

BISON IV OPERATING

LARIMER COUNTY, COLORADO (NAD 83)

SEC. 11 T5N R68W 6th P.M.

CE 5-68 11-10-13H

ORIGINAL WELLBORE

19 July, 2024

Plan: PROPOSAL #1

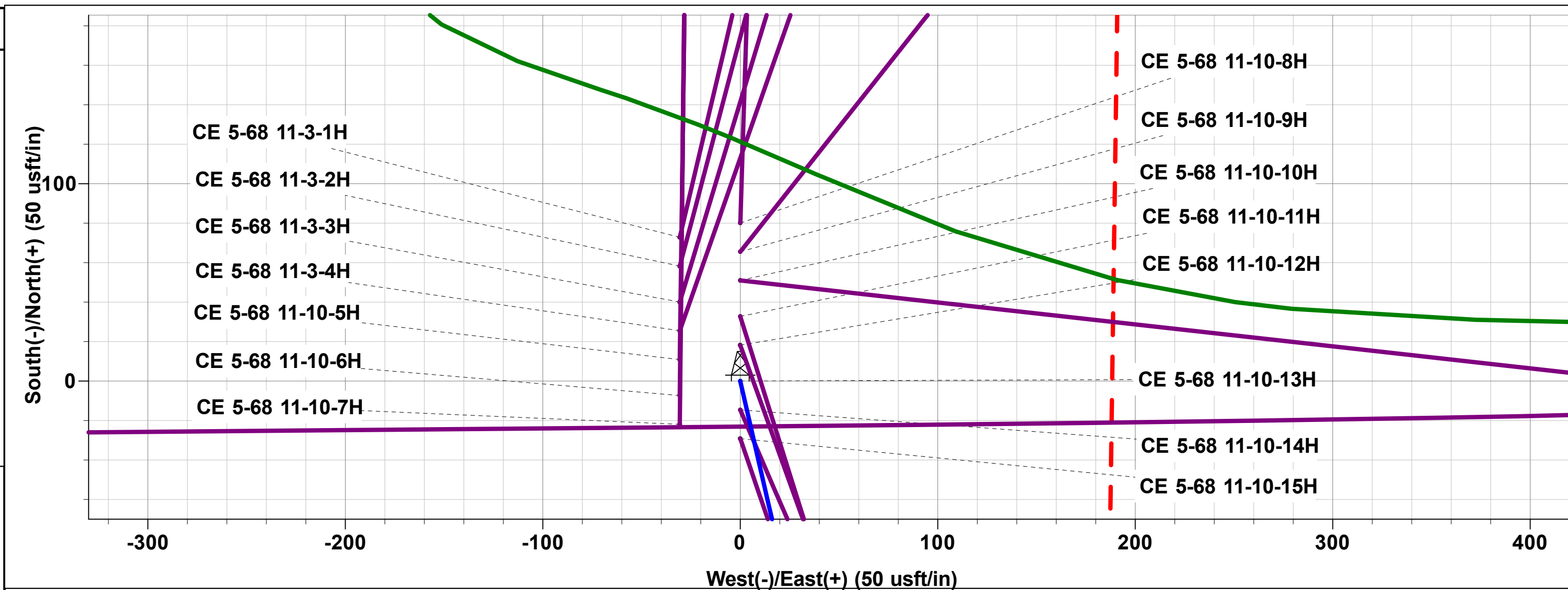




Project: LARIMER COUNTY, COLORADO (NAD 83)
 Site: SEC. 11 T5N R68W 6th P.M.
 Well: CE 5-68 11-10-13H
 Wellbore: ORIGINAL WELLBORE
 Design: PROPOSAL #1

ANNOTATIONS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Vsect	Dep	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	SHL: 2316ft FNL & 488ft FEL of Sec 11
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	START NUDDGE (2°/100ft)
1107.69	12.15	167.09	1103.14	-62.59	14.35	-3.83	64.21	EOB TO 12.15° INC
6712.06	12.15	167.09	6581.89	-1212.68	277.97	-74.12	1244.13	KOP (10°/100ft)
7638.04	90.00	269.52	7168.00	-1340.71	-293.35	510.50	1853.15	EP *NEW*: 1624ft FSL & 762.1ft FEL of Sec 11
15765.69	90.00	269.52	7168.00	-1408.39	-8420.73	8537.69	9980.81	BHL: 1622ft FSL & 1700ft FWL of Sec 10



PROPOSED LOCAL COORDINATES:

SHL: 2316ft FNL & 488ft FEL of Sec 11

EP *NEW*: 1624ft FSL & 762.1ft FEL of Sec 11

BHL: 1622ft FSL & 1700ft FWL of Sec 10

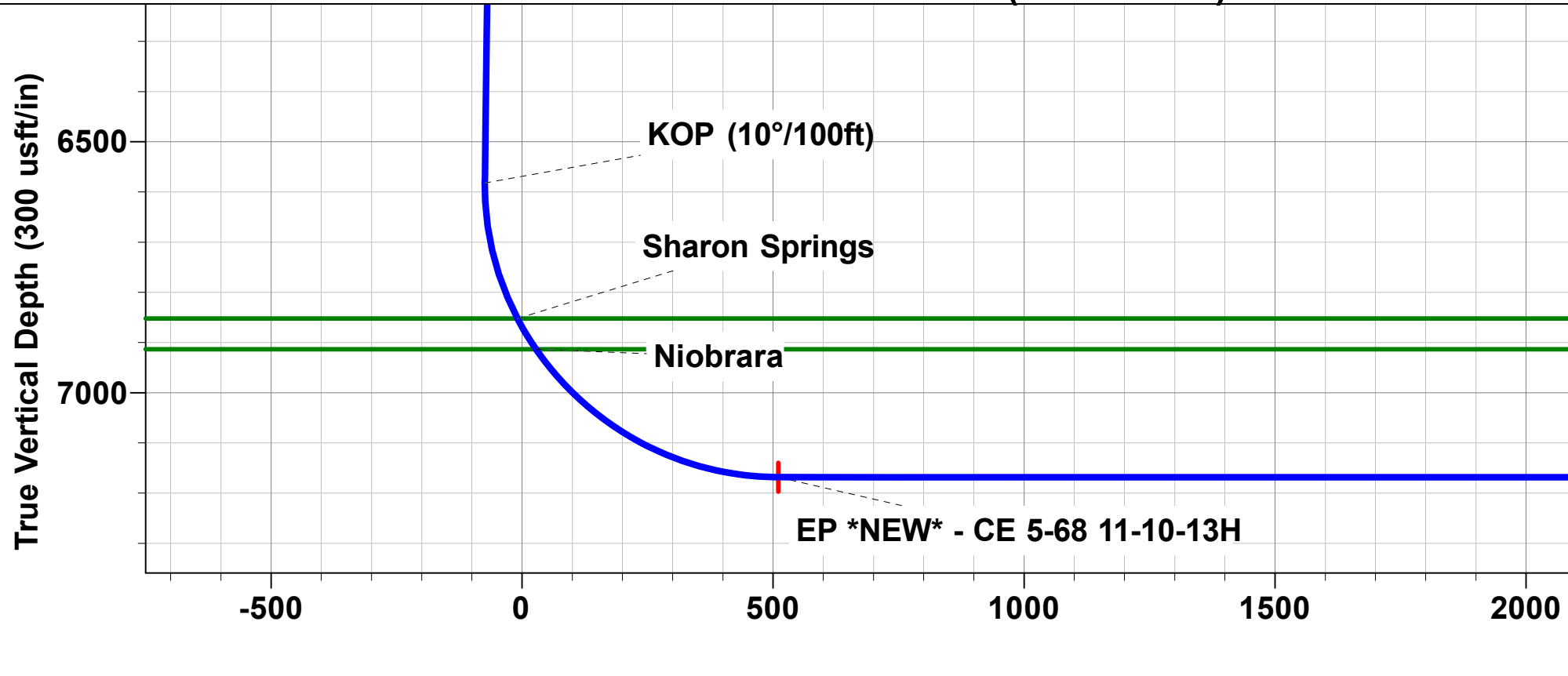
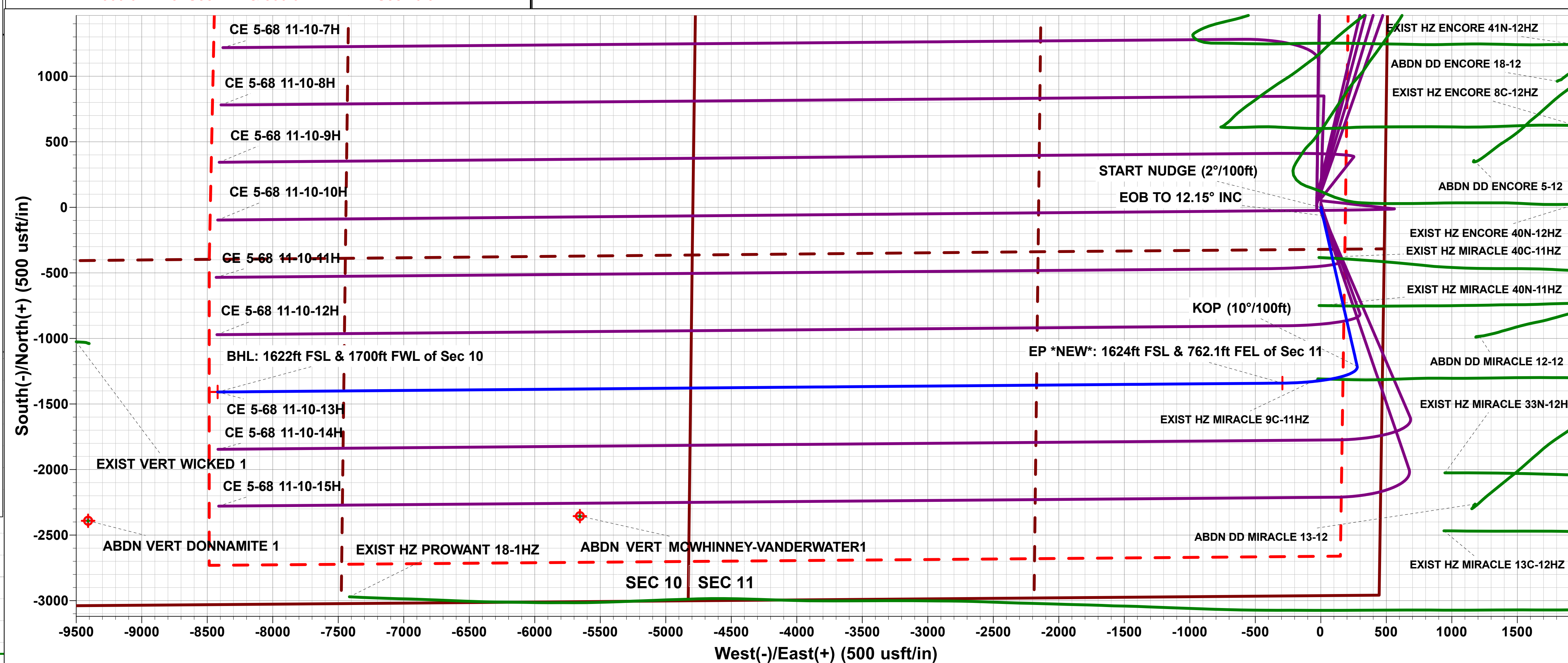
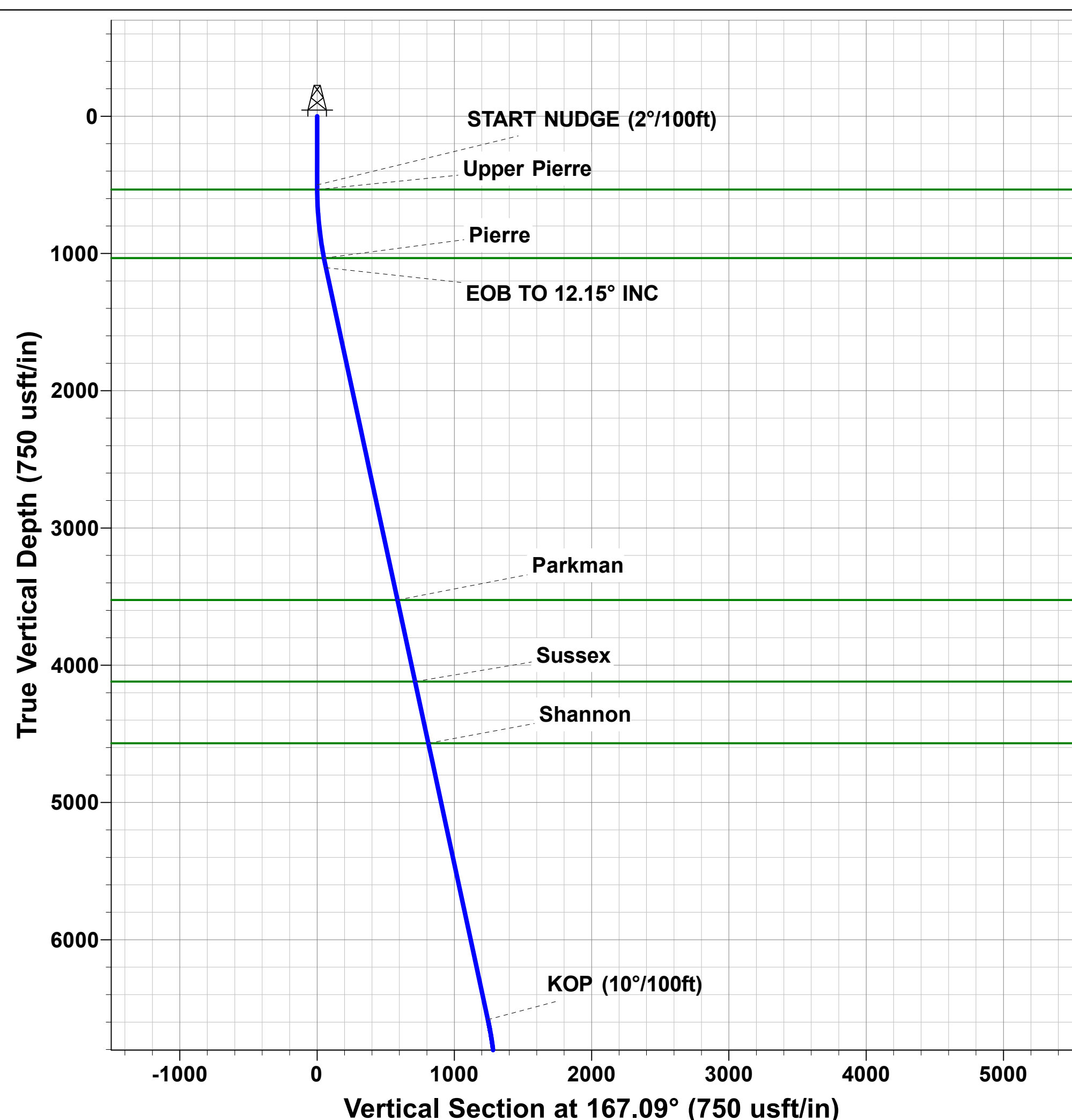
SETBACK BOUNDARY

