

# **BISON IV OPERATING**

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

**SEC. 11 T5N R68W 6th P.M.**

**CE 5-68 11-10-11H**

**ORIGINAL WELLBORE**

**19 July, 2024**

**Plan: PROPOSAL #1**

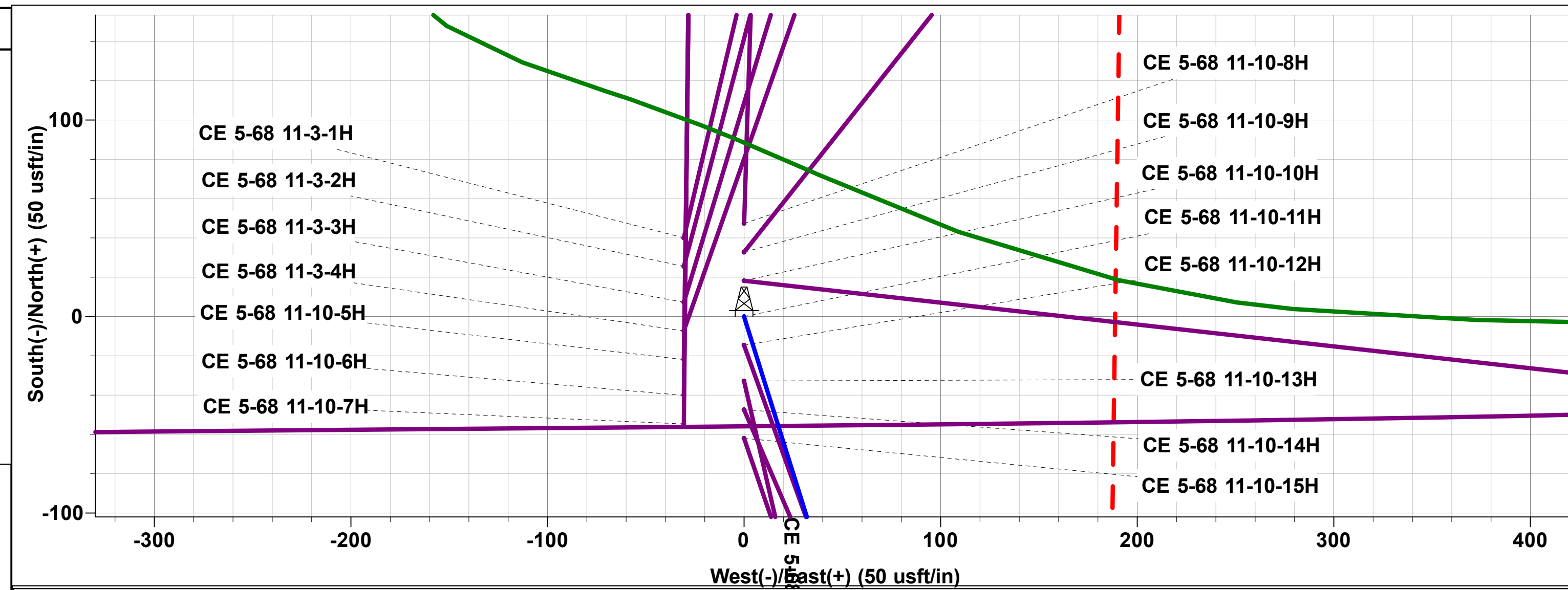




Project: LARIMER COUNTY, COLORADO (NAD 83)  
 Site: SEC. 11 T5N R68W 6th P.M.  
 Well: CE 5-68 11-10-11H  
 Wellbore: ORIGINAL WELLBORE  
 Design: PROPOSAL #1

