-8,601.38	1,072.43	8,665.03	0.00	0.00	0.00
14,300.00	90.00	180.93	6,027.92	-1,130.02	-8,701.36	1,070.80	8,764.38	0.00	0.00	0.00
14,400.00	90.00	180.93	6,027.92	-1,130.02	-8,801.35	1,069.17	8,863.72	0.00	0.00	0.00
14,500.00	90.00	180.93	6,027.91	-1,130.01	-8,901.34	1,067.54	8,963.07	0.00	0.00	0.00
14,600.00	90.00	180.93	6,027.91	-1,130.01	-9,001.32	1,065.91	9,062.42	0.00	0.00	0.00
14,700.00	90.00	180.93	6,027.91	-1,130.01	-9,101.31	1,064.28	9,161.77	0.00	0.00	0.00
14,800.00	90.00	180.93	6,027.91	-1,130.01	-9,201.30	1,062.65	9,261.12	0.00	0.00	0.00
14,900.00	90.00	180.93	6,027.91	-1,130.01	-9,301.28	1,061.02	9,360.46	0.00	0.00	0.00
15,000.00	90.00	180.93	6,027.91	-1,130.01	-9,401.27	1,059.39	9,459.81	0.00	0.00	0.00
15,100.00	90.00	180.93	6,027.91	-1,130.01	-9,501.26	1,057.76	9,559.16	0.00	0.00	0.00
15,200.00	90.00	180.93	6,027.91	-1,130.01	-9,601.24	1,056.13	9,658.51	0.00	0.00	0.00
15,300.00	90.00	180.93	6,027.91	-1,130.01	-9,701.23	1,054.50	9,757.86	0.00	0.00	0.00
15,400.00	90.00	180.93	6,027.91	-1,130.01	-9,801.22	1,052.88	9,857.20	0.00	0.00	0.00
15,500.00	90.00	180.93	6,027.90	-1,130.00	-9,901.20	1,051.25	9,956.55	0.00	0.00	0.00
15,600.00	90.00	180.93	6,027.90	-1,130.00	-10,001.19	1,049.62	10,055.90	0.00	0.00	0.00
15,700.00	90.00	180.93	6,027.90	-1,130.00	-10,101.18	1,047.99	10,155.25	0.00	0.00	0.00
15,800.00	90.00	180.93	6,027.90	-1,130.00	-10,201.16	1,046.36	10,254.60	0.00	0.00	0.00
<b>EPI: 600ft FSL &amp; 1797ft FWL of Sec 32</b>										
15,881.16	90.00	180.93	6,027.90	-1,130.00	-10,282.32	1,045.04	10,335.23	0.00	0.00	0.00
15,900.00	90.00	180.94	6,027.90	-1,130.00	-10,301.15	1,044.73	10,353.94	0.01	0.00	0.01
16,000.00	90.00	180.95	6,027.90	-1,130.00	-10,401.14	1,043.09	10,453.29	0.01	0.00	0.01
16,100.00	90.00	180.96	6,027.90	-1,130.00	-10,501.12	1,041.42	10,552.63	0.01	0.00	0.01
<b>BHL: 300ft FSL &amp; 1799ft FWL of Sec 32</b>										
16,181.04	90.00	180.97	6,027.90	-1,130.00	-10,582.16	1,040.05	10,633.14	0.01	0.00	0.01

## Formations

MD (usft)	TVD (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
385.90	385.90	PIERRE SHALE (BASE OF FOX HI			
3,206.95	3,107.90	PARKMAN			
3,960.30	3,827.90	SUSSEX			
4,734.40	4,567.90	SHANNON			
6,170.72	5,917.90	SHARON SPRINGS SHALE			
6,345.47	5,997.90	NIOBRARA FORMATION			
6,379.87	6,007.90	NIOBRARA A CHALK			

# Planning Report



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well WADE 8-59 20A-29-32-7
<b>Company:</b>	BISON OIL & GAS II, LLC	<b>TVD Reference:</b>	KB-EST @ 4897.90usft (Original Well Elev)
<b>Project:</b>	WELD COUNTY, COLORADO (NAD 83)	<b>MD Reference:</b>	KB-EST @ 4897.90usft (Original Well Elev)
<b>Site:</b>	SW SW SEC. 20 T8N R59W 6th P.M.	<b>North Reference:</b>	True
<b>Well:</b>	WADE 8-59 20A-29-32-7	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	PROPOSAL #1		

## Plan Annotations

MD (usft)	TVD (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
0.00	0.00	0.00	0.00	SHL: 310ft FSL & 590ft FWL of Sec 20
400.00	400.00	0.00	0.00	START NUDGE (2°/100ft BUR)
1,255.63	1,242.96	-36.36	121.51	EOB TO 17.11° INC
4,676.07	4,511.98	-324.86	1,085.73	END OF TANGENT
5,531.70	5,354.94	-361.22	1,207.24	EOD TO VERTICAL
5,631.70	5,454.94	-361.22	1,207.24	KOP (10°/100ft BUR)
6,531.69	6,027.90	-934.10	1,197.84	BPI: 600ft FNL & 1799ft FWL of Sec 29
15,881.16	6,027.90	-10,282.32	1,045.04	EPI: 600ft FSL & 1797ft FWL of Sec 32
16,181.04	6,027.90	-10,582.16	1,040.05	BHL: 300ft FSL & 1799ft FWL of Sec 32