

BISON OIL & GAS II, LLC

WELD COUNTY, COLORADO (NAD 83)

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

TIMBRO 9-59 8B-9-7

ORIGINAL WELLBORE

05 March, 2018

Plan: PROPOSAL #1





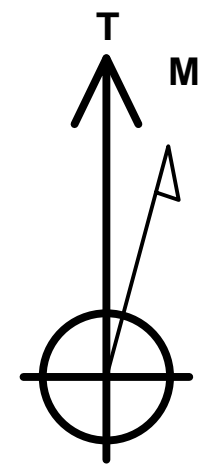
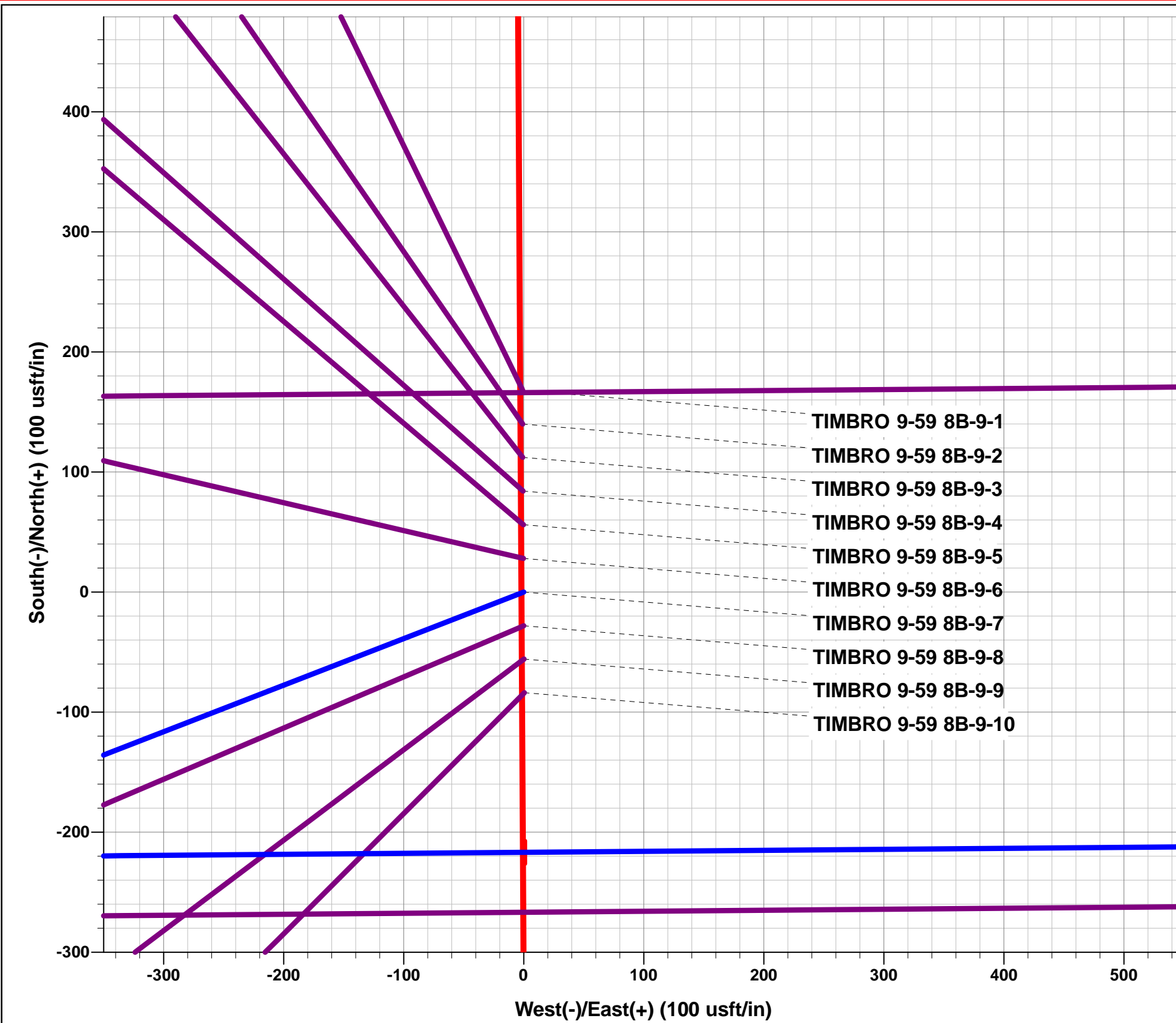
Project: WELD COUNTY, COLORADO (NAD 83)
Site: NW SW SEC. 8 T9N R59W 6th P.M.
Well: TIMBRO 9-59 8B-9-7
Wellbore: ORIGINAL WELLBORE
Design: PROPOSAL #1

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: 1275ft FSL & 600ft FWL of Sec 8
400.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00	START NUDDGE (2°/100ft BUR)
995.62	1000.00	12.00	248.81	-22.63	-58.37	-58.04	62.60	EOB TO 12° INC
3290.49	3346.14	12.00	248.81	-198.94	-513.18	-510.31	550.39	END OF TANGENT
3886.12	3946.14	0.00	0.00	-221.57	-571.55	-568.35	612.99	EOD TO VERTICAL
5599.94	5659.96	0.00	0.00	-221.57	-571.55	-568.35	612.99	KOP (10°/100ft BUR)
6172.90	6559.96	90.00	89.52	-216.77	1.39	4.45	1185.95	BPI: 1058ft FSL & 600ft FWL of Sec 8
6172.90	15849.62	90.00	89.51	-138.50	9290.71	9291.74	10475.61	EPI: 1054ft FSL & 600ft FEL of Sec 9
6172.90	15850.44	90.00	89.49	-138.50	9291.53	9292.56	10476.42	EOT TO 89.49° AZ
6172.90	16149.65	90.00	89.49	-135.84	9590.74	9591.70	10775.64	BHL: 1053ft FSL & 300ft FEL of Sec 9