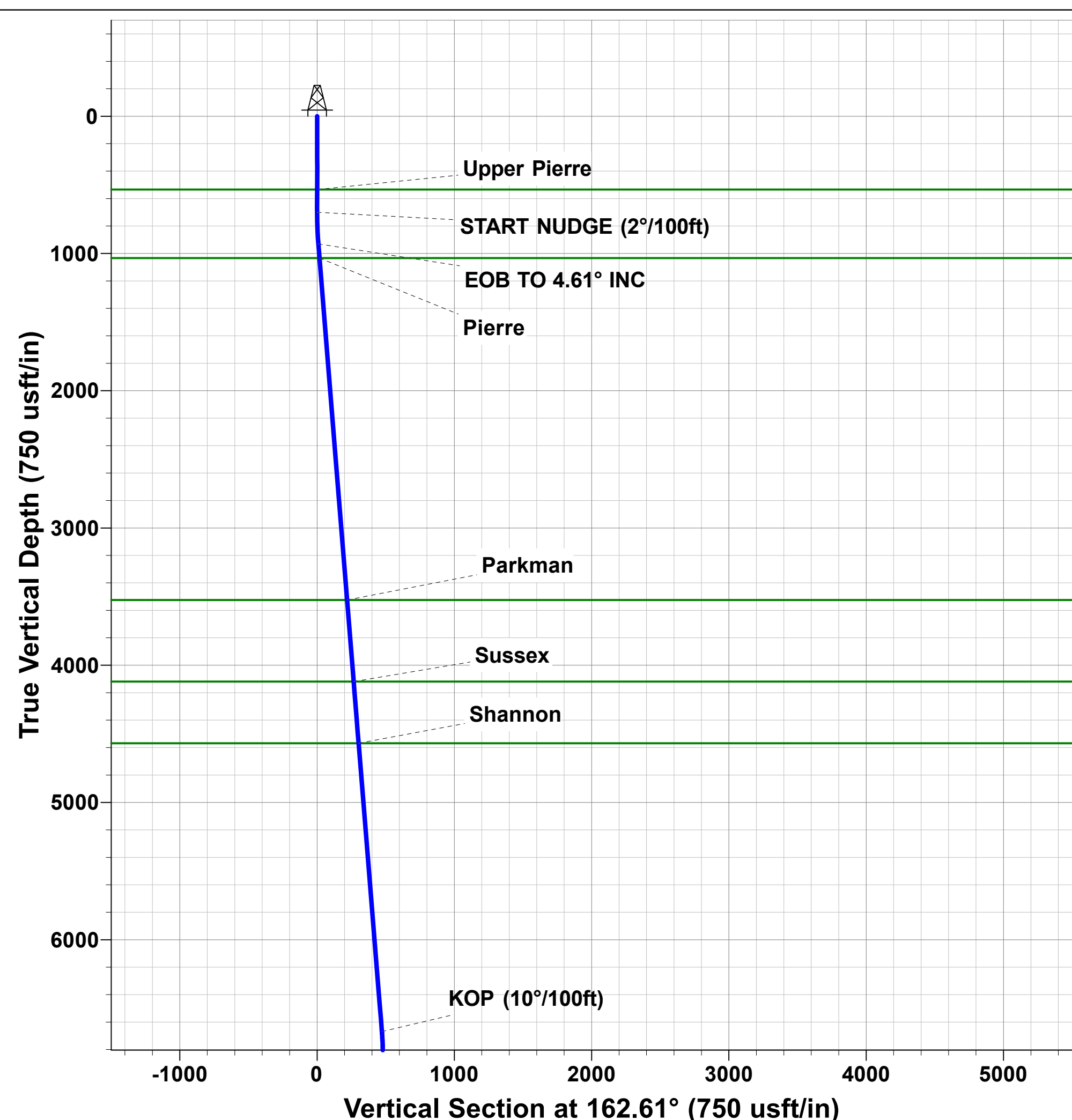
ANNOTATIONS

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	2284ft FNL & 489ft FEL of Sec 11
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	START NUDDGE (2°/100ft)
930.56	4.61	162.61	930.31	-8.85	2.77	-2.17	9.27	EOB TO 4.61° INC
6688.27	4.61	162.61	6669.38	-450.58	141.10	-110.55	472.16	KOP (10°/100ft)
7601.67	90.00	269.52	7254.00	-500.45	-431.31	463.91	1052.40	EP *NEW*: 2500ft FSL & 914ft FEL of Sec 11
15602.20	90.00	269.52	7254.00	-566.86	-8431.57	8450.60	9052.93	BHL: 2498ft FSL & 1700ft FWL of Sec 10

