

BISON OIL & GAS II, LLC

WELD COUNTY, COLORADO (NAD 83)

SW SE SEC. 33 T10N R59W 6th P.M.

TIMBRO FED 10-59 33-12

ORIGINAL WELLBORE

05 February, 2018

Plan: PROPOSAL #1





Project: WELD COUNTY, COLORADO (NAD 83)
Site: SW SE SEC. 33 T10N R59W 6th P.M.
Well: TIMBRO FED 10-59 33-12
Wellbore: ORIGINAL WELLBORE
Design: PROPOSAL #1

ANNOTATIONS										
TVD	MD	Inc	Azi	+N/-S	+E/-W	VSec	Dep	Annotation		
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	SHL: 896ft FSL & 1904ft FEL of Sec 33		
300.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	START NUDGE (2°/100ft BUR)		
895.62	900.00	12.00	192.64	-61.08	-13.70	-58.80	62.60	EOB TO 12° INC		
4504.67	4589.67	12.00	192.64	-809.61	-181.63	-779.28	829.73	END OF TANGENT		
5100.29	5189.67	0.00	0.00	-870.69	-195.33	-838.07	892.33	EOD TO VERTICAL		
5778.24	5867.62	0.00	0.00	-870.69	-195.33	-838.07	892.33	KOP (10°/100ft BUR)		
6351.20	6767.63	90.00	356.02	-299.11	-235.10	-266.16	1465.29	BPI: 600ft FSL & 2156ft FEL of Sec 33		
6351.20	10973.48	90.00	356.02	3896.59	-527.15	3932.05	5671.15	EPI: 600ft FNL & 2205ft FEL of Sec 33		
6351.20	10974.27	90.00	356.04	3897.37	-527.21	3932.83	5671.93	EOT TO 356.04° AZ		
6351.20	11274.05	90.00	356.04	4196.44	-547.91	4232.06	5971.72	BHL: 300ft FNL & 2208ft FEL of Sec 33		

PROPOSED LOCAL COORDINATES:

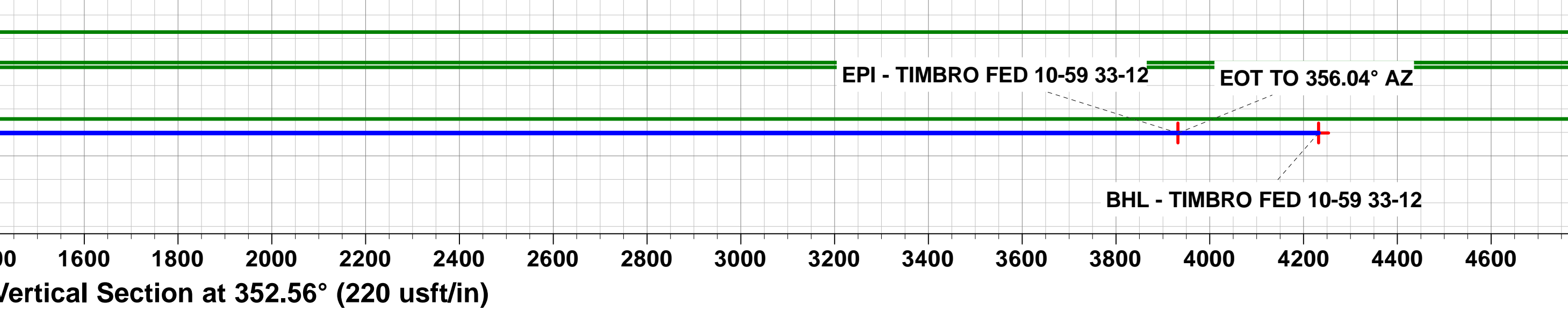
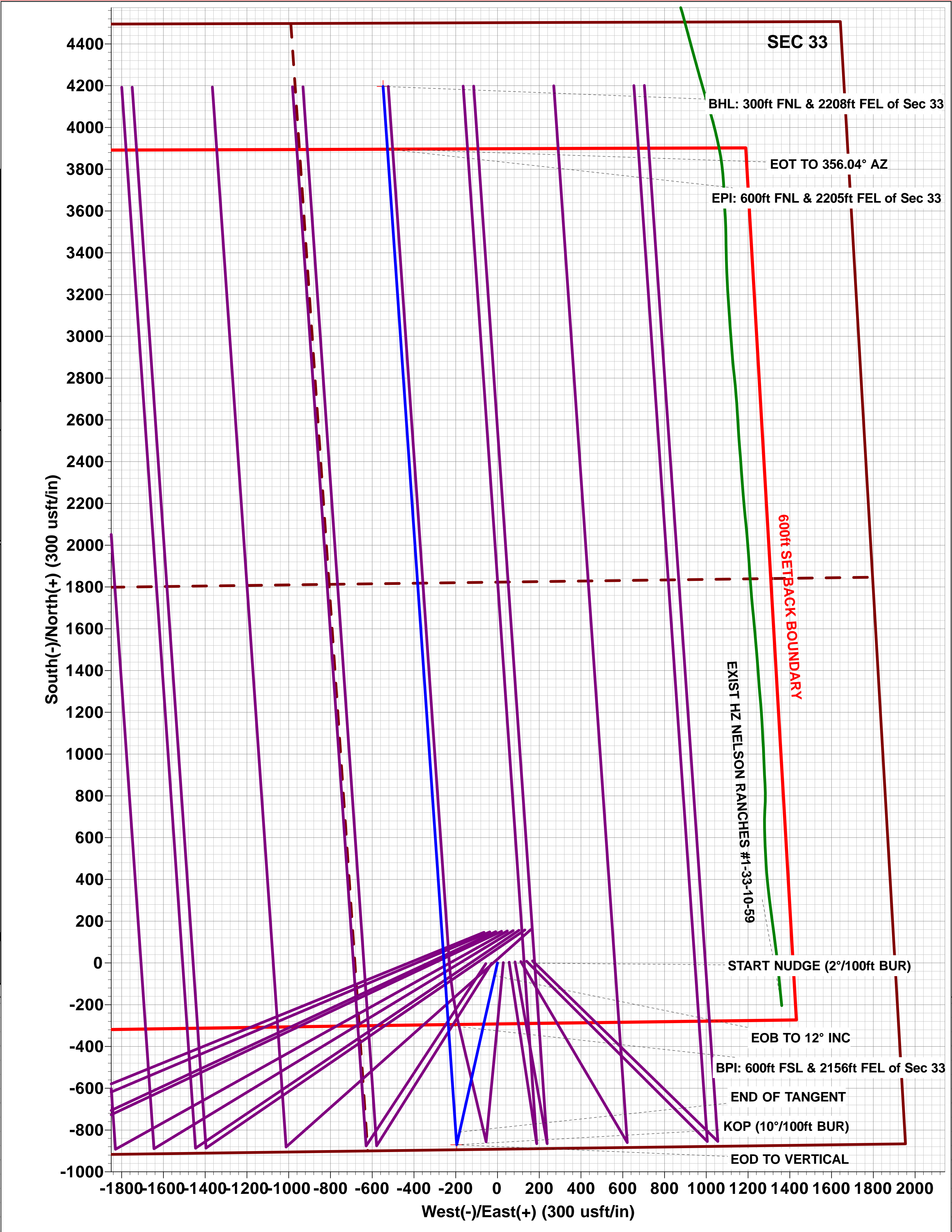