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
KOP - TIMBRO 9-59 8B-9-7	5599.94	-221.57	-571.55	40.760626	-104.011584
BPI - TIMBRO 9-59 8B-9-7	6172.90	-216.77	1.39	40.760639	-104.009516
EPI - TIMBRO 9-59 8B-9-7	6172.90	-138.50	9290.71	40.760849	-103.975984
BHL - TIMBRO 9-59 8B-9-7	6172.90	-135.84	9590.74	40.760856	-103.974901



Azimuths to True North
Magnetic North: 7.75°

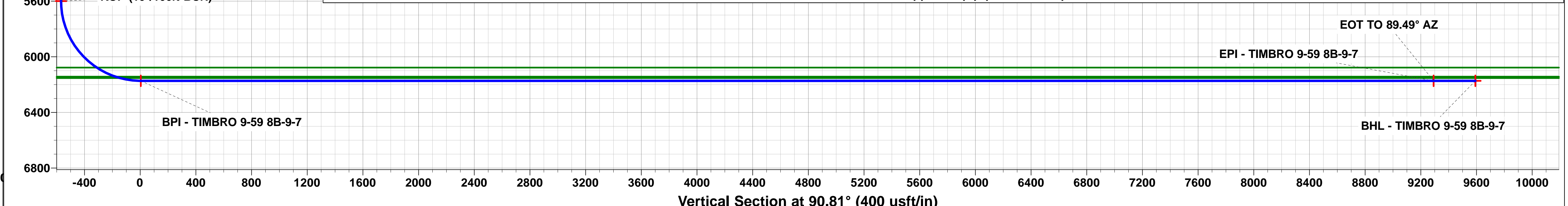
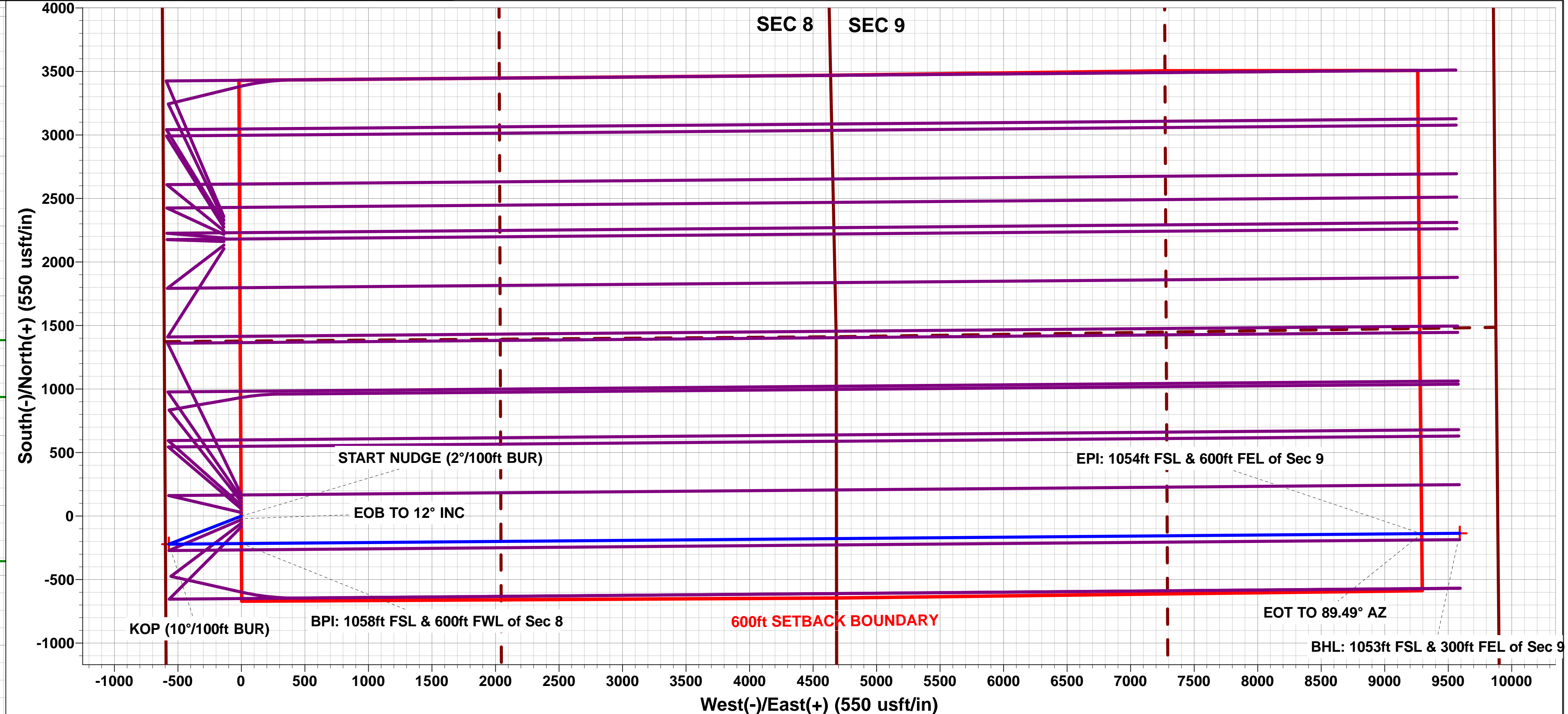
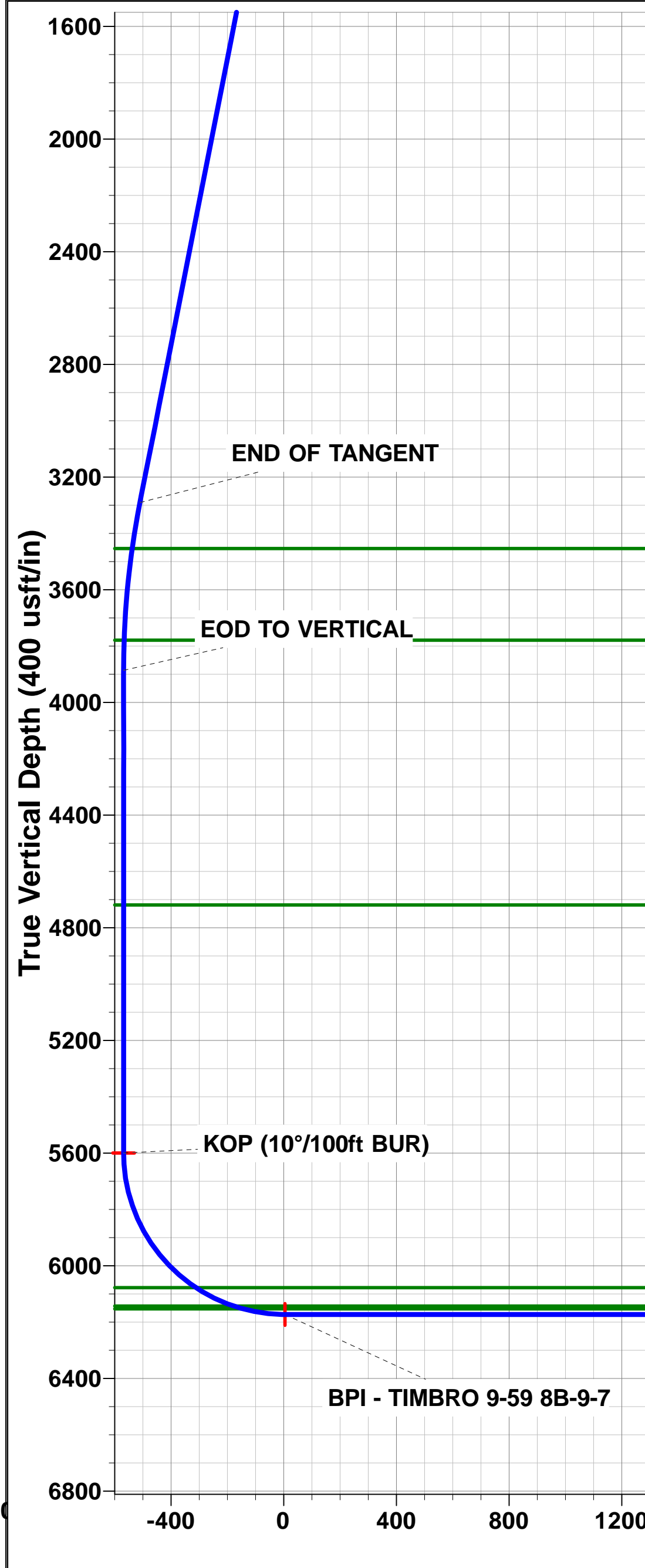
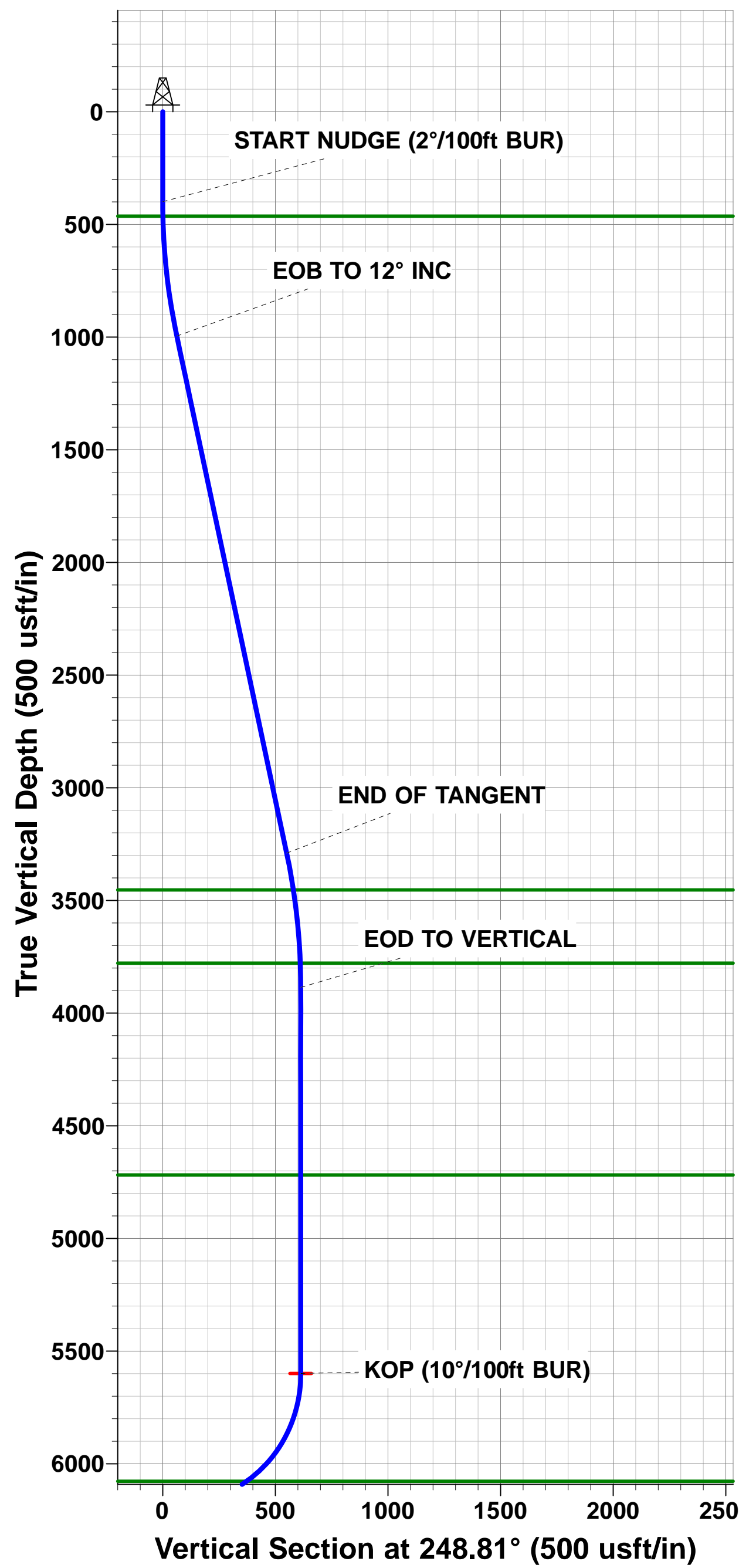
Magnetic Field
Strength: 52571.7snT
Dip Angle: 67.24°
Date: 05/03/2018
Model: IGRF2015

