

BISON OIL & GAS II, LLC

WELD COUNTY, COLORADO (NAD 83)

NW SE SEC. 14 T9N R60W 6th P.M.

ROHN 9-60 14A-23-1

ORIGINAL WELLBORE

03 October, 2017

Plan: PROPOSAL #1





Project: WELD COUNTY, COLORADO (NAD 83)
Site: NW SE SEC. 14 T9N R60W 6th P.M.
Well: ROHN 9-60 14A-23-1
Wellbore: ORIGINAL WELLBORE
Design: PROPOSAL #1

ANNOTATIONS										
TVD	MD	Inc	Azi	+N/-S	+E/-W	VSec	Dep	Annotation		
0.0	0.0	0.00	0.00	0.0	0.0	0.0	0.0	SHL: 2010ft FSL & 2519ft FEL of Sec 14		
100.0	100.0	0.00	0.00	0.0	0.0	0.0	0.0	START NUDGE (2°/100ft BUR)		
1299.1	1337.2	24.74	288.14	81.9	-250.0	-17.0	263.0	EOB TO 24.74° INC		
4333.5	4678.3	24.74	288.14	517.4	-1578.9	-107.4	1661.5	END OF TANGENT		
5532.6	5915.6	0.00	0.00	599.3	-1828.9	-124.4	1924.6	EOD TO VERTICAL		
5632.6	6015.6	0.00	0.00	599.3	-1828.9	-124.4	1924.6	KOP (10°/100ft BUR)		
6205.6	6915.6	90.00	179.82	26.3	-1827.1	430.0	2497.6	BPI: 2040ft FSL & 983ft FWL of Sec 14		
6205.6	13655.8	90.00	179.82	-6713.8	-1805.9	6952.1	9237.8	EPI: 600ft FSL & 983ft FWL of Sec 23		
6205.6	13658.3	90.00	179.90	-6716.4	-1805.9	6954.5	9240.3	EOT TO 179.9° AZ		
6205.6	13955.3	90.00	179.90	-7013.3	-1805.4	7242.0	9537.2	BHL: 300ft FSL & 983ft FWL of Sec 23		

PROPOSED LOCAL COORDINATES:

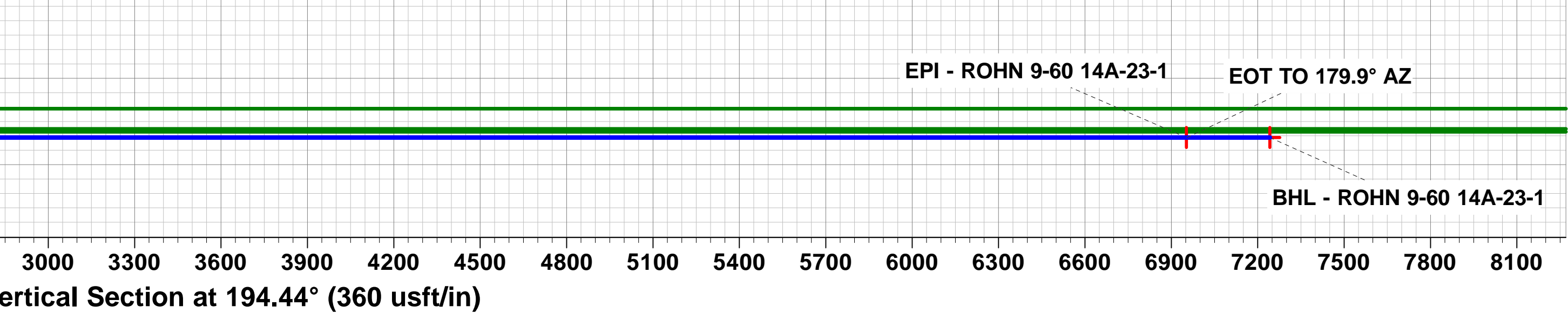
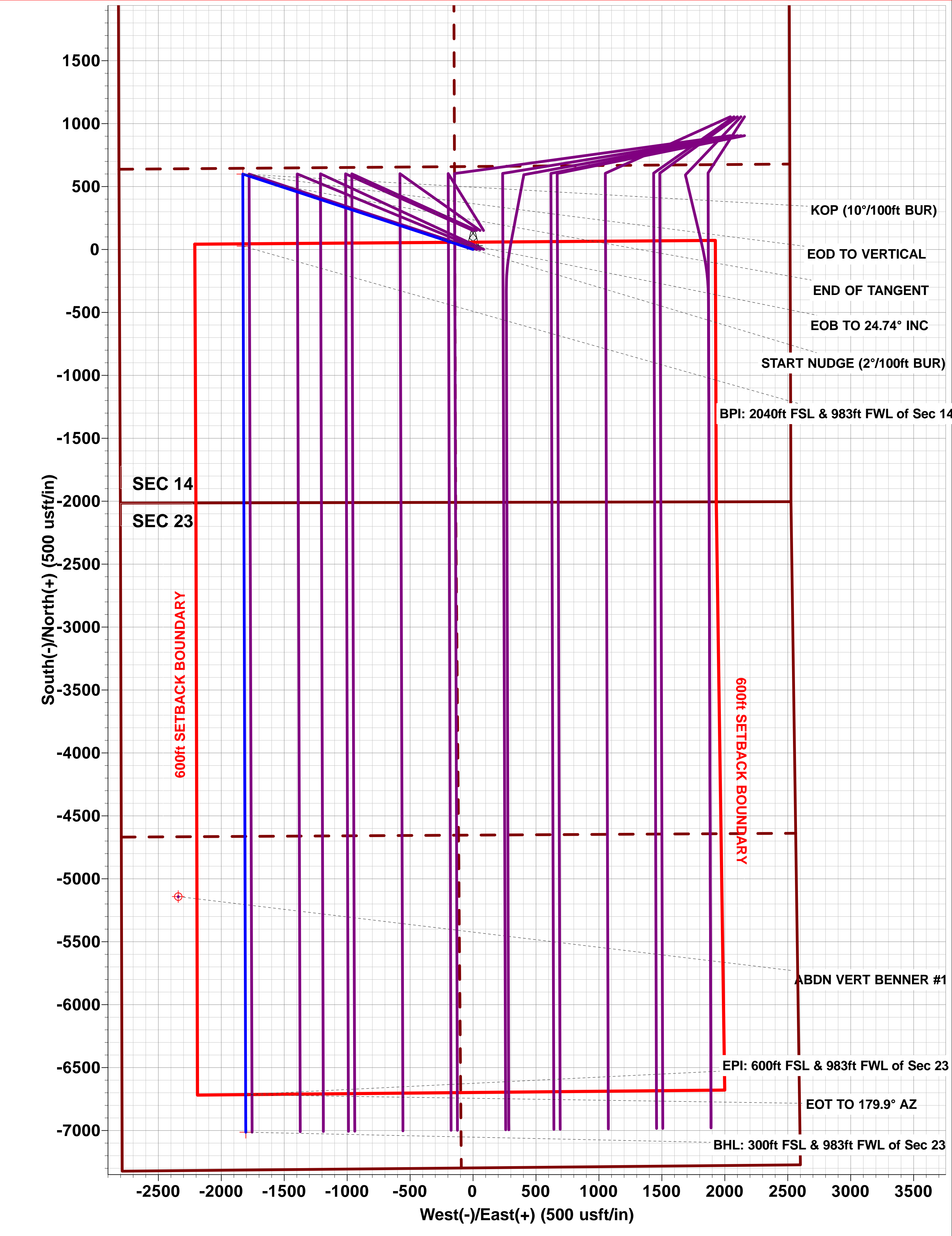
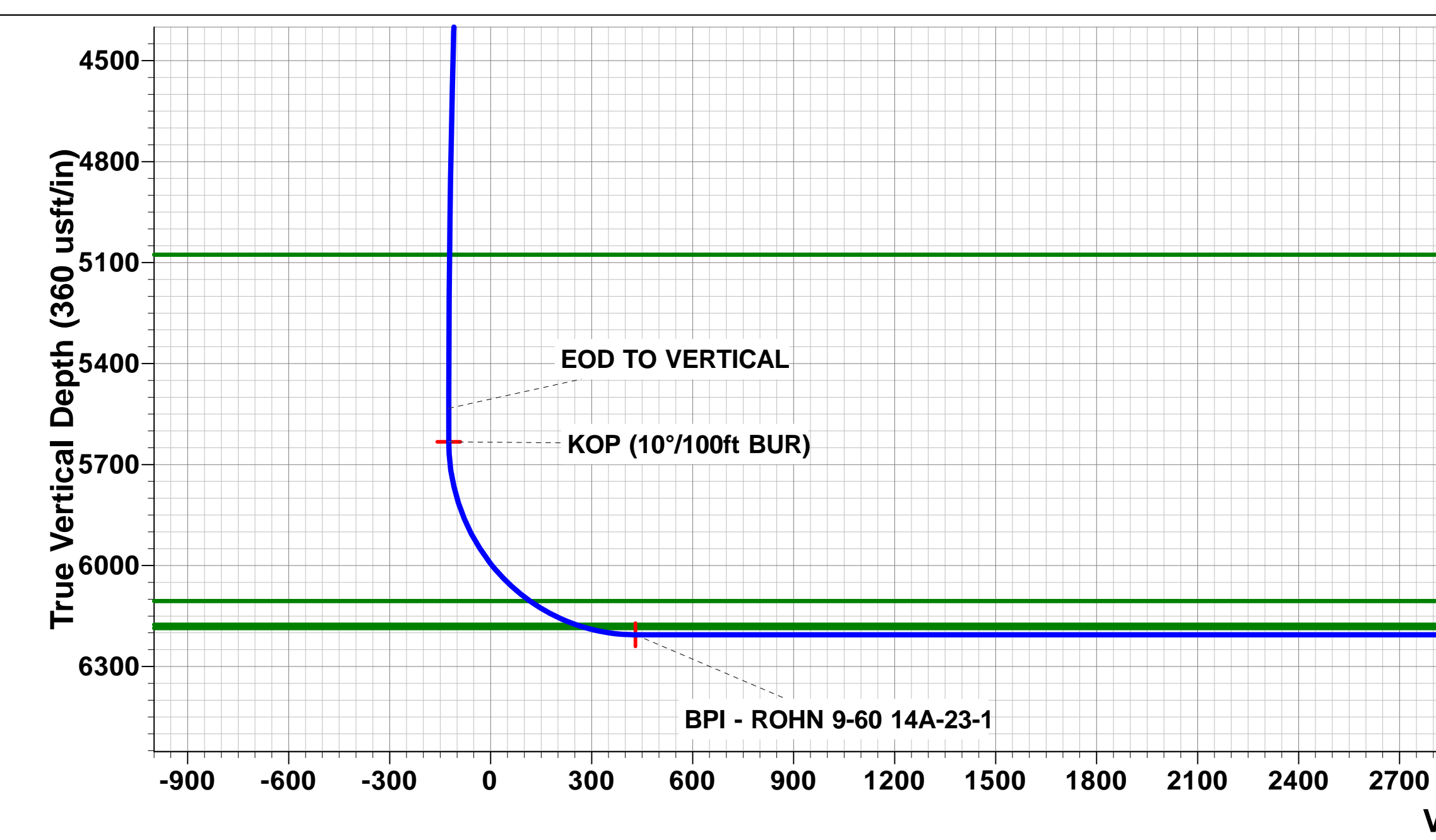