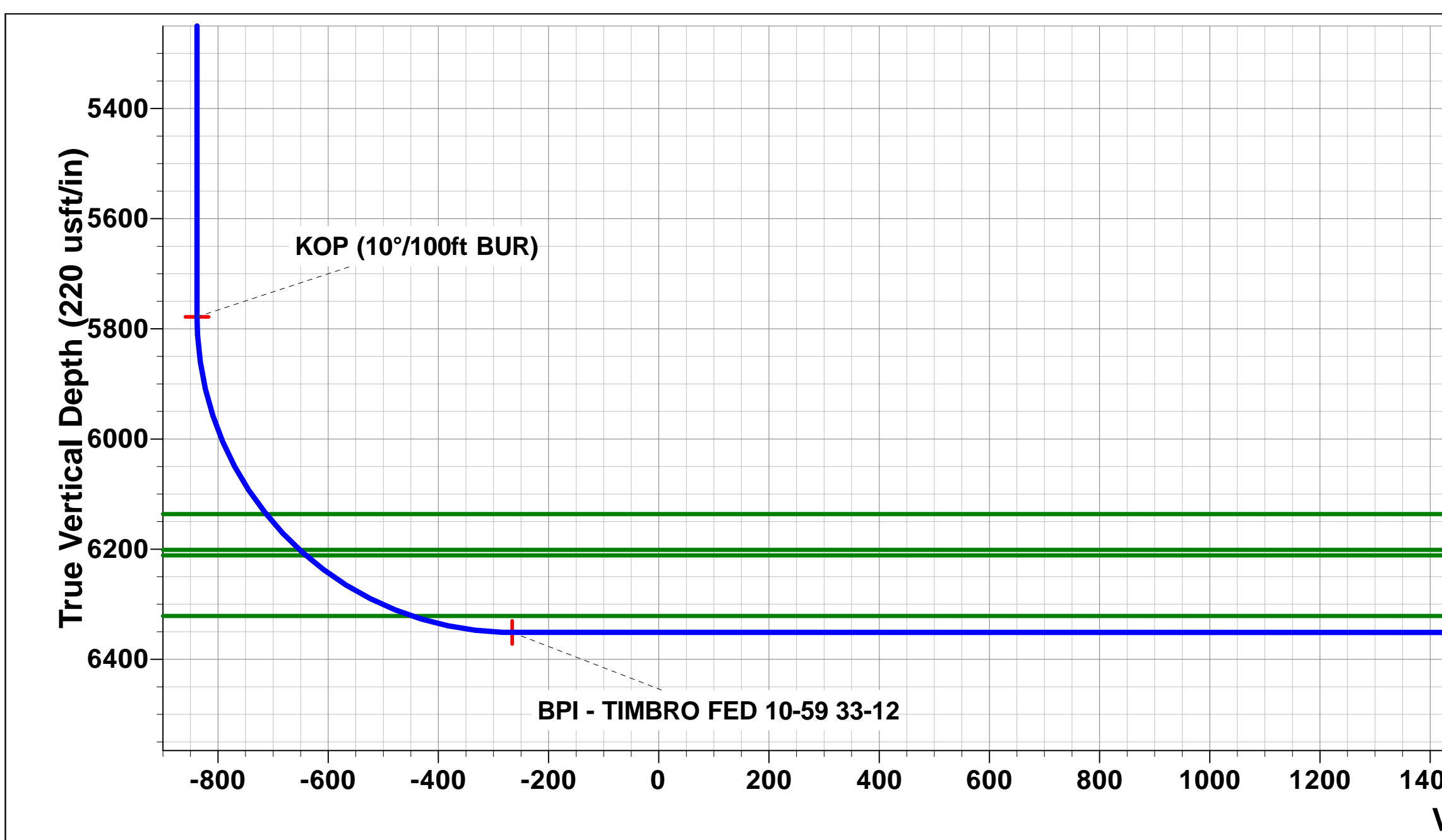
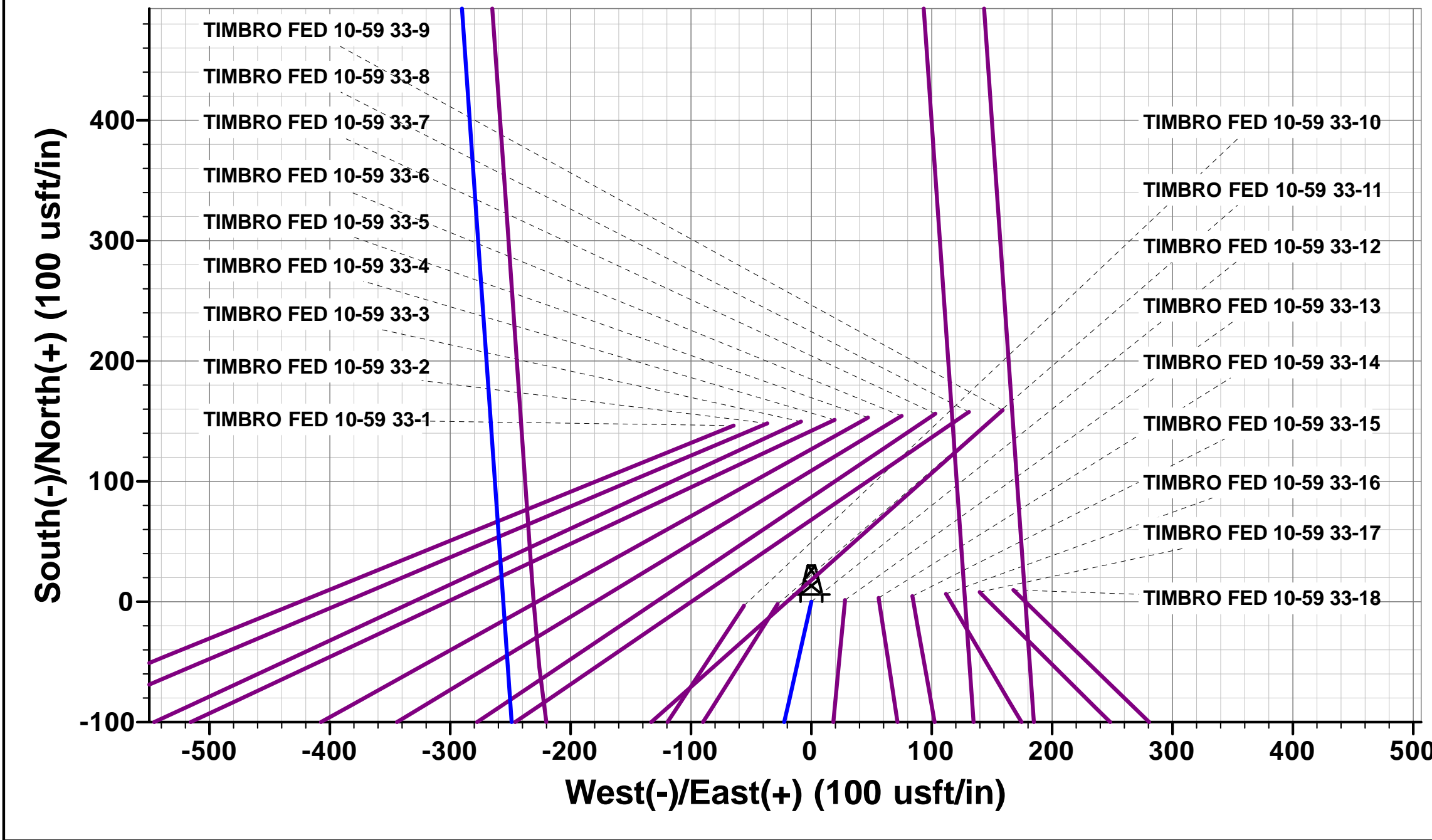