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
463.90	463.91	PIERRE SHALE
3453.90	3512.27	PARKMAN
3778.90	3838.90	SUSSEX
4718.90	4778.92	SHANNON
6077.90	6225.29	SHARON SPRINGS SHALE
6142.90	6373.74	NIORARA FORMATION
6152.90	6408.13	NIORARA A CHALK

PROPOSED LOCAL COORDINATES:

SHL: 1275ft FSL & 600ft FWL of Sec 8
BEGIN PROD INT: 1058ft FSL & 600ft FWL of Sec 8
END PROD INTERVAL:1054ft FSL & 600ft FEL of Sec 9
BHL: 1053ft FSL & 300ft FEL of Sec 9



Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well TIMBRO 9-59 8B-9-7
Company:	BISON OIL & GAS II, LLC	TVD Reference:	KB-EST @ 5068.90usft (Original Well Elev)
Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB-EST @ 5068.90usft (Original Well Elev)
Site:	NW SW SEC. 8 T9N R59W 6th P.M.	North Reference:	True
Well:	TIMBRO 9-59 8B-9-7	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	NW SW SEC. 8 T9N R59W 6th P.M.		
Site Position:		Northing:	1,523,800.83 usft
From:	Lat/Long	Easting:	3,412,878.72 usft
Position Uncertainty:	0.00 usft	Slot Radius:	1.10000ft
		Latitude:	40.761695
		Longitude:	-104.009524
		Grid Convergence:	0.96 °

Well	TIMBRO 9-59 8B-9-7		
Well Position	+N/-S	-167.97 usft	Northing: 1,523,632.90 usfi
	+E/-W	0.83 usft	Easting: 3,412,882.37 usfi
Position Uncertainty	0.00 usft	Wellhead Elevation:	usfi
		Latitude:	40.761234
		Longitude:	-104.009521
		Ground Level:	5,043.90 usft

Wellbore	ORIGINAL WELLBORE				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	05/03/2018	7.75	67.24	52,572

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 (°)
	6,172.90	0.00	0.00	90.81

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	-5,068.90	0.00	0.00	0.00	0.00	0.00	0.00	
400.00	0.00	0.00	400.00	-4,668.90	0.00	0.00	0.00	0.00	0.00	0.00	
1,000.00	12.00	248.81	995.62	-4,073.28	-22.63	-58.37	2.00	2.00	0.00	248.81	
3,346.14	12.00	248.81	3,290.49	-1,778.41	-198.94	-513.18	0.00	0.00	0.00	0.00	
3,946.14	0.00	0.00	3,886.12	-1,182.78	-221.57	-571.55	2.00	-2.00	0.00	180.00	
5,659.96	0.00	0.00	5,599.94	531.04	-221.57	-571.55	0.00	0.00	0.00	0.00	KOP - TIMBRO 9-5
6,559.96	90.00	89.52	6,172.90	1,104.00	-216.77	1.39	10.00	10.00	9.95	89.52	BPI - TIMBRO 9-59
15,849.62	90.00	89.51	6,172.90	1,104.00	-138.50	9,290.71	0.00	0.00	0.00	-80.42	EPI - TIMBRO 9-59
15,850.44	90.00	89.49	6,172.90	1,104.00	-138.50	9,291.53	3.00	0.00	-3.00	-90.00	
16,149.65	90.00	89.49	6,172.90	1,104.00	-135.84	9,590.74	0.00	0.00	0.00	117.41	BHL - TIMBRO 9-59

