

BISON OIL & GAS II, LLC

WELD COUNTY, COLORADO (NAD 83)

SE SE SEC. 13 T7N R61W 6th P.M.

MILLER 7-61 13C-18-17-5

ORIGINAL WELLBORE

28 July, 2018

Plan: PROPOSAL #1





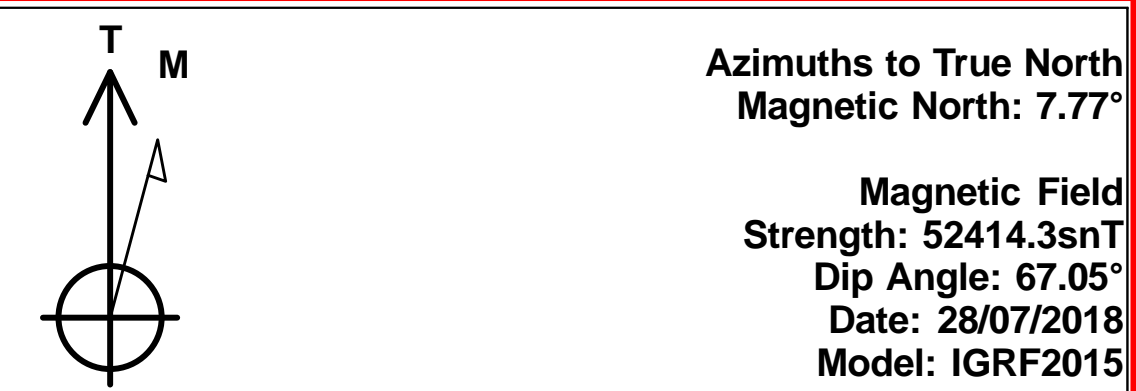
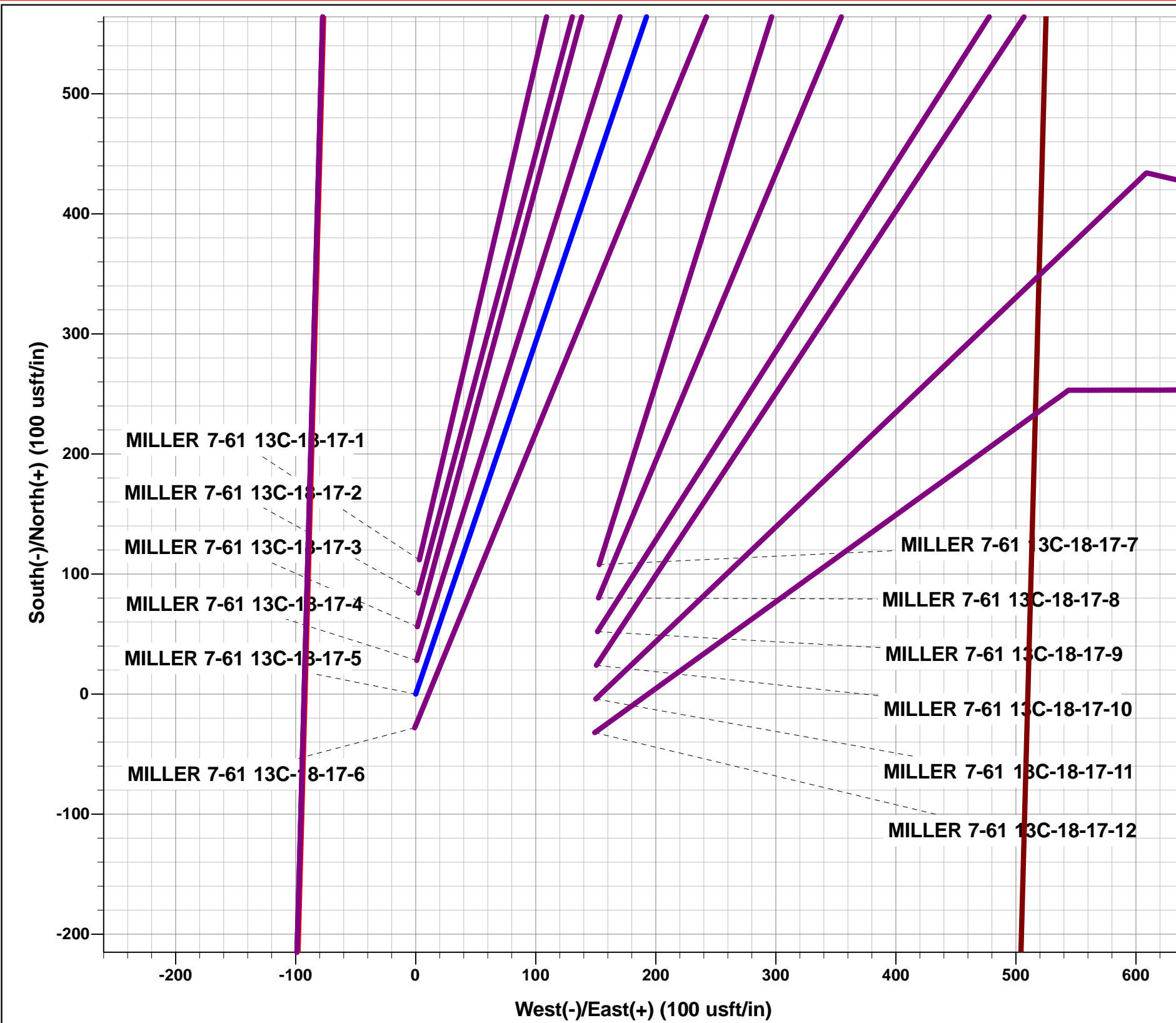
Project: WELD COUNTY, COLORADO (NAD 83)
Site: SE SE SEC. 13 T7N R61W 6th P.M.
Well: MILLER 7-61 13C-18-17-5
Wellbore: ORIGINAL WELLBORE
Design: PROPOSAL #1

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: 376ft FSL & 510ft FEL of Sec 13
500.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00	START NUDEGE (2°/100ft BUR)
1634.41	1666.36	23.33	18.82	221.66	75.53	111.94	234.17	EOB TO 23.33° INC
4820.93	5136.55	23.33	18.82	1522.36	518.71	768.78	1608.31	END OF TANGENT
5955.34	6302.91	0.00	0.00	1744.02	594.24	880.72	1842.48	EOD TO VERTICAL
6055.34	6402.91	0.00	0.00	1744.02	594.24	880.72	1842.48	KOP (10°/100ft BUR)
6628.30	7302.92	90.00	80.80	1835.63	1159.83	1453.65	2415.44	BPI * NEW*: 2205ft FSL & 600ft FWL of Sec 18
6628.30	7606.83	90.00	89.92	1860.20	1462.43	1756.05	2719.35	EOT TO 89.92° AZ
6628.30	16759.83	90.00	89.92	1873.45	10615.42	10779.35	11872.35	EPI: 2220ft FSL & 600ft FEL of Sec 17
6628.30	16761.60	90.00	89.97	1873.46	10617.18	10781.09	11874.12	EOT TO 89.97° AZ
6628.30	17059.58	90.00	89.98	1873.59	10915.17	11074.80	12172.10	BHL: 2220ft FSL & 300ft FEL of Sec 17

