

BISON OIL & GAS II, LLC

WELD COUNTY, COLORADO (NAD 83)

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

TIMBRO 9-59 8A-9-3

ORIGINAL WELLBORE

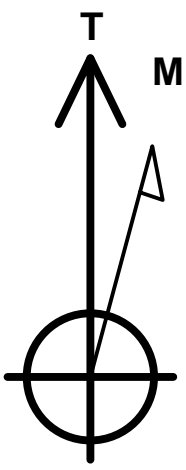
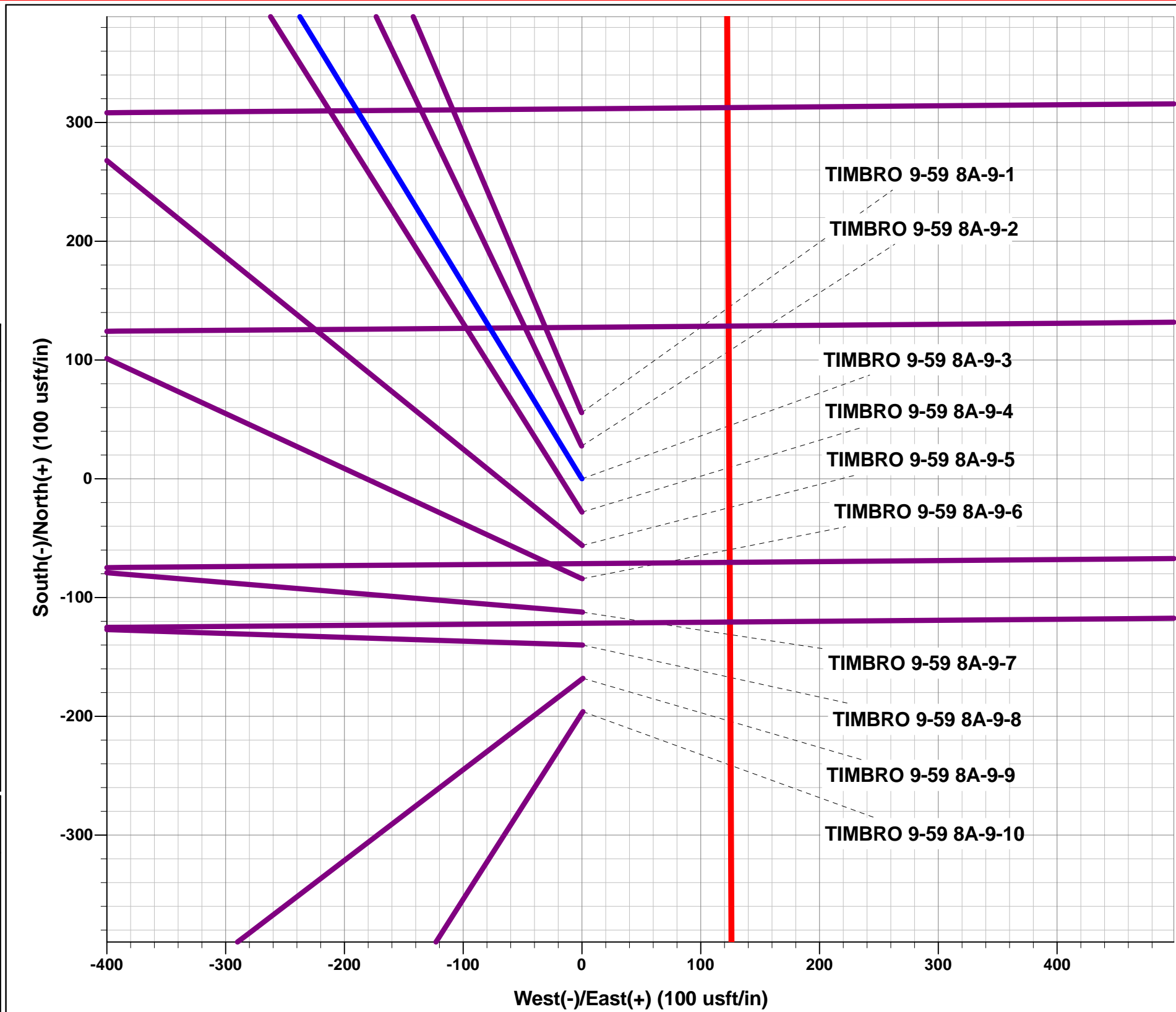
07 February, 2018

Plan: PROPOSAL #1





Project: WELD COUNTY, COLORADO (NAD 83)
Site: SW NW SEC. 8 T9N R59W 6th P.M.
Well: TIMBRO 9-59 8A-9-3
Wellbore: ORIGINAL WELLBORE
Design: PROPOSAL #1



