

BISON OIL & GAS II, LLC

WELD COUNTY, COLORADO (NAD 83)

SW NW SEC. 8 T9N R59W 6th P.M.

TIMBRO 9-59 8A-9-9

ORIGINAL WELLBORE

07 February, 2018

Plan: PROPOSAL #1





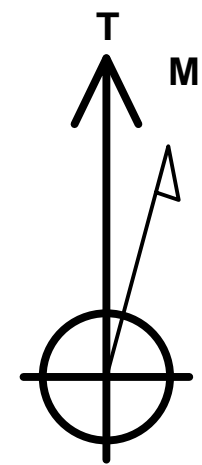
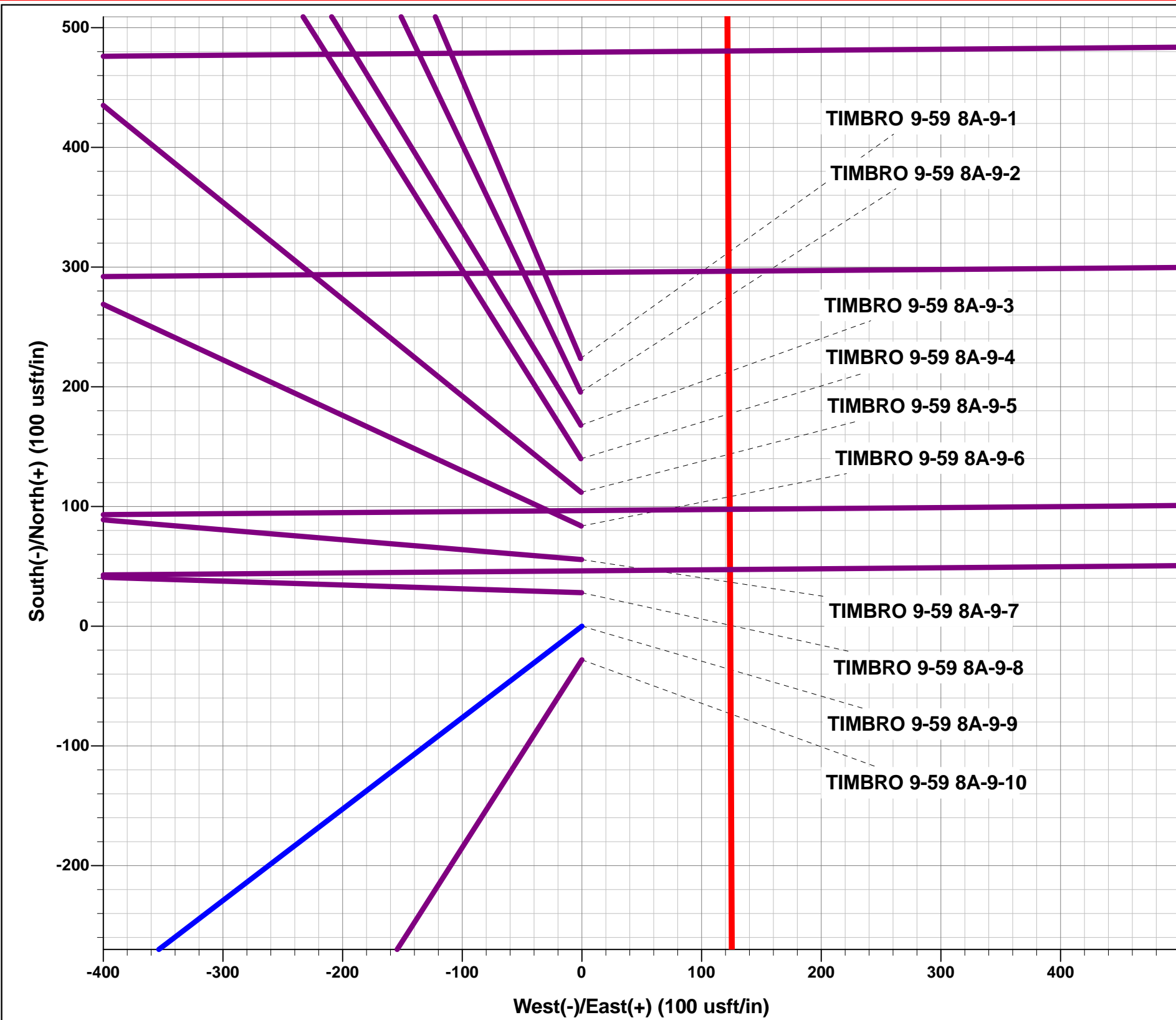
Project: WELD COUNTY, COLORADO (NAD 83)
Site: SW NW SEC. 8 T9N R59W 6th P.M.
Well: TIMBRO 9-59 8A-9-9
Wellbore: ORIGINAL WELLBORE
Design: PROPOSAL #1

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: 1895ft FNL & 475ft FWL of Sec 8
200.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00	START NUDGE (2°/100ft BUR)
795.62	800.00	12.00	232.63	-38.00	-49.75	-48.74	62.60	EOB TO 12° INC
2845.49	2895.66	12.00	232.63	-302.44	-396.04	-387.97	498.31	END OF TANGENT
3441.11	3495.66	0.00	0.00	-340.44	-445.79	-436.71	560.92	EOD TO VERTICAL
5750.44	5804.99	0.00	0.00	-340.44	-445.79	-436.71	560.92	KOP (10°/100ft BUR)
6323.40	6704.99	90.00	89.51	-335.54	127.15	135.90	1133.87	BPI: 2232ft FNL & 600ft FWL of Sec 8
6323.40	15987.51	90.00	89.52	-256.87	9409.33	9412.83	10416.40	EPI: 2234ft FNL & 600ft FEL of Sec 9
6323.40	15988.90	90.00	89.56	-256.86	9410.72	9414.22	10417.78	EOT TO 89.56° AZ
6323.40	16287.52	90.00	89.56	-254.56	9709.33	9712.67	10716.40	BHL: 2232ft FNL & 300ft FEL of Sec 9