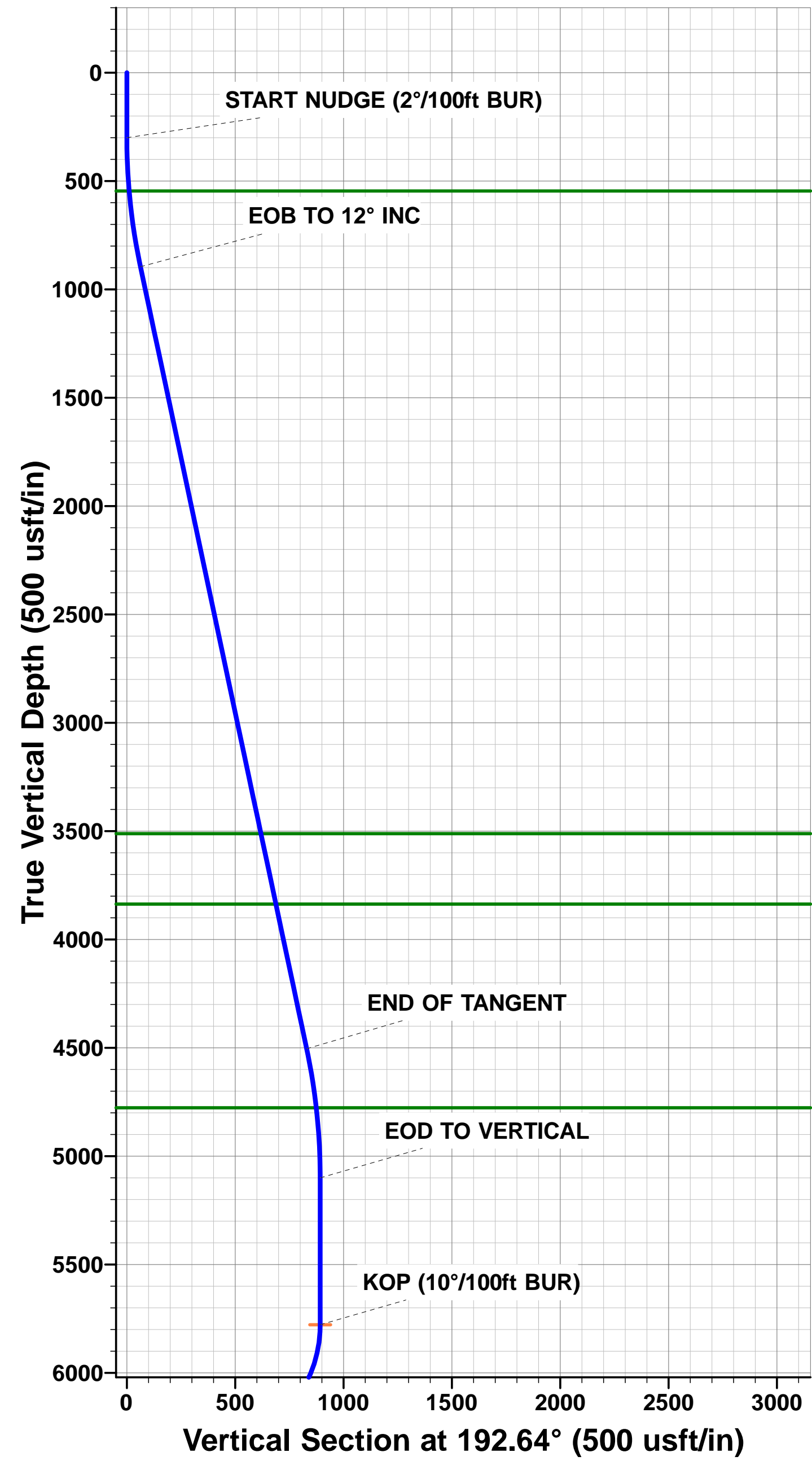
SHL: 896ft FSL & 1904ft FEL Sec 33