Azimuths to True North
Magnetic North: 7.76°

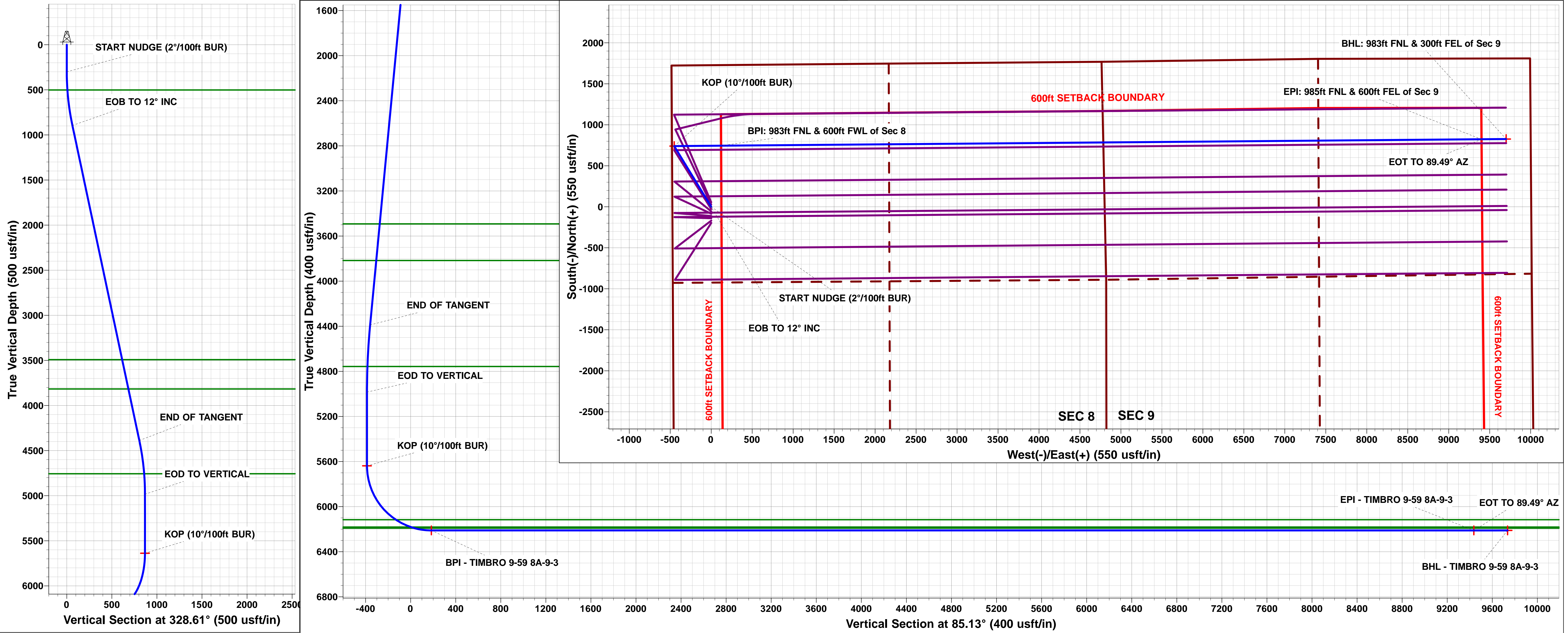
Magnetic Field
Strength: 52582.8nT
Dip Angle: 67.24°
Date: 07/02/2018
Model: IGRF2015

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: 1728ft FNL & 475ft FWL of Sec 8	
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	328.61	53.44	-32.61	-27.95	62.60	EOB TO 12° INC	
4388.40	4470.81	12.00	328.61	687.20	-419.29	-359.45	805.02	END OF TANGENT	
4984.03	5070.81	0.00	0.00	740.64	-451.90	-387.40	867.62	EOD TO VERTICAL	
5638.24	5725.02	0.00	0.00	740.64	-451.90	-387.40	867.62	KOP (10°/100ft BUR)	
6211.20	6625.03	90.00	89.52	745.44	121.05	183.89	1440.58	BPI: 983ft FNL & 600ft FWL of Sec 8	
6211.20	15904.86	90.00	89.51	823.75	9400.55	9436.54	10720.41	EPI: 985ft FNL & 600ft FEL of Sec 9	
6211.20	15905.62	90.00	89.49	823.75	9401.30	9437.29	10721.17	EOT TO 89.49° AZ	
6211.20	16204.86	90.00	89.49	826.41	9700.53	9735.66	11020.41	BHL: 983ft FNL & 300ft FEL of Sec 9	

WELLBORE TARGET DETAILS (LAT/LONG)					
Name	TVD	+N/-S	+E/-W	Latitude	Longitude
KOP - TIMBRO 9-59 8A-9-3	5638.24	740.64	-451.90	40.769583	-104.011651
BPI - TIMBRO 9-59 8A-9-3	6211.20	745.44	121.05	40.769596	-104.009583
EPI - TIMBRO 9-59 8A-9-3	6211.20	823.75	9400.55	40.769806	-103.976082
BHL - TIMBRO 9-59 8A-9-3	6211.20	826.41	9700.53	40.769813	-103.974999

FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
502.20	502.37	PIERRE SHALE
3492.20	3554.59	PARKMAN
3817.20	3886.85	SUSSEX
4757.20	4843.75	SHANNON
6116.20	6290.35	SHARON SPRINGS SHALE
6181.20	6438.80	NIORARA FORMATION
6191.20	6473.20	NIORARA A CHALK

PROPOSED LOCAL COORDINATES:		
SHL: 1728ft FNL & 475ft FWL of Sec 8		
BEGIN PROD INT: 983ft FNL & 600ft FWL of Sec 8		
END PROD INTERVAL: 985ft FNL & 600ft FEL of Sec 9		
BHL: 983ft FNL & 300ft FEL of Sec 9		



Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well TIMBRO 9-59 8A-9-3
Company:	BISON OIL & GAS II, LLC	TVD Reference:	KB-EST @ 5107.20usft (Original Well Elev)
Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB-EST @ 5107.20usft (Original Well Elev)
Site:	SW NW SEC. 8 T9N R59W 6th P.M.	North Reference:	True
Well:	TIMBRO 9-59 8A-9-3	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-9-3		
Well Position	+N-S	-55.75 usft	Northing:
	+E-W	0.28 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 (°)
	6,211.20	0.00	0.00	85.13

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	-5,107.20	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	-4,807.20	0.00	0.00	0.00	0.00	0.00	0.00	
900.00	12.00	328.61	895.62	-4,211.58	53.44	-32.61	2.00	2.00	0.00	328.61	
4,470.81	12.00	328.61	4,388.40	-718.80	687.20	-419.29	0.00	0.00	0.00	0.00	
5,070.81	0.00	0.00	4,984.03	-123.17	740.64	-451.90	2.00	-2.00	0.00	180.00	
5,725.02	0.00	0.00	5,638.24	531.04	740.64	-451.90	0.00	0.00	0.00	0.00	KOP - TIMBRO 9-5
6,625.03	90.00	89.52	6,211.20	1,104.00	745.44	121.05	10.00	10.00	9.95	89.52	BPI - TIMBRO 9-59
15,904.86	90.00	89.51	6,211.20	1,104.00	823.75	9,400.55	0.00	0.00	0.00	-98.77	EPI - TIMBRO 9-59
15,905.62	90.00	89.49	6,211.20	1,104.00	823.75	9,401.30	3.00	0.00	-3.00	-90.00	
16,204.86	90.00	89.49	6,211.20	1,104.00	826.41	9,700.53	0.00	0.00	0.00	45.53	BHL - TIMBRO 9-59