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
KOP - TIMBRO 9-59 8A-9-9	5750.44	-340.44	-445.79	40.766155	-104.011626
BPI - TIMBRO 9-59 8A-9-9	6323.40	-335.54	127.15	40.766168	-104.009558
EPI - TIMBRO 9-59 8A-9-9	6323.40	-256.87	9409.33	40.766379	-103.976049
BHL - TIMBRO 9-59 8A-9-9	6323.40	-254.56	9709.33	40.766385	-103.974966



Azimuths to True North
Magnetic North: 7.76°

Magnetic Field
Strength: 52582.6snT
Dip Angle: 67.24°
Date: 07/02/2018
Model: IGRF2015

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
494.40	494.92	PIERRE SHALE
3484.40	3538.95	PARKMAN
3809.40	3863.95	SUSSEX
4749.40	4803.95	SHANNON
6108.40	6191.63	SHARON SPRINGS SHALE
6173.40	6280.78	NIOBRARA FORMATION
6183.40	6295.82	NIOBRARA A CHALK
6293.40	6518.76	NIOBRARA B CHALK

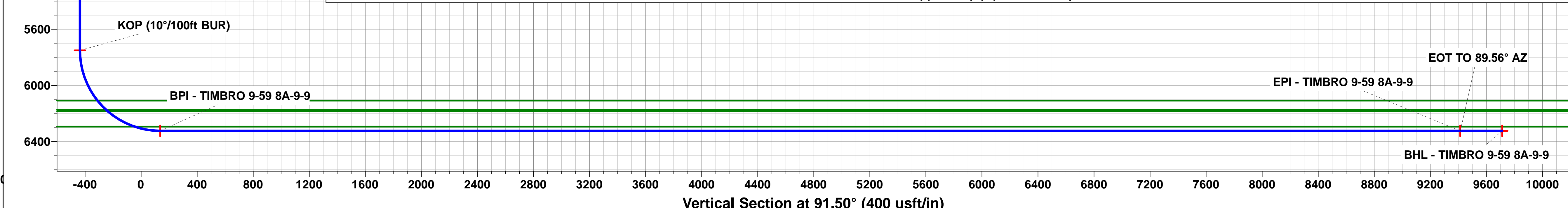
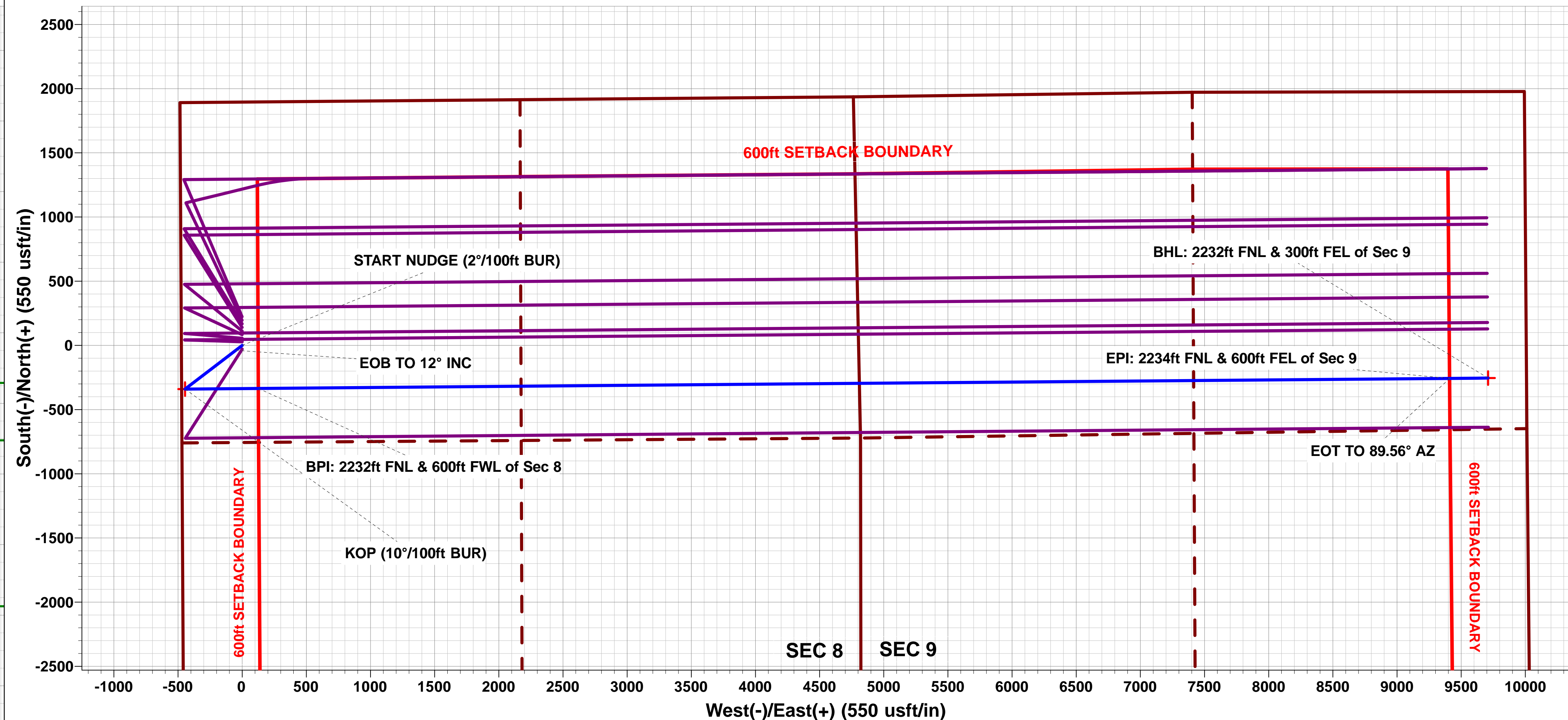
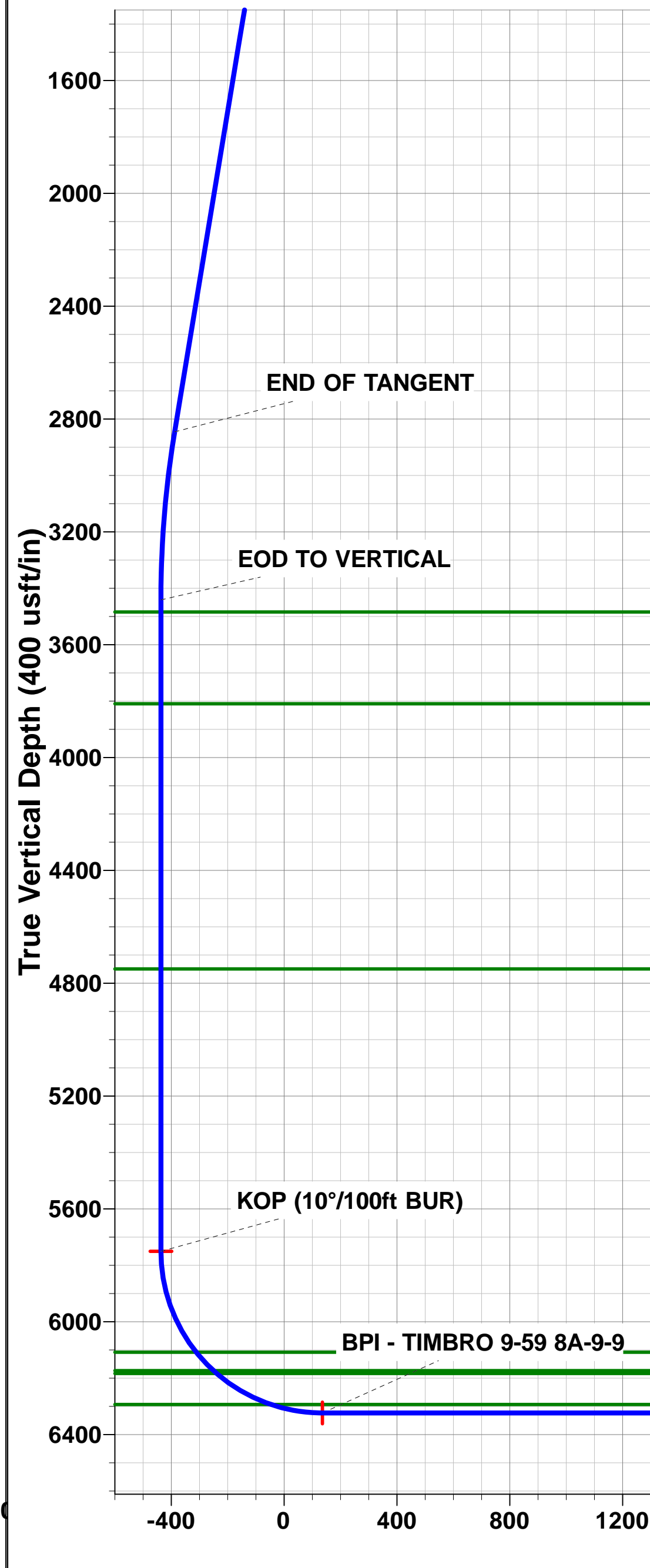
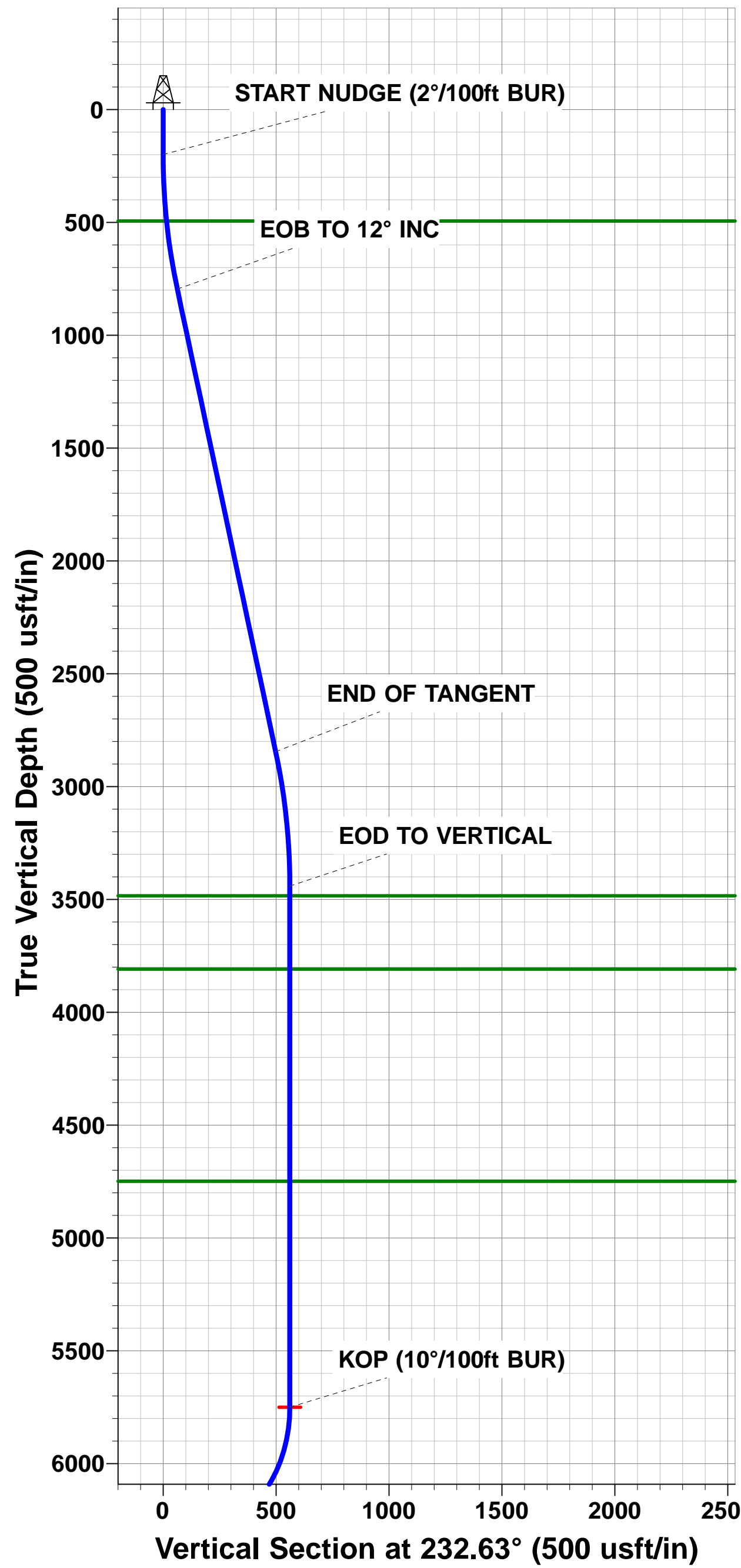
PROPOSED LOCAL COORDINATES:

SHL: 1895ft FNL & 475ft FWL of Sec 8

BEGIN PROD INT: 2232ft FNL & 600ft FWL of Sec 8

END PROD INTERVAL: 2234ft FNL & 600ft FEL of Sec 9

BHL: 2232ft FNL & 300ft FEL of Sec 9



Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well TIMBRO 9-59 8A-9-9
Company:	BISON OIL & GAS II, LLC	TVD Reference:	KB-EST @ 5099.40usft (Original Well Elev)
Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB-EST @ 5099.40usft (Original Well Elev)
Site:	SW NW SEC. 8 T9N R59W 6th P.M.	North Reference:	True
Well:	TIMBRO 9-59 8A-9-9	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 NW SEC. 8 T9N R59W 6th P.M.		
Site Position:		Northing:	1,525,987.12 usft
From:	Lat/Long	Easting:	3,412,704.28 usft
Position Uncertainty:	0.00 usft	Slot Radius:	1.10000ft
		Latitude:	40.767703
		Longitude:	-104.010021
		Grid Convergence:	0.96 °

Well	TIMBRO 9-59 8A-9-9		
Well Position	+N/-S	-223.71 usft	Northing:
	+E/-W	1.11 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	07/02/2018	7.76	67.24	52,583

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 (°)
	6,323.40	0.00	0.00	91.50

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	-5,099.40	0.00	0.00	0.00	0.00	0.00	0.00	
200.00	0.00	0.00	200.00	-4,899.40	0.00	0.00	0.00	0.00	0.00	0.00	
800.00	12.00	232.63	795.62	-4,303.78	-38.00	-49.75	2.00	2.00	0.00	232.63	
2,895.66	12.00	232.63	2,845.49	-2,253.91	-302.44	-396.04	0.00	0.00	0.00	0.00	
3,495.66	0.00	0.00	3,441.11	-1,658.29	-340.44	-445.79	2.00	-2.00	0.00	180.00	
5,804.99	0.00	0.00	5,750.44	651.04	-340.44	-445.79	0.00	0.00	0.00	0.00	KOP - TIMBRO 9-5
6,704.99	90.00	89.51	6,323.40	1,224.00	-335.54	127.15	10.00	10.00	9.95	89.51	BPI - TIMBRO 9-59
15,987.51	90.00	89.52	6,323.40	1,224.00	-256.87	9,409.33	0.00	0.00	0.00	85.69	EPI - TIMBRO 9-59
15,988.90	90.00	89.56	6,323.40	1,224.00	-256.86	9,410.72	3.00	0.00	3.00	90.00	
16,287.52	90.00	89.56	6,323.40	1,224.00	-254.56	9,709.33	0.00	0.00	0.00	0.00	BHL - TIMBRO 9-59