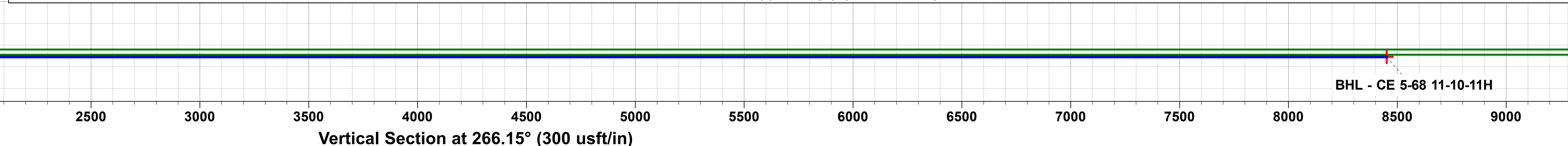
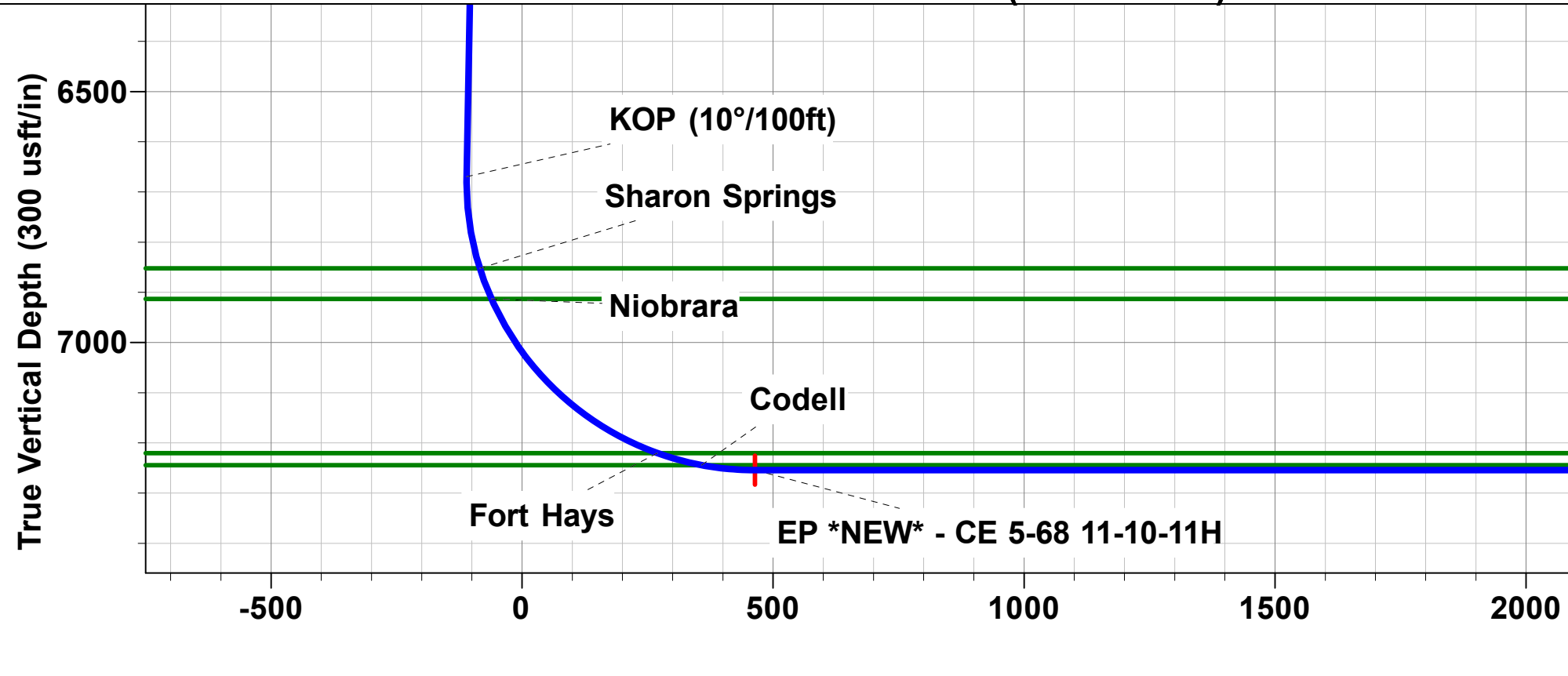
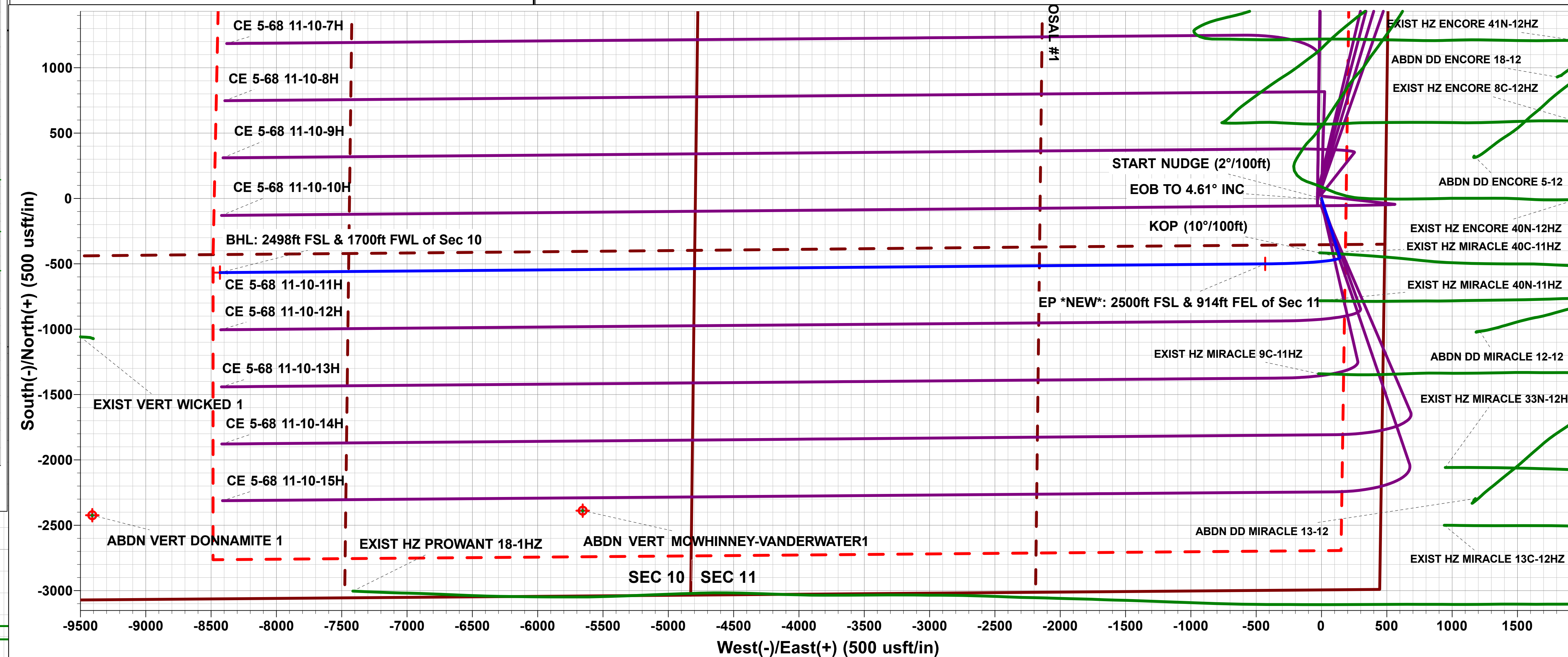


DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
BHL - CE 5-68 11-10-11H	7254.00	-566.86	-8431.57	1394015.32	3140278.47	40.413880	-104.996220
EP *NEW* - CE 5-68 11-10-11H	7254.00	-500.45	-431.31	1394129.91	3148278.18	40.414066	-104.967489



PROPOSED LOCAL COORDINATES:  
 SHL: 2284ft FNL & 489ft FEL of Sec 11  
 EP \*NEW\*: 2500ft FSL & 914ft FEL of Sec 11  
 BHL: 2498ft 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



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

<b>Project</b>	LARIMER 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		

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

<b>Well</b>	CE 5-68 11-10-11H					
<b>Well Position</b>	<b>+N/-S</b>	-40.08 usft	<b>Northing:</b>	1,394,632.94 usft	<b>Latitude:</b>	40.415440
	<b>+E/-W</b>	30.63 usft	<b>Easting:</b>	3,148,706.47 usft	<b>Longitude:</b>	-104.965940
<b>Position Uncertainty</b>		0.00 usft	<b>Wellhead Elevation:</b>	usft	<b>Ground Level:</b>	4,980.00 usft

<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>
	IGRF2020	2024-07-18	7.64	66.51	51,613.91564657

