

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

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

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

**TIMBRO 9-59 8B-9-2**

**ORIGINAL WELLBORE**

**05 March, 2018**

**Plan: PROPOSAL #1**





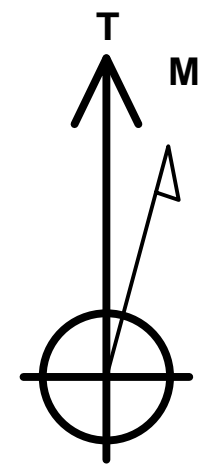
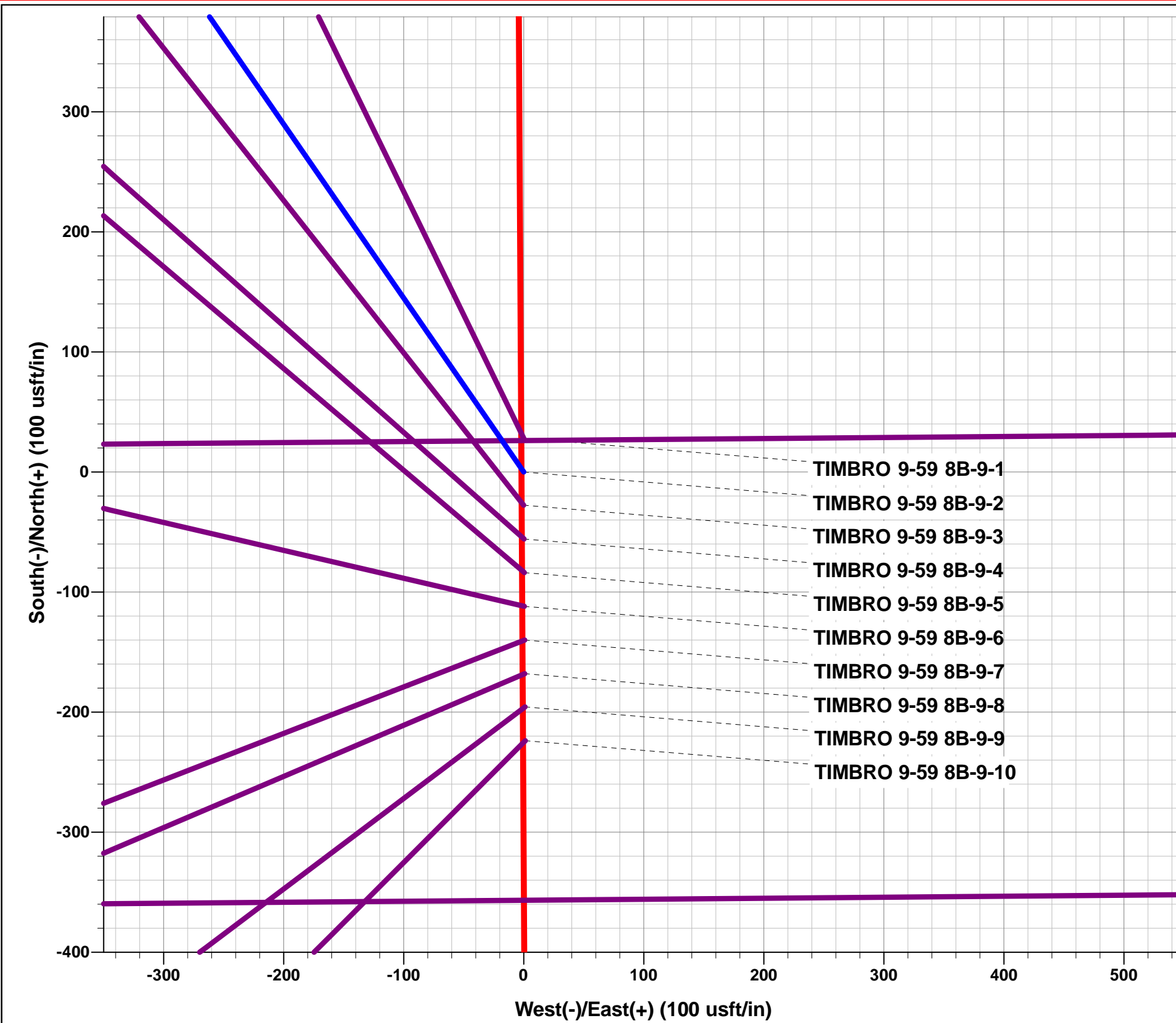
Project: WELD COUNTY, COLORADO (NAD 83)  
Site: NW SW SEC. 8 T9N R59W 6th P.M.  
Well: TIMBRO 9-59 8B-9-2  
Wellbore: ORIGINAL WELLBORE  
Design: PROPOSAL #1

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: 1415ft FSL & 600ft 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	325.39	51.53	-35.56	-30.45	62.60	EOB TO 12° INC
4991.40	5089.52	12.00	325.39	785.55	-542.09	-464.26	954.44	END OF TANGENT
5587.03	5689.52	0.00	0.00	837.08	-577.65	-494.72	1017.05	EOD TO VERTICAL
5720.74	5823.23	0.00	0.00	837.08	-577.65	-494.72	1017.05	KOP (10°/100ft BUR)
6293.70	6723.24	90.00	89.51	841.98	-4.71	76.06	1590.01	BPI: 2257ft FSL & 600ft FWL of Sec 8
6293.70	16008.01	90.00	89.52	920.61	9279.73	9325.25	10874.78	EPI: 2253ft FSL & 600ft FEL of Sec 9
6293.70	16009.34	90.00	89.56	920.62	9281.07	9326.58	10876.12	EOT TO 89.56° AZ
6293.70	16308.03	90.00	89.56	922.91	9579.74	9624.10	11174.80	BHL: 2252ft FSL & 300ft FEL of Sec 9

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
KOP - TIMBRO 9-59 8B-9-2	5720.74	837.08	-577.65	40.763916	-104.011609
BPI - TIMBRO 9-59 8B-9-2	6293.70	841.98	-4.71	40.763929	-104.009541
EPI - TIMBRO 9-59 8B-9-2	6293.70	920.61	9279.73	40.764140	-103.976025
BHL - TIMBRO 9-59 8B-9-2	6293.70	922.91	9579.74	40.764146	-103.974942