Planning Report



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Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB-EST @ 5068.90usft (Original Well Elev)
Site:	NW SW SEC. 8 T9N R59W 6th P.M.	North Reference:	True
Well:	TIMBRO 9-59 8B-9-7	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: 1275ft FSL & 600ft FWL of Sec 8										
0.00	0.00	0.00	0.00	5,068.90	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	4,968.90	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	4,868.90	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	4,768.90	0.00	0.00	0.00	0.00	0.00	0.00
START NUDGE (2°/100ft BUR)										
400.00	0.00	0.00	400.00	4,668.90	0.00	0.00	0.00	0.00	0.00	0.00
PIERRE SHALE										
463.91	1.28	248.81	463.90	4,605.00	-0.26	-0.66	-0.66	2.00	2.00	0.00
500.00	2.00	248.81	499.98	4,568.92	-0.63	-1.63	-1.62	2.00	2.00	0.00
600.00	4.00	248.81	599.84	4,469.06	-2.52	-6.51	-6.47	2.00	2.00	0.00
700.00	6.00	248.81	699.45	4,369.45	-5.67	-14.63	-14.55	2.00	2.00	0.00
800.00	8.00	248.81	798.70	4,270.20	-10.08	-25.99	-25.85	2.00	2.00	0.00
900.00	10.00	248.81	897.47	4,171.43	-15.73	-40.58	-40.35	2.00	2.00	0.00
EOB TO 12° INC										
1,000.00	12.00	248.81	995.62	4,073.28	-22.63	-58.37	-58.04	2.00	2.00	0.00
1,100.00	12.00	248.81	1,093.44	3,975.46	-30.14	-77.76	-77.32	0.00	0.00	0.00
1,200.00	12.00	248.81	1,191.25	3,877.65	-37.66	-97.14	-96.60	0.00	0.00	0.00
1,300.00	12.00	248.81	1,289.07	3,779.83	-45.17	-116.53	-115.87	0.00	0.00	0.00
1,400.00	12.00	248.81	1,386.88	3,682.02	-52.69	-135.91	-135.15	0.00	0.00	0.00
1,500.00	12.00	248.81	1,484.70	3,584.20	-60.20	-155.30	-154.43	0.00	0.00	0.00
1,600.00	12.00	248.81	1,582.51	3,486.39	-67.72	-174.68	-173.71	0.00	0.00	0.00
1,700.00	12.00	248.81	1,680.33	3,388.57	-75.23	-194.07	-192.98	0.00	0.00	0.00
1,800.00	12.00	248.81	1,778.14	3,290.76	-82.75	-213.45	-212.26	0.00	0.00	0.00
1,900.00	12.00	248.81	1,875.96	3,192.94	-90.26	-232.84	-231.54	0.00	0.00	0.00
2,000.00	12.00	248.81	1,973.77	3,095.13	-97.78	-252.22	-250.81	0.00	0.00	0.00
2,100.00	12.00	248.81	2,071.59	2,997.31	-105.29	-271.61	-270.09	0.00	0.00	0.00
2,200.00	12.00	248.81	2,169.40	2,899.50	-112.81	-291.00	-289.37	0.00	0.00	0.00
2,300.00	12.00	248.81	2,267.22	2,801.68	-120.32	-310.38	-308.65	0.00	0.00	0.00
2,400.00	12.00	248.81	2,365.03	2,703.87	-127.84	-329.77	-327.92	0.00	0.00	0.00
2,500.00	12.00	248.81	2,462.84	2,606.06	-135.35	-349.15	-347.20	0.00	0.00	0.00
2,600.00	12.00	248.81	2,560.66	2,508.24	-142.87	-368.54	-366.48	0.00	0.00	0.00
2,700.00	12.00	248.81	2,658.47	2,410.43	-150.38	-387.92	-385.75	0.00	0.00	0.00
2,800.00	12.00	248.81	2,756.29	2,312.61	-157.90	-407.31	-405.03	0.00	0.00	0.00
2,900.00	12.00	248.81	2,854.10	2,214.80	-165.41	-426.69	-424.31	0.00	0.00	0.00
3,000.00	12.00	248.81	2,951.92	2,116.98	-172.93	-446.08	-443.59	0.00	0.00	0.00
3,100.00	12.00	248.81	3,049.73	2,019.17	-180.44	-465.46	-462.86	0.00	0.00	0.00
3,200.00	12.00	248.81	3,147.55	1,921.35	-187.96	-484.85	-482.14	0.00	0.00	0.00
3,300.00	12.00	248.81	3,245.36	1,823.54	-195.47	-504.24	-501.42	0.00	0.00	0.00
END OF TANGENT										
3,346.14	12.00	248.81	3,290.49	1,778.41	-198.94	-513.18	-510.31	0.00	0.00	0.00
3,400.00	10.92	248.81	3,343.28	1,725.62	-202.81	-523.16	-520.23	2.00	-2.00	0.00
3,500.00	8.92	248.81	3,441.78	1,627.12	-209.04	-539.23	-536.21	2.00	-2.00	0.00
PARKMAN										
3,512.27	8.68	248.81	3,453.90	1,615.00	-209.72	-540.97	-537.95	2.00	-2.00	0.00
3,600.00	6.92	248.81	3,540.82	1,528.08	-214.02	-552.08	-548.99	2.00	-2.00	0.00
3,700.00	4.92	248.81	3,640.28	1,428.62	-217.75	-561.70	-558.56	2.00	-2.00	0.00
3,800.00	2.92	248.81	3,740.04	1,328.86	-220.22	-568.08	-564.90	2.00	-2.00	0.00
SUSSEX										
3,838.90	2.14	248.81	3,778.90	1,290.00	-220.84	-569.68	-566.49	2.00	-2.00	0.00
3,900.00	0.92	248.81	3,839.98	1,228.92	-221.44	-571.20	-568.01	2.00	-2.00	0.00
EOD TO VERTICAL										
3,946.14	0.00	0.00	3,886.12	1,182.78	-221.57	-571.55	-568.35	2.00	-2.00	0.00