<b>Design</b>	PROPOSAL #1			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PLAN	<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>
	0.00	0.00	0.00	266.15

<b>Plan Sections</b>											
MD (usft)	Inc (°)	Azi (°)	Vertical Depth	SS (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	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	
700.00	0.00	0.00	700.00	-4,300.00	0.00	0.00	0.00	0.00	0.00	0.00	
930.56	4.61	162.61	930.31	-4,069.69	-8.85	2.77	2.00	2.00	0.00	162.61	
6,688.27	4.61	162.61	6,669.38	1,669.38	-450.58	141.10	0.00	0.00	0.00	0.00	
7,601.67	90.00	269.52	7,254.00	2,254.00	-500.45	-431.31	10.00	9.35	11.70	106.86	EP *NEW* - CE 5-6
15,602.20	90.00	269.52	7,254.00	2,254.00	-566.86	-8,431.57	0.00	0.00	0.00	0.00	BHL - CE 5-68 11-1

<b>Database:</b>	Database 1	<b>Local Co-ordinate Reference:</b>	Well CE 5-68 11-10-11H
<b>Company:</b>	BISON IV OPERATING	<b>TVD Reference:</b>	KBE @ 5000.00usft
<b>Project:</b>	LARIMER COUNTY, COLORADO (NAD 83)	<b>MD Reference:</b>	KBE @ 5000.00usft
<b>Site:</b>	SEC. 11 T5N R68W 6th P.M.	<b>North Reference:</b>	True
<b>Well:</b>	CE 5-68 11-10-11H	<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>2284ft FNL &amp; 489ft FEL of Sec 11</b>										
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
500.00	0.00	0.00	500.00	4,500.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Upper Pierre</b>										
534.00	0.00	0.00	534.00	4,466.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	4,400.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>START NUDGE (2°/100ft)</b>										
700.00	0.00	0.00	700.00	4,300.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	2.00	162.61	799.98	4,200.02	-1.67	0.52	-0.41	2.00	2.00	0.00
900.00	4.00	162.61	899.84	4,100.16	-6.66	2.09	-1.63	2.00	2.00	0.00
<b>EOB TO 4.61° INC</b>										
930.56	4.61	162.61	930.31	4,069.69	-8.85	2.77	-2.17	2.00	2.00	0.00
1,000.00	4.61	162.61	999.53	4,000.47	-14.18	4.44	-3.48	0.00	0.00	0.00
<b>Pierre</b>										
1,034.59	4.61	162.61	1,034.00	3,966.00	-16.83	5.27	-4.13	0.00	0.00	0.00
1,100.00	4.61	162.61	1,099.20	3,900.80	-21.85	6.84	-5.36	0.00	0.00	0.00
1,200.00	4.61	162.61	1,198.88	3,801.12	-29.52	9.24	-7.24	0.00	0.00	0.00
1,300.00	4.61	162.61	1,298.56	3,701.44	-37.19	11.65	-9.13	0.00	0.00	0.00
1,400.00	4.61	162.61	1,398.23	3,601.77	-44.86	14.05	-11.01	0.00	0.00	0.00
1,500.00	4.61	162.61	1,497.91	3,502.09	-52.54	16.45	-12.89	0.00	0.00	0.00
1,600.00	4.61	162.61	1,597.58	3,402.42	-60.21	18.85	-14.77	0.00	0.00	0.00
1,700.00	4.61	162.61	1,697.26	3,302.74	-67.88	21.26	-16.66	0.00	0.00	0.00
1,800.00	4.61	162.61	1,796.94	3,203.06	-75.55	23.66	-18.54	0.00	0.00	0.00
1,900.00	4.61	162.61	1,896.61	3,103.39	-83.22	26.06	-20.42	0.00	0.00	0.00
2,000.00	4.61	162.61	1,996.29	3,003.71	-90.90	28.46	-22.30	0.00	0.00	0.00
2,100.00	4.61	162.61	2,095.97	2,904.03	-98.57	30.87	-24.18	0.00	0.00	0.00
2,200.00	4.61	162.61	2,195.64	2,804.36	-106.24	33.27	-26.07	0.00	0.00	0.00
2,300.00	4.61	162.61	2,295.32	2,704.68	-113.91	35.67	-27.95	0.00	0.00	0.00
2,400.00	4.61	162.61	2,394.99	2,605.01	-121.59	38.07	-29.83	0.00	0.00	0.00
2,500.00	4.61	162.61	2,494.67	2,505.33	-129.26	40.48	-31.71	0.00	0.00	0.00
2,600.00	4.61	162.61	2,594.35	2,405.65	-136.93	42.88	-33.60	0.00	0.00	0.00
2,700.00	4.61	162.61	2,694.02	2,305.98	-144.60	45.28	-35.48	0.00	0.00	0.00
2,800.00	4.61	162.61	2,793.70	2,206.30	-152.27	47.68	-37.36	0.00	0.00	0.00
2,900.00	4.61	162.61	2,893.38	2,106.62	-159.95	50.09	-39.24	0.00	0.00	0.00
3,000.00	4.61	162.61	2,993.05	2,006.95	-167.62	52.49	-41.13	0.00	0.00	0.00
3,100.00	4.61	162.61	3,092.73	1,907.27	-175.29	54.89	-43.01	0.00	0.00	0.00
3,200.00	4.61	162.61	3,192.41	1,807.59	-182.96	57.29	-44.89	0.00	0.00	0.00
3,300.00	4.61	162.61	3,292.08	1,707.92	-190.63	59.70	-46.77	0.00	0.00	0.00
3,400.00	4.61	162.61	3,391.76	1,608.24	-198.31	62.10	-48.66	0.00	0.00	0.00
3,500.00	4.61	162.61	3,491.43	1,508.57	-205.98	64.50	-50.54	0.00	0.00	0.00
<b>Parkman</b>										
3,532.67	4.61	162.61	3,524.00	1,476.00	-208.48	65.29	-51.15	0.00	0.00	0.00
3,600.00	4.61	162.61	3,591.11	1,408.89	-213.65	66.90	-52.42	0.00	0.00	0.00
3,700.00	4.61	162.61	3,690.79	1,309.21	-221.32	69.31	-54.30	0.00	0.00	0.00
3,800.00	4.61	162.61	3,790.46	1,209.54	-228.99	71.71	-56.19	0.00	0.00	0.00
3,900.00	4.61	162.61	3,890.14	1,109.86	-236.67	74.11	-58.07	0.00	0.00	0.00
4,000.00	4.61	162.61	3,989.82	1,010.18	-244.34	76.51	-59.95	0.00	0.00	0.00
4,100.00	4.61	162.61	4,089.49	910.51	-252.01	78.92	-61.83	0.00	0.00	0.00
<b>Sussex</b>										