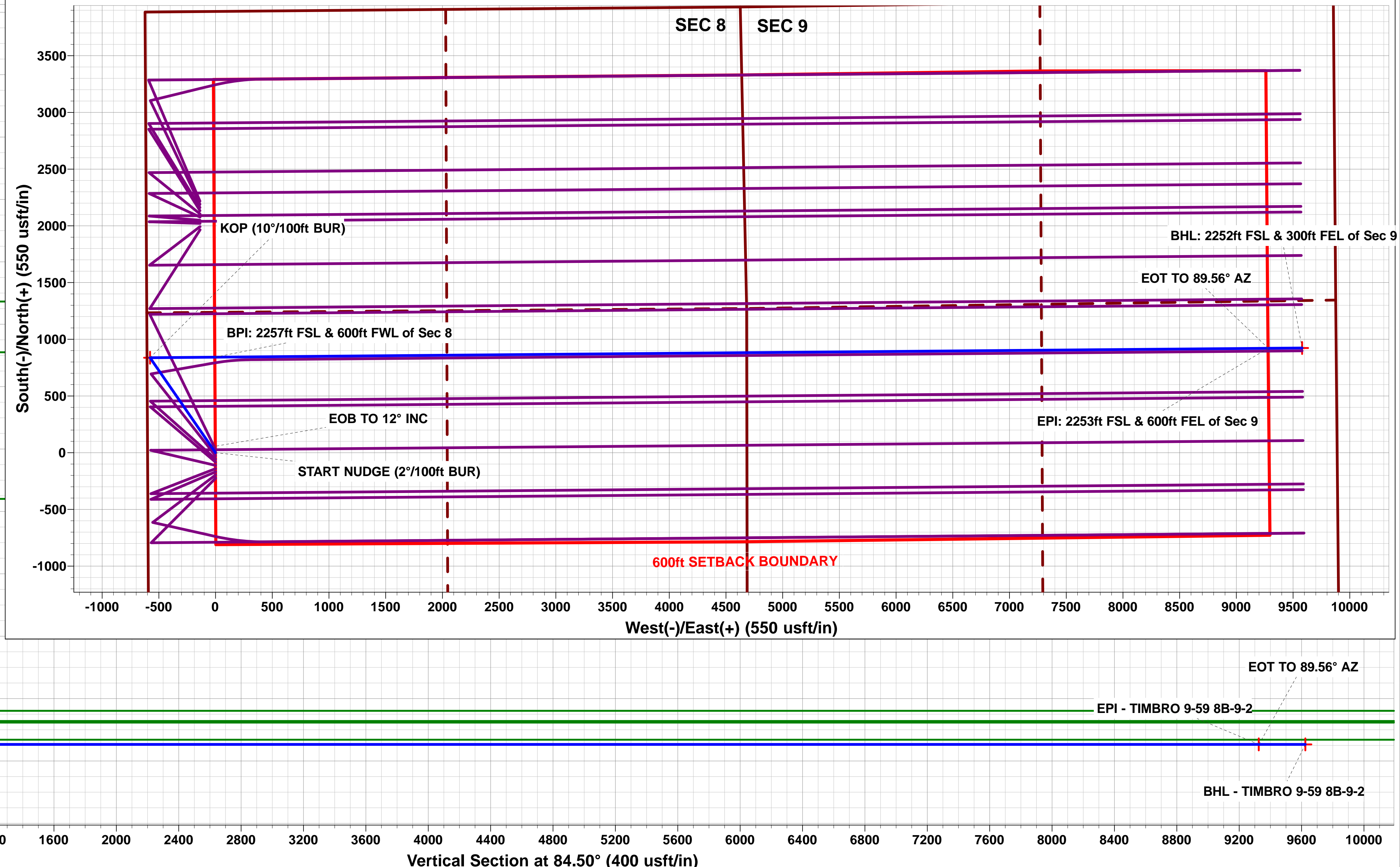
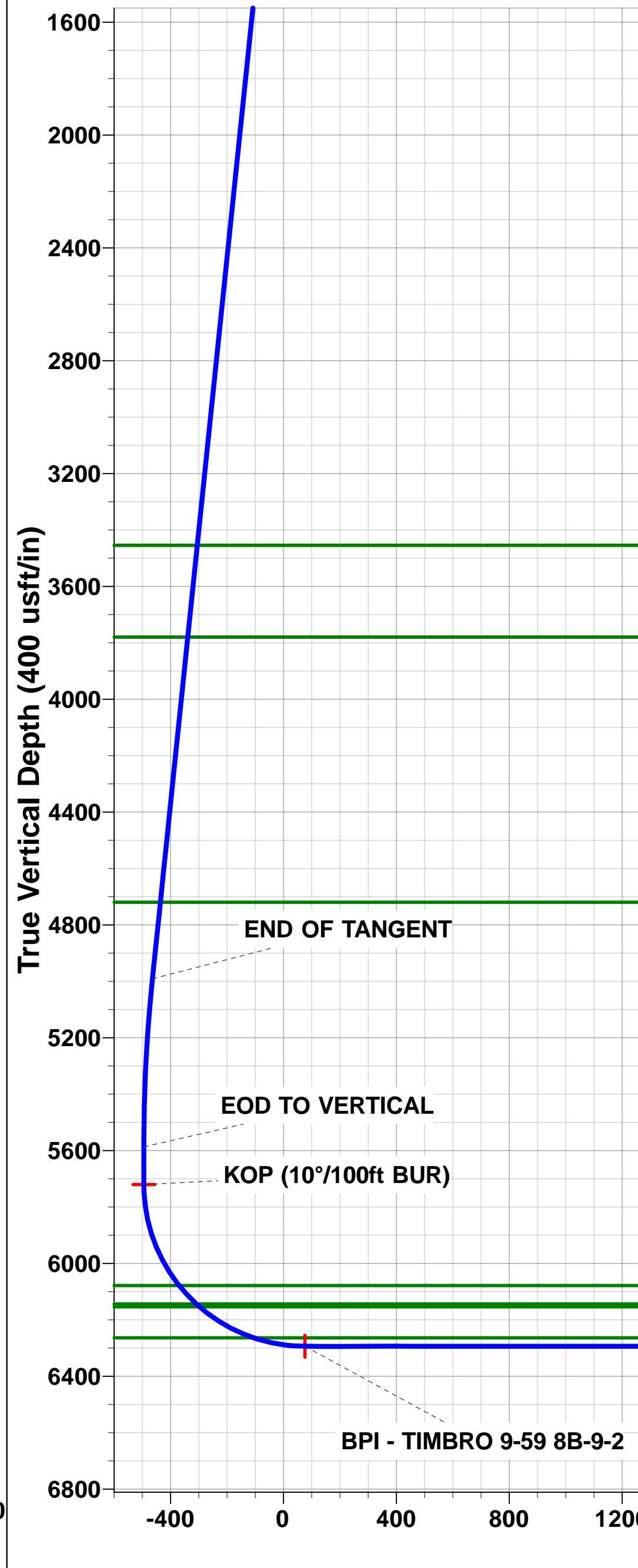
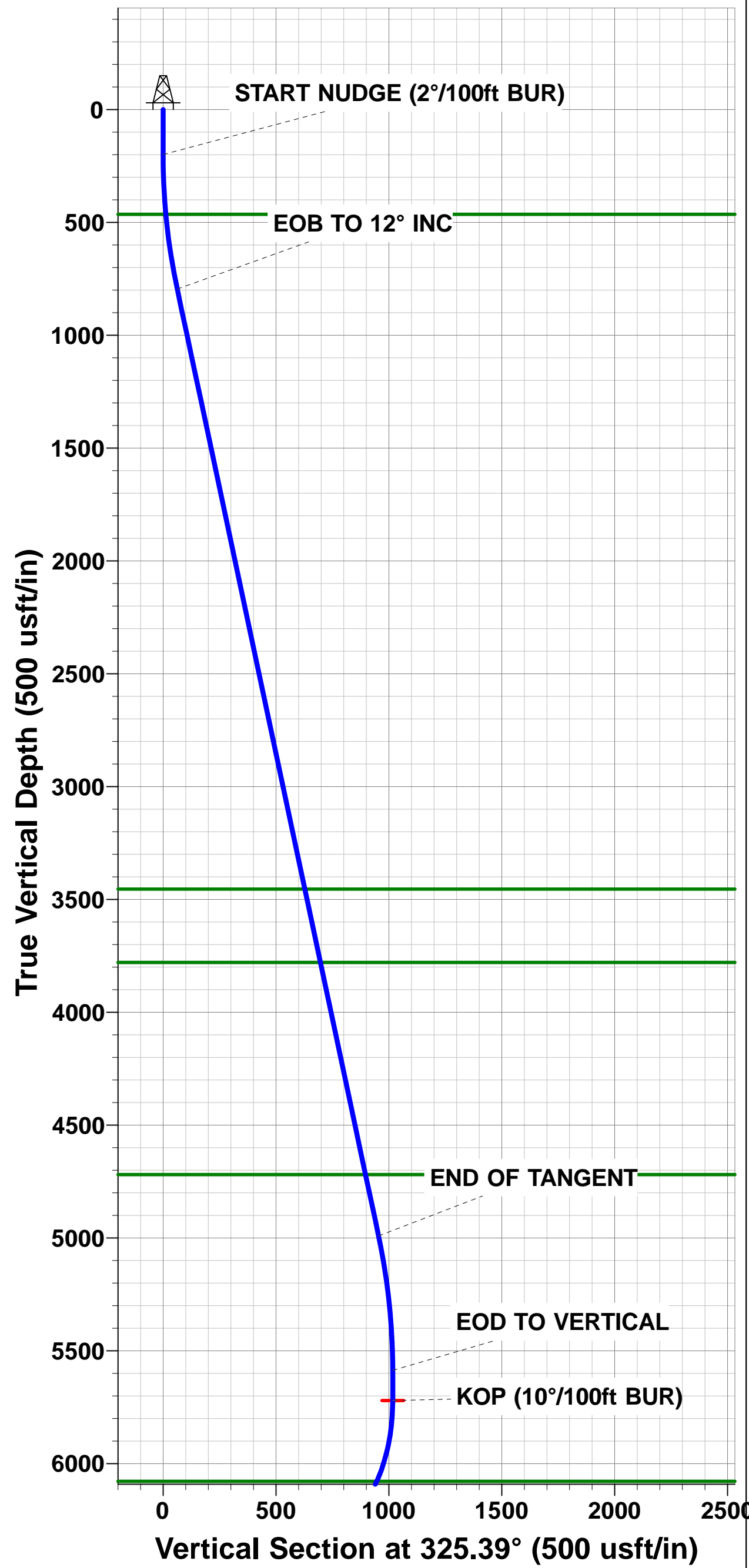
Azimuths to True North  
Magnetic North: 7.75°  
  