Planning Report



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Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB-EST @ 5099.40usft (Original Well Elev)
Site:	SW NW SEC. 8 T9N R59W 6th P.M.	North Reference:	True
Well:	TIMBRO 9-59 8A-9-9	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: 1895ft FNL & 475ft FWL of Sec 8										
0.00	0.00	0.00	0.00	5,099.40	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	4,999.40	0.00	0.00	0.00	0.00	0.00	0.00
START NUDGE (2°/100ft BUR)										
200.00	0.00	0.00	200.00	4,899.40	0.00	0.00	0.00	0.00	0.00	0.00
300.00	2.00	232.63	299.98	4,799.42	-1.06	-1.39	-1.36	2.00	2.00	0.00
400.00	4.00	232.63	399.84	4,699.56	-4.24	-5.55	-5.43	2.00	2.00	0.00
PIERRE SHALE (BASE OF FOX HILLS)										
494.92	5.90	232.63	494.40	4,605.00	-9.21	-12.05	-11.81	2.00	2.00	0.00
500.00	6.00	232.63	499.45	4,599.95	-9.52	-12.47	-12.22	2.00	2.00	0.00
600.00	8.00	232.63	598.70	4,500.70	-16.92	-22.16	-21.71	2.00	2.00	0.00
700.00	10.00	232.63	697.47	4,401.93	-26.42	-34.59	-33.89	2.00	2.00	0.00
EOB TO 12° INC										
800.00	12.00	232.63	795.62	4,303.78	-38.00	-49.75	-48.74	2.00	2.00	0.00
900.00	12.00	232.63	893.44	4,205.96	-50.61	-66.28	-64.93	0.00	0.00	0.00
1,000.00	12.00	232.63	991.25	4,108.15	-63.23	-82.80	-81.12	0.00	0.00	0.00
1,100.00	12.00	232.63	1,089.07	4,010.33	-75.85	-99.32	-97.30	0.00	0.00	0.00
1,200.00	12.00	232.63	1,186.88	3,912.52	-88.47	-115.85	-113.49	0.00	0.00	0.00
1,300.00	12.00	232.63	1,284.70	3,814.70	-101.09	-132.37	-129.68	0.00	0.00	0.00
1,400.00	12.00	232.63	1,382.51	3,716.89	-113.71	-148.90	-145.86	0.00	0.00	0.00
1,500.00	12.00	232.63	1,480.33	3,619.07	-126.33	-165.42	-162.05	0.00	0.00	0.00
1,600.00	12.00	232.63	1,578.14	3,521.26	-138.95	-181.94	-178.24	0.00	0.00	0.00
1,700.00	12.00	232.63	1,675.96	3,423.44	-151.57	-198.47	-194.43	0.00	0.00	0.00
1,800.00	12.00	232.63	1,773.77	3,325.63	-164.18	-214.99	-210.61	0.00	0.00	0.00
1,900.00	12.00	232.63	1,871.59	3,227.81	-176.80	-231.52	-226.80	0.00	0.00	0.00
2,000.00	12.00	232.63	1,969.40	3,130.00	-189.42	-248.04	-242.99	0.00	0.00	0.00
2,100.00	12.00	232.63	2,067.22	3,032.18	-202.04	-264.56	-259.18	0.00	0.00	0.00
2,200.00	12.00	232.63	2,165.03	2,934.37	-214.66	-281.09	-275.36	0.00	0.00	0.00
2,300.00	12.00	232.63	2,262.84	2,836.56	-227.28	-297.61	-291.55	0.00	0.00	0.00
2,400.00	12.00	232.63	2,360.66	2,738.74	-239.90	-314.13	-307.74	0.00	0.00	0.00
2,500.00	12.00	232.63	2,458.47	2,640.93	-252.52	-330.66	-323.93	0.00	0.00	0.00
2,600.00	12.00	232.63	2,556.29	2,543.11	-265.14	-347.18	-340.11	0.00	0.00	0.00
2,700.00	12.00	232.63	2,654.10	2,445.30	-277.75	-363.71	-356.30	0.00	0.00	0.00
2,800.00	12.00	232.63	2,751.92	2,347.48	-290.37	-380.23	-372.49	0.00	0.00	0.00
END OF TANGENT										
2,895.66	12.00	232.63	2,845.49	2,253.91	-302.44	-396.04	-387.97	0.00	0.00	0.00
2,900.00	11.91	232.63	2,849.73	2,249.67	-302.99	-396.75	-388.67	2.00	-2.00	0.00
3,000.00	9.91	232.63	2,947.92	2,151.48	-314.48	-411.80	-403.41	2.00	-2.00	0.00
3,100.00	7.91	232.63	3,046.71	2,052.69	-323.88	-424.11	-415.48	2.00	-2.00	0.00
3,200.00	5.91	232.63	3,145.98	1,953.42	-331.19	-433.68	-424.85	2.00	-2.00	0.00
3,300.00	3.91	232.63	3,245.60	1,853.80	-336.39	-440.48	-431.51	2.00	-2.00	0.00
3,400.00	1.91	232.63	3,345.47	1,753.93	-339.47	-444.52	-435.47	2.00	-2.00	0.00
EOD TO VERTICAL										
3,495.66	0.00	0.00	3,441.11	1,658.29	-340.44	-445.79	-436.71	2.00	-2.00	0.00
3,500.00	0.00	0.00	3,445.45	1,653.95	-340.44	-445.79	-436.71	0.00	0.00	0.00
PARKMAN										
3,538.95	0.00	0.00	3,484.40	1,615.00	-340.44	-445.79	-436.71	0.00	0.00	0.00
3,600.00	0.00	0.00	3,545.45	1,553.95	-340.44	-445.79	-436.71	0.00	0.00	0.00
3,700.00	0.00	0.00	3,645.45	1,453.95	-340.44	-445.79	-436.71	0.00	0.00	0.00
3,800.00	0.00	0.00	3,745.45	1,353.95	-340.44	-445.79	-436.71	0.00	0.00	0.00
SUSSEX										
3,863.95	0.00	0.00	3,809.40	1,290.00	-340.44	-445.79	-436.71	0.00	0.00	0.00
3,900.00	0.00	0.00	3,845.45	1,253.95	-340.44	-445.79	-436.71	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)
4,000.00	0.00	0.00	3,945.45	1,153.95	-340.44	-445.79	-436.71	0.00	0.00	0.00
4,100.00	0.00	0.00	4,045.45	1,053.95	-340.44	-445.79	-436.71	0.00	0.00	0.00
4,200.00	0.00	0.00	4,145.45	953.95	-340.44	-445.79	-436.71	0.00	0.00	0.00
4,300.00	0.00	0.00	4,245.45	853.95	-340.44	-445.79	-436.71	0.00	0.00	0.00
4,400.00	0.00	0.00	4,345.45	753.95	-340.44	-445.79	-436.71	0.00	0.00	0.00
4,500.00	0.00	0.00	4,445.45	653.95	-340.44	-445.79	-436.71	0.00	0.00	0.00
4,600.00	0.00	0.00	4,545.45	553.95	-340.44	-445.79	-436.71	0.00	0.00	0.00
4,700.00	0.00	0.00	4,645.45	453.95	-340.44	-445.79	-436.71	0.00	0.00	0.00
4,800.00	0.00	0.00	4,745.45	353.95	-340.44	-445.79	-436.71	0.00	0.00	0.00
SHANNON										
4,803.95	0.00	0.00	4,749.40	350.00	-340.44	-445.79	-436.71	0.00	0.00	0.00
4,900.00	0.00	0.00	4,845.45	253.95	-340.44	-445.79	-436.71	0.00	0.00	0.00
5,000.00	0.00	0.00	4,945.45	153.95	-340.44	-445.79	-436.71	0.00	0.00	0.00
5,100.00	0.00	0.00	5,045.45	53.95	-340.44	-445.79	-436.71	0.00	0.00	0.00
5,200.00	0.00	0.00	5,145.45	-46.05	-340.44	-445.79	-436.71	0.00	0.00	0.00
5,300.00	0.00	0.00	5,245.45	-146.05	-340.44	-445.79	-436.71	0.00	0.00	0.00
5,400.00	0.00	0.00	5,345.45	-246.05	-340.44	-445.79	-436.71	0.00	0.00	0.00
5,500.00	0.00	0.00	5,445.45	-346.05	-340.44	-445.79	-436.71	0.00	0.00	0.00
5,600.00	0.00	0.00	5,545.45	-446.05	-340.44	-445.79	-436.71	0.00	0.00	0.00
5,700.00	0.00	0.00	5,645.45	-546.05	-340.44	-445.79	-436.71	0.00	0.00	0.00
5,800.00	0.00	0.00	5,745.45	-646.05	-340.44	-445.79	-436.71	0.00	0.00	0.00
KOP (10°/100ft BUR)										
5,804.99	0.00	0.00	5,750.44	-651.04	-340.44	-445.79	-436.71	0.00	0.00	0.00
5,900.00	9.50	89.51	5,845.02	-745.62	-340.37	-437.93	-428.86	10.00	10.00	0.00
6,000.00	19.50	89.51	5,941.71	-842.31	-340.16	-412.92	-403.87	10.00	10.00	0.00
6,100.00	29.50	89.51	6,032.59	-933.19	-339.81	-371.51	-362.47	10.00	10.00	0.00
SHARON SPRINGS SHALE										
6,191.63	38.66	89.51	6,108.40	-1,009.00	-339.37	-320.21	-311.21	10.00	10.00	0.00
6,200.00	39.50	89.51	6,114.89	-1,015.49	-339.32	-314.94	-305.94	10.00	10.00	0.00
NIORARA FORMATION										
6,280.78	47.58	89.51	6,173.40	-1,074.00	-338.85	-259.34	-250.37	10.00	10.00	0.00
NIORARA A CHALK										
6,295.82	49.08	89.51	6,183.40	-1,084.00	-338.75	-248.11	-239.15	10.00	10.00	0.00
6,300.00	49.50	89.51	6,186.13	-1,086.73	-338.72	-244.94	-235.98	10.00	10.00	0.00
6,400.00	59.50	89.51	6,244.12	-1,144.72	-338.03	-163.63	-154.72	10.00	10.00	0.00
6,500.00	69.50	89.51	6,287.12	-1,187.72	-337.26	-73.49	-64.63	10.00	10.00	0.00
NIORARA B CHALK										
6,518.76	71.38	89.51	6,293.40	-1,194.00	-337.11	-55.81	-46.96	10.00	10.00	0.00
6,600.00	79.50	89.51	6,313.81	-1,214.41	-336.44	22.75	31.56	10.00	10.00	0.00
6,700.00	89.50	89.51	6,323.38	-1,223.98	-335.59	122.16	130.91	10.00	10.00	0.00
BPI: 2232ft FNL & 600ft FWL of Sec 8										
6,704.99	90.00	89.51	6,323.40	-1,224.00	-335.54	127.15	135.90	10.00	10.00	0.00
6,800.00	90.00	89.51	6,323.40	-1,224.00	-334.73	222.15	230.85	0.00	0.00	0.00
6,900.00	90.00	89.51	6,323.40	-1,224.00	-333.88	322.15	330.79	0.00	0.00	0.00
7,000.00	90.00	89.51	6,323.40	-1,224.00	-333.02	422.15	430.73	0.00	0.00	0.00
7,100.00	90.00	89.51	6,323.40	-1,224.00	-332.17	522.14	530.67	0.00	0.00	0.00
7,200.00	90.00	89.51	6,323.40	-1,224.00	-331.32	622.14	630.61	0.00	0.00	0.00
7,300.00	90.00	89.51	6,323.40	-1,224.00	-330.46	722.13	730.55	0.00	0.00	0.00
7,400.00	90.00	89.51	6,323.40	-1,224.00	-329.61	822.13	830.49	0.00	0.00	0.00
7,500.00	90.00	89.51	6,323.40	-1,224.00	-328.75	922.13	930.43	0.00	0.00	0.00
7,600.00	90.00	89.51	6,323.40	-1,224.00	-327.90	1,022.12	1,030.37	0.00	0.00	0.00
7,700.00	90.00	89.51	6,323.40	-1,224.00	-327.05	1,122.12	1,130.31	0.00	0.00	0.00
7,800.00	90.00	89.51	6,323.41	-1,224.01	-326.20	1,222.12	1,230.25	0.00	0.00	0.00

Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well TIMBRO 9-59 8A-9-9
Company:	BISON OIL & GAS II, LLC	TVD Reference:	KB-EST @ 5099.40usft (Original Well Elev)
Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB-EST @ 5099.40usft (Original Well Elev)
Site:	SW NW SEC. 8 T9N R59W 6th P.M.	North Reference:	True
Well:	TIMBRO 9-59 8A-9-9	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	89.51	6,323.41	-1,224.01	-325.34	1,322.11	1,330.19	0.00	0.00	0.00
8,000.00	90.00	89.51	6,323.41	-1,224.01	-324.49	1,422.11	1,430.13	0.00	0.00	0.00
8,100.00	90.00	89.51	6,323.41	-1,224.01	-323.64	1,522.11	1,530.07	0.00	0.00	0.00
8,200.00	90.00	89.51	6,323.41	-1,224.01	-322.79	1,622.10	1,630.01	0.00	0.00	0.00
8,300.00	90.00	89.51	6,323.41	-1,224.01	-321.93	1,722.10	1,729.94	0.00	0.00	0.00
8,400.00	90.00	89.51	6,323.41	-1,224.01	-321.08	1,822.09	1,829.88	0.00	0.00	0.00
8,500.00	90.00	89.51	6,323.41	-1,224.01	-320.23	1,922.09	1,929.82	0.00	0.00	0.00
8,600.00	90.00	89.51	6,323.41	-1,224.01	-319.38	2,022.09	2,029.76	0.00	0.00	0.00
8,700.00	90.00	89.51	6,323.41	-1,224.01	-318.53	2,122.08	2,129.70	0.00	0.00	0.00
8,800.00	90.00	89.51	6,323.41	-1,224.01	-317.67	2,222.08	2,229.64	0.00	0.00	0.00
8,900.00	90.00	89.51	6,323.41	-1,224.01	-316.82	2,322.08	2,329.58	0.00	0.00	0.00
9,000.00	90.00	89.51	6,323.41	-1,224.01	-315.97	2,422.07	2,429.52	0.00	0.00	0.00
9,100.00	90.00	89.51	6,323.41	-1,224.01	-315.12	2,522.07	2,529.46	0.00	0.00	0.00
9,200.00	90.00	89.51	6,323.41	-1,224.01	-314.27	2,622.07	2,629.40	0.00	0.00	0.00
9,300.00	90.00	89.51	6,323.41	-1,224.01	-313.42	2,722.06	2,729.34	0.00	0.00	0.00
9,400.00	90.00	89.51	6,323.41	-1,224.01	-312.57	2,822.06	2,829.28	0.00	0.00	0.00
9,500.00	90.00	89.51	6,323.41	-1,224.01	-311.72	2,922.06	2,929.22	0.00	0.00	0.00
9,600.00	90.00	89.51	6,323.41	-1,224.01	-310.87	3,022.05	3,029.16	0.00	0.00	0.00
9,700.00	90.00	89.51	6,323.41	-1,224.01	-310.02	3,122.05	3,129.10	0.00	0.00	0.00
9,800.00	90.00	89.51	6,323.41	-1,224.01	-309.17	3,222.04	3,229.04	0.00	0.00	0.00
9,900.00	90.00	89.51	6,323.41	-1,224.01	-308.32	3,322.04	3,328.98	0.00	0.00	0.00
10,000.00	90.00	89.51	6,323.41	-1,224.01	-307.47	3,422.04	3,428.92	0.00	0.00	0.00
10,100.00	90.00	89.51	6,323.41	-1,224.01	-306.62	3,522.03	3,528.86	0.00	0.00	0.00
10,200.00	90.00	89.51	6,323.41	-1,224.01	-305.77	3,622.03	3,628.80	0.00	0.00	0.00
10,300.00	90.00	89.51	6,323.41	-1,224.01	-304.92	3,722.03	3,728.74	0.00	0.00	0.00
10,400.00	90.00	89.51	6,323.41	-1,224.01	-304.07	3,822.02	3,828.68	0.00	0.00	0.00
10,500.00	90.00	89.51	6,323.41	-1,224.01	-303.22	3,922.02	3,928.62	0.00	0.00	0.00
10,600.00	90.00	89.51	6,323.41	-1,224.01	-302.37	4,022.02	4,028.56	0.00	0.00	0.00
10,700.00	90.00	89.51	6,323.41	-1,224.01	-301.52	4,122.01	4,128.50	0.00	0.00	0.00
10,800.00	90.00	89.51	6,323.41	-1,224.01	-300.68	4,222.01	4,228.44	0.00	0.00	0.00
10,900.00	90.00	89.51	6,323.41	-1,224.01	-299.83	4,322.00	4,328.38	0.00	0.00	0.00
11,000.00	90.00	89.51	6,323.41	-1,224.01	-298.98	4,422.00	4,428.32	0.00	0.00	0.00
11,100.00	90.00	89.51	6,323.41	-1,224.01	-298.13	4,522.00	4,528.26	0.00	0.00	0.00
11,200.00	90.00	89.51	6,323.41	-1,224.01	-297.28	4,621.99	4,628.20	0.00	0.00	0.00
11,300.00	90.00	89.51	6,323.41	-1,224.01	-296.44	4,721.99	4,728.14	0.00	0.00	0.00
11,400.00	90.00	89.51	6,323.41	-1,224.01	-295.59	4,821.99	4,828.08	0.00	0.00	0.00
11,500.00	90.00	89.51	6,323.41	-1,224.01	-294.74	4,921.98	4,928.02	0.00	0.00	0.00
11,600.00	90.00	89.51	6,323.41	-1,224.01	-293.89	5,021.98	5,027.96	0.00	0.00	0.00
11,700.00	90.00	89.51	6,323.41	-1,224.01	-293.05	5,121.98	5,127.90	0.00	0.00	0.00
11,800.00	90.00	89.51	6,323.41	-1,224.01	-292.20	5,221.97	5,227.84	0.00	0.00	0.00
11,900.00	90.00	89.51	6,323.41	-1,224.01	-291.35	5,321.97	5,327.78	0.00	0.00	0.00
12,000.00	90.00	89.51	6,323.41	-1,224.01	-290.51	5,421.97	5,427.72	0.00	0.00	0.00
12,100.00	90.00	89.52	6,323.41	-1,224.01	-289.66	5,521.96	5,527.66	0.00	0.00	0.00
12,200.00	90.00	89.52	6,323.41	-1,224.01	-288.81	5,621.96	5,627.60	0.00	0.00	0.00
12,300.00	90.00	89.52	6,323.41	-1,224.01	-287.97	5,721.95	5,727.54	0.00	0.00	0.00
12,400.00	90.00	89.52	6,323.41	-1,224.01	-287.12	5,821.95	5,827.48	0.00	0.00	0.00
12,500.00	90.00	89.52	6,323.41	-1,224.01	-286.28	5,921.95	5,927.42	0.00	0.00	0.00
12,600.00	90.00	89.52	6,323.41	-1,224.01	-285.43	6,021.94	6,027.36	0.00	0.00	0.00
12,700.00	90.00	89.52	6,323.41	-1,224.01	-284.58	6,121.94	6,127.30	0.00	0.00	0.00
12,800.00	90.00	89.52	6,323.41	-1,224.01	-283.74	6,221.94	6,227.24	0.00	0.00	0.00
12,900.00	90.00	89.52	6,323.41	-1,224.01	-282.89	6,321.93	6,327.18	0.00	0.00	0.00
13,000.00	90.00	89.52	6,323.41	-1,224.01	-282.05	6,421.93	6,427.12	0.00	0.00	0.00
13,100.00	90.00	89.52	6,323.41	-1,224.01	-281.20	6,521.93	6,527.06	0.00	0.00	0.00
13,200.00	90.00	89.52	6,323.41	-1,224.01	-280.36	6,621.92	6,627.00	0.00	0.00	0.00

Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well TIMBRO 9-59 8A-9-9
Company:	BISON OIL & GAS II, LLC	TVD Reference:	KB-EST @ 5099.40usft (Original Well Elev)
Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB-EST @ 5099.40usft (Original Well Elev)
Site:	SW NW SEC. 8 T9N R59W 6th P.M.	North Reference:	True
Well:	TIMBRO 9-59 8A-9-9	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)
13,300.00	90.00	89.52	6,323.41	-1,224.01	-279.51	6,721.92	6,726.94	0.00	0.00	0.00
13,400.00	90.00	89.52	6,323.41	-1,224.01	-278.67	6,821.92	6,826.88	0.00	0.00	0.00
13,500.00	90.00	89.52	6,323.41	-1,224.01	-277.82	6,921.91	6,926.82	0.00	0.00	0.00
13,600.00	90.00	89.52	6,323.41	-1,224.01	-276.98	7,021.91	7,026.76	0.00	0.00	0.00
13,700.00	90.00	89.52	6,323.41	-1,224.01	-276.14	7,121.90	7,126.70	0.00	0.00	0.00
13,800.00	90.00	89.52	6,323.41	-1,224.01	-275.29	7,221.90	7,226.64	0.00	0.00	0.00
13,900.00	90.00	89.52	6,323.41	-1,224.01	-274.45	7,321.90	7,326.58	0.00	0.00	0.00
14,000.00	90.00	89.52	6,323.41	-1,224.01	-273.60	7,421.89	7,426.52	0.00	0.00	0.00
14,100.00	90.00	89.52	6,323.41	-1,224.01	-272.76	7,521.89	7,526.46	0.00	0.00	0.00
14,200.00	90.00	89.52	6,323.41	-1,224.01	-271.92	7,621.89	7,626.40	0.00	0.00	0.00
14,300.00	90.00	89.52	6,323.41	-1,224.01	-271.07	7,721.88	7,726.34	0.00	0.00	0.00
14,400.00	90.00	89.52	6,323.41	-1,224.01	-270.23	7,821.88	7,826.28	0.00	0.00	0.00
14,500.00	90.00	89.52	6,323.41	-1,224.01	-269.39	7,921.88	7,926.22	0.00	0.00	0.00
14,600.00	90.00	89.52	6,323.41	-1,224.01	-268.55	8,021.87	8,026.16	0.00	0.00	0.00
14,700.00	90.00	89.52	6,323.41	-1,224.01	-267.70	8,121.87	8,126.10	0.00	0.00	0.00
14,800.00	90.00	89.52	6,323.41	-1,224.01	-266.86	8,221.87	8,226.04	0.00	0.00	0.00
14,900.00	90.00	89.52	6,323.41	-1,224.01	-266.02	8,321.86	8,325.98	0.00	0.00	0.00
15,000.00	90.00	89.52	6,323.40	-1,224.00	-265.18	8,421.86	8,425.92	0.00	0.00	0.00
15,100.00	90.00	89.52	6,323.40	-1,224.00	-264.33	8,521.85	8,525.86	0.00	0.00	0.00
15,200.00	90.00	89.52	6,323.40	-1,224.00	-263.49	8,621.85	8,625.80	0.00	0.00	0.00
15,300.00	90.00	89.52	6,323.40	-1,224.00	-262.65	8,721.85	8,725.74	0.00	0.00	0.00
15,400.00	90.00	89.52	6,323.40	-1,224.00	-261.81	8,821.84	8,825.68	0.00	0.00	0.00
15,500.00	90.00	89.52	6,323.40	-1,224.00	-260.97	8,921.84	8,925.62	0.00	0.00	0.00
15,600.00	90.00	89.52	6,323.40	-1,224.00	-260.13	9,021.84	9,025.56	0.00	0.00	0.00
15,700.00	90.00	89.52	6,323.40	-1,224.00	-259.28	9,121.83	9,125.50	0.00	0.00	0.00
15,800.00	90.00	89.52	6,323.40	-1,224.00	-258.44	9,221.83	9,225.44	0.00	0.00	0.00
15,900.00	90.00	89.52	6,323.40	-1,224.00	-257.60	9,321.83	9,325.38	0.00	0.00	0.00
EPI: 2234ft FNL & 600ft FEL of Sec 9										
15,987.51	90.00	89.52	6,323.40	-1,224.00	-256.87	9,409.33	9,412.83	0.00	0.00	0.00
EOT TO 89.56° AZ										
15,988.90	90.00	89.56	6,323.40	-1,224.00	-256.86	9,410.72	9,414.22	3.00	0.00	3.00
16,000.00	90.00	89.56	6,323.40	-1,224.00	-256.77	9,421.82	9,425.32	0.00	0.00	0.00
16,100.00	90.00	89.56	6,323.40	-1,224.00	-256.00	9,521.82	9,525.26	0.00	0.00	0.00
16,200.00	90.00	89.56	6,323.40	-1,224.00	-255.24	9,621.82	9,625.20	0.00	0.00	0.00
BHL: 2232ft FNL & 300ft FEL of Sec 9										
16,287.52	90.00	89.56	6,323.40	-1,224.00	-254.56	9,709.33	9,712.67	0.00	0.00	0.00