<b>Database:</b>	Database 1	<b>Local Co-ordinate Reference:</b>	Well CE 5-68 11-10-11H
<b>Company:</b>	BISON IV OPERATING	<b>TVD Reference:</b>	KBE @ 5000.00usft
<b>Project:</b>	LARIMER COUNTY, COLORADO (NAD 83)	<b>MD Reference:</b>	KBE @ 5000.00usft
<b>Site:</b>	SEC. 11 T5N R68W 6th P.M.	<b>North Reference:</b>	True
<b>Well:</b>	CE 5-68 11-10-11H	<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>4,129.60</b>	<b>4.61</b>	<b>162.61</b>	<b>4,119.00</b>	<b>881.00</b>	<b>-254.28</b>	<b>79.63</b>	<b>-62.39</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
4,200.00	4.61	162.61	4,189.17	810.83	-259.68	81.32	-63.72	0.00	0.00	0.00
4,300.00	4.61	162.61	4,288.84	711.16	-267.35	83.72	-65.60	0.00	0.00	0.00
4,400.00	4.61	162.61	4,388.52	611.48	-275.03	86.12	-67.48	0.00	0.00	0.00
4,500.00	4.61	162.61	4,488.20	511.80	-282.70	88.52	-69.36	0.00	0.00	0.00
<b>Shannon</b>										
<b>4,580.06</b>	<b>4.61</b>	<b>162.61</b>	<b>4,568.00</b>	<b>432.00</b>	<b>-288.84</b>	<b>90.45</b>	<b>-70.87</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
4,600.00	4.61	162.61	4,587.87	412.13	-290.37	90.93	-71.24	0.00	0.00	0.00
4,700.00	4.61	162.61	4,687.55	312.45	-298.04	93.33	-73.13	0.00	0.00	0.00
4,800.00	4.61	162.61	4,787.23	212.77	-305.71	95.73	-75.01	0.00	0.00	0.00
4,900.00	4.61	162.61	4,886.90	113.10	-313.39	98.13	-76.89	0.00	0.00	0.00
5,000.00	4.61	162.61	4,986.58	13.42	-321.06	100.54	-78.77	0.00	0.00	0.00
5,100.00	4.61	162.61	5,086.26	-86.26	-328.73	102.94	-80.66	0.00	0.00	0.00
5,200.00	4.61	162.61	5,185.93	-185.93	-336.40	105.34	-82.54	0.00	0.00	0.00
5,300.00	4.61	162.61	5,285.61	-285.61	-344.07	107.74	-84.42	0.00	0.00	0.00
5,400.00	4.61	162.61	5,385.28	-385.28	-351.75	110.15	-86.30	0.00	0.00	0.00
5,500.00	4.61	162.61	5,484.96	-484.96	-359.42	112.55	-88.19	0.00	0.00	0.00
5,600.00	4.61	162.61	5,584.64	-584.64	-367.09	114.95	-90.07	0.00	0.00	0.00
5,700.00	4.61	162.61	5,684.31	-684.31	-374.76	117.35	-91.95	0.00	0.00	0.00
5,800.00	4.61	162.61	5,783.99	-783.99	-382.43	119.76	-93.83	0.00	0.00	0.00
5,900.00	4.61	162.61	5,883.67	-883.67	-390.11	122.16	-95.72	0.00	0.00	0.00
6,000.00	4.61	162.61	5,983.34	-983.34	-397.78	124.56	-97.60	0.00	0.00	0.00
6,100.00	4.61	162.61	6,083.02	-1,083.02	-405.45	126.96	-99.48	0.00	0.00	0.00
6,200.00	4.61	162.61	6,182.69	-1,182.69	-413.12	129.37	-101.36	0.00	0.00	0.00
6,300.00	4.61	162.61	6,282.37	-1,282.37	-420.79	131.77	-103.25	0.00	0.00	0.00
6,400.00	4.61	162.61	6,382.05	-1,382.05	-428.47	134.17	-105.13	0.00	0.00	0.00
6,500.00	4.61	162.61	6,481.72	-1,481.72	-436.14	136.57	-107.01	0.00	0.00	0.00
6,600.00	4.61	162.61	6,581.40	-1,581.40	-443.81	138.98	-108.89	0.00	0.00	0.00
<b>KOP (10°/100ft)</b>										
<b>6,688.27</b>	<b>4.61</b>	<b>162.61</b>	<b>6,669.38</b>	<b>-1,669.38</b>	<b>-450.58</b>	<b>141.10</b>	<b>-110.55</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
6,700.00	4.42	177.36	6,681.08	-1,681.08	-451.48	141.26	-110.66	10.00	-1.67	125.67
6,800.00	10.77	245.59	6,780.30	-1,780.30	-459.21	132.91	-101.80	10.00	6.35	68.23
<b>Sharon Springs</b>										
<b>6,874.02</b>	<b>17.77</b>	<b>255.60</b>	<b>6,852.00</b>	<b>-1,852.00</b>	<b>-464.89</b>	<b>115.64</b>	<b>-84.20</b>	<b>10.00</b>	<b>9.46</b>	<b>13.52</b>
6,900.00	20.30	257.48	6,876.56	-1,876.56	-466.85	107.40	-75.84	10.00	9.72	7.26
<b>Niobrara</b>										
<b>6,939.37</b>	<b>24.15</b>	<b>259.62</b>	<b>6,913.00</b>	<b>-1,913.00</b>	<b>-469.78</b>	<b>92.81</b>	<b>-61.08</b>	<b>10.00</b>	<b>9.79</b>	<b>5.42</b>
7,000.00	30.13	261.88	6,966.93	-1,966.93	-474.17	65.52	-33.56	10.00	9.86	3.74
7,100.00	40.04	264.25	7,048.66	-2,048.66	-480.95	8.52	23.76	10.00	9.91	2.37
7,200.00	49.98	265.81	7,119.28	-2,119.28	-486.99	-61.84	94.37	10.00	9.94	1.55
7,300.00	59.93	266.96	7,176.63	-2,176.63	-492.09	-143.45	176.13	10.00	9.96	1.16
7,400.00	69.90	267.91	7,218.98	-2,218.98	-496.11	-233.81	266.56	10.00	9.96	0.94
<b>Fort Hays</b>										
<b>7,402.99</b>	<b>70.19</b>	<b>267.93</b>	<b>7,220.00</b>	<b>-2,220.00</b>	<b>-496.21</b>	<b>-236.62</b>	<b>269.38</b>	<b>10.00</b>	<b>9.97</b>	<b>0.87</b>
<b>Codell</b>										
<b>7,494.30</b>	<b>79.30</b>	<b>268.69</b>	<b>7,244.00</b>	<b>-2,244.00</b>	<b>-498.79</b>	<b>-324.58</b>	<b>357.31</b>	<b>10.00</b>	<b>9.97</b>	<b>0.83</b>
7,500.00	79.86	268.73	7,245.03	-2,245.03	-498.92	-330.18	362.91	10.00	9.97	0.80
7,600.00	89.83	269.51	7,254.00	-2,254.00	-500.44	-429.64	462.24	10.00	9.97	0.78
<b>EP *NEW*: 2500ft FSL &amp; 914ft FEL of Sec 11</b>										
<b>7,601.67</b>	<b>90.00</b>	<b>269.52</b>	<b>7,254.00</b>	<b>-2,254.00</b>	<b>-500.45</b>	<b>-431.31</b>	<b>463.91</b>	<b>10.00</b>	<b>9.97</b>	<b>0.77</b>
7,700.00	90.00	269.52	7,254.00	-2,254.00	-501.27	-529.64	562.07	0.00	0.00	0.00
7,800.00	90.00	269.52	7,254.00	-2,254.00	-502.10	-629.64	661.90	0.00	0.00	0.00
7,900.00	90.00	269.52	7,254.00	-2,254.00	-502.93	-729.63	761.73	0.00	0.00	0.00