Planning Report



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Company:	BISON OIL & GAS II, LLC	TVD Reference:	KB-EST @ 5107.20usft (Original Well Elev)
Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB-EST @ 5107.20usft (Original Well Elev)
Site:	SW NW SEC. 8 T9N R59W 6th P.M.	North Reference:	True
Well:	TIMBRO 9-59 8A-9-3	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: 1728ft FNL & 475ft FWL of Sec 8										
0.00	0.00	0.00	0.00	5,107.20	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	5,007.20	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	4,907.20	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	4,807.20	0.00	0.00	0.00	0.00	0.00	0.00
400.00	2.00	328.61	399.98	4,707.22	1.49	-0.91	-0.78	2.00	2.00	0.00
500.00	4.00	328.61	499.84	4,607.36	5.96	-3.63	-3.12	2.00	2.00	0.00
PIERRE SHALE (BASE OF FOX HILLS)										
502.37	4.05	328.61	502.20	4,605.00	6.10	-3.72	-3.19	2.00	2.00	0.00
600.00	6.00	328.61	599.45	4,507.75	13.40	-8.17	-7.01	2.00	2.00	0.00
700.00	8.00	328.61	698.70	4,408.50	23.80	-14.52	-12.45	2.00	2.00	0.00
800.00	10.00	328.61	797.47	4,309.73	37.15	-22.67	-19.43	2.00	2.00	0.00
EOB TO 12° INC										
900.00	12.00	328.61	895.62	4,211.58	53.44	-32.61	-27.95	2.00	2.00	0.00
1,000.00	12.00	328.61	993.44	4,113.76	71.19	-43.44	-37.24	0.00	0.00	0.00
1,100.00	12.00	328.61	1,091.25	4,015.95	88.94	-54.26	-46.52	0.00	0.00	0.00
1,200.00	12.00	328.61	1,189.07	3,918.13	106.69	-65.09	-55.80	0.00	0.00	0.00
1,300.00	12.00	328.61	1,286.88	3,820.32	124.43	-75.92	-65.09	0.00	0.00	0.00
1,400.00	12.00	328.61	1,384.70	3,722.50	142.18	-86.75	-74.37	0.00	0.00	0.00
1,500.00	12.00	328.61	1,482.51	3,624.69	159.93	-97.58	-83.65	0.00	0.00	0.00
1,600.00	12.00	328.61	1,580.33	3,526.87	177.68	-108.41	-92.94	0.00	0.00	0.00
1,700.00	12.00	328.61	1,678.14	3,429.06	195.43	-119.24	-102.22	0.00	0.00	0.00
1,800.00	12.00	328.61	1,775.96	3,331.24	213.18	-130.07	-111.50	0.00	0.00	0.00
1,900.00	12.00	328.61	1,873.77	3,233.43	230.92	-140.90	-120.79	0.00	0.00	0.00
2,000.00	12.00	328.61	1,971.59	3,135.61	248.67	-151.73	-130.07	0.00	0.00	0.00
2,100.00	12.00	328.61	2,069.40	3,037.80	266.42	-162.56	-139.35	0.00	0.00	0.00
2,200.00	12.00	328.61	2,167.22	2,939.98	284.17	-173.38	-148.64	0.00	0.00	0.00
2,300.00	12.00	328.61	2,265.03	2,842.17	301.92	-184.21	-157.92	0.00	0.00	0.00
2,400.00	12.00	328.61	2,362.84	2,744.36	319.67	-195.04	-167.20	0.00	0.00	0.00
2,500.00	12.00	328.61	2,460.66	2,646.54	337.41	-205.87	-176.49	0.00	0.00	0.00
2,600.00	12.00	328.61	2,558.47	2,548.73	355.16	-216.70	-185.77	0.00	0.00	0.00
2,700.00	12.00	328.61	2,656.29	2,450.91	372.91	-227.53	-195.05	0.00	0.00	0.00
2,800.00	12.00	328.61	2,754.10	2,353.10	390.66	-238.36	-204.34	0.00	0.00	0.00
2,900.00	12.00	328.61	2,851.92	2,255.28	408.41	-249.19	-213.62	0.00	0.00	0.00
3,000.00	12.00	328.61	2,949.73	2,157.47	426.16	-260.02	-222.91	0.00	0.00	0.00
3,100.00	12.00	328.61	3,047.55	2,059.65	443.90	-270.85	-232.19	0.00	0.00	0.00
3,200.00	12.00	328.61	3,145.36	1,961.84	461.65	-281.68	-241.47	0.00	0.00	0.00
3,300.00	12.00	328.61	3,243.18	1,864.02	479.40	-292.51	-250.76	0.00	0.00	0.00
3,400.00	12.00	328.61	3,340.99	1,766.21	497.15	-303.33	-260.04	0.00	0.00	0.00
3,500.00	12.00	328.61	3,438.81	1,668.39	514.90	-314.16	-269.32	0.00	0.00	0.00
PARKMAN										
3,554.59	12.00	328.61	3,492.20	1,615.00	524.59	-320.07	-274.39	0.00	0.00	0.00
3,600.00	12.00	328.61	3,536.62	1,570.58	532.65	-324.99	-278.61	0.00	0.00	0.00
3,700.00	12.00	328.61	3,634.44	1,472.76	550.39	-335.82	-287.89	0.00	0.00	0.00
3,800.00	12.00	328.61	3,732.25	1,374.95	568.14	-346.65	-297.17	0.00	0.00	0.00
SUSSEX										
3,886.85	12.00	328.61	3,817.20	1,290.00	583.56	-356.06	-305.24	0.00	0.00	0.00
3,900.00	12.00	328.61	3,830.07	1,277.13	585.89	-357.48	-306.46	0.00	0.00	0.00
4,000.00	12.00	328.61	3,927.88	1,179.32	603.64	-368.31	-315.74	0.00	0.00	0.00
4,100.00	12.00	328.61	4,025.70	1,081.50	621.39	-379.14	-325.02	0.00	0.00	0.00