BPI: 600ft FSL & 2156ft FEL Sec 33

EPI: 600ft FNL & 2205ft FEL Sec 33

BHL: 300ft FNL & 2208ft FEL of Sec 33

WELLBORE TARGET DETAILS (LAT/LONG)					
Name	TVD	+N/-S	+E/-W	Latitude	Longitude
KOP - TIMBRO FED 10-59 33-12	5778.24	-870.69	-195.33	40.786998	-103.981544
BPI - TIMBRO FED 10-59 33-12	6351.20	-299.11	-235.10	40.788567	-103.981688
EPI - TIMBRO FED 10-59 33-12	6351.20	3896.59	-527.15	40.800083	-103.982743
BHL - TIMBRO FED 10-59 33-12	6351.20	4196.44	-547.91	40.800906	-103.982818



Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well TIMBRO FED 10-59 33-12
Company:	BISON OIL & GAS II, LLC	TVD Reference:	KB-EST @ 5151.20usft (Original Well Elev)
Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB-EST @ 5151.20usft (Original Well Elev)
Site:	SW SE SEC. 33 T10N R59W 6th P.M.	North Reference:	True
Well:	TIMBRO FED 10-59 33-12	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #1		

Project	WELD COUNTY, COLORADO (NAD 83)		
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	SW SE SEC. 33 T10N R59W 6th P.M.		
Site Position:		Northing:	1,534,169.05 usft
From:	Lat/Long	Easting:	3,420,584.16 usft
Position Uncertainty:	0.00 usft	Slot Radius:	1.10000ft
		Latitude:	40.789790
		Longitude:	-103.981072
		Grid Convergence:	0.98 °

Well	TIMBRO FED 10-59 33-12		
Well Position	+N/-S	-146.47 usft	Northing:
	+E/-W	64.52 usft	Easting:
Position Uncertainty	0.00 usft		Wellhead Elevation:
			Latitude:
			Longitude:
			Ground Level:

Wellbore	ORIGINAL WELLBORE				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	05/02/2018	7.75	67.27	52,597

Design	PROPOSAL #1			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	6,351.20	0.00	0.00	352.56