<b>Database:</b>	Database 1	<b>Local Co-ordinate Reference:</b>	Well CE 5-68 11-10-11H
<b>Company:</b>	BISON IV OPERATING	<b>TVD Reference:</b>	KBE @ 5000.00usft
<b>Project:</b>	LARIMER COUNTY, COLORADO (NAD 83)	<b>MD Reference:</b>	KBE @ 5000.00usft
<b>Site:</b>	SEC. 11 T5N R68W 6th P.M.	<b>North Reference:</b>	True
<b>Well:</b>	CE 5-68 11-10-11H	<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)
8,000.00	90.00	269.52	7,254.00	-2,254.00	-503.76	-829.63	861.55	0.00	0.00	0.00
8,100.00	90.00	269.52	7,254.00	-2,254.00	-504.59	-929.63	961.38	0.00	0.00	0.00
8,200.00	90.00	269.52	7,254.00	-2,254.00	-505.42	-1,029.62	1,061.21	0.00	0.00	0.00
8,300.00	90.00	269.52	7,254.00	-2,254.00	-506.25	-1,129.62	1,161.03	0.00	0.00	0.00
8,400.00	90.00	269.52	7,254.00	-2,254.00	-507.08	-1,229.62	1,260.86	0.00	0.00	0.00
8,500.00	90.00	269.52	7,254.00	-2,254.00	-507.91	-1,329.61	1,360.69	0.00	0.00	0.00
8,600.00	90.00	269.52	7,254.00	-2,254.00	-508.74	-1,429.61	1,460.51	0.00	0.00	0.00
8,700.00	90.00	269.52	7,254.00	-2,254.00	-509.57	-1,529.61	1,560.34	0.00	0.00	0.00
8,800.00	90.00	269.52	7,254.00	-2,254.00	-510.40	-1,629.60	1,660.17	0.00	0.00	0.00
8,900.00	90.00	269.52	7,254.00	-2,254.00	-511.23	-1,729.60	1,760.00	0.00	0.00	0.00
9,000.00	90.00	269.52	7,254.00	-2,254.00	-512.06	-1,829.59	1,859.82	0.00	0.00	0.00
9,100.00	90.00	269.52	7,254.00	-2,254.00	-512.89	-1,929.59	1,959.65	0.00	0.00	0.00
9,200.00	90.00	269.52	7,254.00	-2,254.00	-513.72	-2,029.59	2,059.48	0.00	0.00	0.00
9,300.00	90.00	269.52	7,254.00	-2,254.00	-514.55	-2,129.58	2,159.30	0.00	0.00	0.00
9,400.00	90.00	269.52	7,254.00	-2,254.00	-515.38	-2,229.58	2,259.13	0.00	0.00	0.00
9,500.00	90.00	269.52	7,254.00	-2,254.00	-516.21	-2,329.58	2,358.96	0.00	0.00	0.00
9,600.00	90.00	269.52	7,254.00	-2,254.00	-517.04	-2,429.57	2,458.78	0.00	0.00	0.00
9,700.00	90.00	269.52	7,254.00	-2,254.00	-517.87	-2,529.57	2,558.61	0.00	0.00	0.00
9,800.00	90.00	269.52	7,254.00	-2,254.00	-518.70	-2,629.57	2,658.44	0.00	0.00	0.00
9,900.00	90.00	269.52	7,254.00	-2,254.00	-519.53	-2,729.56	2,758.27	0.00	0.00	0.00
10,000.00	90.00	269.52	7,254.00	-2,254.00	-520.36	-2,829.56	2,858.09	0.00	0.00	0.00
10,100.00	90.00	269.52	7,254.00	-2,254.00	-521.19	-2,929.56	2,957.92	0.00	0.00	0.00
10,200.00	90.00	269.52	7,254.00	-2,254.00	-522.02	-3,029.55	3,057.75	0.00	0.00	0.00
10,300.00	90.00	269.52	7,254.00	-2,254.00	-522.85	-3,129.55	3,157.57	0.00	0.00	0.00
10,400.00	90.00	269.52	7,254.00	-2,254.00	-523.68	-3,229.55	3,257.40	0.00	0.00	0.00
10,500.00	90.00	269.52	7,254.00	-2,254.00	-524.51	-3,329.54	3,357.23	0.00	0.00	0.00
10,600.00	90.00	269.52	7,254.00	-2,254.00	-525.34	-3,429.54	3,457.05	0.00	0.00	0.00
10,700.00	90.00	269.52	7,254.00	-2,254.00	-526.17	-3,529.54	3,556.88	0.00	0.00	0.00
10,800.00	90.00	269.52	7,254.00	-2,254.00	-527.00	-3,629.53	3,656.71	0.00	0.00	0.00
10,900.00	90.00	269.52	7,254.00	-2,254.00	-527.83	-3,729.53	3,756.54	0.00	0.00	0.00
11,000.00	90.00	269.52	7,254.00	-2,254.00	-528.66	-3,829.53	3,856.36	0.00	0.00	0.00
11,100.00	90.00	269.52	7,254.00	-2,254.00	-529.49	-3,929.52	3,956.19	0.00	0.00	0.00
11,200.00	90.00	269.52	7,254.00	-2,254.00	-530.32	-4,029.52	4,056.02	0.00	0.00	0.00
11,300.00	90.00	269.52	7,254.00	-2,254.00	-531.15	-4,129.52	4,155.84	0.00	0.00	0.00
11,400.00	90.00	269.52	7,254.00	-2,254.00	-531.98	-4,229.51	4,255.67	0.00	0.00	0.00
11,500.00	90.00	269.52	7,254.00	-2,254.00	-532.81	-4,329.51	4,355.50	0.00	0.00	0.00
11,600.00	90.00	269.52	7,254.00	-2,254.00	-533.64	-4,429.51	4,455.32	0.00	0.00	0.00
11,700.00	90.00	269.52	7,254.00	-2,254.00	-534.47	-4,529.50	4,555.15	0.00	0.00	0.00
11,800.00	90.00	269.52	7,254.00	-2,254.00	-535.30	-4,629.50	4,654.98	0.00	0.00	0.00
11,900.00	90.00	269.52	7,254.00	-2,254.00	-536.13	-4,729.49	4,754.81	0.00	0.00	0.00
12,000.00	90.00	269.52	7,254.00	-2,254.00	-536.97	-4,829.49	4,854.63	0.00	0.00	0.00
12,100.00	90.00	269.52	7,254.00	-2,254.00	-537.80	-4,929.49	4,954.46	0.00	0.00	0.00
12,200.00	90.00	269.52	7,254.00	-2,254.00	-538.63	-5,029.48	5,054.29	0.00	0.00	0.00
12,300.00	90.00	269.52	7,254.00	-2,254.00	-539.46	-5,129.48	5,154.11	0.00	0.00	0.00
12,400.00	90.00	269.52	7,254.00	-2,254.00	-540.29	-5,229.48	5,253.94	0.00	0.00	0.00
12,500.00	90.00	269.52	7,254.00	-2,254.00	-541.12	-5,329.47	5,353.77	0.00	0.00	0.00
12,600.00	90.00	269.52	7,254.00	-2,254.00	-541.95	-5,429.47	5,453.59	0.00	0.00	0.00
12,700.00	90.00	269.52	7,254.00	-2,254.00	-542.78	-5,529.47	5,553.42	0.00	0.00	0.00
12,800.00	90.00	269.52	7,254.00	-2,254.00	-543.61	-5,629.46	5,653.25	0.00	0.00	0.00
12,900.00	90.00	269.52	7,254.00	-2,254.00	-544.44	-5,729.46	5,753.08	0.00	0.00	0.00
13,000.00	90.00	269.52	7,254.00	-2,254.00	-545.27	-5,829.46	5,852.90	0.00	0.00	0.00
13,100.00	90.00	269.52	7,254.00	-2,254.00	-546.10	-5,929.45	5,952.73	0.00	0.00	0.00
13,200.00	90.00	269.52	7,254.00	-2,254.00	-546.93	-6,029.45	6,052.56	0.00	0.00	0.00
13,300.00	90.00	269.52	7,254.00	-2,254.00	-547.76	-6,129.45	6,152.38	0.00	0.00	0.00