300ft FSL of Sec 11 & 300ft FNL of Sec 2

300ft FEL of Sec 2/11 & 300ft FW 1/4 1/4 Sec 10/3

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
BHL - CE 5-68 11-10-13H	7168.00	-1408.39	-8420.73	1393141.08	3140294.57	40.411480	-104.996180
EP *NEW* - CE 5-68 11-10-13H	7168.00	-1340.71	-293.35	1393257.71	3148421.39	40.411670	-104.966993



Vertical Section at 260.51° (300 usft/in)

Database:	Database 1	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Company:	BISON IV OPERATING	TVD Reference:	KBE @ 5000.00usft
Project:	LARIMER COUNTY, COLORADO (NAD 83)	MD Reference:	KBE @ 5000.00usft
Site:	SEC. 11 T5N R68W 6th P.M.	North Reference:	True
Well:	CE 5-68 11-10-13H	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #1		

Project	LARIMER 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		

Site	SEC. 11 T5N R68W 6th P.M.				
Site Position:		Northing:	1,394,672.84 usft	Latitude:	40.415550
From:	Lat/Long	Easting:	3,148,675.60 usft	Longitude:	-104.966050
Position Uncertainty:	0.00 usft	Slot Radius:	1.10 ft	Grid Convergence:	0.35 °

Well	CE 5-68 11-10-13H					
Well Position	+N/-S	-72.87 usft	Northing:	1,394,600.16 usf	Latitude:	40.415350
	+E/-W	30.63 usft	Easting:	3,148,706.66 usf	Longitude:	-104.965940
Position Uncertainty		0.00 usft	Wellhead Elevation:	usf	Ground Level:	4,980.00 usft

Wellbore	ORIGINAL WELLBORE				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	2024-07-18	7.64	66.51	51,613.86864875

Design	PROPOSAL #1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	260.51

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	-5,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
500.00	0.00	0.00	500.00	-4,500.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,107.69	12.15	167.09	1,103.14	-3,896.86	-62.59	14.35	2.00	2.00	0.00	167.09	
6,712.06	12.15	167.09	6,581.89	1,581.89	-1,212.68	277.97	0.00	0.00	0.00	0.00	
7,638.04	90.00	269.52	7,168.00	2,168.00	-1,340.71	-293.35	10.00	8.41	11.06	102.16	EP *NEW* - CE 5-6
15,765.69	90.00	269.52	7,168.00	2,168.00	-1,408.39	-8,420.73	0.00	0.00	0.00	0.00	BHL - CE 5-68 11-1

Database:	Database 1	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Company:	BISON IV OPERATING	TVD Reference:	KBE @ 5000.00usft
Project:	LARIMER COUNTY, COLORADO (NAD 83)	MD Reference:	KBE @ 5000.00usft
Site:	SEC. 11 T5N R68W 6th P.M.	North Reference:	True
Well:	CE 5-68 11-10-13H	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: 2316ft FNL & 488ft FEL of Sec 11										
0.00	0.00	0.00	0.00	5,000.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	4,900.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	4,800.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	4,700.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	4,600.00	0.00	0.00	0.00	0.00	0.00	0.00
START NUDGE (2°/100ft)										
500.00	0.00	0.00	500.00	4,500.00	0.00	0.00	0.00	0.00	0.00	0.00
Upper Pierre										
534.00	0.68	167.09	534.00	4,466.00	-0.20	0.05	-0.01	2.00	2.00	0.00
600.00	2.00	167.09	599.98	4,400.02	-1.70	0.39	-0.10	2.00	2.00	0.00