Magnetic Field  
Strength: 52571.9snT  
Dip Angle: 67.24°  
Date: 05/03/2018  
Model: IGRF2015

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
464.70	465.08	PIERRE SHALE
3454.70	3518.48	PARKMAN
3779.70	3850.74	SUSSEX
4719.70	4811.74	SHANNON
6078.70	6209.87	SHARON SPRINGS SHALE
6143.70	6299.02	NOBRARA FORMATION
6153.70	6314.06	NIOBRARA A CHALK
6263.70	6537.00	NIOBRARA B CHALK

PROPOSED LOCAL COORDINATES:

SHL: 1415ft FSL & 600ft FWL of Sec 8  
BEGIN PROD INT: 2257ft FSL & 600ft FWL of Sec 8  
END PROD INTERVAL: 2253ft FSL & 600ft FEL of Sec 9  
BHL: 2252ft FSL & 300ft FEL of Sec 9



# Planning Report



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well TIMBRO 9-59 8B-9-2
<b>Company:</b>	BISON OIL & GAS II, LLC	<b>TVD Reference:</b>	KB-EST @ 5069.70usft (Original Well Elev)
<b>Project:</b>	WELD COUNTY, COLORADO (NAD 83)	<b>MD Reference:</b>	KB-EST @ 5069.70usft (Original Well Elev)
<b>Site:</b>	NW SW SEC. 8 T9N R59W 6th P.M.	<b>North Reference:</b>	True
<b>Well:</b>	TIMBRO 9-59 8B-9-2	<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>	NW SW SEC. 8 T9N R59W 6th P.M.		
<b>Site Position:</b>		<b>Northing:</b>	1,523,800.83 usft
<b>From:</b>	Lat/Long	<b>Easting:</b>	3,412,878.72 usft
<b>Position Uncertainty:</b>	0.00 usft	<b>Slot Radius:</b>	1.10000 ft
		<b>Latitude:</b>	40.761695
		<b>Longitude:</b>	-104.009524
		<b>Grid Convergence:</b>	0.96 °