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
KOP - MILLER 7-61 13C-18-17-5	6055.34	1744.02	594.24	40.573653	-104.146051
BPI *NEW* - MILLER 7-61 13C-18-17-5	6628.30	1835.63	1159.83	40.573904	-104.144015
EPI - MILLER 7-61 13C-18-17-5	6628.30	1873.45	10615.42	40.574002	-104.109978
BHL - MILLER 7-61 13C-18-17-5	6628.30	1873.59	10915.17	40.574002	-104.108899

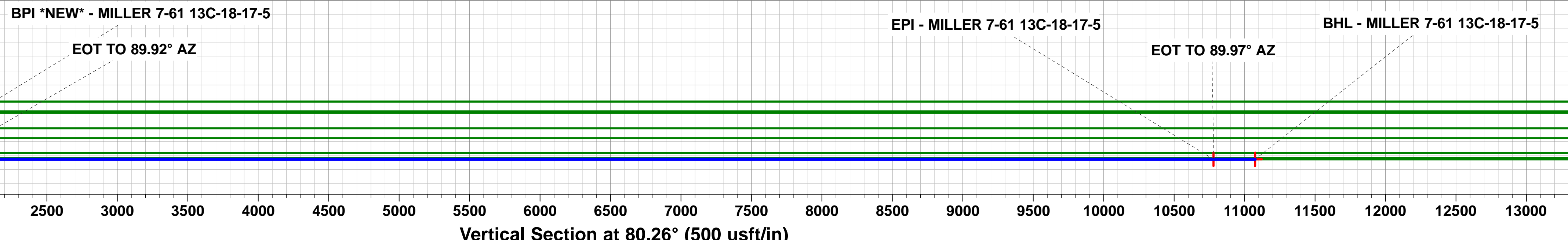
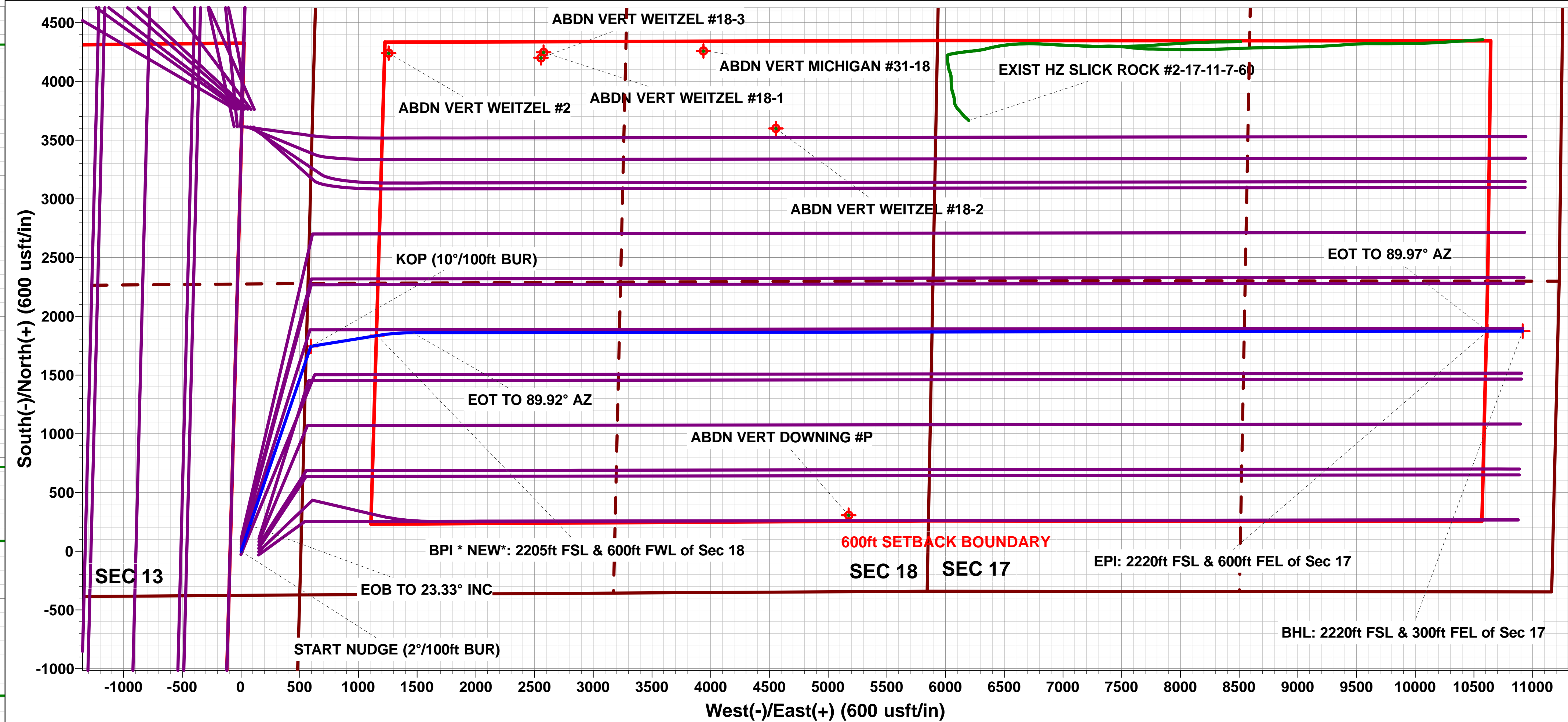