700.00	4.00	167.09	699.84	4,300.16	-6.80	1.56	-0.42	2.00	2.00	0.00
800.00	6.00	167.09	799.45	4,200.55	-15.30	3.51	-0.93	2.00	2.00	0.00
900.00	8.00	167.09	898.70	4,101.30	-27.18	6.23	-1.66	2.00	2.00	0.00
1,000.00	10.00	167.09	997.47	4,002.53	-42.42	9.72	-2.59	2.00	2.00	0.00
Pierre										
1,037.14	10.74	167.09	1,034.00	3,966.00	-48.94	11.22	-2.99	2.00	2.00	0.00
1,100.00	12.00	167.09	1,095.62	3,904.38	-61.02	13.99	-3.73	2.00	2.00	0.00
EOB TO 12.15° INC										
1,107.69	12.15	167.09	1,103.14	3,896.86	-62.59	14.35	-3.83	2.00	2.00	0.00
1,200.00	12.15	167.09	1,193.38	3,806.62	-81.53	18.69	-4.98	0.00	0.00	0.00
1,300.00	12.15	167.09	1,291.14	3,708.86	-102.05	23.39	-6.24	0.00	0.00	0.00
1,400.00	12.15	167.09	1,388.90	3,611.10	-122.57	28.10	-7.49	0.00	0.00	0.00
1,500.00	12.15	167.09	1,486.66	3,513.34	-143.10	32.80	-8.75	0.00	0.00	0.00
1,600.00	12.15	167.09	1,584.42	3,415.58	-163.62	37.50	-10.00	0.00	0.00	0.00
1,700.00	12.15	167.09	1,682.18	3,317.82	-184.14	42.21	-11.25	0.00	0.00	0.00
1,800.00	12.15	167.09	1,779.94	3,220.06	-204.66	46.91	-12.51	0.00	0.00	0.00
1,900.00	12.15	167.09	1,877.69	3,122.31	-225.18	51.62	-13.76	0.00	0.00	0.00
2,000.00	12.15	167.09	1,975.45	3,024.55	-245.70	56.32	-15.02	0.00	0.00	0.00
2,100.00	12.15	167.09	2,073.21	2,926.79	-266.22	61.02	-16.27	0.00	0.00	0.00
2,200.00	12.15	167.09	2,170.97	2,829.03	-286.75	65.73	-17.53	0.00	0.00	0.00
2,300.00	12.15	167.09	2,268.73	2,731.27	-307.27	70.43	-18.78	0.00	0.00	0.00
2,400.00	12.15	167.09	2,366.49	2,633.51	-327.79	75.14	-20.03	0.00	0.00	0.00
2,500.00	12.15	167.09	2,464.25	2,535.75	-348.31	79.84	-21.29	0.00	0.00	0.00
2,600.00	12.15	167.09	2,562.00	2,438.00	-368.83	84.54	-22.54	0.00	0.00	0.00
2,700.00	12.15	167.09	2,659.76	2,340.24	-389.35	89.25	-23.80	0.00	0.00	0.00
2,800.00	12.15	167.09	2,757.52	2,242.48	-409.87	93.95	-25.05	0.00	0.00	0.00
2,900.00	12.15	167.09	2,855.28	2,144.72	-430.40	98.66	-26.31	0.00	0.00	0.00
3,000.00	12.15	167.09	2,953.04	2,046.96	-450.92	103.36	-27.56	0.00	0.00	0.00
3,100.00	12.15	167.09	3,050.80	1,949.20	-471.44	108.06	-28.81	0.00	0.00	0.00
3,200.00	12.15	167.09	3,148.56	1,851.44	-491.96	112.77	-30.07	0.00	0.00	0.00
3,300.00	12.15	167.09	3,246.31	1,753.69	-512.48	117.47	-31.32	0.00	0.00	0.00
3,400.00	12.15	167.09	3,344.07	1,655.93	-533.00	122.18	-32.58	0.00	0.00	0.00
3,500.00	12.15	167.09	3,441.83	1,558.17	-553.52	126.88	-33.83	0.00	0.00	0.00
Parkman										
3,584.05	12.15	167.09	3,524.00	1,476.00	-570.77	130.83	-34.89	0.00	0.00	0.00
3,600.00	12.15	167.09	3,539.59	1,460.41	-574.05	131.58	-35.09	0.00	0.00	0.00
3,700.00	12.15	167.09	3,637.35	1,362.65	-594.57	136.29	-36.34	0.00	0.00	0.00
3,800.00	12.15	167.09	3,735.11	1,264.89	-615.09	140.99	-37.59	0.00	0.00	0.00
3,900.00	12.15	167.09	3,832.87	1,167.13	-635.61	145.70	-38.85	0.00	0.00	0.00
4,000.00	12.15	167.09	3,930.62	1,069.38	-656.13	150.40	-40.10	0.00	0.00	0.00
4,100.00	12.15	167.09	4,028.38	971.62	-676.65	155.10	-41.36	0.00	0.00	0.00
Sussex										