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
0.00	0.00	0.00	0.00	-5,151.20	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	-4,851.20	0.00	0.00	0.00	0.00	0.00	0.00	
900.00	12.00	192.64	895.62	-4,255.58	-61.08	-13.70	2.00	2.00	0.00	192.64	
4,589.67	12.00	192.64	4,504.67	-646.53	-809.61	-181.63	0.00	0.00	0.00	0.00	
5,189.67	0.00	0.00	5,100.29	-50.91	-870.69	-195.33	2.00	-2.00	0.00	180.00	
5,867.62	0.00	0.00	5,778.24	627.04	-870.69	-195.33	0.00	0.00	0.00	0.00	KOP - TIMBRO FEI
6,767.63	90.00	356.02	6,351.20	1,200.00	-299.11	-235.10	10.00	10.00	-0.44	356.02	BPI - TIMBRO FED
10,973.48	90.00	356.02	6,351.20	1,200.00	3,896.59	-527.15	0.00	0.00	0.00	-93.78	EPI - TIMBRO FED
10,974.27	90.00	356.04	6,351.20	1,200.00	3,897.37	-527.21	3.00	0.00	3.00	90.00	
11,274.05	90.00	356.04	6,351.20	1,200.00	4,196.44	-547.91	0.00	0.00	0.00	0.00	BHL - TIMBRO FEI

Planning Report



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Company:	BISON OIL & GAS II, LLC	TVD Reference:	KB-EST @ 5151.20usft (Original Well Elev)
Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB-EST @ 5151.20usft (Original Well Elev)
Site:	SW SE SEC. 33 T10N R59W 6th P.M.	North Reference:	True
Well:	TIMBRO FED 10-59 33-12	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: 896ft FSL & 1904ft FEL of Sec 33										
0.00	0.00	0.00	0.00	5,151.20	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	5,051.20	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	4,951.20	0.00	0.00	0.00	0.00	0.00	0.00
START NUDGE (2°/100ft BUR)										
300.00	0.00	0.00	300.00	4,851.20	0.00	0.00	0.00	0.00	0.00	0.00
400.00	2.00	192.64	399.98	4,751.22	-1.70	-0.38	-1.64	2.00	2.00	0.00
500.00	4.00	192.64	499.84	4,651.36	-6.81	-1.53	-6.55	2.00	2.00	0.00
PIERRE SHALE (BASE OF FOX HILLS)										
546.50	4.93	192.64	546.20	4,605.00	-10.34	-2.32	-9.95	2.00	2.00	0.00
600.00	6.00	192.64	599.45	4,551.75	-15.31	-3.44	-14.74	2.00	2.00	0.00
700.00	8.00	192.64	698.70	4,452.50	-27.20	-6.10	-26.18	2.00	2.00	0.00
800.00	10.00	192.64	797.47	4,353.73	-42.47	-9.53	-40.88	2.00	2.00	0.00
EOB TO 12° INC										
900.00	12.00	192.64	895.62	4,255.58	-61.08	-13.70	-58.80	2.00	2.00	0.00
1,000.00	12.00	192.64	993.44	4,157.76	-81.37	-18.25	-78.32	0.00	0.00	0.00
1,100.00	12.00	192.64	1,091.25	4,059.95	-101.66	-22.81	-97.85	0.00	0.00	0.00
1,200.00	12.00	192.64	1,189.07	3,962.13	-121.95	-27.36	-117.38	0.00	0.00	0.00
1,300.00	12.00	192.64	1,286.88	3,864.32	-142.23	-31.91	-136.90	0.00	0.00	0.00
1,400.00	12.00	192.64	1,384.70	3,766.50	-162.52	-36.46	-156.43	0.00	0.00	0.00
1,500.00	12.00	192.64	1,482.51	3,668.69	-182.81	-41.01	-175.96	0.00	0.00	0.00
1,600.00	12.00	192.64	1,580.33	3,570.87	-203.09	-45.56	-195.48	0.00	0.00	0.00
1,700.00	12.00	192.64	1,678.14	3,473.06	-223.38	-50.11	-215.01	0.00	0.00	0.00
1,800.00	12.00	192.64	1,775.96	3,375.24	-243.67	-54.66	-234.54	0.00	0.00	0.00
1,900.00	12.00	192.64	1,873.77	3,277.43	-263.95	-59.22	-254.07	0.00	0.00	0.00
2,000.00	12.00	192.64	1,971.59	3,179.61	-284.24	-63.77	-273.59	0.00	0.00	0.00
2,100.00	12.00	192.64	2,069.40	3,081.80	-304.53	-68.32	-293.12	0.00	0.00	0.00
2,200.00	12.00	192.64	2,167.22	2,983.98	-324.81	-72.87	-312.65	0.00	0.00	0.00
2,300.00	12.00	192.64	2,265.03	2,886.17	-345.10	-77.42	-332.17	0.00	0.00	0.00
2,400.00	12.00	192.64	2,362.84	2,788.36	-365.39	-81.97	-351.70	0.00	0.00	0.00
2,500.00	12.00	192.64	2,460.66	2,690.54	-385.68	-86.52	-371.23	0.00	0.00	0.00
2,600.00	12.00	192.64	2,558.47	2,592.73	-405.96	-91.07	-390.75	0.00	0.00	0.00
2,700.00	12.00	192.64	2,656.29	2,494.91	-426.25	-95.62	-410.28	0.00	0.00	0.00
2,800.00	12.00	192.64	2,754.10	2,397.10	-446.54	-100.18	-429.81	0.00	0.00	0.00
2,900.00	12.00	192.64	2,851.92	2,299.28	-466.82	-104.73	-449.34	0.00	0.00	0.00
3,000.00	12.00	192.64	2,949.73	2,201.47	-487.11	-109.28	-468.86	0.00	0.00	0.00
3,100.00	12.00	192.64	3,047.55	2,103.65	-507.40	-113.83	-488.39	0.00	0.00	0.00
3,200.00	12.00	192.64	3,145.36	2,005.84	-527.68	-118.38	-507.92	0.00	0.00	0.00
3,300.00	12.00	192.64	3,243.18	1,908.02	-547.97	-122.93	-527.44	0.00	0.00	0.00
3,400.00	12.00	192.64	3,340.99	1,810.21	-568.26	-127.48	-546.97	0.00	0.00	0.00
3,500.00	12.00	192.64	3,438.81	1,712.39	-588.54	-132.03	-566.50	0.00	0.00	0.00
PARKMAN										
3,575.03	12.00	192.64	3,512.20	1,639.00	-603.77	-135.45	-581.15	0.00	0.00	0.00
3,600.00	12.00	192.64	3,536.62	1,614.58	-608.83	-136.58	-586.02	0.00	0.00	0.00
3,700.00	12.00	192.64	3,634.44	1,516.76	-629.12	-141.14	-605.55	0.00	0.00	0.00
3,800.00	12.00	192.64	3,732.25	1,418.95	-649.41	-145.69	-625.08	0.00	0.00	0.00
3,900.00	12.00	192.64	3,830.07	1,321.13	-669.69	-150.24	-644.61	0.00	0.00	0.00
SUSSEX										
3,907.29	12.00	192.64	3,837.20	1,314.00	-671.17	-150.57	-646.03	0.00	0.00	0.00
4,000.00	12.00	192.64	3,927.88	1,223.32	-689.98	-154.79	-664.13	0.00	0.00	0.00
4,100.00	12.00	192.64	4,025.70	1,125.50	-710.27	-159.34	-683.66	0.00	0.00	0.00
4,200.00	12.00	192.64	4,123.51	1,027.69	-730.55	-163.89	-703.19	0.00	0.00	0.00
4,300.00	12.00	192.64	4,221.32	929.88	-750.84	-168.44	-722.71	0.00	0.00	0.00