4,200.00	12.00	328.61	4,123.51	983.69	639.14	-389.97	-334.31	0.00	0.00	0.00
4,300.00	12.00	328.61	4,221.32	885.88	656.88	-400.80	-343.59	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	328.61	4,319.14	788.06	674.63	-411.63	-352.87	0.00	0.00	0.00
END OF TANGENT										
4,470.81	12.00	328.61	4,388.40	718.80	687.20	-419.29	-359.45	0.00	0.00	0.00
4,500.00	11.42	328.61	4,416.98	690.22	692.26	-422.38	-362.09	2.00	-2.00	0.00
4,600.00	9.42	328.61	4,515.33	591.87	707.69	-431.79	-370.16	2.00	-2.00	0.00
4,700.00	7.42	328.61	4,614.25	492.95	720.18	-439.42	-376.70	2.00	-2.00	0.00
4,800.00	5.42	328.61	4,713.62	393.58	729.72	-445.24	-381.69	2.00	-2.00	0.00
SHANNON										
4,843.75	4.54	328.61	4,757.20	350.00	732.96	-447.22	-383.38	2.00	-2.00	0.00
4,900.00	3.42	328.61	4,813.32	293.88	736.29	-449.25	-385.13	2.00	-2.00	0.00
5,000.00	1.42	328.61	4,913.22	193.98	739.89	-451.44	-387.01	2.00	-2.00	0.00
EOD TO VERTICAL										
5,070.81	0.00	0.00	4,984.03	123.17	740.64	-451.90	-387.40	2.00	-2.00	0.00
5,100.00	0.00	0.00	5,013.22	93.98	740.64	-451.90	-387.40	0.00	0.00	0.00
5,200.00	0.00	0.00	5,113.22	-6.02	740.64	-451.90	-387.40	0.00	0.00	0.00
5,300.00	0.00	0.00	5,213.22	-106.02	740.64	-451.90	-387.40	0.00	0.00	0.00
5,400.00	0.00	0.00	5,313.22	-206.02	740.64	-451.90	-387.40	0.00	0.00	0.00
5,500.00	0.00	0.00	5,413.22	-306.02	740.64	-451.90	-387.40	0.00	0.00	0.00
5,600.00	0.00	0.00	5,513.22	-406.02	740.64	-451.90	-387.40	0.00	0.00	0.00
5,700.00	0.00	0.00	5,613.22	-506.02	740.64	-451.90	-387.40	0.00	0.00	0.00
KOP (10°/100ft BUR)										
5,725.02	0.00	0.00	5,638.24	-531.04	740.64	-451.90	-387.40	0.00	0.00	0.00
5,800.00	7.50	89.52	5,713.00	-605.80	740.68	-447.00	-382.52	10.00	10.00	0.00
5,900.00	17.50	89.52	5,810.51	-703.31	740.86	-425.39	-360.97	10.00	10.00	0.00
6,000.00	27.50	89.52	5,902.78	-795.58	741.18	-387.18	-322.86	10.00	10.00	0.00
6,100.00	37.50	89.52	5,987.02	-879.82	741.63	-333.52	-269.36	10.00	10.00	0.00
6,200.00	47.50	89.52	6,060.65	-953.45	742.20	-266.05	-202.09	10.00	10.00	0.00
SHARON SPRINGS SHALE										
6,290.35	56.53	89.52	6,116.20	-1,009.00	742.79	-194.92	-131.16	10.00	10.00	0.00
6,300.00	57.50	89.52	6,121.46	-1,014.26	742.86	-186.82	-123.09	10.00	10.00	0.00
6,400.00	67.50	89.52	6,167.58	-1,060.38	743.60	-98.24	-34.76	10.00	10.00	0.00
NIOBRARA FORMATION										
6,438.80	71.38	89.52	6,181.20	-1,074.00	743.91	-61.92	1.45	10.00	10.00	0.00
NIOBRARA A CHALK										
6,473.20	74.82	89.52	6,191.20	-1,084.00	744.18	-29.02	34.26	10.00	10.00	0.00
6,500.00	77.50	89.52	6,197.61	-1,090.41	744.40	-2.99	60.21	10.00	10.00	0.00
6,600.00	87.50	89.52	6,210.65	-1,103.45	745.23	96.02	158.93	10.00	10.00	0.00
BPI: 983ft FNL & 600ft FWL of Sec 8										
6,625.03	90.00	89.52	6,211.20	-1,104.00	745.44	121.05	183.89	10.00	10.00	0.00
6,700.00	90.00	89.52	6,211.20	-1,104.00	746.06	196.01	258.63	0.00	0.00	0.00
6,800.00	90.00	89.52	6,211.20	-1,104.00	746.90	296.01	358.34	0.00	0.00	0.00
6,900.00	90.00	89.52	6,211.20	-1,104.00	747.74	396.00	458.04	0.00	0.00	0.00
7,000.00	90.00	89.52	6,211.20	-1,104.00	748.58	496.00	557.75	0.00	0.00	0.00
7,100.00	90.00	89.52	6,211.20	-1,104.00	749.42	596.00	657.46	0.00	0.00	0.00
7,200.00	90.00	89.52	6,211.19	-1,103.99	750.25	695.99	757.17	0.00	0.00	0.00
7,300.00	90.00	89.52	6,211.19	-1,103.99	751.09	795.99	856.87	0.00	0.00	0.00
7,400.00	90.00	89.52	6,211.19	-1,103.99	751.93	895.98	956.58	0.00	0.00	0.00
7,500.00	90.00	89.52	6,211.19	-1,103.99	752.77	995.98	1,056.29	0.00	0.00	0.00
7,600.00	90.00	89.52	6,211.19	-1,103.99	753.61	1,095.98	1,155.99	0.00	0.00	0.00
7,700.00	90.00	89.52	6,211.19	-1,103.99	754.45	1,195.97	1,255.70	0.00	0.00	0.00
7,800.00	90.00	89.52	6,211.19	-1,103.99	755.28	1,295.97	1,355.41	0.00	0.00	0.00
7,900.00	90.00	89.52	6,211.19	-1,103.99	756.12	1,395.97	1,455.11	0.00	0.00	0.00
8,000.00	90.00	89.52	6,211.19	-1,103.99	756.96	1,495.96	1,554.82	0.00	0.00	0.00

Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well TIMBRO 9-59 8A-9-3
Company:	BISON OIL & GAS II, LLC	TVD Reference:	KB-EST @ 5107.20usft (Original Well Elev)
Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB-EST @ 5107.20usft (Original Well Elev)
Site:	SW NW SEC. 8 T9N R59W 6th P.M.	North Reference:	True
Well:	TIMBRO 9-59 8A-9-3	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	6,211.19	-1,103.99	757.80	1,595.96	1,654.53	0.00	0.00	0.00
8,200.00	90.00	89.52	6,211.19	-1,103.99	758.64	1,695.96	1,754.23	0.00	0.00	0.00
8,300.00	90.00	89.52	6,211.19	-1,103.99	759.48	1,795.95	1,853.94	0.00	0.00	0.00
8,400.00	90.00	89.52	6,211.19	-1,103.99	760.32	1,895.95	1,953.65	0.00	0.00	0.00
8,500.00	90.00	89.52	6,211.18	-1,103.98	761.16	1,995.95	2,053.35	0.00	0.00	0.00
8,600.00	90.00	89.52	6,211.18	-1,103.98	762.00	2,095.94	2,153.06	0.00	0.00	0.00
8,700.00	90.00	89.52	6,211.18	-1,103.98	762.84	2,195.94	2,252.77	0.00	0.00	0.00
8,800.00	90.00	89.52	6,211.18	-1,103.98	763.68	2,295.94	2,352.47	0.00	0.00	0.00
8,900.00	90.00	89.52	6,211.18	-1,103.98	764.52	2,395.93	2,452.18	0.00	0.00	0.00
9,000.00	90.00	89.52	6,211.18	-1,103.98	765.36	2,495.93	2,551.89	0.00	0.00	0.00
9,100.00	90.00	89.52	6,211.18	-1,103.98	766.20	2,595.92	2,651.59	0.00	0.00	0.00
9,200.00	90.00	89.52	6,211.18	-1,103.98	767.04	2,695.92	2,751.30	0.00	0.00	0.00
9,300.00	90.00	89.52	6,211.18	-1,103.98	767.88	2,795.92	2,851.01	0.00	0.00	0.00
9,400.00	90.00	89.52	6,211.18	-1,103.98	768.73	2,895.91	2,950.72	0.00	0.00	0.00
9,500.00	90.00	89.52	6,211.18	-1,103.98	769.57	2,995.91	3,050.42	0.00	0.00	0.00
9,600.00	90.00	89.52	6,211.18	-1,103.98	770.41	3,095.91	3,150.13	0.00	0.00	0.00
9,700.00	90.00	89.52	6,211.18	-1,103.98	771.25	3,195.90	3,249.84	0.00	0.00	0.00
9,800.00	90.00	89.52	6,211.18	-1,103.98	772.09	3,295.90	3,349.54	0.00	0.00	0.00
9,900.00	90.00	89.52	6,211.18	-1,103.98	772.93	3,395.90	3,449.25	0.00	0.00	0.00
10,000.00	90.00	89.52	6,211.18	-1,103.98	773.78	3,495.89	3,548.96	0.00	0.00	0.00
10,100.00	90.00	89.52	6,211.18	-1,103.98	774.62	3,595.89	3,648.66	0.00	0.00	0.00
10,200.00	90.00	89.52	6,211.18	-1,103.98	775.46	3,695.89	3,748.37	0.00	0.00	0.00
10,300.00	90.00	89.52	6,211.18	-1,103.98	776.30	3,795.88	3,848.08	0.00	0.00	0.00
10,400.00	90.00	89.52	6,211.18	-1,103.98	777.14	3,895.88	3,947.79	0.00	0.00	0.00
10,500.00	90.00	89.52	6,211.18	-1,103.98	777.99	3,995.88	4,047.49	0.00	0.00	0.00
10,600.00	90.00	89.52	6,211.18	-1,103.98	778.83	4,095.87	4,147.20	0.00	0.00	0.00
10,700.00	90.00	89.52	6,211.18	-1,103.98	779.67	4,195.87	4,246.91	0.00	0.00	0.00
10,800.00	90.00	89.52	6,211.18	-1,103.98	780.52	4,295.86	4,346.61	0.00	0.00	0.00
10,900.00	90.00	89.52	6,211.18	-1,103.98	781.36	4,395.86	4,446.32	0.00	0.00	0.00
11,000.00	90.00	89.52	6,211.18	-1,103.98	782.20	4,495.86	4,546.03	0.00	0.00	0.00
11,100.00	90.00	89.52	6,211.18	-1,103.98	783.05	4,595.85	4,645.74	0.00	0.00	0.00
11,200.00	90.00	89.52	6,211.18	-1,103.98	783.89	4,695.85	4,745.44	0.00	0.00	0.00
11,300.00	90.00	89.52	6,211.18	-1,103.98	784.73	4,795.85	4,845.15	0.00	0.00	0.00
11,400.00	90.00	89.52	6,211.18	-1,103.98	785.58	4,895.84	4,944.86	0.00	0.00	0.00
11,500.00	90.00	89.52	6,211.18	-1,103.98	786.42	4,995.84	5,044.56	0.00	0.00	0.00
11,600.00	90.00	89.52	6,211.18	-1,103.98	787.27	5,095.84	5,144.27	0.00	0.00	0.00
11,700.00	90.00	89.52	6,211.18	-1,103.98	788.11	5,195.83	5,243.98	0.00	0.00	0.00
11,800.00	90.00	89.52	6,211.18	-1,103.98	788.96	5,295.83	5,343.69	0.00	0.00	0.00
11,900.00	90.00	89.52	6,211.18	-1,103.98	789.80	5,395.83	5,443.39	0.00	0.00	0.00
12,000.00	90.00	89.52	6,211.18	-1,103.98	790.64	5,495.82	5,543.10	0.00	0.00	0.00
12,100.00	90.00	89.52	6,211.18	-1,103.98	791.49	5,595.82	5,642.81	0.00	0.00	0.00
12,200.00	90.00	89.52	6,211.18	-1,103.98	792.33	5,695.81	5,742.51	0.00	0.00	0.00
12,300.00	90.00	89.52	6,211.18	-1,103.98	793.18	5,795.81	5,842.22	0.00	0.00	0.00
12,400.00	90.00	89.52	6,211.18	-1,103.98	794.03	5,895.81	5,941.93	0.00	0.00	0.00
12,500.00	90.00	89.52	6,211.18	-1,103.98	794.87	5,995.80	6,041.64	0.00	0.00	0.00
12,600.00	90.00	89.52	6,211.18	-1,103.98	795.72	6,095.80	6,141.34	0.00	0.00	0.00
12,700.00	90.00	89.52	6,211.18	-1,103.98	796.56	6,195.80	6,241.05	0.00	0.00	0.00
12,800.00	90.00	89.52	6,211.18	-1,103.98	797.41	6,295.79	6,340.76	0.00	0.00	0.00
12,900.00	90.00	89.52	6,211.18	-1,103.98	798.25	6,395.79	6,440.47	0.00	0.00	0.00
13,000.00	90.00	89.52	6,211.18	-1,103.98	799.10	6,495.79	6,540.17	0.00	0.00	0.00
13,100.00	90.00	89.51	6,211.18	-1,103.98	799.95	6,595.78	6,639.88	0.00	0.00	0.00
13,200.00	90.00	89.51	6,211.18	-1,103.98	800.79	6,695.78	6,739.59	0.00	0.00	0.00
13,300.00	90.00	89.51	6,211.18	-1,103.98	801.64	6,795.78	6,839.29	0.00	0.00	0.00
13,400.00	90.00	89.51	6,211.18	-1,103.98	802.49	6,895.77	6,939.00	0.00	0.00	0.00

Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well TIMBRO 9-59 8A-9-3
Company:	BISON OIL & GAS II, LLC	TVD Reference:	KB-EST @ 5107.20usft (Original Well Elev)
Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB-EST @ 5107.20usft (Original Well Elev)
Site:	SW NW SEC. 8 T9N R59W 6th P.M.	North Reference:	True
Well:	TIMBRO 9-59 8A-9-3	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	89.51	6,211.18	-1,103.98	803.33	6,995.77	7,038.71	0.00	0.00	0.00
13,600.00	90.00	89.51	6,211.18	-1,103.98	804.18	7,095.76	7,138.42	0.00	0.00	0.00
13,700.00	90.00	89.51	6,211.18	-1,103.98	805.03	7,195.76	7,238.12	0.00	0.00	0.00
13,800.00	90.00	89.51	6,211.18	-1,103.98	805.88	7,295.76	7,337.83	0.00	0.00	0.00
13,900.00	90.00	89.51	6,211.18	-1,103.98	806.72	7,395.75	7,437.54	0.00	0.00	0.00
14,000.00	90.00	89.51	6,211.18	-1,103.98	807.57	7,495.75	7,537.25	0.00	0.00	0.00
14,100.00	90.00	89.51	6,211.19	-1,103.99	808.42	7,595.75	7,636.95	0.00	0.00	0.00
14,200.00	90.00	89.51	6,211.19	-1,103.99	809.27	7,695.74	7,736.66	0.00	0.00	0.00
14,300.00	90.00	89.51	6,211.19	-1,103.99	810.12	7,795.74	7,836.37	0.00	0.00	0.00
14,400.00	90.00	89.51	6,211.19	-1,103.99	810.96	7,895.74	7,936.08	0.00	0.00	0.00
14,500.00	90.00	89.51	6,211.19	-1,103.99	811.81	7,995.73	8,035.78	0.00	0.00	0.00
14,600.00	90.00	89.51	6,211.19	-1,103.99	812.66	8,095.73	8,135.49	0.00	0.00	0.00
14,700.00	90.00	89.51	6,211.19	-1,103.99	813.51	8,195.72	8,235.20	0.00	0.00	0.00
14,800.00	90.00	89.51	6,211.19	-1,103.99	814.36	8,295.72	8,334.91	0.00	0.00	0.00
14,900.00	90.00	89.51	6,211.19	-1,103.99	815.21	8,395.72	8,434.61	0.00	0.00	0.00
15,000.00	90.00	89.51	6,211.19	-1,103.99	816.06	8,495.71	8,534.32	0.00	0.00	0.00
15,100.00	90.00	89.51	6,211.19	-1,103.99	816.91	8,595.71	8,634.03	0.00	0.00	0.00
15,200.00	90.00	89.51	6,211.19	-1,103.99	817.75	8,695.71	8,733.74	0.00	0.00	0.00
15,300.00	90.00	89.51	6,211.19	-1,103.99	818.60	8,795.70	8,833.44	0.00	0.00	0.00
15,400.00	90.00	89.51	6,211.20	-1,104.00	819.45	8,895.70	8,933.15	0.00	0.00	0.00
15,500.00	90.00	89.51	6,211.20	-1,104.00	820.30	8,995.70	9,032.86	0.00	0.00	0.00
15,600.00	90.00	89.51	6,211.20	-1,104.00	821.15	9,095.69	9,132.57	0.00	0.00	0.00
15,700.00	90.00	89.51	6,211.20	-1,104.00	822.00	9,195.69	9,232.28	0.00	0.00	0.00
15,800.00	90.00	89.51	6,211.20	-1,104.00	822.85	9,295.69	9,331.98	0.00	0.00	0.00
15,900.00	90.00	89.51	6,211.20	-1,104.00	823.70	9,395.68	9,431.69	0.00	0.00	0.00
EPI: 985ft FNL & 600ft FEL of Sec 9										
15,904.86	90.00	89.51	6,211.20	-1,104.00	823.75	9,400.55	9,436.54	0.00	0.00	0.00
EOT TO 89.49° AZ										
15,905.62	90.00	89.49	6,211.20	-1,104.00	823.75	9,401.30	9,437.29	3.00	0.00	-3.00
16,000.00	90.00	89.49	6,211.20	-1,104.00	824.59	9,495.68	9,531.40	0.00	0.00	0.00
16,100.00	90.00	89.49	6,211.20	-1,104.00	825.48	9,595.67	9,631.11	0.00	0.00	0.00
16,200.00	90.00	89.49	6,211.20	-1,104.00	826.37	9,695.67	9,730.82	0.00	0.00	0.00
BHL: 983ft FNL & 300ft FEL of Sec 9										
16,204.86	90.00	89.49	6,211.20	-1,104.00	826.41	9,700.53	9,735.66	0.01	0.01	0.01