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Project:	LARIMER COUNTY, COLORADO (NAD 83)	MD Reference:	KBE @ 5000.00usft
Site:	SEC. 11 T5N R68W 6th P.M.	North Reference:	True
Well:	CE 5-68 11-10-13H	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)
4,192.69	12.15	167.09	4,119.00	881.00	-695.67	159.46	-42.52	0.00	0.00	0.00
4,200.00	12.15	167.09	4,126.14	873.86	-697.17	159.81	-42.61	0.00	0.00	0.00
4,300.00	12.15	167.09	4,223.90	776.10	-717.69	164.51	-43.87	0.00	0.00	0.00
4,400.00	12.15	167.09	4,321.66	678.34	-738.22	169.21	-45.12	0.00	0.00	0.00
4,500.00	12.15	167.09	4,419.42	580.58	-758.74	173.92	-46.37	0.00	0.00	0.00
4,600.00	12.15	167.09	4,517.18	482.82	-779.26	178.62	-47.63	0.00	0.00	0.00
Shannon										
4,651.99	12.15	167.09	4,568.00	432.00	-789.93	181.07	-48.28	0.00	0.00	0.00
4,700.00	12.15	167.09	4,614.94	385.06	-799.78	183.33	-48.88	0.00	0.00	0.00
4,800.00	12.15	167.09	4,712.69	287.31	-820.30	188.03	-50.14	0.00	0.00	0.00
4,900.00	12.15	167.09	4,810.45	189.55	-840.82	192.73	-51.39	0.00	0.00	0.00
5,000.00	12.15	167.09	4,908.21	91.79	-861.34	197.44	-52.65	0.00	0.00	0.00
5,100.00	12.15	167.09	5,005.97	-5.97	-881.87	202.14	-53.90	0.00	0.00	0.00
5,200.00	12.15	167.09	5,103.73	-103.73	-902.39	206.85	-55.15	0.00	0.00	0.00
5,300.00	12.15	167.09	5,201.49	-201.49	-922.91	211.55	-56.41	0.00	0.00	0.00
5,400.00	12.15	167.09	5,299.25	-299.25	-943.43	216.25	-57.66	0.00	0.00	0.00
5,500.00	12.15	167.09	5,397.00	-397.00	-963.95	220.96	-58.92	0.00	0.00	0.00
5,600.00	12.15	167.09	5,494.76	-494.76	-984.47	225.66	-60.17	0.00	0.00	0.00
5,700.00	12.15	167.09	5,592.52	-592.52	-1,004.99	230.37	-61.42	0.00	0.00	0.00
5,800.00	12.15	167.09	5,690.28	-690.28	-1,025.52	235.07	-62.68	0.00	0.00	0.00
5,900.00	12.15	167.09	5,788.04	-788.04	-1,046.04	239.77	-63.93	0.00	0.00	0.00
6,000.00	12.15	167.09	5,885.80	-885.80	-1,066.56	244.48	-65.19	0.00	0.00	0.00
6,100.00	12.15	167.09	5,983.56	-983.56	-1,087.08	249.18	-66.44	0.00	0.00	0.00
6,200.00	12.15	167.09	6,081.31	-1,081.31	-1,107.60	253.89	-67.70	0.00	0.00	0.00
6,300.00	12.15	167.09	6,179.07	-1,179.07	-1,128.12	258.59	-68.95	0.00	0.00	0.00
6,400.00	12.15	167.09	6,276.83	-1,276.83	-1,148.64	263.29	-70.20	0.00	0.00	0.00
6,500.00	12.15	167.09	6,374.59	-1,374.59	-1,169.17	268.00	-71.46	0.00	0.00	0.00
6,600.00	12.15	167.09	6,472.35	-1,472.35	-1,189.69	272.70	-72.71	0.00	0.00	0.00
6,700.00	12.15	167.09	6,570.11	-1,570.11	-1,210.21	277.41	-73.97	0.00	0.00	0.00
KOP (10°/100ft)										
6,712.06	12.15	167.09	6,581.89	-1,581.89	-1,212.68	277.97	-74.12	0.00	0.00	0.00
6,800.00	13.38	207.34	6,667.83	-1,667.83	-1,230.78	275.36	-68.56	10.00	1.39	45.76
6,900.00	19.99	234.20	6,763.70	-1,763.70	-1,251.10	256.14	-46.25	10.00	6.61	26.87
Sharon Springs										
6,996.79	28.30	246.53	6,852.00	-1,852.00	-1,269.96	221.60	-9.07	10.00	8.58	12.74
7,000.00	28.59	246.82	6,854.83	-1,854.83	-1,270.57	220.19	-7.58	10.00	9.02	9.07
Niobrara										
7,068.42	34.88	251.96	6,913.00	-1,913.00	-1,283.08	186.50	27.72	10.00	9.19	7.51
7,100.00	37.84	253.81	6,938.43	-1,938.43	-1,288.58	168.61	46.27	10.00	9.38	5.86
7,200.00	47.36	258.36	7,011.97	-2,011.97	-1,304.59	102.96	113.66	10.00	9.52	4.54
7,300.00	57.01	261.68	7,073.21	-2,073.21	-1,318.12	25.24	192.55	10.00	9.65	3.32
7,400.00	66.74	264.34	7,120.30	-2,120.30	-1,328.75	-62.19	280.54	10.00	9.72	2.66
7,500.00	76.50	266.63	7,151.81	-2,151.81	-1,336.17	-156.68	374.95	10.00	9.76	2.29
7,600.00	86.28	268.74	7,166.76	-2,166.76	-1,340.13	-255.35	472.92	10.00	9.78	2.11
EP *NEW*: 1624ft FSL & 762.1ft FEL of Sec 11										
7,638.04	90.00	269.52	7,168.00	-2,168.00	-1,340.71	-293.35	510.50	10.00	9.79	2.06
7,700.00	90.00	269.52	7,168.00	-2,168.00	-1,341.23	-355.31	571.69	0.00	0.00	0.00
7,800.00	90.00	269.52	7,168.00	-2,168.00	-1,342.06	-455.31	670.46	0.00	0.00	0.00
7,900.00	90.00	269.52	7,168.00	-2,168.00	-1,342.89	-555.30	769.22	0.00	0.00	0.00
8,000.00	90.00	269.52	7,168.00	-2,168.00	-1,343.72	-655.30	867.99	0.00	0.00	0.00
8,100.00	90.00	269.52	7,168.00	-2,168.00	-1,344.56	-755.30	966.75	0.00	0.00	0.00
8,200.00	90.00	269.52	7,168.00	-2,168.00	-1,345.39	-855.29	1,065.51	0.00	0.00	0.00
8,300.00	90.00	269.52	7,168.00	-2,168.00	-1,346.22	-955.29	1,164.28	0.00	0.00	0.00
8,400.00	90.00	269.52	7,168.00	-2,168.00	-1,347.05	-1,055.29	1,263.04	0.00	0.00	0.00