<b>Well</b>	TIMBRO 9-59 8B-9-2		
<b>Well Position</b>	<b>+N-S</b>	-28.06 usft	<b>Northing:</b>
	<b>+E-W</b>	0.00 usft	<b>Easting:</b>
<b>Position Uncertainty</b>		0.00 usft	<b>Wellhead Elevation:</b>
			<b>Latitude:</b>
			<b>Longitude:</b>
			<b>Ground Level:</b>

<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	05/03/2018	7.75	67.24	52,572

<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>
	6,293.70	0.00	0.00	84.50

<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	-5,069.70	0.00	0.00	0.00	0.00	0.00	0.00	
200.00	0.00	0.00	200.00	-4,869.70	0.00	0.00	0.00	0.00	0.00	0.00	
800.00	12.00	325.39	795.62	-4,274.08	51.53	-35.56	2.00	2.00	0.00	325.39	
5,089.52	12.00	325.39	4,991.40	-78.30	785.55	-542.09	0.00	0.00	0.00	0.00	
5,689.52	0.00	0.00	5,587.03	517.33	837.08	-577.65	2.00	-2.00	0.00	180.00	
5,823.23	0.00	0.00	5,720.74	651.04	837.08	-577.65	0.00	0.00	0.00	0.00	KOP - TIMBRO 9-5
6,723.24	90.00	89.51	6,293.70	1,224.00	841.98	-4.71	10.00	10.00	9.95	89.51	BPI - TIMBRO 9-59
16,008.01	90.00	89.52	6,293.70	1,224.00	920.61	9,279.73	0.00	0.00	0.00	91.87	EPI - TIMBRO 9-59
16,009.34	90.00	89.56	6,293.70	1,224.00	920.62	9,281.07	3.00	0.00	3.00	90.00	
16,308.03	90.00	89.56	6,293.70	1,224.00	922.91	9,579.74	0.00	0.00	0.00	0.00	BHL - TIMBRO 9-59