Formations						
MD (usft)	TVD (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
494.92	494.40	PIERRE SHALE (BASE OF FOX HI				
3,538.95	3,484.40	PARKMAN				
3,863.95	3,809.40	SUSSEX				
4,803.95	4,749.40	SHANNON				
6,191.63	6,108.40	SHARON SPRINGS SHALE				
6,280.78	6,173.40	NIOBRARA FORMATION				
6,295.82	6,183.40	NIOBRARA A CHALK				
6,518.76	6,293.40	NIOBRARA B CHALK				

Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well TIMBRO 9-59 8A-9-9
Company:	BISON OIL & GAS II, LLC	TVD Reference:	KB-EST @ 5099.40usft (Original Well Elev)
Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB-EST @ 5099.40usft (Original Well Elev)
Site:	SW NW SEC. 8 T9N R59W 6th P.M.	North Reference:	True
Well:	TIMBRO 9-59 8A-9-9	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	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: 1895ft FNL & 475ft FWL of Sec 8
200.00	200.00	0.00	0.00	START NUDGE (2°/100ft BUR)
800.00	795.62	-38.00	-49.75	EOB TO 12° INC
2,895.66	2,845.49	-302.44	-396.04	END OF TANGENT
3,495.66	3,441.11	-340.44	-445.79	EOD TO VERTICAL
5,804.99	5,750.44	-340.44	-445.79	KOP (10°/100ft BUR)
6,704.99	6,323.40	-335.54	127.15	BPI: 2232ft FNL & 600ft FWL of Sec 8
15,987.51	6,323.40	-256.87	9,409.33	EPI: 2234ft FNL & 600ft FEL of Sec 9
15,988.90	6,323.40	-256.86	9,410.72	EOT TO 89.56° AZ
16,287.52	6,323.40	-254.56	9,709.33	BHL: 2232ft FNL & 300ft FEL of Sec 9