Database:	Database 1	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Company:	BISON IV OPERATING	TVD Reference:	KBE @ 5000.00usft
Project:	LARIMER COUNTY, COLORADO (NAD 83)	MD Reference:	KBE @ 5000.00usft
Site:	SEC. 11 T5N R68W 6th P.M.	North Reference:	True
Well:	CE 5-68 11-10-13H	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)
8,500.00	90.00	269.52	7,168.00	-2,168.00	-1,347.89	-1,155.28	1,361.81	0.00	0.00	0.00
8,600.00	90.00	269.52	7,168.00	-2,168.00	-1,348.72	-1,255.28	1,460.57	0.00	0.00	0.00
8,700.00	90.00	269.52	7,168.00	-2,168.00	-1,349.55	-1,355.28	1,559.33	0.00	0.00	0.00
8,800.00	90.00	269.52	7,168.00	-2,168.00	-1,350.39	-1,455.27	1,658.10	0.00	0.00	0.00
8,900.00	90.00	269.52	7,168.00	-2,168.00	-1,351.22	-1,555.27	1,756.86	0.00	0.00	0.00
9,000.00	90.00	269.52	7,168.00	-2,168.00	-1,352.05	-1,655.27	1,855.63	0.00	0.00	0.00
9,100.00	90.00	269.52	7,168.00	-2,168.00	-1,352.88	-1,755.26	1,954.39	0.00	0.00	0.00
9,200.00	90.00	269.52	7,168.00	-2,168.00	-1,353.72	-1,855.26	2,053.15	0.00	0.00	0.00
9,300.00	90.00	269.52	7,168.00	-2,168.00	-1,354.55	-1,955.26	2,151.92	0.00	0.00	0.00
9,400.00	90.00	269.52	7,168.00	-2,168.00	-1,355.38	-2,055.25	2,250.68	0.00	0.00	0.00
9,500.00	90.00	269.52	7,168.00	-2,168.00	-1,356.21	-2,155.25	2,349.45	0.00	0.00	0.00
9,600.00	90.00	269.52	7,168.00	-2,168.00	-1,357.05	-2,255.25	2,448.21	0.00	0.00	0.00
9,700.00	90.00	269.52	7,168.00	-2,168.00	-1,357.88	-2,355.24	2,546.97	0.00	0.00	0.00
9,800.00	90.00	269.52	7,168.00	-2,168.00	-1,358.71	-2,455.24	2,645.74	0.00	0.00	0.00
9,900.00	90.00	269.52	7,168.00	-2,168.00	-1,359.55	-2,555.24	2,744.50	0.00	0.00	0.00
10,000.00	90.00	269.52	7,168.00	-2,168.00	-1,360.38	-2,655.23	2,843.27	0.00	0.00	0.00
10,100.00	90.00	269.52	7,168.00	-2,168.00	-1,361.21	-2,755.23	2,942.03	0.00	0.00	0.00
10,200.00	90.00	269.52	7,168.00	-2,168.00	-1,362.04	-2,855.23	3,040.79	0.00	0.00	0.00
10,300.00	90.00	269.52	7,168.00	-2,168.00	-1,362.88	-2,955.22	3,139.56	0.00	0.00	0.00
10,400.00	90.00	269.52	7,168.00	-2,168.00	-1,363.71	-3,055.22	3,238.32	0.00	0.00	0.00
10,500.00	90.00	269.52	7,168.00	-2,168.00	-1,364.54	-3,155.21	3,337.09	0.00	0.00	0.00
10,600.00	90.00	269.52	7,168.00	-2,168.00	-1,365.37	-3,255.21	3,435.85	0.00	0.00	0.00
10,700.00	90.00	269.52	7,168.00	-2,168.00	-1,366.21	-3,355.21	3,534.61	0.00	0.00	0.00
10,800.00	90.00	269.52	7,168.00	-2,168.00	-1,367.04	-3,455.20	3,633.38	0.00	0.00	0.00
10,900.00	90.00	269.52	7,168.00	-2,168.00	-1,367.87	-3,555.20	3,732.14	0.00	0.00	0.00
11,000.00	90.00	269.52	7,168.00	-2,168.00	-1,368.71	-3,655.20	3,830.90	0.00	0.00	0.00
11,100.00	90.00	269.52	7,168.00	-2,168.00	-1,369.54	-3,755.19	3,929.67	0.00	0.00	0.00
11,200.00	90.00	269.52	7,168.00	-2,168.00	-1,370.37	-3,855.19	4,028.43	0.00	0.00	0.00
11,300.00	90.00	269.52	7,168.00	-2,168.00	-1,371.20	-3,955.19	4,127.20	0.00	0.00	0.00
11,400.00	90.00	269.52	7,168.00	-2,168.00	-1,372.04	-4,055.18	4,225.96	0.00	0.00	0.00
11,500.00	90.00	269.52	7,168.00	-2,168.00	-1,372.87	-4,155.18	4,324.72	0.00	0.00	0.00
11,600.00	90.00	269.52	7,168.00	-2,168.00	-1,373.70	-4,255.18	4,423.49	0.00	0.00	0.00
11,700.00	90.00	269.52	7,168.00	-2,168.00	-1,374.53	-4,355.17	4,522.25	0.00	0.00	0.00
11,800.00	90.00	269.52	7,168.00	-2,168.00	-1,375.37	-4,455.17	4,621.02	0.00	0.00	0.00
11,900.00	90.00	269.52	7,168.00	-2,168.00	-1,376.20	-4,555.17	4,719.78	0.00	0.00	0.00
12,000.00	90.00	269.52	7,168.00	-2,168.00	-1,377.03	-4,655.16	4,818.54	0.00	0.00	0.00
12,100.00	90.00	269.52	7,168.00	-2,168.00	-1,377.87	-4,755.16	4,917.31	0.00	0.00	0.00
12,200.00	90.00	269.52	7,168.00	-2,168.00	-1,378.70	-4,855.16	5,016.07	0.00	0.00	0.00
12,300.00	90.00	269.52	7,168.00	-2,168.00	-1,379.53	-4,955.15	5,114.84	0.00	0.00	0.00
12,400.00	90.00	269.52	7,168.00	-2,168.00	-1,380.36	-5,055.15	5,213.60	0.00	0.00	0.00
12,500.00	90.00	269.52	7,168.00	-2,168.00	-1,381.20	-5,155.15	5,312.36	0.00	0.00	0.00
12,600.00	90.00	269.52	7,168.00	-2,168.00	-1,382.03	-5,255.14	5,411.13	0.00	0.00	0.00
12,700.00	90.00	269.52	7,168.00	-2,168.00	-1,382.86	-5,355.14	5,509.89	0.00	0.00	0.00
12,800.00	90.00	269.52	7,168.00	-2,168.00	-1,383.69	-5,455.14	5,608.66	0.00	0.00	0.00
12,900.00	90.00	269.52	7,168.00	-2,168.00	-1,384.53	-5,555.13	5,707.42	0.00	0.00	0.00
13,000.00	90.00	269.52	7,168.00	-2,168.00	-1,385.36	-5,655.13	5,806.18	0.00	0.00	0.00
13,100.00	90.00	269.52	7,168.00	-2,168.00	-1,386.19	-5,755.12	5,904.95	0.00	0.00	0.00
13,200.00	90.00	269.52	7,168.00	-2,168.00	-1,387.03	-5,855.12	6,003.71	0.00	0.00	0.00
13,300.00	90.00	269.52	7,168.00	-2,168.00	-1,387.86	-5,955.12	6,102.48	0.00	0.00	0.00
13,400.00	90.00	269.52	7,168.00	-2,168.00	-1,388.69	-6,055.11	6,201.24	0.00	0.00	0.00
13,500.00	90.00	269.52	7,168.00	-2,168.00	-1,389.52	-6,155.11	6,300.00	0.00	0.00	0.00
13,600.00	90.00	269.52	7,168.00	-2,168.00	-1,390.36	-6,255.11	6,398.77	0.00	0.00	0.00
13,700.00	90.00	269.52	7,168.00	-2,168.00	-1,391.19	-6,355.10	6,497.53	0.00	0.00	0.00
13,800.00	90.00	269.52	7,168.00	-2,168.00	-1,392.02	-6,455.10	6,596.30	0.00	0.00	0.00