# Planning Report



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well TIMBRO 9-59 8B-9-2
<b>Company:</b>	BISON OIL & GAS II, LLC	<b>TVD Reference:</b>	KB-EST @ 5069.70usft (Original Well Elev)
<b>Project:</b>	WELD COUNTY, COLORADO (NAD 83)	<b>MD Reference:</b>	KB-EST @ 5069.70usft (Original Well Elev)
<b>Site:</b>	NW SW SEC. 8 T9N R59W 6th P.M.	<b>North Reference:</b>	True
<b>Well:</b>	TIMBRO 9-59 8B-9-2	<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: 1415ft FSL &amp; 600ft FWL of Sec 8</b>										
0.00	0.00	0.00	0.00	5,069.70	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	4,969.70	0.00	0.00	0.00	0.00	0.00	0.00
<b>START NUDGE (2°/100ft BUR)</b>										
200.00	0.00	0.00	200.00	4,869.70	0.00	0.00	0.00	0.00	0.00	0.00
300.00	2.00	325.39	299.98	4,769.72	1.44	-0.99	-0.85	2.00	2.00	0.00
400.00	4.00	325.39	399.84	4,669.86	5.74	-3.96	-3.39	2.00	2.00	0.00
<b>PIERRE SHALE</b>										
465.08	5.30	325.39	464.70	4,605.00	10.09	-6.96	-5.96	2.00	2.00	0.00
500.00	6.00	325.39	499.45	4,570.25	12.92	-8.91	-7.63	2.00	2.00	0.00
600.00	8.00	325.39	598.70	4,471.00	22.95	-15.83	-13.56	2.00	2.00	0.00
700.00	10.00	325.39	697.47	4,372.23	35.82	-24.72	-21.17	2.00	2.00	0.00
<b>EOB TO 12° INC</b>										
800.00	12.00	325.39	795.62	4,274.08	51.53	-35.56	-30.45	2.00	2.00	0.00
900.00	12.00	325.39	893.44	4,176.26	68.64	-47.36	-40.56	0.00	0.00	0.00
1,000.00	12.00	325.39	991.25	4,078.45	85.75	-59.17	-50.68	0.00	0.00	0.00
1,100.00	12.00	325.39	1,089.07	3,980.63	102.86	-70.98	-60.79	0.00	0.00	0.00
1,200.00	12.00	325.39	1,186.88	3,882.82	119.97	-82.79	-70.90	0.00	0.00	0.00
1,300.00	12.00	325.39	1,284.70	3,785.00	137.09	-94.60	-81.02	0.00	0.00	0.00
1,400.00	12.00	325.39	1,382.51	3,687.19	154.20	-106.41	-91.13	0.00	0.00	0.00
1,500.00	12.00	325.39	1,480.33	3,589.37	171.31	-118.22	-101.24	0.00	0.00	0.00
1,600.00	12.00	325.39	1,578.14	3,491.56	188.42	-130.03	-111.36	0.00	0.00	0.00
1,700.00	12.00	325.39	1,675.96	3,393.74	205.53	-141.83	-121.47	0.00	0.00	0.00
1,800.00	12.00	325.39	1,773.77	3,295.93	222.65	-153.64	-131.58	0.00	0.00	0.00
1,900.00	12.00	325.39	1,871.59	3,198.11	239.76	-165.45	-141.70	0.00	0.00	0.00
2,000.00	12.00	325.39	1,969.40	3,100.30	256.87	-177.26	-151.81	0.00	0.00	0.00
2,100.00	12.00	325.39	2,067.22	3,002.48	273.98	-189.07	-161.92	0.00	0.00	0.00
2,200.00	12.00	325.39	2,165.03	2,904.67	291.10	-200.88	-172.04	0.00	0.00	0.00
2,300.00	12.00	325.39	2,262.84	2,806.86	308.21	-212.69	-182.15	0.00	0.00	0.00
2,400.00	12.00	325.39	2,360.66	2,709.04	325.32	-224.50	-192.26	0.00	0.00	0.00
2,500.00	12.00	325.39	2,458.47	2,611.23	342.43	-236.30	-202.38	0.00	0.00	0.00
2,600.00	12.00	325.39	2,556.29	2,513.41	359.54	-248.11	-212.49	0.00	0.00	0.00
2,700.00	12.00	325.39	2,654.10	2,415.60	376.66	-259.92	-222.60	0.00	0.00	0.00
2,800.00	12.00	325.39	2,751.92	2,317.78	393.77	-271.73	-232.72	0.00	0.00	0.00
2,900.00	12.00	325.39	2,849.73	2,219.97	410.88	-283.54	-242.83	0.00	0.00	0.00
3,000.00	12.00	325.39	2,947.55	2,122.15	427.99	-295.35	-252.94	0.00	0.00	0.00
3,100.00	12.00	325.39	3,045.36	2,024.34	445.11	-307.16	-263.06	0.00	0.00	0.00
3,200.00	12.00	325.39	3,143.18	1,926.52	462.22	-318.97	-273.17	0.00	0.00	0.00
3,300.00	12.00	325.39	3,240.99	1,828.71	479.33	-330.77	-283.28	0.00	0.00	0.00
3,400.00	12.00	325.39	3,338.81	1,730.89	496.44	-342.58	-293.40	0.00	0.00	0.00
3,500.00	12.00	325.39	3,436.62	1,633.08	513.55	-354.39	-303.51	0.00	0.00	0.00
<b>PARKMAN</b>										
3,518.48	12.00	325.39	3,454.70	1,615.00	516.72	-356.57	-305.38	0.00	0.00	0.00
3,600.00	12.00	325.39	3,534.44	1,535.26	530.67	-366.20	-313.62	0.00	0.00	0.00
3,700.00	12.00	325.39	3,632.25	1,437.45	547.78	-378.01	-323.74	0.00	0.00	0.00
3,800.00	12.00	325.39	3,730.07	1,339.63	564.89	-389.82	-333.85	0.00	0.00	0.00
<b>SUSSEX</b>										
3,850.74	12.00	325.39	3,779.70	1,290.00	573.57	-395.81	-338.98	0.00	0.00	0.00
3,900.00	12.00	325.39	3,827.88	1,241.82	582.00	-401.63	-343.96	0.00	0.00	0.00
4,000.00	12.00	325.39	3,925.70	1,144.00	599.11	-413.44	-354.08	0.00	0.00	0.00
4,100.00	12.00	325.39	4,023.51	1,046.19	616.23	-425.24	-364.19	0.00	0.00	0.00
4,200.00	12.00	325.39	4,121.32	948.38	633.34	-437.05	-374.30	0.00	0.00	0.00
4,300.00	12.00	325.39	4,219.14	850.56	650.45	-448.86	-384.42	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 @ 5069.70usft (Original Well Elev)
<b>Site:</b>	NW SW SEC. 8 T9N R59W 6th P.M.	<b>North Reference:</b>	True
<b>Well:</b>	TIMBRO 9-59 8B-9-2	<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)