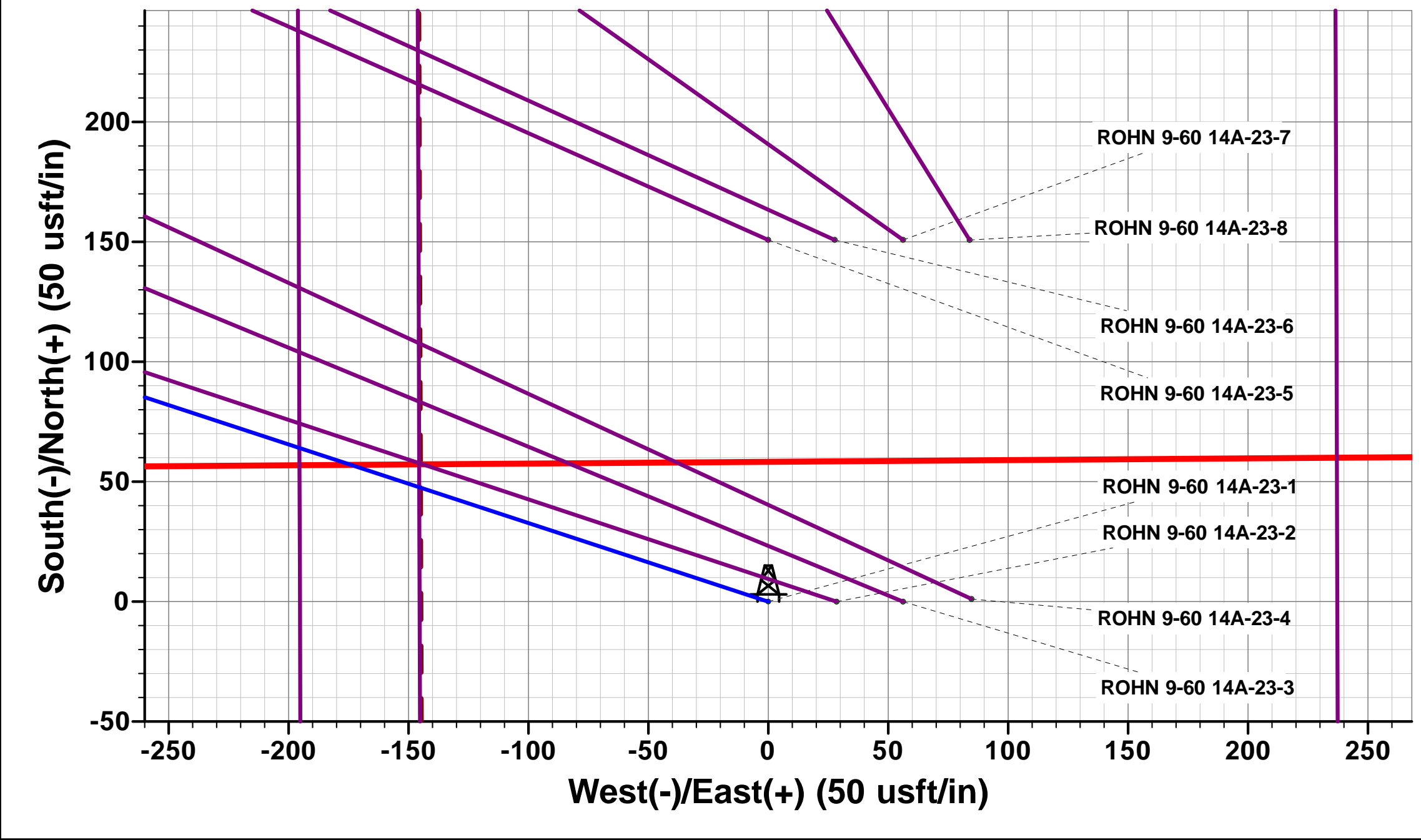
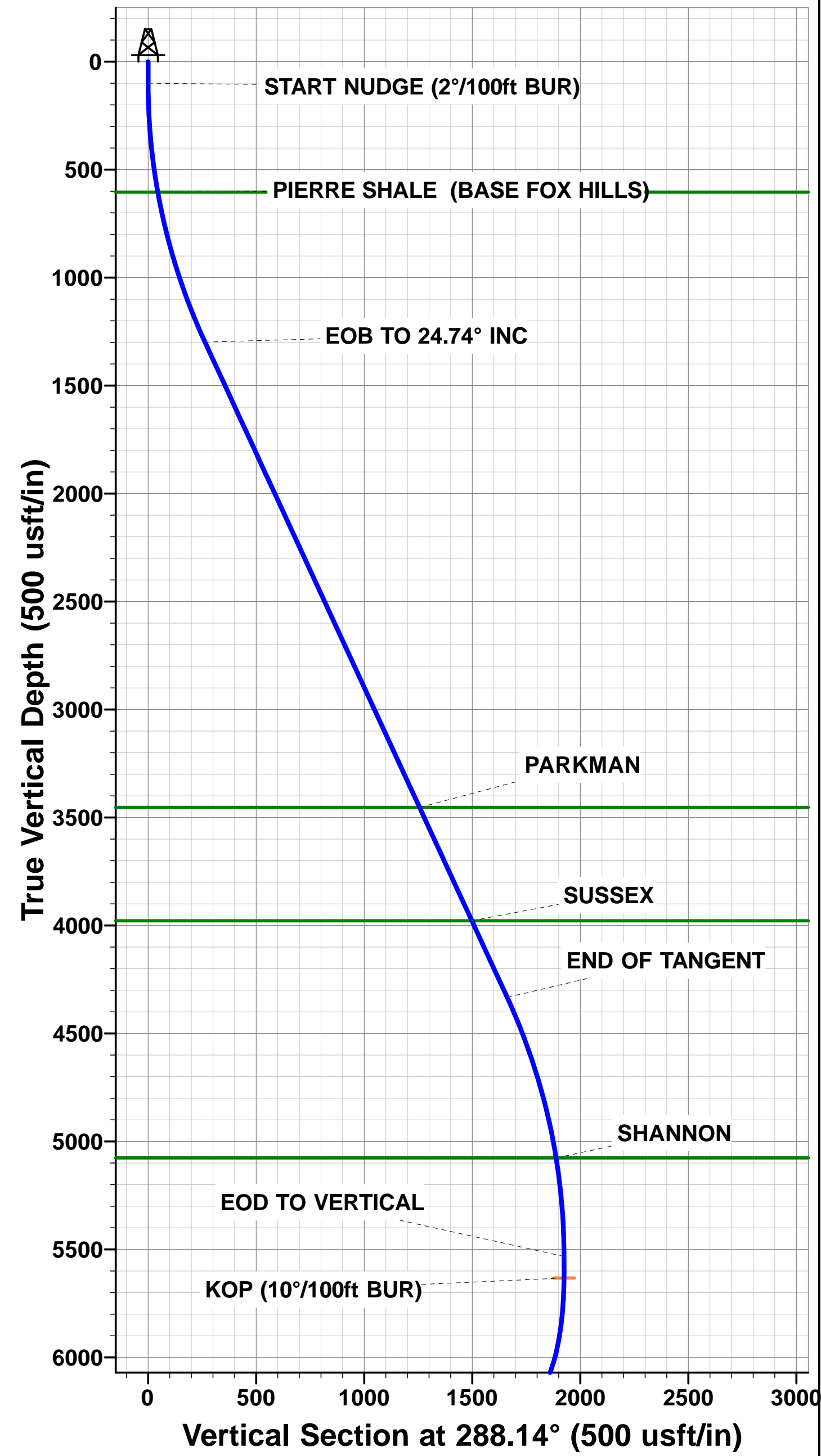
SHL: 2010ft FSL & 2519ft FEL Sec 14