Database:	Database 1	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Company:	BISON IV OPERATING	TVD Reference:	KBE @ 5000.00usft
Project:	LARIMER COUNTY, COLORADO (NAD 83)	MD Reference:	KBE @ 5000.00usft
Site:	SEC. 11 T5N R68W 6th P.M.	North Reference:	True
Well:	CE 5-68 11-10-13H	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)
13,900.00	90.00	269.52	7,168.00	-2,168.00	-1,392.85	-6,555.10	6,695.06	0.00	0.00	0.00
14,000.00	90.00	269.52	7,168.00	-2,168.00	-1,393.69	-6,655.09	6,793.82	0.00	0.00	0.00
14,100.00	90.00	269.52	7,168.00	-2,168.00	-1,394.52	-6,755.09	6,892.59	0.00	0.00	0.00
14,200.00	90.00	269.52	7,168.00	-2,168.00	-1,395.35	-6,855.09	6,991.35	0.00	0.00	0.00
14,300.00	90.00	269.52	7,168.00	-2,168.00	-1,396.18	-6,955.08	7,090.12	0.00	0.00	0.00
14,400.00	90.00	269.52	7,168.00	-2,168.00	-1,397.02	-7,055.08	7,188.88	0.00	0.00	0.00
14,500.00	90.00	269.52	7,168.00	-2,168.00	-1,397.85	-7,155.08	7,287.64	0.00	0.00	0.00
14,600.00	90.00	269.52	7,168.00	-2,168.00	-1,398.68	-7,255.07	7,386.41	0.00	0.00	0.00
14,700.00	90.00	269.52	7,168.00	-2,168.00	-1,399.52	-7,355.07	7,485.17	0.00	0.00	0.00
14,800.00	90.00	269.52	7,168.00	-2,168.00	-1,400.35	-7,455.07	7,583.93	0.00	0.00	0.00
14,900.00	90.00	269.52	7,168.00	-2,168.00	-1,401.18	-7,555.06	7,682.70	0.00	0.00	0.00
15,000.00	90.00	269.52	7,168.00	-2,168.00	-1,402.01	-7,655.06	7,781.46	0.00	0.00	0.00
15,100.00	90.00	269.52	7,168.00	-2,168.00	-1,402.85	-7,755.06	7,880.23	0.00	0.00	0.00
15,200.00	90.00	269.52	7,168.00	-2,168.00	-1,403.68	-7,855.05	7,978.99	0.00	0.00	0.00
15,300.00	90.00	269.52	7,168.00	-2,168.00	-1,404.51	-7,955.05	8,077.75	0.00	0.00	0.00
15,400.00	90.00	269.52	7,168.00	-2,168.00	-1,405.34	-8,055.04	8,176.52	0.00	0.00	0.00
15,500.00	90.00	269.52	7,168.00	-2,168.00	-1,406.18	-8,155.04	8,275.28	0.00	0.00	0.00
15,600.00	90.00	269.52	7,168.00	-2,168.00	-1,407.01	-8,255.04	8,374.05	0.00	0.00	0.00
15,700.00	90.00	269.52	7,168.00	-2,168.00	-1,407.84	-8,355.03	8,472.81	0.00	0.00	0.00
BHL: 1622ft FSL & 1700ft FWL of Sec 10										
15,765.69	90.00	269.52	7,168.00	-2,168.00	-1,408.39	-8,420.73	8,537.69	0.00	0.00	0.00

Formations						
MD (usft)	TVD (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
534.00	534.00	Upper Pierre				
1,037.14	1,034.00	Pierre				
3,584.05	3,524.00	Parkman				
4,192.69	4,119.00	Sussex				
4,651.99	4,568.00	Shannon				
6,996.79	6,852.00	Sharon Springs				
7,068.42	6,913.00	Niobrara				

Plan Annotations					
MD (usft)	TVD (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
0.00	0.00	0.00	0.00	SHL: 2316ft FNL & 488ft FEL of Sec 11	
500.00	500.00	0.00	0.00	START NUDGE (2°/100ft)	
1,107.69	1,103.14	-62.59	14.35	EOB TO 12.15° INC	
6,712.06	6,581.89	-1,212.68	277.97	KOP (10°/100ft)	
7,638.04	7,168.00	-1,340.71	-293.35	EP *NEW*: 1624ft FSL & 762.1ft FEL of Sec 11	
15,765.69	7,168.00	-1,408.39	-8,420.73	BHL: 1622ft FSL & 1700ft FWL of Sec 10	