<b>Database:</b>	Database 1	<b>Local Co-ordinate Reference:</b>	Well CE 5-68 11-10-11H
<b>Company:</b>	BISON IV OPERATING	<b>TVD Reference:</b>	KBE @ 5000.00usft
<b>Project:</b>	LARIMER COUNTY, COLORADO (NAD 83)	<b>MD Reference:</b>	KBE @ 5000.00usft
<b>Site:</b>	SEC. 11 T5N R68W 6th P.M.	<b>North Reference:</b>	True
<b>Well:</b>	CE 5-68 11-10-11H	<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)
13,400.00	90.00	269.52	7,254.00	-2,254.00	-548.59	-6,229.44	6,252.21	0.00	0.00	0.00
13,500.00	90.00	269.52	7,254.00	-2,254.00	-549.42	-6,329.44	6,352.04	0.00	0.00	0.00
13,600.00	90.00	269.52	7,254.00	-2,254.00	-550.25	-6,429.44	6,451.87	0.00	0.00	0.00
13,700.00	90.00	269.52	7,254.00	-2,254.00	-551.08	-6,529.43	6,551.69	0.00	0.00	0.00
13,800.00	90.00	269.52	7,254.00	-2,254.00	-551.91	-6,629.43	6,651.52	0.00	0.00	0.00
13,900.00	90.00	269.52	7,254.00	-2,254.00	-552.74	-6,729.43	6,751.35	0.00	0.00	0.00
14,000.00	90.00	269.52	7,254.00	-2,254.00	-553.57	-6,829.42	6,851.17	0.00	0.00	0.00
14,100.00	90.00	269.52	7,254.00	-2,254.00	-554.40	-6,929.42	6,951.00	0.00	0.00	0.00
14,200.00	90.00	269.52	7,254.00	-2,254.00	-555.23	-7,029.42	7,050.83	0.00	0.00	0.00
14,300.00	90.00	269.52	7,254.00	-2,254.00	-556.06	-7,129.41	7,150.65	0.00	0.00	0.00
14,400.00	90.00	269.52	7,254.00	-2,254.00	-556.89	-7,229.41	7,250.48	0.00	0.00	0.00
14,500.00	90.00	269.52	7,254.00	-2,254.00	-557.72	-7,329.41	7,350.31	0.00	0.00	0.00
14,600.00	90.00	269.52	7,254.00	-2,254.00	-558.55	-7,429.40	7,450.14	0.00	0.00	0.00
14,700.00	90.00	269.52	7,254.00	-2,254.00	-559.38	-7,529.40	7,549.96	0.00	0.00	0.00
14,800.00	90.00	269.52	7,254.00	-2,254.00	-560.21	-7,629.39	7,649.79	0.00	0.00	0.00
14,900.00	90.00	269.52	7,254.00	-2,254.00	-561.04	-7,729.39	7,749.62	0.00	0.00	0.00
15,000.00	90.00	269.52	7,254.00	-2,254.00	-561.87	-7,829.39	7,849.44	0.00	0.00	0.00
15,100.00	90.00	269.52	7,254.00	-2,254.00	-562.70	-7,929.38	7,949.27	0.00	0.00	0.00
15,200.00	90.00	269.52	7,254.00	-2,254.00	-563.53	-8,029.38	8,049.10	0.00	0.00	0.00
15,300.00	90.00	269.52	7,254.00	-2,254.00	-564.36	-8,129.38	8,148.92	0.00	0.00	0.00
15,400.00	90.00	269.52	7,254.00	-2,254.00	-565.19	-8,229.37	8,248.75	0.00	0.00	0.00
15,500.00	90.00	269.52	7,254.00	-2,254.00	-566.02	-8,329.37	8,348.58	0.00	0.00	0.00
15,600.00	90.00	269.52	7,254.00	-2,254.00	-566.85	-8,429.37	8,448.41	0.00	0.00	0.00
<b>BHL: 2498ft FSL &amp; 1700ft FWL of Sec 10</b>										
<b>15,602.20</b>	<b>90.00</b>	<b>269.52</b>	<b>7,254.00</b>	<b>-2,254.00</b>	<b>-566.86</b>	<b>-8,431.57</b>	<b>8,450.60</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