BPI : 2040ft FSL & 983ft FWL Sec 14

EPI: 600ft FSL & 983ft FWL Sec 23

BHL: 300ft FSL & 983ft FWL of Sec 23

WELLBORE TARGET DETAILS (LAT/LONG)					
Name	TVD	+N/-S	+E/-W	Latitude	Longitude
KOP - ROHN 9-60 14A-23-1	5632.6	599.3	-1828.9	40.750181	-104.065304
BPI - ROHN 9-60 14A-23-1	6205.6	26.3	-1827.1	40.748608	-104.065297
EPI - ROHN 9-60 14A-23-1	6205.6	-6713.8	-1805.9	40.730108	-104.065219
BHL - ROHN 9-60 14A-23-1	6205.6	-7013.3	-1805.4	40.729286	-104.065217



Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well ROHN 9-60 14A-23-1
Company:	BISON OIL & GAS II, LLC	TVD Reference:	KB-EST @ 5011.6usft (Original Well Elev)
Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB-EST @ 5011.6usft (Original Well Elev)
Site:	NW SE SEC. 14 T9N R60W 6th P.M.	North Reference:	True
Well:	ROHN 9-60 14A-23-1	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 SE SEC. 14 T9N R60W 6th P.M.		
Site Position:		Northing:	1,518,782.01 usft
From:	Lat/Long	Easting:	3,399,334.72 usft
Position Uncertainty:	0.0 usft	Slot Radius:	1.10000ft
		Latitude:	40.748536
		Longitude:	-104.058703
		Grid Convergence:	0.93 °

Well	ROHN 9-60 14A-23-1		
Well Position	+N/-S	0.0 usft	Northing:
	+E/-W	0.0 usft	Easting:
Position Uncertainty		0.0 usft	Wellhead Elevation:
			Latitude:
			Longitude:
			Ground Level:

Wellbore	ORIGINAL WELLBORE				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	03/10/2017	7.82	67.23	52,609

Design	PROPOSAL #1			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	6,205.6	0.0	0.0	194.44

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
0.0	0.00	0.00	0.0	-5,011.6	0.0	0.0	0.00	0.00	0.00	0.00	
100.0	0.00	0.00	100.0	-4,911.6	0.0	0.0	0.00	0.00	0.00	0.00	
1,337.2	24.74	288.14	1,299.1	-3,712.5	81.9	-250.0	2.00	2.00	0.00	288.14	
4,678.3	24.74	288.14	4,333.5	-678.1	517.4	-1,578.9	0.00	0.00	0.00	0.00	
5,915.6	0.00	0.00	5,532.6	521.0	599.3	-1,828.9	2.00	-2.00	0.00	180.00	
6,015.6	0.00	0.00	5,632.6	621.0	599.3	-1,828.9	0.00	0.00	0.00	0.00	KOP - ROHN 9-60
6,915.6	90.00	179.82	6,205.6	1,194.0	26.3	-1,827.1	10.00	10.00	19.98	179.82	BPI - ROHN 9-60 1
13,655.8	90.00	179.82	6,205.6	1,194.0	-6,713.8	-1,805.9	0.00	0.00	0.00	88.68	EPI - ROHN 9-60 1
13,658.3	90.00	179.90	6,205.6	1,194.0	-6,716.4	-1,805.9	3.00	0.00	3.00	90.00	
13,955.3	90.00	179.90	6,205.6	1,194.0	-7,013.3	-1,805.4	0.00	0.00	0.00	-93.61	BHL - ROHN 9-60 1