4,400.00	12.00	325.39	4,316.95	752.75	667.56	-460.67	-394.53	0.00	0.00	0.00
4,500.00	12.00	325.39	4,414.77	654.93	684.68	-472.48	-404.64	0.00	0.00	0.00
4,600.00	12.00	325.39	4,512.58	557.12	701.79	-484.29	-414.76	0.00	0.00	0.00
4,700.00	12.00	325.39	4,610.40	459.30	718.90	-496.10	-424.87	0.00	0.00	0.00
4,800.00	12.00	325.39	4,708.21	361.49	736.01	-507.91	-434.98	0.00	0.00	0.00
<b>SHANNON</b>										
<b>4,811.74</b>	<b>12.00</b>	<b>325.39</b>	<b>4,719.70</b>	<b>350.00</b>	<b>738.02</b>	<b>-509.29</b>	<b>-436.17</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
4,900.00	12.00	325.39	4,806.03	263.67	753.12	-519.71	-445.10	0.00	0.00	0.00
5,000.00	12.00	325.39	4,903.84	165.86	770.24	-531.52	-455.21	0.00	0.00	0.00
<b>END OF TANGENT</b>										
<b>5,089.52</b>	<b>12.00</b>	<b>325.39</b>	<b>4,991.40</b>	<b>78.30</b>	<b>785.55</b>	<b>-542.09</b>	<b>-464.26</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
5,100.00	11.79	325.39	5,001.66	68.04	787.33	-543.32	-465.31	2.00	-2.00	0.00
5,200.00	9.79	325.39	5,099.89	-30.19	802.74	-553.95	-474.42	2.00	-2.00	0.00
5,300.00	7.79	325.39	5,198.71	-129.01	815.32	-562.63	-481.85	2.00	-2.00	0.00
5,400.00	5.79	325.39	5,298.00	-228.30	825.05	-569.35	-487.61	2.00	-2.00	0.00
5,500.00	3.79	325.39	5,397.65	-327.95	831.92	-574.09	-491.67	2.00	-2.00	0.00
5,600.00	1.79	325.39	5,497.52	-427.82	835.93	-576.86	-494.03	2.00	-2.00	0.00
<b>EOD TO VERTICAL</b>										
<b>5,689.52</b>	<b>0.00</b>	<b>0.00</b>	<b>5,587.03</b>	<b>-517.33</b>	<b>837.08</b>	<b>-577.65</b>	<b>-494.72</b>	<b>2.00</b>	<b>-2.00</b>	<b>0.00</b>
5,700.00	0.00	0.00	5,597.51	-527.81	837.08	-577.65	-494.72	0.00	0.00	0.00
5,800.00	0.00	0.00	5,697.51	-627.81	837.08	-577.65	-494.72	0.00	0.00	0.00
<b>KOP (10°/100ft BUR)</b>										
<b>5,823.23</b>	<b>0.00</b>	<b>0.00</b>	<b>5,720.74</b>	<b>-651.04</b>	<b>837.08</b>	<b>-577.65</b>	<b>-494.72</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
5,900.00	7.68	89.51	5,797.28	-727.58	837.12	-572.51	-489.60	10.00	10.00	0.00
6,000.00	17.68	89.51	5,894.72	-825.02	837.31	-550.60	-467.77	10.00	10.00	0.00
6,100.00	27.68	89.51	5,986.87	-917.17	837.64	-512.09	-429.41	10.00	10.00	0.00
6,200.00	37.68	89.51	6,070.94	-1,001.24	838.10	-458.18	-375.69	10.00	10.00	0.00
<b>SHARON SPRINGS SHALE</b>										
<b>6,209.87</b>	<b>38.66</b>	<b>89.51</b>	<b>6,078.70</b>	<b>-1,009.00</b>	<b>838.16</b>	<b>-452.07</b>	<b>-369.61</b>	<b>10.00</b>	<b>10.00</b>	<b>0.00</b>
<b>NIORARA FORMATION</b>										
<b>6,299.02</b>	<b>47.58</b>	<b>89.51</b>	<b>6,143.70</b>	<b>-1,074.00</b>	<b>838.68</b>	<b>-391.20</b>	<b>-308.98</b>	<b>10.00</b>	<b>10.00</b>	<b>0.00</b>
6,300.00	47.68	89.51	6,144.36	-1,074.66	838.68	-390.48	-308.25	10.00	10.00	0.00
<b>NIORARA A CHALK</b>										
<b>6,314.06</b>	<b>49.08</b>	<b>89.51</b>	<b>6,153.70</b>	<b>-1,084.00</b>	<b>838.77</b>	<b>-379.97</b>	<b>-297.78</b>	<b>10.00</b>	<b>10.00</b>	<b>0.00</b>
6,400.00	57.68	89.51	6,204.92	-1,135.22	839.36	-311.06	-229.13	10.00	10.00	0.00
6,500.00	67.68	89.51	6,250.76	-1,181.06	840.12	-222.33	-140.74	10.00	10.00	0.00
<b>NIORARA B CHALK</b>										
<b>6,537.00</b>	<b>71.38</b>	<b>89.51</b>	<b>6,263.70</b>	<b>-1,194.00</b>	<b>840.42</b>	<b>-187.67</b>	<b>-106.22</b>	<b>10.00</b>	<b>10.00</b>	<b>0.00</b>
6,600.00	77.68	89.51	6,280.50	-1,210.80	840.94	-126.99	-45.76	10.00	10.00	0.00
6,700.00	87.68	89.51	6,293.23	-1,223.53	841.79	-27.94	52.92	10.00	10.00	0.00
<b>BPI: 2257ft FSL &amp; 600ft FWL of Sec 8</b>										
<b>6,723.24</b>	<b>90.00</b>	<b>89.51</b>	<b>6,293.70</b>	<b>-1,224.00</b>	<b>841.98</b>	<b>-4.71</b>	<b>76.06</b>	<b>10.00</b>	<b>10.00</b>	<b>0.00</b>
6,800.00	90.00	89.51	6,293.70	-1,224.00	842.64	72.05	152.53	0.00	0.00	0.00
6,900.00	90.00	89.51	6,293.70	-1,224.00	843.50	172.05	252.14	0.00	0.00	0.00
7,000.00	90.00	89.51	6,293.70	-1,224.00	844.35	272.05	351.76	0.00	0.00	0.00
7,100.00	90.00	89.51	6,293.70	-1,224.00	845.21	372.04	451.38	0.00	0.00	0.00
7,200.00	90.00	89.51	6,293.70	-1,224.00	846.06	472.04	551.00	0.00	0.00	0.00
7,300.00	90.00	89.51	6,293.70	-1,224.00	846.92	572.03	650.61	0.00	0.00	0.00
7,400.00	90.00	89.51	6,293.70	-1,224.00	847.77	672.03	750.23	0.00	0.00	0.00
7,500.00	90.00	89.51	6,293.70	-1,224.00	848.63	772.03	849.85	0.00	0.00	0.00
7,600.00	90.00	89.51	6,293.70	-1,224.00	849.48	872.02	949.47	0.00	0.00	0.00
7,700.00	90.00	89.51	6,293.70	-1,224.00	850.34	972.02	1,049.08	0.00	0.00	0.00
7,800.00	90.00	89.51	6,293.70	-1,224.00	851.19	1,072.02	1,148.70	0.00	0.00	0.00