Formations						
MD (usft)	TVD (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
534.00	534.00	Upper Pierre				
1,034.59	1,034.00	Pierre				
3,532.67	3,524.00	Parkman				
4,129.60	4,119.00	Sussex				
4,580.06	4,568.00	Shannon				
6,874.02	6,852.00	Sharon Springs				
6,939.37	6,913.00	Niobrara				
7,402.99	7,220.00	Fort Hays				
7,494.30	7,244.00	Codell				

<b>Database:</b>	Database 1	<b>Local Co-ordinate Reference:</b>	Well CE 5-68 11-10-11H
<b>Company:</b>	BISON IV OPERATING	<b>TVD Reference:</b>	KBE @ 5000.00usft
<b>Project:</b>	LARIMER COUNTY, COLORADO (NAD 83)	<b>MD Reference:</b>	KBE @ 5000.00usft
<b>Site:</b>	SEC. 11 T5N R68W 6th P.M.	<b>North Reference:</b>	True
<b>Well:</b>	CE 5-68 11-10-11H	<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	2284ft FNL & 489ft FEL of Sec 11
700.00	700.00	0.00	0.00	START NUDGE (2°/100ft)
930.56	930.31	-8.85	2.77	EOB TO 4.61° INC
6,688.27	6,669.38	-450.58	141.10	KOP (10°/100ft)
7,601.67	7,254.00	-500.45	-431.31	EP *NEW*: 2500ft FSL & 914ft FEL of Sec 11
15,602.20	7,254.00	-566.86	-8,431.57	BHL: 2498ft FSL & 1700ft FWL of Sec 10