Planning Report



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Company:	BISON OIL & GAS II, LLC	TVD Reference:	KB-EST @ 5011.6usft (Original Well Elev)
Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB-EST @ 5011.6usft (Original Well Elev)
Site:	NW SE SEC. 14 T9N R60W 6th P.M.	North Reference:	True
Well:	ROHN 9-60 14A-23-1	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: 2010ft FSL & 2519ft FEL of Sec 14										
0.0	0.00	0.00	0.0	5,011.60	0.0	0.0	0.0	0.00	0.00	0.00
START NUDGE (2°/100ft BUR)										
100.0	0.00	0.00	100.0	4,911.60	0.0	0.0	0.0	0.00	0.00	0.00
200.0	2.00	288.14	200.0	4,811.62	0.5	-1.7	-0.1	2.00	2.00	0.00
300.0	4.00	288.14	299.8	4,711.76	2.2	-6.6	-0.5	2.00	2.00	0.00
400.0	6.00	288.14	399.5	4,612.15	4.9	-14.9	-1.0	2.00	2.00	0.00
500.0	8.00	288.14	498.7	4,512.90	8.7	-26.5	-1.8	2.00	2.00	0.00
600.0	10.00	288.14	597.5	4,414.13	13.6	-41.4	-2.8	2.00	2.00	0.00
PIERRE SHALE (BASE FOX HILLS)										
607.2	10.14	288.14	604.6	4,407.00	13.9	-42.6	-2.9	2.00	2.00	0.00
700.0	12.00	288.14	695.6	4,315.98	19.5	-59.5	-4.0	2.00	2.00	0.00
800.0	14.00	288.14	793.1	4,218.54	26.5	-80.9	-5.5	2.00	2.00	0.00
900.0	16.00	288.14	889.6	4,121.96	34.6	-105.5	-7.2	2.00	2.00	0.00
1,000.0	18.00	288.14	985.3	4,026.33	43.7	-133.2	-9.1	2.00	2.00	0.00
1,100.0	20.00	288.14	1,079.8	3,931.78	53.8	-164.2	-11.2	2.00	2.00	0.00
1,200.0	22.00	288.14	1,173.2	3,838.43	65.0	-198.2	-13.5	2.00	2.00	0.00
1,300.0	24.00	288.14	1,265.2	3,746.39	77.1	-235.4	-16.0	2.00	2.00	0.00
EOB TO 24.74° INC										
1,337.2	24.74	288.14	1,299.1	3,712.47	81.9	-250.0	-17.0	2.00	2.00	0.00
1,400.0	24.74	288.14	1,356.1	3,655.47	90.1	-274.9	-18.7	0.00	0.00	0.00
1,500.0	24.74	288.14	1,447.0	3,564.65	103.1	-314.7	-21.4	0.00	0.00	0.00
1,600.0	24.74	288.14	1,537.8	3,473.83	116.2	-354.5	-24.1	0.00	0.00	0.00
1,700.0	24.74	288.14	1,628.6	3,383.01	129.2	-394.3	-26.8	0.00	0.00	0.00
1,800.0	24.74	288.14	1,719.4	3,292.19	142.2	-434.0	-29.5	0.00	0.00	0.00
1,900.0	24.74	288.14	1,810.2	3,201.38	155.3	-473.8	-32.2	0.00	0.00	0.00
2,000.0	24.74	288.14	1,901.0	3,110.56	168.3	-513.6	-34.9	0.00	0.00	0.00
2,100.0	24.74	288.14	1,991.9	3,019.74	181.3	-553.4	-37.7	0.00	0.00	0.00
2,200.0	24.74	288.14	2,082.7	2,928.92	194.4	-593.1	-40.4	0.00	0.00	0.00
2,300.0	24.74	288.14	2,173.5	2,838.10	207.4	-632.9	-43.1	0.00	0.00	0.00
2,400.0	24.74	288.14	2,264.3	2,747.28	220.4	-672.7	-45.8	0.00	0.00	0.00
2,500.0	24.74	288.14	2,355.1	2,656.47	233.5	-712.5	-48.5	0.00	0.00	0.00
2,600.0	24.74	288.14	2,446.0	2,565.65	246.5	-752.2	-51.2	0.00	0.00	0.00
2,700.0	24.74	288.14	2,536.8	2,474.83	259.5	-792.0	-53.9	0.00	0.00	0.00
2,800.0	24.74	288.14	2,627.6	2,384.01	272.6	-831.8	-56.6	0.00	0.00	0.00
2,900.0	24.74	288.14	2,718.4	2,293.19	285.6	-871.6	-59.3	0.00	0.00	0.00
3,000.0	24.74	288.14	2,809.2	2,202.38	298.6	-911.4	-62.0	0.00	0.00	0.00
3,100.0	24.74	288.14	2,900.0	2,111.56	311.7	-951.1	-64.7	0.00	0.00	0.00
3,200.0	24.74	288.14	2,990.9	2,020.74	324.7	-990.9	-67.4	0.00	0.00	0.00
3,300.0	24.74	288.14	3,081.7	1,929.92	337.7	-1,030.7	-70.1	0.00	0.00	0.00
3,400.0	24.74	288.14	3,172.5	1,839.10	350.8	-1,070.5	-72.8	0.00	0.00	0.00
3,500.0	24.74	288.14	3,263.3	1,748.28	363.8	-1,110.2	-75.5	0.00	0.00	0.00
3,600.0	24.74	288.14	3,354.1	1,657.47	376.8	-1,150.0	-78.2	0.00	0.00	0.00
3,700.0	24.74	288.14	3,445.0	1,566.65	389.9	-1,189.8	-81.0	0.00	0.00	0.00
PARKMAN										
3,709.5	24.74	288.14	3,453.6	1,558.00	391.1	-1,193.6	-81.2	0.00	0.00	0.00
3,800.0	24.74	288.14	3,535.8	1,475.83	402.9	-1,229.6	-83.7	0.00	0.00	0.00
3,900.0	24.74	288.14	3,626.6	1,385.01	415.9	-1,269.3	-86.4	0.00	0.00	0.00
4,000.0	24.74	288.14	3,717.4	1,294.19	429.0	-1,309.1	-89.1	0.00	0.00	0.00
4,100.0	24.74	288.14	3,808.2	1,203.38	442.0	-1,348.9	-91.8	0.00	0.00	0.00
4,200.0	24.74	288.14	3,899.0	1,112.56	455.0	-1,388.7	-94.5	0.00	0.00	0.00
SUSSEX										
4,287.6	24.74	288.14	3,978.6	1,033.00	466.5	-1,423.5	-96.9	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)
4,300.0	24.74	288.14	3,989.9	1,021.74	468.1	-1,428.4	-97.2	0.00	0.00	0.00
4,400.0	24.74	288.14	4,080.7	930.92	481.1	-1,468.2	-99.9	0.00	0.00	0.00
4,500.0	24.74	288.14	4,171.5	840.10	494.1	-1,508.0	-102.6	0.00	0.00	0.00
4,600.0	24.74	288.14	4,262.3	749.28	507.2	-1,547.8	-105.3	0.00	0.00	0.00
END OF TANGENT										
4,678.3	24.74	288.14	4,333.5	678.13	517.4	-1,578.9	-107.4	0.00	0.00	0.00
4,700.0	24.31	288.14	4,353.2	658.43	520.2	-1,587.5	-108.0	2.00	-2.00	0.00
4,800.0	22.31	288.14	4,445.0	566.60	532.5	-1,625.1	-110.6	2.00	-2.00	0.00
4,900.0	20.31	288.14	4,538.2	473.44	543.8	-1,659.6	-112.9	2.00	-2.00	0.00
5,000.0	18.31	288.14	4,632.5	379.07	554.1	-1,691.0	-115.1	2.00	-2.00	0.00
5,100.0	16.31	288.14	4,728.0	283.61	563.4	-1,719.3	-117.0	2.00	-2.00	0.00
5,200.0	14.31	288.14	4,824.4	187.16	571.6	-1,744.4	-118.7	2.00	-2.00	0.00
5,300.0	12.31	288.14	4,921.7	89.86	578.8	-1,766.3	-120.2	2.00	-2.00	0.00
5,400.0	10.31	288.14	5,019.8	-8.20	584.9	-1,784.9	-121.4	2.00	-2.00	0.00
SHANNON										
5,457.6	9.16	288.14	5,076.6	-65.00	587.9	-1,794.2	-122.1	2.00	-2.00	0.00
5,500.0	8.31	288.14	5,118.5	-106.87	589.9	-1,800.3	-122.5	2.00	-2.00	0.00
5,600.0	6.31	288.14	5,217.7	-206.06	593.9	-1,812.4	-123.3	2.00	-2.00	0.00
5,700.0	4.31	288.14	5,317.2	-305.62	596.8	-1,821.2	-123.9	2.00	-2.00	0.00
5,800.0	2.31	288.14	5,417.0	-405.45	598.6	-1,826.7	-124.3	2.00	-2.00	0.00
5,900.0	0.31	288.14	5,517.0	-505.42	599.3	-1,828.9	-124.4	2.00	-2.00	0.00
EOD TO VERTICAL										
5,915.6	0.00	0.00	5,532.6	-521.00	599.3	-1,828.9	-124.4	2.00	-2.00	0.00
6,000.0	0.00	0.00	5,617.0	-605.42	599.3	-1,828.9	-124.4	0.00	0.00	0.00
KOP (10°/100ft BUR)										
6,015.6	0.00	0.00	5,632.6	-621.00	599.3	-1,828.9	-124.4	0.00	0.00	0.00
6,100.0	8.44	179.82	5,716.7	-705.11	593.1	-1,828.9	-118.4	10.00	10.00	0.00
6,200.0	18.44	179.82	5,813.9	-802.25	569.9	-1,828.8	-96.0	10.00	10.00	0.00
6,300.0	28.44	179.82	5,905.5	-893.88	530.2	-1,828.7	-57.5	10.00	10.00	0.00
6,400.0	38.44	179.82	5,988.8	-977.22	475.1	-1,828.5	-4.3	10.00	10.00	0.00
6,500.0	48.44	179.82	6,061.3	-1,049.74	406.4	-1,828.3	62.2	10.00	10.00	0.00
SHARON SPRINGS SHALE										
6,572.0	55.64	179.82	6,105.6	-1,094.00	349.7	-1,828.1	117.1	10.00	10.00	0.00
6,600.0	58.44	179.82	6,120.8	-1,109.24	326.2	-1,828.0	139.8	10.00	10.00	0.00
6,700.0	68.44	179.82	6,165.5	-1,153.90	236.9	-1,827.7	226.2	10.00	10.00	0.00
NIOBRARA FORMATION										
6,729.4	71.38	179.82	6,175.6	-1,164.00	209.3	-1,827.6	253.0	10.00	10.00	0.00
NIOBRARA A CHALK										
6,763.8	74.82	179.82	6,185.6	-1,174.00	176.4	-1,827.5	284.8	10.00	10.00	0.00
6,800.0	78.44	179.82	6,194.0	-1,182.37	141.2	-1,827.4	318.9	10.00	10.00	0.00
6,900.0	88.44	179.82	6,205.4	-1,193.79	41.9	-1,827.1	414.9	10.00	10.00	0.00
BPI: 2040ft FSL & 983ft FWL of Sec 14										
6,915.6	90.00	179.82	6,205.6	-1,194.00	26.3	-1,827.1	430.0	10.00	10.00	0.00
7,000.0	90.00	179.82	6,205.6	-1,194.00	-58.0	-1,826.8	511.6	0.00	0.00	0.00
7,100.0	90.00	179.82	6,205.6	-1,194.00	-158.0	-1,826.5	608.4	0.00	0.00	0.00
7,200.0	90.00	179.82	6,205.6	-1,194.00	-258.0	-1,826.2	705.2	0.00	0.00	0.00
7,300.0	90.00	179.82	6,205.6	-1,194.00	-358.0	-1,825.8	801.9	0.00	0.00	0.00
7,400.0	90.00	179.82	6,205.6	-1,194.00	-458.0	-1,825.5	898.7	0.00	0.00	0.00
7,500.0	90.00	179.82	6,205.6	-1,194.00	-558.0	-1,825.2	995.4	0.00	0.00	0.00
7,600.0	90.00	179.82	6,205.6	-1,194.00	-658.0	-1,824.9	1,092.2	0.00	0.00	0.00
7,700.0	90.00	179.82	6,205.6	-1,194.00	-758.0	-1,824.6	1,189.0	0.00	0.00	0.00
7,800.0	90.00	179.82	6,205.6	-1,194.00	-858.0	-1,824.2	1,285.7	0.00	0.00	0.00
7,900.0	90.00	179.82	6,205.6	-1,194.00	-958.0	-1,823.9	1,382.5	0.00	0.00	0.00

Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well ROHN 9-60 14A-23-1
Company:	BISON OIL & GAS II, LLC	TVD Reference:	KB-EST @ 5011.6usft (Original Well Elev)
Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB-EST @ 5011.6usft (Original Well Elev)
Site:	NW SE SEC. 14 T9N R60W 6th P.M.	North Reference:	True
Well:	ROHN 9-60 14A-23-1	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)
8,000.0	90.00	179.82	6,205.6	-1,194.00	-1,058.0	-1,823.6	1,479.3	0.00	0.00	0.00
8,100.0	90.00	179.82	6,205.6	-1,194.00	-1,158.0	-1,823.3	1,576.0	0.00	0.00	0.00
8,200.0	90.00	179.82	6,205.6	-1,194.00	-1,258.0	-1,823.0	1,672.8	0.00	0.00	0.00
8,300.0	90.00	179.82	6,205.6	-1,194.00	-1,358.0	-1,822.6	1,769.5	0.00	0.00	0.00
8,400.0	90.00	179.82	6,205.6	-1,194.00	-1,458.0	-1,822.3	1,866.3	0.00	0.00	0.00
8,500.0	90.00	179.82	6,205.6	-1,194.00	-1,558.0	-1,822.0	1,963.1	0.00	0.00	0.00
8,600.0	90.00	179.82	6,205.6	-1,194.00	-1,658.0	-1,821.7	2,059.8	0.00	0.00	0.00
8,700.0	90.00	179.82	6,205.6	-1,194.00	-1,758.0	-1,821.4	2,156.6	0.00	0.00	0.00
8,800.0	90.00	179.82	6,205.6	-1,194.00	-1,858.0	-1,821.1	2,253.4	0.00	0.00	0.00
8,900.0	90.00	179.82	6,205.6	-1,194.00	-1,958.0	-1,820.7	2,350.1	0.00	0.00	0.00
9,000.0	90.00	179.82	6,205.6	-1,194.00	-2,058.0	-1,820.4	2,446.9	0.00	0.00	0.00
9,100.0	90.00	179.82	6,205.6	-1,194.00	-2,158.0	-1,820.1	2,543.7	0.00	0.00	0.00
9,200.0	90.00	179.82	6,205.6	-1,194.00	-2,258.0	-1,819.8	2,640.4	0.00	0.00	0.00
9,300.0	90.00	179.82	6,205.6	-1,194.00	-2,358.0	-1,819.5	2,737.2	0.00	0.00	0.00
9,400.0	90.00	179.82	6,205.6	-1,194.00	-2,458.0	-1,819.2	2,833.9	0.00	0.00	0.00
9,500.0	90.00	179.82	6,205.6	-1,194.00	-2,558.0	-1,818.9	2,930.7	0.00	0.00	0.00
9,600.0	90.00	179.82	6,205.6	-1,194.00	-2,658.0	-1,818.5	3,027.5	0.00	0.00	0.00
9,700.0	90.00	179.82	6,205.6	-1,194.00	-2,758.0	-1,818.2	3,124.2	0.00	0.00	0.00
9,800.0	90.00	179.82	6,205.6	-1,194.00	-2,858.0	-1,817.9	3,221.0	0.00	0.00	0.00
9,900.0	90.00	179.82	6,205.6	-1,194.00	-2,958.0	-1,817.6	3,317.8	0.00	0.00	0.00
10,000.0	90.00	179.82	6,205.6	-1,194.00	-3,058.0	-1,817.3	3,414.5	0.00	0.00	0.00
10,100.0	90.00	179.82	6,205.6	-1,194.00	-3,158.0	-1,817.0	3,511.3	0.00	0.00	0.00
10,200.0	90.00	179.82	6,205.6	-1,194.00	-3,258.0	-1,816.7	3,608.1	0.00	0.00	0.00
10,300.0	90.00	179.82	6,205.6	-1,194.00	-3,358.0	-1,816.3	3,704.8	0.00	0.00	0.00
10,400.0	90.00	179.82	6,205.6	-1,194.00	-3,458.0	-1,816.0	3,801.6	0.00	0.00	0.00
10,500.0	90.00	179.82	6,205.6	-1,194.00	-3,558.0	-1,815.7	3,898.3	0.00	0.00	0.00
10,600.0	90.00	179.82	6,205.6	-1,194.00	-3,658.0	-1,815.4	3,995.1	0.00	0.00	0.00
10,700.0	90.00	179.82	6,205.6	-1,194.00	-3,758.0	-1,815.1	4,091.9	0.00	0.00	0.00
10,800.0	90.00	179.82	6,205.6	-1,194.00	-3,858.0	-1,814.8	4,188.6	0.00	0.00	0.00
10,900.0	90.00	179.82	6,205.6	-1,194.00	-3,958.0	-1,814.5	4,285.4	0.00	0.00	0.00
11,000.0	90.00	179.82	6,205.6	-1,194.00	-4,058.0	-1,814.1	4,382.2	0.00	0.00	0.00
11,100.0	90.00	179.82	6,205.6	-1,194.00	-4,158.0	-1,813.8	4,478.9	0.00	0.00	0.00
11,200.0	90.00	179.82	6,205.6	-1,194.00	-4,258.0	-1,813.5	4,575.7	0.00	0.00	0.00
11,300.0	90.00	179.82	6,205.6	-1,194.00	-4,358.0	-1,813.2	4,672.5	0.00	0.00	0.00
11,400.0	90.00	179.82	6,205.6	-1,194.00	-4,458.0	-1,812.9	4,769.2	0.00	0.00	0.00
11,500.0	90.00	179.82	6,205.6	-1,194.00	-4,558.0	-1,812.6	4,866.0	0.00	0.00	0.00
11,600.0	90.00	179.82	6,205.6	-1,194.00	-4,658.0	-1,812.3	4,962.8	0.00	0.00	0.00
11,700.0	90.00	179.82	6,205.6	-1,194.00	-4,758.0	-1,812.0	5,059.5	0.00	0.00	0.00
11,800.0	90.00	179.82	6,205.6	-1,194.00	-4,858.0	-1,811.7	5,156.3	0.00	0.00	0.00
11,900.0	90.00	179.82	6,205.6	-1,194.00	-4,958.0	-1,811.4	5,253.1	0.00	0.00	0.00
12,000.0	90.00	179.82	6,205.6	-1,194.00	-5,058.0	-1,811.0	5,349.8	0.00	0.00	0.00
12,100.0	90.00	179.82	6,205.6	-1,194.00	-5,158.0	-1,810.7	5,446.6	0.00	0.00	0.00
12,200.0	90.00	179.82	6,205.6	-1,194.00	-5,258.0	-1,810.4	5,543.3	0.00	0.00	0.00
12,300.0	90.00	179.82	6,205.6	-1,194.00	-5,358.0	-1,810.1	5,640.1	0.00	0.00	0.00
12,400.0	90.00	179.82	6,205.6	-1,194.00	-5,458.0	-1,809.8	5,736.9	0.00	0.00	0.00
12,500.0	90.00	179.82	6,205.6	-1,194.00	-5,558.0	-1,809.5	5,833.6	0.00	0.00	0.00
12,600.0	90.00	179.82	6,205.6	-1,194.00	-5,658.0	-1,809.2	5,930.4	0.00	0.00	0.00
12,700.0	90.00	179.82	6,205.6	-1,194.00	-5,758.0	-1,808.9	6,027.2	0.00	0.00	0.00
12,800.0	90.00	179.82	6,205.6	-1,194.00	-5,858.0	-1,808.6	6,123.9	0.00	0.00	0.00
12,900.0	90.00	179.82	6,205.6	-1,194.00	-5,958.0	-1,808.3	6,220.7	0.00	0.00	0.00
13,000.0	90.00	179.82	6,205.6	-1,194.00	-6,058.0	-1,808.0	6,317.5	0.00	0.00	0.00
13,100.0	90.00	179.82	6,205.6	-1,194.00	-6,158.0	-1,807.7	6,414.2	0.00	0.00	0.00
13,200.0	90.00	179.82	6,205.6	-1,194.00	-6,258.0	-1,807.3	6,511.0	0.00	0.00	0.00
13,300.0	90.00	179.82	6,205.6	-1,194.00	-6,358.0	-1,807.0	6,607.8	0.00	0.00	0.00

Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well ROHN 9-60 14A-23-1
Company:	BISON OIL & GAS II, LLC	TVD Reference:	KB-EST @ 5011.6usft (Original Well Elev)
Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB-EST @ 5011.6usft (Original Well Elev)
Site:	NW SE SEC. 14 T9N R60W 6th P.M.	North Reference:	True
Well:	ROHN 9-60 14A-23-1	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)
13,400.0	90.00	179.82	6,205.6	-1,194.00	-6,458.0	-1,806.7	6,704.5	0.00	0.00	0.00
13,500.0	90.00	179.82	6,205.6	-1,194.00	-6,558.0	-1,806.4	6,801.3	0.00	0.00	0.00
13,600.0	90.00	179.82	6,205.6	-1,194.00	-6,658.0	-1,806.1	6,898.1	0.00	0.00	0.00
EPI: 600ft FSL & 983ft FWL of Sec 23										
13,655.8	90.00	179.82	6,205.6	-1,194.00	-6,713.8	-1,805.9	6,952.1	0.00	0.00	0.00
EOT TO 179.9° AZ										
13,658.3	90.00	179.90	6,205.6	-1,194.00	-6,716.4	-1,805.9	6,954.5	3.00	0.00	3.00
13,700.0	90.00	179.90	6,205.6	-1,194.00	-6,758.0	-1,805.9	6,994.8	0.00	0.00	0.00
13,800.0	90.00	179.90	6,205.6	-1,194.00	-6,858.0	-1,805.7	7,091.6	0.00	0.00	0.00
13,900.0	90.00	179.90	6,205.6	-1,194.00	-6,958.0	-1,805.5	7,188.4	0.00	0.00	0.00
BHL: 300ft FSL & 983ft FWL of Sec 23										
13,955.3	90.00	179.90	6,205.6	-1,194.00	-7,013.3	-1,805.4	7,242.0	0.00	0.00	0.00