# Planning Report



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well TIMBRO 9-59 8B-9-2
<b>Company:</b>	BISON OIL & GAS II, LLC	<b>TVD Reference:</b>	KB-EST @ 5069.70usft (Original Well Elev)
<b>Project:</b>	WELD COUNTY, COLORADO (NAD 83)	<b>MD Reference:</b>	KB-EST @ 5069.70usft (Original Well Elev)
<b>Site:</b>	NW SW SEC. 8 T9N R59W 6th P.M.	<b>North Reference:</b>	True
<b>Well:</b>	TIMBRO 9-59 8B-9-2	<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)
7,900.00	90.00	89.51	6,293.70	-1,224.00	852.04	1,172.01	1,248.32	0.00	0.00	0.00
8,000.00	90.00	89.51	6,293.70	-1,224.00	852.90	1,272.01	1,347.94	0.00	0.00	0.00
8,100.00	90.00	89.51	6,293.70	-1,224.00	853.75	1,372.01	1,447.55	0.00	0.00	0.00
8,200.00	90.00	89.51	6,293.70	-1,224.00	854.60	1,472.00	1,547.17	0.00	0.00	0.00
8,300.00	90.00	89.51	6,293.70	-1,224.00	855.46	1,572.00	1,646.79	0.00	0.00	0.00
8,400.00	90.00	89.51	6,293.70	-1,224.00	856.31	1,671.99	1,746.41	0.00	0.00	0.00
8,500.00	90.00	89.51	6,293.70	-1,224.00	857.16	1,771.99	1,846.02	0.00	0.00	0.00
8,600.00	90.00	89.51	6,293.70	-1,224.00	858.02	1,871.99	1,945.64	0.00	0.00	0.00
8,700.00	90.00	89.51	6,293.70	-1,224.00	858.87	1,971.98	2,045.26	0.00	0.00	0.00
8,800.00	90.00	89.51	6,293.70	-1,224.00	859.72	2,071.98	2,144.87	0.00	0.00	0.00
8,900.00	90.00	89.51	6,293.70	-1,224.00	860.57	2,171.98	2,244.49	0.00	0.00	0.00
9,000.00	90.00	89.51	6,293.69	-1,223.99	861.42	2,271.97	2,344.11	0.00	0.00	0.00
9,100.00	90.00	89.51	6,293.69	-1,223.99	862.27	2,371.97	2,443.73	0.00	0.00	0.00
9,200.00	90.00	89.51	6,293.69	-1,223.99	863.13	2,471.97	2,543.34	0.00	0.00	0.00
9,300.00	90.00	89.51	6,293.69	-1,223.99	863.98	2,571.96	2,642.96	0.00	0.00	0.00
9,400.00	90.00	89.51	6,293.69	-1,223.99	864.83	2,671.96	2,742.58	0.00	0.00	0.00
9,500.00	90.00	89.51	6,293.69	-1,223.99	865.68	2,771.95	2,842.19	0.00	0.00	0.00
9,600.00	90.00	89.51	6,293.69	-1,223.99	866.53	2,871.95	2,941.81	0.00	0.00	0.00
9,700.00	90.00	89.51	6,293.69	-1,223.99	867.38	2,971.95	3,041.43	0.00	0.00	0.00
9,800.00	90.00	89.51	6,293.69	-1,223.99	868.23	3,071.94	3,141.05	0.00	0.00	0.00
9,900.00	90.00	89.51	6,293.69	-1,223.99	869.08	3,171.94	3,240.66	0.00	0.00	0.00
10,000.00	90.00	89.51	6,293.69	-1,223.99	869.93	3,271.94	3,340.28	0.00	0.00	0.00
10,100.00	90.00	89.51	6,293.69	-1,223.99	870.78	3,371.93	3,439.90	0.00	0.00	0.00
10,200.00	90.00	89.51	6,293.69	-1,223.99	871.63	3,471.93	3,539.51	0.00	0.00	0.00
10,300.00	90.00	89.51	6,293.69	-1,223.99	872.48	3,571.93	3,639.13	0.00	0.00	0.00
10,400.00	90.00	89.51	6,293.69	-1,223.99	873.33	3,671.92	3,738.75	0.00	0.00	0.00
10,500.00	90.00	89.51	6,293.69	-1,223.99	874.17	3,771.92	3,838.36	0.00	0.00	0.00
10,600.00	90.00	89.51	6,293.69	-1,223.99	875.02	3,871.91	3,937.98	0.00	0.00	0.00
10,700.00	90.00	89.51	6,293.69	-1,223.99	875.87	3,971.91	4,037.60	0.00	0.00	0.00
10,800.00	90.00	89.51	6,293.69	-1,223.99	876.72	4,071.91	4,137.22	0.00	0.00	0.00
10,900.00	90.00	89.51	6,293.69	-1,223.99	877.57	4,171.90	4,236.83	0.00	0.00	0.00
11,000.00	90.00	89.51	6,293.69	-1,223.99	878.41	4,271.90	4,336.45	0.00	0.00	0.00
11,100.00	90.00	89.51	6,293.69	-1,223.99	879.26	4,371.90	4,436.07	0.00	0.00	0.00
11,200.00	90.00	89.51	6,293.69	-1,223.99	880.11	4,471.89	4,535.68	0.00	0.00	0.00
11,300.00	90.00	89.51	6,293.69	-1,223.99	880.96	4,571.89	4,635.30	0.00	0.00	0.00
11,400.00	90.00	89.51	6,293.69	-1,223.99	881.80	4,671.89	4,734.92	0.00	0.00	0.00
11,500.00	90.00	89.51	6,293.69	-1,223.99	882.65	4,771.88	4,834.53	0.00	0.00	0.00
11,600.00	90.00	89.52	6,293.69	-1,223.99	883.50	4,871.88	4,934.15	0.00	0.00	0.00
11,700.00	90.00	89.52	6,293.69	-1,223.99	884.34	4,971.88	5,033.77	0.00	0.00	0.00
11,800.00	90.00	89.52	6,293.69	-1,223.99	885.19	5,071.87	5,133.38	0.00	0.00	0.00
11,900.00	90.00	89.52	6,293.69	-1,223.99	886.03	5,171.87	5,233.00	0.00	0.00	0.00
12,000.00	90.00	89.52	6,293.69	-1,223.99	886.88	5,271.86	5,332.62	0.00	0.00	0.00
12,100.00	90.00	89.52	6,293.69	-1,223.99	887.73	5,371.86	5,432.23	0.00	0.00	0.00
12,200.00	90.00	89.52	6,293.69	-1,223.99	888.57	5,471.86	5,531.85	0.00	0.00	0.00
12,300.00	90.00	89.52	6,293.69	-1,223.99	889.42	5,571.85	5,631.47	0.00	0.00	0.00
12,400.00	90.00	89.52	6,293.69	-1,223.99	890.26	5,671.85	5,731.08	0.00	0.00	0.00
12,500.00	90.00	89.52	6,293.69	-1,223.99	891.11	5,771.85	5,830.70	0.00	0.00	0.00
12,600.00	90.00	89.52	6,293.69	-1,223.99	891.95	5,871.84	5,930.32	0.00	0.00	0.00
12,700.00	90.00	89.52	6,293.69	-1,223.99	892.79	5,971.84	6,029.93	0.00	0.00	0.00
12,800.00	90.00	89.52	6,293.69	-1,223.99	893.64	6,071.84	6,129.55	0.00	0.00	0.00
12,900.00	90.00	89.52	6,293.69	-1,223.99	894.48	6,171.83	6,229.17	0.00	0.00	0.00
13,000.00	90.00	89.52	6,293.69	-1,223.99	895.33	6,271.83	6,328.78	0.00	0.00	0.00
13,100.00	90.00	89.52	6,293.69	-1,223.99	896.17	6,371.83	6,428.40	0.00	0.00	0.00
13,200.00	90.00	89.52	6,293.69	-1,223.99	897.01	6,471.82	6,528.02	0.00	0.00	0.00