Planning Report



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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)
4,400.00	12.00	192.64	4,319.14	832.06	-771.13	-172.99	-742.24	0.00	0.00	0.00
4,500.00	12.00	192.64	4,416.95	734.25	-791.41	-177.55	-761.77	0.00	0.00	0.00
END OF TANGENT										
4,589.67	12.00	192.64	4,504.67	646.53	-809.61	-181.63	-779.28	0.00	0.00	0.00
4,600.00	11.79	192.64	4,514.77	636.43	-811.68	-182.09	-781.28	2.00	-2.00	0.00
4,700.00	9.79	192.64	4,613.00	538.20	-829.95	-186.19	-798.86	2.00	-2.00	0.00
4,800.00	7.79	192.64	4,711.82	439.38	-844.87	-189.54	-813.22	2.00	-2.00	0.00
SHANNON										
4,865.89	6.48	192.64	4,777.20	374.00	-852.86	-191.33	-820.91	2.00	-2.00	0.00
4,900.00	5.79	192.64	4,811.11	340.09	-856.41	-192.13	-824.33	2.00	-2.00	0.00
5,000.00	3.79	192.64	4,910.76	240.44	-864.57	-193.96	-832.18	2.00	-2.00	0.00
5,100.00	1.79	192.64	5,010.63	140.57	-869.32	-195.02	-836.76	2.00	-2.00	0.00
EOD TO VERTICAL										
5,189.67	0.00	0.00	5,100.29	50.91	-870.69	-195.33	-838.07	2.00	-2.00	0.00
5,200.00	0.00	0.00	5,110.62	40.58	-870.69	-195.33	-838.07	0.00	0.00	0.00
5,300.00	0.00	0.00	5,210.62	-59.42	-870.69	-195.33	-838.07	0.00	0.00	0.00
5,400.00	0.00	0.00	5,310.62	-159.42	-870.69	-195.33	-838.07	0.00	0.00	0.00
5,500.00	0.00	0.00	5,410.62	-259.42	-870.69	-195.33	-838.07	0.00	0.00	0.00
5,600.00	0.00	0.00	5,510.62	-359.42	-870.69	-195.33	-838.07	0.00	0.00	0.00
5,700.00	0.00	0.00	5,610.62	-459.42	-870.69	-195.33	-838.07	0.00	0.00	0.00
5,800.00	0.00	0.00	5,710.62	-559.42	-870.69	-195.33	-838.07	0.00	0.00	0.00
KOP (10°/100ft BUR)										
5,867.62	0.00	0.00	5,778.24	-627.04	-870.69	-195.33	-838.07	0.00	0.00	0.00
5,900.00	3.24	356.02	5,810.60	-659.40	-869.78	-195.39	-837.16	10.00	10.00	0.00
6,000.00	13.24	356.02	5,909.44	-758.24	-855.50	-196.39	-822.88	10.00	10.00	0.00
6,100.00	23.24	356.02	6,004.30	-853.10	-824.32	-198.56	-791.68	10.00	10.00	0.00
6,200.00	33.24	356.02	6,092.29	-941.09	-777.18	-201.84	-744.51	10.00	10.00	0.00
SHARON SPRINGS SHALE										
6,254.27	38.66	356.02	6,136.20	-985.00	-745.41	-204.05	-712.72	10.00	10.00	0.00
6,300.00	43.24	356.02	6,170.73	-1,019.53	-715.52	-206.13	-682.81	10.00	10.00	0.00
NIORRARA FORMATION										
6,343.41	47.58	356.02	6,201.20	-1,050.00	-684.69	-208.27	-651.96	10.00	10.00	0.00
NIORRARA A CHALK										
6,358.45	49.08	356.02	6,211.20	-1,060.00	-673.48	-209.05	-640.74	10.00	10.00	0.00
6,400.00	53.24	356.02	6,237.25	-1,086.05	-641.20	-211.30	-608.45	10.00	10.00	0.00
6,500.00	63.24	356.02	6,289.83	-1,138.63	-556.49	-217.19	-523.69	10.00	10.00	0.00
NIORRARA B CHALK										
6,581.39	71.38	356.02	6,321.20	-1,170.00	-481.64	-222.40	-448.79	10.00	10.00	0.00
6,600.00	73.24	356.02	6,326.85	-1,175.65	-463.96	-223.63	-431.10	10.00	10.00	0.00
6,700.00	83.24	356.02	6,347.21	-1,196.01	-366.42	-230.42	-333.50	10.00	10.00	0.00
BPI: 600ft FSL & 2156ft FEL of Sec 33										
6,767.63	90.00	356.02	6,351.20	-1,200.00	-299.11	-235.10	-266.16	10.00	10.00	0.00
6,800.00	90.00	356.02	6,351.20	-1,200.00	-266.82	-237.35	-233.84	0.00	0.00	0.00
6,900.00	90.00	356.02	6,351.20	-1,200.00	-167.06	-244.29	-134.02	0.00	0.00	0.00
7,000.00	90.00	356.02	6,351.20	-1,200.00	-67.30	-251.23	-34.21	0.00	0.00	0.00
7,100.00	90.00	356.02	6,351.20	-1,200.00	32.46	-258.17	65.61	0.00	0.00	0.00
7,200.00	90.00	356.02	6,351.20	-1,200.00	132.22	-265.11	165.43	0.00	0.00	0.00
7,300.00	90.00	356.02	6,351.20	-1,200.00	231.98	-272.05	265.25	0.00	0.00	0.00
7,400.00	90.00	356.02	6,351.20	-1,200.00	331.74	-279.00	365.07	0.00	0.00	0.00
7,500.00	90.00	356.02	6,351.20	-1,200.00	431.50	-285.94	464.88	0.00	0.00	0.00
7,600.00	90.00	356.02	6,351.20	-1,200.00	531.25	-292.88	564.70	0.00	0.00	0.00
7,700.00	90.00	356.02	6,351.20	-1,200.00	631.01	-299.82	664.52	0.00	0.00	0.00
7,800.00	90.00	356.02	6,351.20	-1,200.00	730.77	-306.76	764.34	0.00	0.00	0.00

Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well TIMBRO FED 10-59 33-12
Company:	BISON OIL & GAS II, LLC	TVD Reference:	KB-EST @ 5151.20usft (Original Well Elev)
Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB-EST @ 5151.20usft (Original Well Elev)
Site:	SW SE SEC. 33 T10N R59W 6th P.M.	North Reference:	True
Well:	TIMBRO FED 10-59 33-12	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)
7,900.00	90.00	356.02	6,351.20	-1,200.00	830.53	-313.71	864.16	0.00	0.00	0.00
8,000.00	90.00	356.02	6,351.20	-1,200.00	930.29	-320.65	963.97	0.00	0.00	0.00
8,100.00	90.00	356.02	6,351.20	-1,200.00	1,030.05	-327.59	1,063.79	0.00	0.00	0.00
8,200.00	90.00	356.02	6,351.20	-1,200.00	1,129.81	-334.54	1,163.61	0.00	0.00	0.00
8,300.00	90.00	356.02	6,351.20	-1,200.00	1,229.57	-341.48	1,263.43	0.00	0.00	0.00
8,400.00	90.00	356.02	6,351.20	-1,200.00	1,329.32	-348.42	1,363.25	0.00	0.00	0.00
8,500.00	90.00	356.02	6,351.20	-1,200.00	1,429.08	-355.37	1,463.06	0.00	0.00	0.00
8,600.00	90.00	356.02	6,351.20	-1,200.00	1,528.84	-362.31	1,562.88	0.00	0.00	0.00
8,700.00	90.00	356.02	6,351.20	-1,200.00	1,628.60	-369.25	1,662.70	0.00	0.00	0.00
8,800.00	90.00	356.02	6,351.20	-1,200.00	1,728.36	-376.20	1,762.52	0.00	0.00	0.00
8,900.00	90.00	356.02	6,351.20	-1,200.00	1,828.12	-383.14	1,862.34	0.00	0.00	0.00
9,000.00	90.00	356.02	6,351.20	-1,200.00	1,927.88	-390.08	1,962.15	0.00	0.00	0.00
9,100.00	90.00	356.02	6,351.20	-1,200.00	2,027.63	-397.03	2,061.97	0.00	0.00	0.00
9,200.00	90.00	356.02	6,351.20	-1,200.00	2,127.39	-403.97	2,161.79	0.00	0.00	0.00
9,300.00	90.00	356.02	6,351.20	-1,200.00	2,227.15	-410.92	2,261.61	0.00	0.00	0.00
9,400.00	90.00	356.02	6,351.20	-1,200.00	2,326.91	-417.86	2,361.43	0.00	0.00	0.00
9,500.00	90.00	356.02	6,351.20	-1,200.00	2,426.67	-424.81	2,461.24	0.00	0.00	0.00
9,600.00	90.00	356.02	6,351.20	-1,200.00	2,526.43	-431.75	2,561.06	0.00	0.00	0.00
9,700.00	90.00	356.02	6,351.20	-1,200.00	2,626.19	-438.70	2,660.88	0.00	0.00	0.00
9,800.00	90.00	356.02	6,351.20	-1,200.00	2,725.94	-445.64	2,760.70	0.00	0.00	0.00
9,900.00	90.00	356.02	6,351.20	-1,200.00	2,825.70	-452.59	2,860.52	0.00	0.00	0.00
10,000.00	90.00	356.02	6,351.20	-1,200.00	2,925.46	-459.53	2,960.33	0.00	0.00	0.00
10,100.00	90.00	356.02	6,351.20	-1,200.00	3,025.22	-466.48	3,060.15	0.00	0.00	0.00
10,200.00	90.00	356.02	6,351.20	-1,200.00	3,124.98	-473.42	3,159.97	0.00	0.00	0.00
10,300.00	90.00	356.02	6,351.20	-1,200.00	3,224.74	-480.37	3,259.79	0.00	0.00	0.00
10,400.00	90.00	356.02	6,351.20	-1,200.00	3,324.50	-487.32	3,359.61	0.00	0.00	0.00
10,500.00	90.00	356.02	6,351.20	-1,200.00	3,424.25	-494.26	3,459.43	0.00	0.00	0.00
10,600.00	90.00	356.02	6,351.20	-1,200.00	3,524.01	-501.21	3,559.24	0.00	0.00	0.00
10,700.00	90.00	356.02	6,351.20	-1,200.00	3,623.77	-508.16	3,659.06	0.00	0.00	0.00
10,800.00	90.00	356.02	6,351.20	-1,200.00	3,723.53	-515.10	3,758.88	0.00	0.00	0.00
10,900.00	90.00	356.02	6,351.20	-1,200.00	3,823.29	-522.05	3,858.70	0.00	0.00	0.00
EPI: 600ft FNL & 2205ft FEL of Sec 33										
10,973.48	90.00	356.02	6,351.20	-1,200.00	3,896.59	-527.15	3,932.05	0.00	0.00	0.00
EOT TO 356.04° AZ										
10,974.27	90.00	356.04	6,351.20	-1,200.00	3,897.37	-527.21	3,932.83	3.00	0.00	3.00
11,000.00	90.00	356.04	6,351.20	-1,200.00	3,923.05	-528.98	3,958.52	0.00	0.00	0.00
11,100.00	90.00	356.04	6,351.20	-1,200.00	4,022.81	-535.89	4,058.33	0.00	0.00	0.00
11,200.00	90.00	356.04	6,351.20	-1,200.00	4,122.57	-542.80	4,158.15	0.00	0.00	0.00
BHL: 300ft FNL & 2208ft FEL of Sec 33										
11,274.05	90.00	356.04	6,351.20	-1,200.00	4,196.44	-547.91	4,232.06	0.00	0.00	0.00

Planning Report



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Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB-EST @ 5151.20usft (Original Well Elev)
Site:	SW SE SEC. 33 T10N R59W 6th P.M.	North Reference:	True
Well:	TIMBRO FED 10-59 33-12	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #1		

Formations					
MD (usft)	TVD (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
546.50	546.20	PIERRE SHALE (BASE OF FOX HI			
3,575.03	3,512.20	PARKMAN			
3,907.29	3,837.20	SUSSEX			
4,865.89	4,777.20	SHANNON			
6,254.27	6,136.20	SHARON SPRINGS SHALE			
6,343.41	6,201.20	NIOBRARA FORMATION			
6,358.45	6,211.20	NIOBRARA A CHALK			
6,581.39	6,321.20	NIOBRARA B CHALK			

Plan Annotations				
MD (usft)	TVD (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
0.00	0.00	0.00	0.00	SHL: 896ft FSL & 1904ft FEL of Sec 33
300.00	300.00	0.00	0.00	START NUDGE (2°/100ft BUR)
900.00	895.62	-61.08	-13.70	EOB TO 12° INC
4,589.67	4,504.67	-809.61	-181.63	END OF TANGENT
5,189.67	5,100.29	-870.69	-195.33	EOD TO VERTICAL
5,867.62	5,778.24	-870.69	-195.33	KOP (10°/100ft BUR)
6,767.63	6,351.20	-299.11	-235.10	BPI: 600ft FSL & 2156ft FEL of Sec 33
10,973.48	6,351.20	3,896.59	-527.15	EPI: 600ft FNL & 2205ft FEL of Sec 33
10,974.27	6,351.20	3,897.37	-527.21	EOT TO 356.04° AZ
11,274.05	6,351.20	4,196.44	-547.91	BHL: 300ft FNL & 2208ft FEL of Sec 33