Formations						
MD (usft)	TVD (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
607.2	604.6	PIERRE SHALE (BASE FOX HILLS				
3,709.5	3,453.6	PARKMAN				
4,287.6	3,978.6	SUSSEX				
5,457.6	5,076.6	SHANNON				
6,572.0	6,105.6	SHARON SPRINGS SHALE				
6,729.4	6,175.6	NIOBRARA FORMATION				
6,763.8	6,185.6	NIOBRARA A CHALK				

Plan Annotations				
MD (usft)	TVD (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
0.0	0.0	0.0	0.0	SHL: 2010ft FSL & 2519ft FEL of Sec 14
100.0	100.0	0.0	0.0	START NUDGE (2°/100ft BUR)
1,337.2	1,299.1	81.9	-250.0	EOB TO 24.74° INC
4,678.3	4,333.5	517.4	-1,578.9	END OF TANGENT
5,915.6	5,532.6	599.3	-1,828.9	EOD TO VERTICAL
6,015.6	5,632.6	599.3	-1,828.9	KOP (10°/100ft BUR)
6,915.6	6,205.6	26.3	-1,827.1	BPI: 2040ft FSL & 983ft FWL of Sec 14
13,655.8	6,205.6	-6,713.8	-1,805.9	EPI: 600ft FSL & 983ft FWL of Sec 23
13,658.3	6,205.6	-6,716.4	-1,805.9	EOT TO 179.9° AZ
13,955.3	6,205.6	-7,013.3	-1,805.4	BHL: 300ft FSL & 983ft FWL of Sec 23