# Planning Report



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well TIMBRO 9-59 8B-9-2
<b>Company:</b>	BISON OIL & GAS II, LLC	<b>TVD Reference:</b>	KB-EST @ 5069.70usft (Original Well Elev)
<b>Project:</b>	WELD COUNTY, COLORADO (NAD 83)	<b>MD Reference:</b>	KB-EST @ 5069.70usft (Original Well Elev)
<b>Site:</b>	NW SW SEC. 8 T9N R59W 6th P.M.	<b>North Reference:</b>	True
<b>Well:</b>	TIMBRO 9-59 8B-9-2	<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)
13,300.00	90.00	89.52	6,293.69	-1,223.99	897.86	6,571.82	6,627.63	0.00	0.00	0.00
13,400.00	90.00	89.52	6,293.69	-1,223.99	898.70	6,671.81	6,727.25	0.00	0.00	0.00
13,500.00	90.00	89.52	6,293.69	-1,223.99	899.54	6,771.81	6,826.86	0.00	0.00	0.00
13,600.00	90.00	89.52	6,293.69	-1,223.99	900.38	6,871.81	6,926.48	0.00	0.00	0.00
13,700.00	90.00	89.52	6,293.69	-1,223.99	901.23	6,971.80	7,026.10	0.00	0.00	0.00
13,800.00	90.00	89.52	6,293.69	-1,223.99	902.07	7,071.80	7,125.71	0.00	0.00	0.00
13,900.00	90.00	89.52	6,293.70	-1,224.00	902.91	7,171.80	7,225.33	0.00	0.00	0.00
14,000.00	90.00	89.52	6,293.70	-1,224.00	903.75	7,271.79	7,324.95	0.00	0.00	0.00
14,100.00	90.00	89.52	6,293.70	-1,224.00	904.59	7,371.79	7,424.56	0.00	0.00	0.00
14,200.00	90.00	89.52	6,293.70	-1,224.00	905.43	7,471.79	7,524.18	0.00	0.00	0.00
14,300.00	90.00	89.52	6,293.70	-1,224.00	906.28	7,571.78	7,623.80	0.00	0.00	0.00
14,400.00	90.00	89.52	6,293.70	-1,224.00	907.12	7,671.78	7,723.41	0.00	0.00	0.00
14,500.00	90.00	89.52	6,293.70	-1,224.00	907.96	7,771.78	7,823.03	0.00	0.00	0.00
14,600.00	90.00	89.52	6,293.70	-1,224.00	908.80	7,871.77	7,922.64	0.00	0.00	0.00
14,700.00	90.00	89.52	6,293.70	-1,224.00	909.64	7,971.77	8,022.26	0.00	0.00	0.00
14,800.00	90.00	89.52	6,293.70	-1,224.00	910.48	8,071.77	8,121.88	0.00	0.00	0.00
14,900.00	90.00	89.52	6,293.70	-1,224.00	911.32	8,171.76	8,221.49	0.00	0.00	0.00
15,000.00	90.00	89.52	6,293.70	-1,224.00	912.16	8,271.76	8,321.11	0.00	0.00	0.00
15,100.00	90.00	89.52	6,293.70	-1,224.00	913.00	8,371.75	8,420.72	0.00	0.00	0.00
15,200.00	90.00	89.52	6,293.70	-1,224.00	913.84	8,471.75	8,520.34	0.00	0.00	0.00
15,300.00	90.00	89.52	6,293.70	-1,224.00	914.68	8,571.75	8,619.96	0.00	0.00	0.00
15,400.00	90.00	89.52	6,293.70	-1,224.00	915.52	8,671.74	8,719.57	0.00	0.00	0.00
15,500.00	90.00	89.52	6,293.70	-1,224.00	916.35	8,771.74	8,819.19	0.00	0.00	0.00
15,600.00	90.00	89.52	6,293.70	-1,224.00	917.19	8,871.74	8,918.81	0.00	0.00	0.00
15,700.00	90.00	89.52	6,293.70	-1,224.00	918.03	8,971.73	9,018.42	0.00	0.00	0.00
15,800.00	90.00	89.52	6,293.70	-1,224.00	918.87	9,071.73	9,118.04	0.00	0.00	0.00
15,900.00	90.00	89.52	6,293.70	-1,224.00	919.71	9,171.73	9,217.65	0.00	0.00	0.00
16,000.00	90.00	89.52	6,293.70	-1,224.00	920.55	9,271.72	9,317.27	0.00	0.00	0.00
<b>EPI: 2253ft FSL &amp; 600ft FEL of Sec 9</b>										
16,008.01	90.00	89.52	6,293.70	-1,224.00	920.61	9,279.73	9,325.25	0.00	0.00	0.00
<b>EOT TO 89.56° AZ</b>										
16,009.34	90.00	89.56	6,293.70	-1,224.00	920.62	9,281.07	9,326.58	3.00	0.00	3.00
16,100.00	90.00	89.56	6,293.70	-1,224.00	921.32	9,371.72	9,416.88	0.00	0.00	0.00
16,200.00	90.00	89.56	6,293.70	-1,224.00	922.09	9,471.72	9,516.49	0.00	0.00	0.00
16,300.00	90.00	89.56	6,293.70	-1,224.00	922.85	9,571.71	9,616.10	0.00	0.00	0.00
<b>BHL: 2252ft FSL &amp; 300ft FEL of Sec 9</b>										
16,308.03	90.00	89.56	6,293.70	-1,224.00	922.91	9,579.74	9,624.10	0.00	0.00	0.00

Formations						
MD (usft)	TVD (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
465.08	464.70	PIERRE SHALE				
3,518.48	3,454.70	PARKMAN				
3,850.74	3,779.70	SUSSEX				
4,811.74	4,719.70	SHANNON				
6,209.87	6,078.70	SHARON SPRINGS SHALE				
6,299.02	6,143.70	NIOBRARA FORMATION				
6,314.06	6,153.70	NIOBRARA A CHALK				
6,537.00	6,263.70	NIOBRARA B CHALK				

# Planning Report



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well TIMBRO 9-59 8B-9-2
<b>Company:</b>	BISON OIL & GAS II, LLC	<b>TVD Reference:</b>	KB-EST @ 5069.70usft (Original Well Elev)
<b>Project:</b>	WELD COUNTY, COLORADO (NAD 83)	<b>MD Reference:</b>	KB-EST @ 5069.70usft (Original Well Elev)
<b>Site:</b>	NW SW SEC. 8 T9N R59W 6th P.M.	<b>North Reference:</b>	True
<b>Well:</b>	TIMBRO 9-59 8B-9-2	<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: 1415ft FSL & 600ft FWL of Sec 8
200.00	200.00	0.00	0.00	START NUDGE (2°/100ft BUR)
800.00	795.62	51.53	-35.56	EOB TO 12° INC
5,089.52	4,991.40	785.55	-542.09	END OF TANGENT
5,689.52	5,587.03	837.08	-577.65	EOD TO VERTICAL
5,823.23	5,720.74	837.08	-577.65	KOP (10°/100ft BUR)
6,723.24	6,293.70	841.98	-4.71	BPI: 2257ft FSL & 600ft FWL of Sec 8
16,008.01	6,293.70	920.61	9,279.73	EPI: 2253ft FSL & 600ft FEL of Sec 9
16,009.34	6,293.70	920.62	9,281.07	EOT TO 89.56° AZ
16,308.03	6,293.70	922.91	9,579.74	BHL: 2252ft FSL & 300ft FEL of Sec 9