Formations						
MD (usft)	TVD (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
502.37	502.20	PIERRE SHALE (BASE OF FOX HI				
3,554.59	3,492.20	PARKMAN				
3,886.85	3,817.20	SUSSEX				
4,843.75	4,757.20	SHANNON				
6,290.35	6,116.20	SHARON SPRINGS SHALE				
6,438.80	6,181.20	NIOBRARA FORMATION				
6,473.20	6,191.20	NIOBRARA A CHALK				

Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well TIMBRO 9-59 8A-9-3
Company:	BISON OIL & GAS II, LLC	TVD Reference:	KB-EST @ 5107.20usft (Original Well Elev)
Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB-EST @ 5107.20usft (Original Well Elev)
Site:	SW NW SEC. 8 T9N R59W 6th P.M.	North Reference:	True
Well:	TIMBRO 9-59 8A-9-3	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: 1728ft FNL & 475ft FWL of Sec 8
300.00	300.00	0.00	0.00	START NUDGE (2°/100ft BUR)
900.00	895.62	53.44	-32.61	EOB TO 12° INC
4,470.81	4,388.40	687.20	-419.29	END OF TANGENT
5,070.81	4,984.03	740.64	-451.90	EOD TO VERTICAL
5,725.02	5,638.24	740.64	-451.90	KOP (10°/100ft BUR)
6,625.03	6,211.20	745.44	121.05	BPI: 983ft FNL & 600ft FWL of Sec 8
15,904.86	6,211.20	823.75	9,400.55	EPI: 985ft FNL & 600ft FEL of Sec 9
15,905.62	6,211.20	823.75	9,401.30	EOT TO 89.49° AZ
16,204.86	6,211.20	826.41	9,700.53	BHL: 983ft FNL & 300ft FEL of Sec 9