Planning Report



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Well:	TIMBRO 9-59 8B-9-7	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)
4,000.00	0.00	0.00	3,939.98	1,128.92	-221.57	-571.55	-568.35	0.00	0.00	0.00
4,100.00	0.00	0.00	4,039.98	1,028.92	-221.57	-571.55	-568.35	0.00	0.00	0.00
4,200.00	0.00	0.00	4,139.98	928.92	-221.57	-571.55	-568.35	0.00	0.00	0.00
4,300.00	0.00	0.00	4,239.98	828.92	-221.57	-571.55	-568.35	0.00	0.00	0.00
4,400.00	0.00	0.00	4,339.98	728.92	-221.57	-571.55	-568.35	0.00	0.00	0.00
4,500.00	0.00	0.00	4,439.98	628.92	-221.57	-571.55	-568.35	0.00	0.00	0.00
4,600.00	0.00	0.00	4,539.98	528.92	-221.57	-571.55	-568.35	0.00	0.00	0.00
4,700.00	0.00	0.00	4,639.98	428.92	-221.57	-571.55	-568.35	0.00	0.00	0.00
SHANNON										
4,778.92	0.00	0.00	4,718.90	350.00	-221.57	-571.55	-568.35	0.00	0.00	0.00
4,800.00	0.00	0.00	4,739.98	328.92	-221.57	-571.55	-568.35	0.00	0.00	0.00
4,900.00	0.00	0.00	4,839.98	228.92	-221.57	-571.55	-568.35	0.00	0.00	0.00
5,000.00	0.00	0.00	4,939.98	128.92	-221.57	-571.55	-568.35	0.00	0.00	0.00
5,100.00	0.00	0.00	5,039.98	28.92	-221.57	-571.55	-568.35	0.00	0.00	0.00
5,200.00	0.00	0.00	5,139.98	-71.08	-221.57	-571.55	-568.35	0.00	0.00	0.00
5,300.00	0.00	0.00	5,239.98	-171.08	-221.57	-571.55	-568.35	0.00	0.00	0.00
5,400.00	0.00	0.00	5,339.98	-271.08	-221.57	-571.55	-568.35	0.00	0.00	0.00
5,500.00	0.00	0.00	5,439.98	-371.08	-221.57	-571.55	-568.35	0.00	0.00	0.00
5,600.00	0.00	0.00	5,539.98	-471.08	-221.57	-571.55	-568.35	0.00	0.00	0.00
KOP (10°/100ft BUR)										
5,659.96	0.00	0.00	5,599.94	-531.04	-221.57	-571.55	-568.35	0.00	0.00	0.00
5,700.00	4.00	89.52	5,639.94	-571.04	-221.56	-570.15	-566.96	10.00	10.00	0.00
5,800.00	14.00	89.52	5,738.59	-669.69	-221.43	-554.52	-551.33	10.00	10.00	0.00
5,900.00	24.00	89.52	5,833.02	-764.12	-221.15	-522.00	-518.82	10.00	10.00	0.00
6,000.00	34.00	89.52	5,920.37	-851.47	-220.75	-473.58	-470.40	10.00	10.00	0.00
6,100.00	44.00	89.52	5,997.98	-929.08	-220.22	-410.72	-407.56	10.00	10.00	0.00
6,200.00	54.00	89.52	6,063.50	-994.60	-219.59	-335.35	-332.20	10.00	10.00	0.00
SHARON SPRINGS SHALE										
6,225.29	56.53	89.52	6,077.90	-1,009.00	-219.42	-314.57	-311.43	10.00	10.00	0.00
6,300.00	64.00	89.52	6,114.93	-1,046.03	-218.87	-249.74	-246.61	10.00	10.00	0.00
NIORARA FORMATION										
6,373.74	71.38	89.52	6,142.90	-1,074.00	-218.30	-181.57	-178.46	10.00	10.00	0.00
6,400.00	74.00	89.52	6,150.71	-1,081.81	-218.09	-156.50	-153.40	10.00	10.00	0.00
NIORARA A CHALK										
6,408.13	74.82	89.52	6,152.90	-1,084.00	-218.03	-148.67	-145.56	10.00	10.00	0.00
6,500.00	84.00	89.52	6,169.76	-1,100.86	-217.27	-58.46	-55.38	10.00	10.00	0.00
BPI: 1058ft FSL & 600ft FWL of Sec 8										
6,559.96	90.00	89.52	6,172.90	-1,104.00	-216.77	1.39	4.45	10.00	10.00	0.00
6,600.00	90.00	89.52	6,172.90	-1,104.00	-216.44	41.42	44.48	0.00	0.00	0.00
6,700.00	90.00	89.52	6,172.90	-1,104.00	-215.60	141.42	144.46	0.00	0.00	0.00
6,800.00	90.00	89.52	6,172.90	-1,104.00	-214.76	241.42	244.43	0.00	0.00	0.00
6,900.00	90.00	89.52	6,172.90	-1,104.00	-213.92	341.41	344.41	0.00	0.00	0.00
7,000.00	90.00	89.52	6,172.90	-1,104.00	-213.08	441.41	444.38	0.00	0.00	0.00
7,100.00	90.00	89.52	6,172.90	-1,104.00	-212.25	541.40	544.36	0.00	0.00	0.00
7,200.00	90.00	89.52	6,172.90	-1,104.00	-211.41	641.40	644.33	0.00	0.00	0.00
7,300.00	90.00	89.52	6,172.91	-1,104.01	-210.57	741.40	744.31	0.00	0.00	0.00
7,400.00	90.00	89.52	6,172.91	-1,104.01	-209.73	841.39	844.28	0.00	0.00	0.00
7,500.00	90.00	89.52	6,172.91	-1,104.01	-208.89	941.39	944.25	0.00	0.00	0.00
7,600.00	90.00	89.52	6,172.91	-1,104.01	-208.05	1,041.39	1,044.23	0.00	0.00	0.00
7,700.00	90.00	89.52	6,172.91	-1,104.01	-207.22	1,141.38	1,144.20	0.00	0.00	0.00
7,800.00	90.00	89.52	6,172.91	-1,104.01	-206.38	1,241.38	1,244.18	0.00	0.00	0.00
7,900.00	90.00	89.52	6,172.91	-1,104.01	-205.54	1,341.38	1,344.15	0.00	0.00	0.00
8,000.00	90.00	89.52	6,172.91	-1,104.01	-204.70	1,441.37	1,444.13	0.00	0.00	0.00

Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well TIMBRO 9-59 8B-9-7
Company:	BISON OIL & GAS II, LLC	TVD Reference:	KB-EST @ 5068.90usft (Original Well Elev)
Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB-EST @ 5068.90usft (Original Well Elev)
Site:	NW SW SEC. 8 T9N R59W 6th P.M.	North Reference:	True
Well:	TIMBRO 9-59 8B-9-7	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)
8,100.00	90.00	89.52	6,172.91	-1,104.01	-203.86	1,541.37	1,544.10	0.00	0.00	0.00
8,200.00	90.00	89.52	6,172.91	-1,104.01	-203.02	1,641.37	1,644.08	0.00	0.00	0.00
8,300.00	90.00	89.52	6,172.91	-1,104.01	-202.18	1,741.36	1,744.05	0.00	0.00	0.00
8,400.00	90.00	89.52	6,172.91	-1,104.01	-201.34	1,841.36	1,844.03	0.00	0.00	0.00
8,500.00	90.00	89.52	6,172.91	-1,104.01	-200.50	1,941.36	1,944.00	0.00	0.00	0.00
8,600.00	90.00	89.52	6,172.91	-1,104.01	-199.66	2,041.35	2,043.98	0.00	0.00	0.00
8,700.00	90.00	89.52	6,172.91	-1,104.01	-198.82	2,141.35	2,143.95	0.00	0.00	0.00
8,800.00	90.00	89.52	6,172.91	-1,104.01	-197.98	2,241.35	2,243.92	0.00	0.00	0.00
8,900.00	90.00	89.52	6,172.91	-1,104.01	-197.14	2,341.34	2,343.90	0.00	0.00	0.00
9,000.00	90.00	89.52	6,172.91	-1,104.01	-196.30	2,441.34	2,443.87	0.00	0.00	0.00
9,100.00	90.00	89.52	6,172.92	-1,104.02	-195.46	2,541.33	2,543.85	0.00	0.00	0.00
9,200.00	90.00	89.52	6,172.92	-1,104.02	-194.62	2,641.33	2,643.82	0.00	0.00	0.00
9,300.00	90.00	89.52	6,172.92	-1,104.02	-193.78	2,741.33	2,743.80	0.00	0.00	0.00
9,400.00	90.00	89.52	6,172.92	-1,104.02	-192.94	2,841.32	2,843.77	0.00	0.00	0.00
9,500.00	90.00	89.52	6,172.92	-1,104.02	-192.10	2,941.32	2,943.75	0.00	0.00	0.00
9,600.00	90.00	89.52	6,172.92	-1,104.02	-191.26	3,041.32	3,043.72	0.00	0.00	0.00
9,700.00	90.00	89.52	6,172.92	-1,104.02	-190.42	3,141.31	3,143.69	0.00	0.00	0.00
9,800.00	90.00	89.52	6,172.92	-1,104.02	-189.58	3,241.31	3,243.67	0.00	0.00	0.00
9,900.00	90.00	89.52	6,172.92	-1,104.02	-188.74	3,341.31	3,343.64	0.00	0.00	0.00
10,000.00	90.00	89.52	6,172.92	-1,104.02	-187.89	3,441.30	3,443.62	0.00	0.00	0.00
10,100.00	90.00	89.52	6,172.92	-1,104.02	-187.05	3,541.30	3,543.59	0.00	0.00	0.00
10,200.00	90.00	89.52	6,172.92	-1,104.02	-186.21	3,641.30	3,643.57	0.00	0.00	0.00
10,300.00	90.00	89.52	6,172.92	-1,104.02	-185.37	3,741.29	3,743.54	0.00	0.00	0.00
10,400.00	90.00	89.52	6,172.92	-1,104.02	-184.53	3,841.29	3,843.52	0.00	0.00	0.00
10,500.00	90.00	89.52	6,172.92	-1,104.02	-183.69	3,941.28	3,943.49	0.00	0.00	0.00
10,600.00	90.00	89.52	6,172.92	-1,104.02	-182.85	4,041.28	4,043.47	0.00	0.00	0.00
10,700.00	90.00	89.52	6,172.92	-1,104.02	-182.00	4,141.28	4,143.44	0.00	0.00	0.00
10,800.00	90.00	89.52	6,172.92	-1,104.02	-181.16	4,241.27	4,243.41	0.00	0.00	0.00
10,900.00	90.00	89.52	6,172.92	-1,104.02	-180.32	4,341.27	4,343.39	0.00	0.00	0.00
11,000.00	90.00	89.52	6,172.92	-1,104.02	-179.48	4,441.27	4,443.36	0.00	0.00	0.00
11,100.00	90.00	89.52	6,172.92	-1,104.02	-178.63	4,541.26	4,543.34	0.00	0.00	0.00
11,200.00	90.00	89.52	6,172.92	-1,104.02	-177.79	4,641.26	4,643.31	0.00	0.00	0.00
11,300.00	90.00	89.52	6,172.92	-1,104.02	-176.95	4,741.26	4,743.29	0.00	0.00	0.00
11,400.00	90.00	89.52	6,172.92	-1,104.02	-176.11	4,841.25	4,843.26	0.00	0.00	0.00
11,500.00	90.00	89.52	6,172.92	-1,104.02	-175.26	4,941.25	4,943.24	0.00	0.00	0.00
11,600.00	90.00	89.52	6,172.92	-1,104.02	-174.42	5,041.25	5,043.21	0.00	0.00	0.00
11,700.00	90.00	89.52	6,172.92	-1,104.02	-173.58	5,141.24	5,143.19	0.00	0.00	0.00
11,800.00	90.00	89.52	6,172.92	-1,104.02	-172.73	5,241.24	5,243.16	0.00	0.00	0.00
11,900.00	90.00	89.52	6,172.92	-1,104.02	-171.89	5,341.24	5,343.13	0.00	0.00	0.00
12,000.00	90.00	89.52	6,172.92	-1,104.02	-171.05	5,441.23	5,443.11	0.00	0.00	0.00
12,100.00	90.00	89.52	6,172.92	-1,104.02	-170.21	5,541.23	5,543.08	0.00	0.00	0.00
12,200.00	90.00	89.52	6,172.92	-1,104.02	-169.36	5,641.22	5,643.06	0.00	0.00	0.00
12,300.00	90.00	89.52	6,172.92	-1,104.02	-168.52	5,741.22	5,743.03	0.00	0.00	0.00
12,400.00	90.00	89.52	6,172.92	-1,104.02	-167.67	5,841.22	5,843.01	0.00	0.00	0.00
12,500.00	90.00	89.52	6,172.92	-1,104.02	-166.83	5,941.21	5,942.98	0.00	0.00	0.00
12,600.00	90.00	89.52	6,172.92	-1,104.02	-165.99	6,041.21	6,042.96	0.00	0.00	0.00
12,700.00	90.00	89.52	6,172.92	-1,104.02	-165.14	6,141.21	6,142.93	0.00	0.00	0.00
12,800.00	90.00	89.52	6,172.92	-1,104.02	-164.30	6,241.20	6,242.90	0.00	0.00	0.00
12,900.00	90.00	89.52	6,172.92	-1,104.02	-163.45	6,341.20	6,342.88	0.00	0.00	0.00
13,000.00	90.00	89.52	6,172.92	-1,104.02	-162.61	6,441.20	6,442.85	0.00	0.00	0.00
13,100.00	90.00	89.52	6,172.92	-1,104.02	-161.77	6,541.19	6,542.83	0.00	0.00	0.00
13,200.00	90.00	89.52	6,172.92	-1,104.02	-160.92	6,641.19	6,642.80	0.00	0.00	0.00
13,300.00	90.00	89.52	6,172.92	-1,104.02	-160.08	6,741.19	6,742.78	0.00	0.00	0.00
13,400.00	90.00	89.52	6,172.91	-1,104.01	-159.23	6,841.18	6,842.75	0.00	0.00	0.00

Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well TIMBRO 9-59 8B-9-7
Company:	BISON OIL & GAS II, LLC	TVD Reference:	KB-EST @ 5068.90usft (Original Well Elev)
Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB-EST @ 5068.90usft (Original Well Elev)
Site:	NW SW SEC. 8 T9N R59W 6th P.M.	North Reference:	True
Well:	TIMBRO 9-59 8B-9-7	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)
13,500.00	90.00	89.52	6,172.91	-1,104.01	-158.39	6,941.18	6,942.73	0.00	0.00	0.00
13,600.00	90.00	89.52	6,172.91	-1,104.01	-157.54	7,041.17	7,042.70	0.00	0.00	0.00
13,700.00	90.00	89.52	6,172.91	-1,104.01	-156.70	7,141.17	7,142.67	0.00	0.00	0.00
13,800.00	90.00	89.52	6,172.91	-1,104.01	-155.85	7,241.17	7,242.65	0.00	0.00	0.00
13,900.00	90.00	89.52	6,172.91	-1,104.01	-155.01	7,341.16	7,342.62	0.00	0.00	0.00
14,000.00	90.00	89.52	6,172.91	-1,104.01	-154.16	7,441.16	7,442.60	0.00	0.00	0.00
14,100.00	90.00	89.52	6,172.91	-1,104.01	-153.31	7,541.16	7,542.57	0.00	0.00	0.00
14,200.00	90.00	89.52	6,172.91	-1,104.01	-152.47	7,641.15	7,642.55	0.00	0.00	0.00
14,300.00	90.00	89.52	6,172.91	-1,104.01	-151.62	7,741.15	7,742.52	0.00	0.00	0.00
14,400.00	90.00	89.52	6,172.91	-1,104.01	-150.78	7,841.15	7,842.50	0.00	0.00	0.00
14,500.00	90.00	89.52	6,172.91	-1,104.01	-149.93	7,941.14	7,942.47	0.00	0.00	0.00
14,600.00	90.00	89.52	6,172.91	-1,104.01	-149.09	8,041.14	8,042.44	0.00	0.00	0.00
14,700.00	90.00	89.52	6,172.91	-1,104.01	-148.24	8,141.14	8,142.42	0.00	0.00	0.00
14,800.00	90.00	89.52	6,172.91	-1,104.01	-147.39	8,241.13	8,242.39	0.00	0.00	0.00
14,900.00	90.00	89.52	6,172.91	-1,104.01	-146.55	8,341.13	8,342.37	0.00	0.00	0.00
15,000.00	90.00	89.51	6,172.91	-1,104.01	-145.70	8,441.12	8,442.34	0.00	0.00	0.00
15,100.00	90.00	89.51	6,172.91	-1,104.01	-144.85	8,541.12	8,542.32	0.00	0.00	0.00
15,200.00	90.00	89.51	6,172.91	-1,104.01	-144.01	8,641.12	8,642.29	0.00	0.00	0.00
15,300.00	90.00	89.51	6,172.90	-1,104.00	-143.16	8,741.11	8,742.26	0.00	0.00	0.00
15,400.00	90.00	89.51	6,172.90	-1,104.00	-142.31	8,841.11	8,842.24	0.00	0.00	0.00
15,500.00	90.00	89.51	6,172.90	-1,104.00	-141.47	8,941.11	8,942.21	0.00	0.00	0.00
15,600.00	90.00	89.51	6,172.90	-1,104.00	-140.62	9,041.10	9,042.19	0.00	0.00	0.00
15,700.00	90.00	89.51	6,172.90	-1,104.00	-139.77	9,141.10	9,142.16	0.00	0.00	0.00
15,800.00	90.00	89.51	6,172.90	-1,104.00	-138.92	9,241.10	9,242.14	0.00	0.00	0.00
EPI: 1054ft FSL & 600ft FEL of Sec 9										
15,849.62	90.00	89.51	6,172.90	-1,104.00	-138.50	9,290.71	9,291.74	0.00	0.00	0.00
EOT TO 89.49° AZ										
15,850.44	90.00	89.49	6,172.90	-1,104.00	-138.50	9,291.53	9,292.56	3.00	0.00	-3.00
15,900.00	90.00	89.49	6,172.90	-1,104.00	-138.06	9,341.09	9,342.11	0.00	0.00	0.00
16,000.00	90.00	89.49	6,172.90	-1,104.00	-137.17	9,441.09	9,442.08	0.00	0.00	0.00
16,100.00	90.00	89.49	6,172.90	-1,104.00	-136.28	9,541.08	9,542.06	0.00	0.00	0.00
BHL: 1053ft FSL & 300ft FEL of Sec 9										
16,149.65	90.00	89.49	6,172.90	-1,104.00	-135.84	9,590.74	9,591.70	0.00	0.00	0.00

Formations

MD (usft)	TVD (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
463.91	463.90	PIERRE SHALE			
3,512.27	3,453.90	PARKMAN			
3,838.90	3,778.90	SUSSEX			
4,778.92	4,718.90	SHANNON			
6,225.29	6,077.90	SHARON SPRINGS SHALE			
6,373.74	6,142.90	NIOBRARA FORMATION			
6,408.13	6,152.90	NIOBRARA A CHALK			

Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well TIMBRO 9-59 8B-9-7
Company:	BISON OIL & GAS II, LLC	TVD Reference:	KB-EST @ 5068.90usft (Original Well Elev)
Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB-EST @ 5068.90usft (Original Well Elev)
Site:	NW SW SEC. 8 T9N R59W 6th P.M.	North Reference:	True
Well:	TIMBRO 9-59 8B-9-7	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: 1275ft FSL & 600ft FWL of Sec 8
400.00	400.00	0.00	0.00	START NUDGE (2°/100ft BUR)
1,000.00	995.62	-22.63	-58.37	EOB TO 12° INC
3,346.14	3,290.49	-198.94	-513.18	END OF TANGENT
3,946.14	3,886.12	-221.57	-571.55	EOD TO VERTICAL
5,659.96	5,599.94	-221.57	-571.55	KOP (10°/100ft BUR)
6,559.96	6,172.90	-216.77	1.39	BPI: 1058ft FSL & 600ft FWL of Sec 8
15,849.62	6,172.90	-138.50	9,290.71	EPI: 1054ft FSL & 600ft FEL of Sec 9
15,850.44	6,172.90	-138.50	9,291.53	EOT TO 89.49° AZ
16,149.65	6,172.90	-135.84	9,590.74	BHL: 1053ft FSL & 300ft FEL of Sec 9