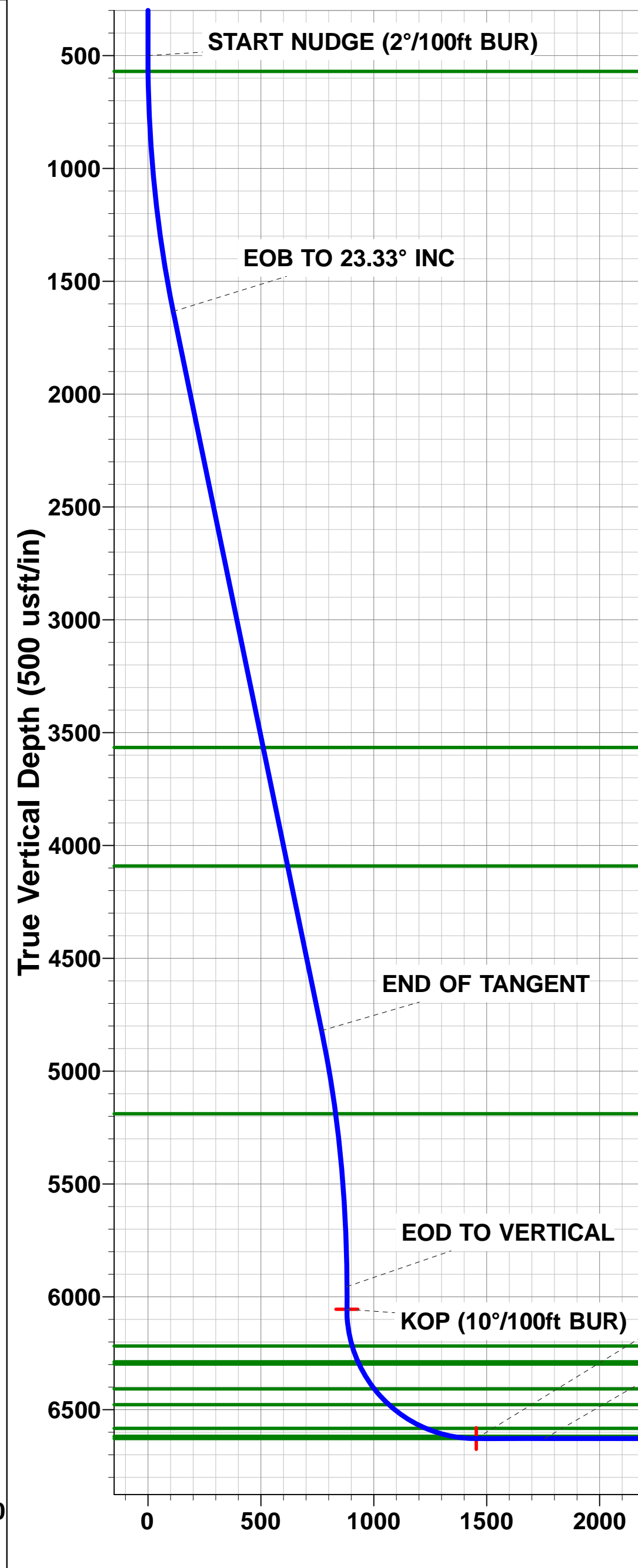
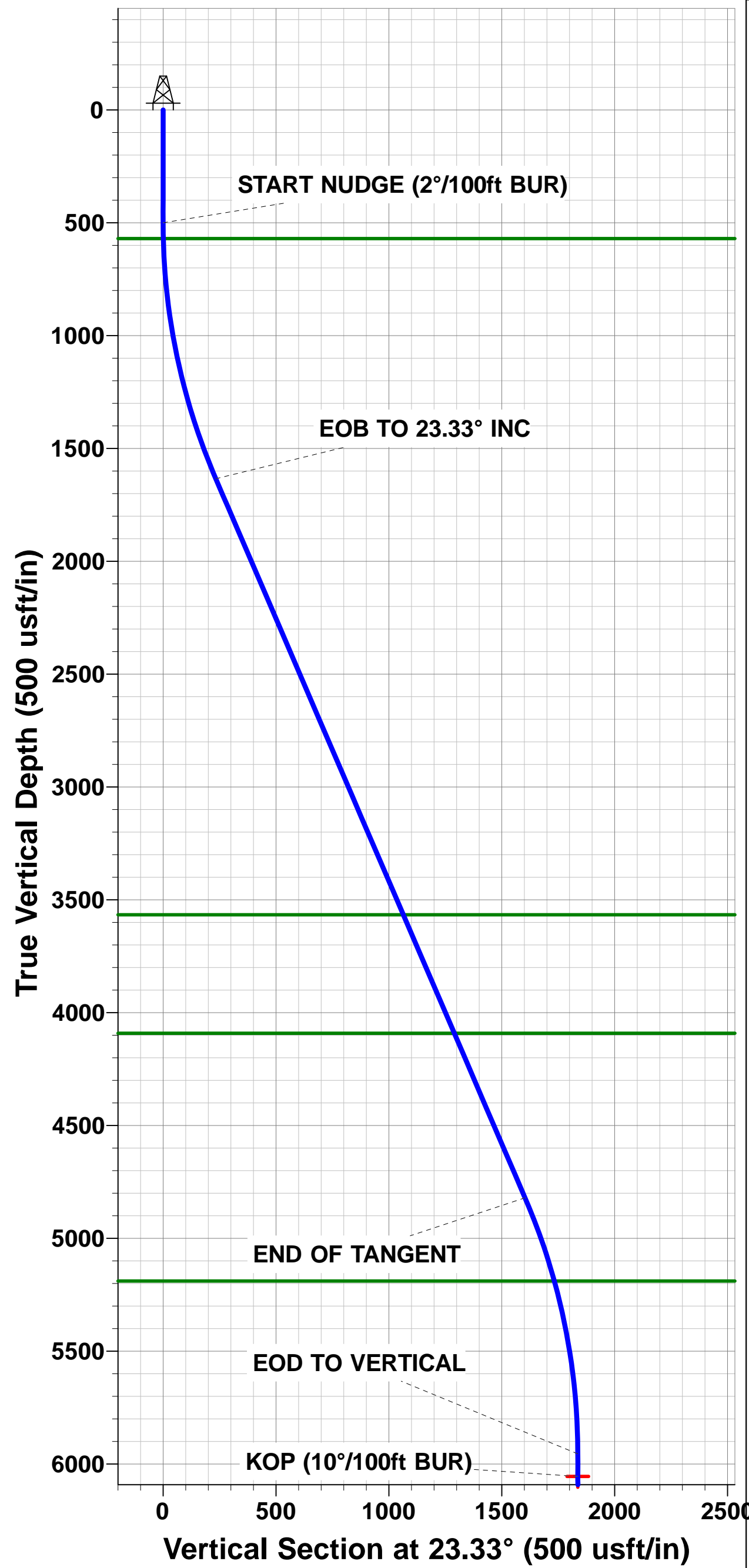


FORMATION TOP DETAILS

TVDPath	MDPath	Formation
570.30	570.31	PIERRE SHALE
3566.30	3770.23	PARKMAN
4091.30	4341.97	SUSSEX
5189.30	5527.44	SHANNON
6218.30	6568.15	SHARON SPRINGS SHALE
6288.30	6642.82	NIOBRARA FORMATION
6298.30	6653.82	NIOBRARA A CHALK
6408.30	6783.18	NIOBRARA B CHALK
6478.30	6878.70	NIOBRARA C CHALK
6583.30	7074.32	FT HAYS
6618.30	7195.71	CODELL
6628.30	7302.92	CODELL LP

PROPOSED LOCAL COORDINATES:

SHL: 376ft FSL & 510ft FEL of Sec 13
BEGIN PROD INT *NEW*: 2205ft FSL & 600ft FWL of Sec 18
END PROD INTERVAL: 2220ft FSL & 600ft FEL of Sec 17
BHL: 2220ft FSL & 300ft FEL of Sec 17



Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well MILLER 7-61 13C-18-17-5
Company:	BISON OIL & GAS II, LLC	TVD Reference:	KB-EST @ 5003.30usft (Original Well Elev)
Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB-EST @ 5003.30usft (Original Well Elev)
Site:	SE SE SEC. 13 T7N R61W 6th P.M.	North Reference:	True
Well:	MILLER 7-61 13C-18-17-5	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	SE SE SEC. 13 T7N R61W 6th P.M.		
Site Position:		Northing:	1,453,053.39 usft
From:	Lat/Long	Easting:	3,375,542.06 usft
Position Uncertainty:	0.00 usft	Slot Radius:	1.10000ft
		Latitude:	40.569173
		Longitude:	-104.148179
		Grid Convergence:	0.87 °

Well	MILLER 7-61 13C-18-17-5		
Well Position	+N-S	-111.85 usft	Northing:
	+E-W	-3.06 usft	Easting:
Position Uncertainty		0.00 usft	Wellhead Elevation:
			usft
			Latitude:
			40.568866
			Longitude:
			-104.148190
			Ground Level:
			4,978.30 usft

Wellbore	ORIGINAL WELLBORE				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	28/07/2018	7.77	67.05	52,414

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 (°)
	6,628.30	0.00	0.00	80.26

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	-5,003.30	0.00	0.00	0.00	0.00	0.00	0.00	
500.00	0.00	0.00	500.00	-4,503.30	0.00	0.00	0.00	0.00	0.00	0.00	
1,666.36	23.33	18.82	1,634.41	-3,368.89	221.66	75.53	2.00	2.00	0.00	18.82	
5,136.55	23.33	18.82	4,820.93	-182.37	1,522.36	518.71	0.00	0.00	0.00	0.00	
6,302.91	0.00	0.00	5,955.34	952.04	1,744.02	594.24	2.00	-2.00	0.00	180.00	
6,402.91	0.00	0.00	6,055.34	1,052.04	1,744.02	594.24	0.00	0.00	0.00	0.00	KOP - MILLER 7-61
7,302.92	90.00	80.80	6,628.30	1,625.00	1,835.63	1,159.83	10.00	10.00	8.98	80.80	BPI *NEW* - MILLE
7,606.83	90.00	89.92	6,628.30	1,625.00	1,860.20	1,462.43	3.00	0.00	3.00	90.00	
16,759.83	90.00	89.92	6,628.30	1,625.00	1,873.45	10,615.42	0.00	0.00	0.00	0.00	EPI - MILLER 7-61
16,761.60	90.00	89.97	6,628.30	1,625.00	1,873.46	10,617.18	3.00	0.00	3.00	90.00	
17,059.58	90.00	89.98	6,628.30	1,625.00	1,873.59	10,915.17	0.00	0.00	0.00	90.00	BHL - MILLER 7-61

Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well MILLER 7-61 13C-18-17-5
Company:	BISON OIL & GAS II, LLC	TVD Reference:	KB-EST @ 5003.30usft (Original Well Elev)
Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB-EST @ 5003.30usft (Original Well Elev)
Site:	SE SE SEC. 13 T7N R61W 6th P.M.	North Reference:	True
Well:	MILLER 7-61 13C-18-17-5	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: 376ft FSL & 510ft FEL of Sec 13										
0.00	0.00	0.00	0.00	5,003.30	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	4,903.30	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	4,803.30	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	4,703.30	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	4,603.30	0.00	0.00	0.00	0.00	0.00	0.00
START NUDGE (2°/100ft BUR)										
500.00	0.00	0.00	500.00	4,503.30	0.00	0.00	0.00	0.00	0.00	0.00
PIERRE SHALE (BASE OF FOX HILLS)										
570.31	1.41	18.82	570.30	4,433.00	0.82	0.28	0.41	2.00	2.00	0.00
600.00	2.00	18.82	599.98	4,403.32	1.65	0.56	0.83	2.00	2.00	0.00
700.00	4.00	18.82	699.84	4,303.46	6.61	2.25	3.34	2.00	2.00	0.00
800.00	6.00	18.82	799.45	4,203.85	14.85	5.06	7.50	2.00	2.00	0.00
900.00	8.00	18.82	898.70	4,104.60	26.39	8.99	13.33	2.00	2.00	0.00
1,000.00	10.00	18.82	997.47	4,005.83	41.20	14.04	20.80	2.00	2.00	0.00
1,100.00	12.00	18.82	1,095.62	3,907.68	59.26	20.19	29.92	2.00	2.00	0.00
1,200.00	14.00	18.82	1,193.06	3,810.24	80.55	27.45	40.68	2.00	2.00	0.00
1,300.00	16.00	18.82	1,289.64	3,713.66	105.05	35.79	53.05	2.00	2.00	0.00
1,400.00	18.00	18.82	1,385.27	3,618.03	132.72	45.22	67.02	2.00	2.00	0.00
1,500.00	20.00	18.82	1,479.82	3,523.48	163.54	55.72	82.58	2.00	2.00	0.00
1,600.00	22.00	18.82	1,573.17	3,430.13	197.46	67.28	99.71	2.00	2.00	0.00
EOB TO 23.33° INC										
1,666.36	23.33	18.82	1,634.41	3,368.89	221.66	75.53	111.94	2.00	2.00	0.00
1,700.00	23.33	18.82	1,665.29	3,338.01	234.27	79.82	118.30	0.00	0.00	0.00
1,800.00	23.33	18.82	1,757.12	3,246.18	271.75	92.59	137.23	0.00	0.00	0.00
1,900.00	23.33	18.82	1,848.95	3,154.35	309.23	105.36	156.16	0.00	0.00	0.00
2,000.00	23.33	18.82	1,940.77	3,062.53	346.71	118.14	175.09	0.00	0.00	0.00
2,100.00	23.33	18.82	2,032.60	2,970.70	384.20	130.91	194.02	0.00	0.00	0.00
2,200.00	23.33	18.82	2,124.42	2,878.88	421.68	143.68	212.95	0.00	0.00	0.00
2,300.00	23.33	18.82	2,216.25	2,787.05	459.16	156.45	231.87	0.00	0.00	0.00
2,400.00	23.33	18.82	2,308.07	2,695.23	496.64	169.22	250.80	0.00	0.00	0.00
2,500.00	23.33	18.82	2,399.90	2,603.40	534.12	181.99	269.73	0.00	0.00	0.00
2,600.00	23.33	18.82	2,491.73	2,511.57	571.61	194.76	288.66	0.00	0.00	0.00
2,700.00	23.33	18.82	2,583.55	2,419.75	609.09	207.53	307.59	0.00	0.00	0.00
2,800.00	23.33	18.82	2,675.38	2,327.92	646.57	220.31	326.51	0.00	0.00	0.00
2,900.00	23.33	18.82	2,767.20	2,236.10	684.05	233.08	345.44	0.00	0.00	0.00
3,000.00	23.33	18.82	2,859.03	2,144.27	721.54	245.85	364.37	0.00	0.00	0.00
3,100.00	23.33	18.82	2,950.86	2,052.44	759.02	258.62	383.30	0.00	0.00	0.00
3,200.00	23.33	18.82	3,042.68	1,960.62	796.50	271.39	402.23	0.00	0.00	0.00
3,300.00	23.33	18.82	3,134.51	1,868.79	833.98	284.16	421.16	0.00	0.00	0.00
3,400.00	23.33	18.82	3,226.33	1,776.97	871.46	296.93	440.08	0.00	0.00	0.00
3,500.00	23.33	18.82	3,318.16	1,685.14	908.95	309.71	459.01	0.00	0.00	0.00
3,600.00	23.33	18.82	3,409.98	1,593.32	946.43	322.48	477.94	0.00	0.00	0.00
3,700.00	23.33	18.82	3,501.81	1,501.49	983.91	335.25	496.87	0.00	0.00	0.00
PARKMAN										
3,770.23	23.33	18.82	3,566.30	1,437.00	1,010.23	344.22	510.16	0.00	0.00	0.00
3,800.00	23.33	18.82	3,593.64	1,409.66	1,021.39	348.02	515.80	0.00	0.00	0.00
3,900.00	23.33	18.82	3,685.46	1,317.84	1,058.87	360.79	534.73	0.00	0.00	0.00
4,000.00	23.33	18.82	3,777.29	1,226.01	1,096.36	373.56	553.65	0.00	0.00	0.00
4,100.00	23.33	18.82	3,869.11	1,134.19	1,133.84	386.33	572.58	0.00	0.00	0.00
4,200.00	23.33	18.82	3,960.94	1,042.36	1,171.32	399.10	591.51	0.00	0.00	0.00
4,300.00	23.33	18.82	4,052.76	950.54	1,208.80	411.88	610.44	0.00	0.00	0.00
SUSSEX										

Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well MILLER 7-61 13C-18-17-5
Company:	BISON OIL & GAS II, LLC	TVD Reference:	KB-EST @ 5003.30usft (Original Well Elev)
Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB-EST @ 5003.30usft (Original Well Elev)
Site:	SE SE SEC. 13 T7N R61W 6th P.M.	North Reference:	True
Well:	MILLER 7-61 13C-18-17-5	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)
4,341.97	23.33	18.82	4,091.30	912.00	1,224.53	417.24	618.38	0.00	0.00	0.00
4,400.00	23.33	18.82	4,144.59	858.71	1,246.29	424.65	629.37	0.00	0.00	0.00
4,500.00	23.33	18.82	4,236.42	766.88	1,283.77	437.42	648.30	0.00	0.00	0.00
4,600.00	23.33	18.82	4,328.24	675.06	1,321.25	450.19	667.22	0.00	0.00	0.00
4,700.00	23.33	18.82	4,420.07	583.23	1,358.73	462.96	686.15	0.00	0.00	0.00
4,800.00	23.33	18.82	4,511.89	491.41	1,396.21	475.73	705.08	0.00	0.00	0.00
4,900.00	23.33	18.82	4,603.72	399.58	1,433.70	488.50	724.01	0.00	0.00	0.00
5,000.00	23.33	18.82	4,695.55	307.75	1,471.18	501.27	742.94	0.00	0.00	0.00
5,100.00	23.33	18.82	4,787.37	215.93	1,508.66	514.05	761.87	0.00	0.00	0.00
END OF TANGENT										
5,136.55	23.33	18.82	4,820.93	182.37	1,522.36	518.71	768.78	0.00	0.00	0.00
5,200.00	22.06	18.82	4,879.47	123.83	1,545.53	526.61	780.48	2.00	-2.00	0.00
5,300.00	20.06	18.82	4,972.79	30.51	1,579.54	538.20	797.66	2.00	-2.00	0.00
5,400.00	18.06	18.82	5,067.30	-64.00	1,610.45	548.73	813.27	2.00	-2.00	0.00
5,500.00	16.06	18.82	5,162.90	-159.60	1,638.21	558.19	827.29	2.00	-2.00	0.00
SHANNON										
5,527.44	15.51	18.82	5,189.30	-186.00	1,645.28	560.60	830.86	2.00	-2.00	0.00
5,600.00	14.06	18.82	5,259.46	-256.16	1,662.80	566.57	839.71	2.00	-2.00	0.00
5,700.00	12.06	18.82	5,356.87	-353.57	1,684.19	573.85	850.51	2.00	-2.00	0.00
5,800.00	10.06	18.82	5,455.01	-451.71	1,702.34	580.04	859.67	2.00	-2.00	0.00
5,900.00	8.06	18.82	5,553.75	-550.45	1,717.24	585.12	867.20	2.00	-2.00	0.00
6,000.00	6.06	18.82	5,652.99	-649.69	1,728.88	589.08	873.07	2.00	-2.00	0.00
6,100.00	4.06	18.82	5,752.60	-749.30	1,737.22	591.92	877.29	2.00	-2.00	0.00
6,200.00	2.06	18.82	5,852.45	-849.15	1,742.27	593.64	879.84	2.00	-2.00	0.00
6,300.00	0.06	18.82	5,952.43	-949.13	1,744.02	594.24	880.72	2.00	-2.00	0.00
EOD TO VERTICAL										
6,302.91	0.00	0.00	5,955.34	-952.04	1,744.02	594.24	880.72	2.00	-2.00	0.00
6,400.00	0.00	0.00	6,052.43	-1,049.13	1,744.02	594.24	880.72	0.00	0.00	0.00
KOP (10°/100ft BUR)										
6,402.91	0.00	0.00	6,055.34	-1,052.04	1,744.02	594.24	880.72	0.00	0.00	0.00
6,500.00	9.71	80.80	6,151.96	-1,148.66	1,745.33	602.34	888.93	10.00	10.00	0.00
SHARON SPRINGS SHALE										
6,568.15	16.52	80.80	6,218.30	-1,215.00	1,747.80	617.60	904.38	10.00	10.00	0.00
6,600.00	19.71	80.80	6,248.56	-1,245.26	1,749.39	627.37	914.28	10.00	10.00	0.00
NIOBRARA FORMATION										
6,642.82	23.99	80.80	6,288.30	-1,285.00	1,751.93	643.10	930.22	10.00	10.00	0.00
NIOBRARA A CHALK										
6,653.82	25.09	80.80	6,298.30	-1,295.00	1,752.66	647.61	934.78	10.00	10.00	0.00
6,700.00	29.71	80.80	6,339.29	-1,335.99	1,756.06	668.58	956.03	10.00	10.00	0.00
NIOBRARA B CHALK										
6,783.18	38.03	80.80	6,408.30	-1,405.00	1,763.47	714.30	1,002.34	10.00	10.00	0.00
6,800.00	39.71	80.80	6,421.39	-1,418.09	1,765.15	724.72	1,012.89	10.00	10.00	0.00
NIOBRARA C CHALK										
6,878.70	47.58	80.80	6,478.30	-1,475.00	1,773.83	778.29	1,067.16	10.00	10.00	0.00
6,900.00	49.71	80.80	6,492.37	-1,489.07	1,776.39	794.08	1,083.15	10.00	10.00	0.00
7,000.00	59.71	80.80	6,550.07	-1,546.77	1,789.42	874.55	1,164.67	10.00	10.00	0.00
FT HAYS										
7,074.32	67.14	80.80	6,583.30	-1,580.00	1,800.04	940.11	1,231.09	10.00	10.00	0.00
7,100.00	69.71	80.80	6,592.74	-1,589.44	1,803.86	963.68	1,254.96	10.00	10.00	0.00
CODELL										
7,195.71	79.28	80.80	6,618.30	-1,615.00	1,818.59	1,054.62	1,347.08	10.00	10.00	0.00
7,200.00	79.71	80.80	6,619.08	-1,615.78	1,819.26	1,058.78	1,351.30	10.00	10.00	0.00
7,300.00	89.71	80.80	6,628.29	-1,624.99	1,835.16	1,156.95	1,450.74	10.00	10.00	0.00

Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well MILLER 7-61 13C-18-17-5
Company:	BISON OIL & GAS II, LLC	TVD Reference:	KB-EST @ 5003.30usft (Original Well Elev)
Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB-EST @ 5003.30usft (Original Well Elev)
Site:	SE SE SEC. 13 T7N R61W 6th P.M.	North Reference:	True
Well:	MILLER 7-61 13C-18-17-5	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)
BPI * NEW*: 2205ft FSL & 600ft FWL of Sec 18 - CODELL LP										
7,302.92	90.00	80.80	6,628.30	-1,625.00	1,835.63	1,159.83	1,453.65	10.00	10.00	0.00
7,400.00	90.00	83.71	6,628.30	-1,625.00	1,848.71	1,256.02	1,550.67	3.00	0.00	3.00
7,500.00	90.00	86.71	6,628.30	-1,625.00	1,857.06	1,355.66	1,650.28	3.00	0.00	3.00
7,600.00	90.00	89.71	6,628.30	-1,625.00	1,860.18	1,455.60	1,749.31	3.00	0.00	3.00
EOT TO 89.92° AZ										
7,606.83	90.00	89.92	6,628.30	-1,625.00	1,860.20	1,462.43	1,756.05	3.00	0.00	3.00
7,700.00	90.00	89.92	6,628.30	-1,625.00	1,860.33	1,555.60	1,847.90	0.00	0.00	0.00
7,800.00	90.00	89.92	6,628.30	-1,625.00	1,860.48	1,655.60	1,946.48	0.00	0.00	0.00
7,900.00	90.00	89.92	6,628.30	-1,625.00	1,860.62	1,755.60	2,045.06	0.00	0.00	0.00
8,000.00	90.00	89.92	6,628.30	-1,625.00	1,860.77	1,855.60	2,143.65	0.00	0.00	0.00
8,100.00	90.00	89.92	6,628.30	-1,625.00	1,860.91	1,955.60	2,242.23	0.00	0.00	0.00
8,200.00	90.00	89.92	6,628.30	-1,625.00	1,861.06	2,055.60	2,340.81	0.00	0.00	0.00
8,300.00	90.00	89.92	6,628.30	-1,625.00	1,861.20	2,155.60	2,439.39	0.00	0.00	0.00
8,400.00	90.00	89.92	6,628.30	-1,625.00	1,861.35	2,255.60	2,537.98	0.00	0.00	0.00
8,500.00	90.00	89.92	6,628.30	-1,625.00	1,861.49	2,355.60	2,636.56	0.00	0.00	0.00
8,600.00	90.00	89.92	6,628.30	-1,625.00	1,861.64	2,455.60	2,735.14	0.00	0.00	0.00
8,700.00	90.00	89.92	6,628.30	-1,625.00	1,861.78	2,555.60	2,833.73	0.00	0.00	0.00
8,800.00	90.00	89.92	6,628.30	-1,625.00	1,861.93	2,655.59	2,932.31	0.00	0.00	0.00
8,900.00	90.00	89.92	6,628.30	-1,625.00	1,862.07	2,755.59	3,030.89	0.00	0.00	0.00
9,000.00	90.00	89.92	6,628.30	-1,625.00	1,862.22	2,855.59	3,129.48	0.00	0.00	0.00
9,100.00	90.00	89.92	6,628.30	-1,625.00	1,862.36	2,955.59	3,228.06	0.00	0.00	0.00
9,200.00	90.00	89.92	6,628.30	-1,625.00	1,862.51	3,055.59	3,326.64	0.00	0.00	0.00
9,300.00	90.00	89.92	6,628.30	-1,625.00	1,862.65	3,155.59	3,425.22	0.00	0.00	0.00
9,400.00	90.00	89.92	6,628.30	-1,625.00	1,862.80	3,255.59	3,523.81	0.00	0.00	0.00
9,500.00	90.00	89.92	6,628.30	-1,625.00	1,862.94	3,355.59	3,622.39	0.00	0.00	0.00
9,600.00	90.00	89.92	6,628.30	-1,625.00	1,863.09	3,455.59	3,720.97	0.00	0.00	0.00
9,700.00	90.00	89.92	6,628.30	-1,625.00	1,863.23	3,555.59	3,819.56	0.00	0.00	0.00
9,800.00	90.00	89.92	6,628.30	-1,625.00	1,863.37	3,655.59	3,918.14	0.00	0.00	0.00
9,900.00	90.00	89.92	6,628.30	-1,625.00	1,863.52	3,755.59	4,016.72	0.00	0.00	0.00
10,000.00	90.00	89.92	6,628.30	-1,625.00	1,863.66	3,855.59	4,115.31	0.00	0.00	0.00
10,100.00	90.00	89.92	6,628.30	-1,625.00	1,863.81	3,955.59	4,213.89	0.00	0.00	0.00
10,200.00	90.00	89.92	6,628.30	-1,625.00	1,863.95	4,055.59	4,312.47	0.00	0.00	0.00
10,300.00	90.00	89.92	6,628.30	-1,625.00	1,864.10	4,155.59	4,411.05	0.00	0.00	0.00
10,400.00	90.00	89.92	6,628.30	-1,625.00	1,864.24	4,255.59	4,509.64	0.00	0.00	0.00
10,500.00	90.00	89.92	6,628.30	-1,625.00	1,864.39	4,355.59	4,608.22	0.00	0.00	0.00
10,600.00	90.00	89.92	6,628.30	-1,625.00	1,864.53	4,455.59	4,706.80	0.00	0.00	0.00
10,700.00	90.00	89.92	6,628.30	-1,625.00	1,864.68	4,555.59	4,805.39	0.00	0.00	0.00
10,800.00	90.00	89.92	6,628.30	-1,625.00	1,864.82	4,655.59	4,903.97	0.00	0.00	0.00
10,900.00	90.00	89.92	6,628.30	-1,625.00	1,864.97	4,755.59	5,002.55	0.00	0.00	0.00
11,000.00	90.00	89.92	6,628.30	-1,625.00	1,865.11	4,855.59	5,101.14	0.00	0.00	0.00
11,100.00	90.00	89.92	6,628.30	-1,625.00	1,865.26	4,955.59	5,199.72	0.00	0.00	0.00
11,200.00	90.00	89.92	6,628.30	-1,625.00	1,865.40	5,055.59	5,298.30	0.00	0.00	0.00
11,300.00	90.00	89.92	6,628.30	-1,625.00	1,865.55	5,155.59	5,396.88	0.00	0.00	0.00
11,400.00	90.00	89.92	6,628.30	-1,625.00	1,865.69	5,255.59	5,495.47	0.00	0.00	0.00
11,500.00	90.00	89.92	6,628.30	-1,625.00	1,865.84	5,355.59	5,594.05	0.00	0.00	0.00
11,600.00	90.00	89.92	6,628.30	-1,625.00	1,865.98	5,455.59	5,692.63	0.00	0.00	0.00
11,700.00	90.00	89.92	6,628.30	-1,625.00	1,866.13	5,555.59	5,791.22	0.00	0.00	0.00
11,800.00	90.00	89.92	6,628.30	-1,625.00	1,866.27	5,655.59	5,889.80	0.00	0.00	0.00
11,900.00	90.00	89.92	6,628.30	-1,625.00	1,866.42	5,755.59	5,988.38	0.00	0.00	0.00
12,000.00	90.00	89.92	6,628.30	-1,625.00	1,866.56	5,855.59	6,086.97	0.00	0.00	0.00
12,100.00	90.00	89.92	6,628.30	-1,625.00	1,866.71	5,955.59	6,185.55	0.00	0.00	0.00
12,200.00	90.00	89.92	6,628.30	-1,625.00	1,866.85	6,055.59	6,284.13	0.00	0.00	0.00

Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well MILLER 7-61 13C-18-17-5
Company:	BISON OIL & GAS II, LLC	TVD Reference:	KB-EST @ 5003.30usft (Original Well Elev)
Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB-EST @ 5003.30usft (Original Well Elev)
Site:	SE SE SEC. 13 T7N R61W 6th P.M.	North Reference:	True
Well:	MILLER 7-61 13C-18-17-5	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)
12,300.00	90.00	89.92	6,628.30	-1,625.00	1,867.00	6,155.59	6,382.71	0.00	0.00	0.00
12,400.00	90.00	89.92	6,628.30	-1,625.00	1,867.14	6,255.59	6,481.30	0.00	0.00	0.00
12,500.00	90.00	89.92	6,628.30	-1,625.00	1,867.29	6,355.59	6,579.88	0.00	0.00	0.00
12,600.00	90.00	89.92	6,628.30	-1,625.00	1,867.43	6,455.59	6,678.46	0.00	0.00	0.00
12,700.00	90.00	89.92	6,628.30	-1,625.00	1,867.57	6,555.59	6,777.05	0.00	0.00	0.00
12,800.00	90.00	89.92	6,628.30	-1,625.00	1,867.72	6,655.59	6,875.63	0.00	0.00	0.00
12,900.00	90.00	89.92	6,628.30	-1,625.00	1,867.86	6,755.59	6,974.21	0.00	0.00	0.00
13,000.00	90.00	89.92	6,628.30	-1,625.00	1,868.01	6,855.59	7,072.80	0.00	0.00	0.00
13,100.00	90.00	89.92	6,628.30	-1,625.00	1,868.15	6,955.59	7,171.38	0.00	0.00	0.00
13,200.00	90.00	89.92	6,628.30	-1,625.00	1,868.30	7,055.59	7,269.96	0.00	0.00	0.00
13,300.00	90.00	89.92	6,628.30	-1,625.00	1,868.44	7,155.59	7,368.54	0.00	0.00	0.00
13,400.00	90.00	89.92	6,628.30	-1,625.00	1,868.59	7,255.59	7,467.13	0.00	0.00	0.00
13,500.00	90.00	89.92	6,628.30	-1,625.00	1,868.73	7,355.59	7,565.71	0.00	0.00	0.00
13,600.00	90.00	89.92	6,628.30	-1,625.00	1,868.88	7,455.59	7,664.29	0.00	0.00	0.00
13,700.00	90.00	89.92	6,628.30	-1,625.00	1,869.02	7,555.59	7,762.88	0.00	0.00	0.00
13,800.00	90.00	89.92	6,628.30	-1,625.00	1,869.17	7,655.59	7,861.46	0.00	0.00	0.00
13,900.00	90.00	89.92	6,628.30	-1,625.00	1,869.31	7,755.59	7,960.04	0.00	0.00	0.00
14,000.00	90.00	89.92	6,628.30	-1,625.00	1,869.46	7,855.59	8,058.63	0.00	0.00	0.00
14,100.00	90.00	89.92	6,628.30	-1,625.00	1,869.60	7,955.59	8,157.21	0.00	0.00	0.00
14,200.00	90.00	89.92	6,628.30	-1,625.00	1,869.75	8,055.59	8,255.79	0.00	0.00	0.00
14,300.00	90.00	89.92	6,628.30	-1,625.00	1,869.89	8,155.59	8,354.37	0.00	0.00	0.00
14,400.00	90.00	89.92	6,628.30	-1,625.00	1,870.04	8,255.59	8,452.96	0.00	0.00	0.00
14,500.00	90.00	89.92	6,628.30	-1,625.00	1,870.18	8,355.59	8,551.54	0.00	0.00	0.00
14,600.00	90.00	89.92	6,628.30	-1,625.00	1,870.33	8,455.59	8,650.12	0.00	0.00	0.00
14,700.00	90.00	89.92	6,628.30	-1,625.00	1,870.47	8,555.59	8,748.71	0.00	0.00	0.00
14,800.00	90.00	89.92	6,628.30	-1,625.00	1,870.62	8,655.59	8,847.29	0.00	0.00	0.00
14,900.00	90.00	89.92	6,628.30	-1,625.00	1,870.76	8,755.59	8,945.87	0.00	0.00	0.00
15,000.00	90.00	89.92	6,628.30	-1,625.00	1,870.91	8,855.59	9,044.45	0.00	0.00	0.00
15,100.00	90.00	89.92	6,628.30	-1,625.00	1,871.05	8,955.59	9,143.04	0.00	0.00	0.00
15,200.00	90.00	89.92	6,628.30	-1,625.00	1,871.20	9,055.59	9,241.62	0.00	0.00	0.00
15,300.00	90.00	89.92	6,628.30	-1,625.00	1,871.34	9,155.59	9,340.20	0.00	0.00	0.00
15,400.00	90.00	89.92	6,628.30	-1,625.00	1,871.49	9,255.59	9,438.79	0.00	0.00	0.00
15,500.00	90.00	89.92	6,628.30	-1,625.00	1,871.63	9,355.59	9,537.37	0.00	0.00	0.00
15,600.00	90.00	89.92	6,628.30	-1,625.00	1,871.77	9,455.59	9,635.95	0.00	0.00	0.00
15,700.00	90.00	89.92	6,628.30	-1,625.00	1,871.92	9,555.59	9,734.54	0.00	0.00	0.00
15,800.00	90.00	89.92	6,628.30	-1,625.00	1,872.06	9,655.59	9,833.12	0.00	0.00	0.00
15,900.00	90.00	89.92	6,628.30	-1,625.00	1,872.21	9,755.59	9,931.70	0.00	0.00	0.00
16,000.00	90.00	89.92	6,628.30	-1,625.00	1,872.35	9,855.59	10,030.28	0.00	0.00	0.00
16,100.00	90.00	89.92	6,628.30	-1,625.00	1,872.50	9,955.59	10,128.87	0.00	0.00	0.00
16,200.00	90.00	89.92	6,628.30	-1,625.00	1,872.64	10,055.59	10,227.45	0.00	0.00	0.00
16,300.00	90.00	89.92	6,628.30	-1,625.00	1,872.79	10,155.59	10,326.03	0.00	0.00	0.00
16,400.00	90.00	89.92	6,628.30	-1,625.00	1,872.93	10,255.59	10,424.62	0.00	0.00	0.00
16,500.00	90.00	89.92	6,628.30	-1,625.00	1,873.08	10,355.59	10,523.20	0.00	0.00	0.00
16,600.00	90.00	89.92	6,628.30	-1,625.00	1,873.22	10,455.59	10,621.78	0.00	0.00	0.00
16,700.00	90.00	89.92	6,628.30	-1,625.00	1,873.37	10,555.59	10,720.37	0.00	0.00	0.00
EPI: 2220ft FSL & 600ft FEL of Sec 17										
16,759.83	90.00	89.92	6,628.30	-1,625.00	1,873.45	10,615.42	10,779.35	0.00	0.00	0.00
EOT TO 89.97° AZ										
16,761.60	90.00	89.97	6,628.30	-1,625.00	1,873.46	10,617.18	10,781.09	3.00	0.00	3.00
16,800.00	90.00	89.97	6,628.30	-1,625.00	1,873.48	10,655.59	10,818.94	0.00	0.00	0.00
16,900.00	90.00	89.97	6,628.30	-1,625.00	1,873.52	10,755.59	10,917.51	0.00	0.00	0.00
17,000.00	90.00	89.98	6,628.30	-1,625.00	1,873.56	10,855.59	11,016.07	0.00	0.00	0.00
BHL: 2220ft FSL & 300ft FEL of Sec 17										

Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well MILLER 7-61 13C-18-17-5
Company:	BISON OIL & GAS II, LLC	TVD Reference:	KB-EST @ 5003.30usft (Original Well Elev)
Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB-EST @ 5003.30usft (Original Well Elev)
Site:	SE SE SEC. 13 T7N R61W 6th P.M.	North Reference:	True
Well:	MILLER 7-61 13C-18-17-5	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)
17,059.58	90.00	89.98	6,628.30	-1,625.00	1,873.59	10,915.17	11,074.80	0.00	0.00	0.00

Formations						
MD (usft)	TVD (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
570.31	570.30	PIERRE SHALE (BASE OF FOX HI				
3,770.23	3,566.30	PARKMAN				
4,341.97	4,091.30	SUSSEX				
5,527.44	5,189.30	SHANNON				
6,568.15	6,218.30	SHARON SPRINGS SHALE				
6,642.82	6,288.30	NIOBRARA FORMATION				
6,653.82	6,298.30	NIOBRARA A CHALK				
6,783.18	6,408.30	NIOBRARA B CHALK				
6,878.70	6,478.30	NIOBRARA C CHALK				
7,074.32	6,583.30	FT HAYS				
7,195.71	6,618.30	CODELL				
7,302.92	6,628.30	CODELL LP				

Plan Annotations				
MD (usft)	TVD (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
0.00	0.00	0.00	0.00	SHL: 376ft FSL & 510ft FEL of Sec 13
500.00	500.00	0.00	0.00	START NUDGE (2°/100ft BUR)
1,666.36	1,634.41	221.66	75.53	EOB TO 23.33° INC
5,136.55	4,820.93	1,522.36	518.71	END OF TANGENT
6,302.91	5,955.34	1,744.02	594.24	EOD TO VERTICAL
6,402.91	6,055.34	1,744.02	594.24	KOP (10°/100ft BUR)
7,302.92	6,628.30	1,835.63	1,159.83	BPI * NEW*: 2205ft FSL & 600ft FWL of Sec 18
7,606.83	6,628.30	1,860.20	1,462.43	EOT TO 89.92° AZ
16,759.83	6,628.30	1,873.45	10,615.42	EPI: 2220ft FSL & 600ft FEL of Sec 17
16,761.60	6,628.30	1,873.46	10,617.18	EOT TO 89.97° AZ
17,059.58	6,628.30	1,873.59	10,915.17	BHL: 2220ft FSL & 300ft FEL of Sec 17