

BONANZA CREEK ENERGY INC.

WELD COUNTY, COLORADO (NAD 83)

NW NE SEC. 22 T5N R63W 6th P.M.

NORTH PLATTE FEDERAL P31-T34-22HC

ORIGINAL WELLBORE

06 October, 2016

Plan: PROPOSAL #4





Project: WELD COUNTY, COLORADO (NAD 83)
 Site: NW NE SEC. 22 T5N R63W 6th P.M.
 Well: NORTH PLATTE FEDERAL P31-T34-22HC
 Wellbore: ORIGINAL WELLBORE
 Design: PROPOSAL #4

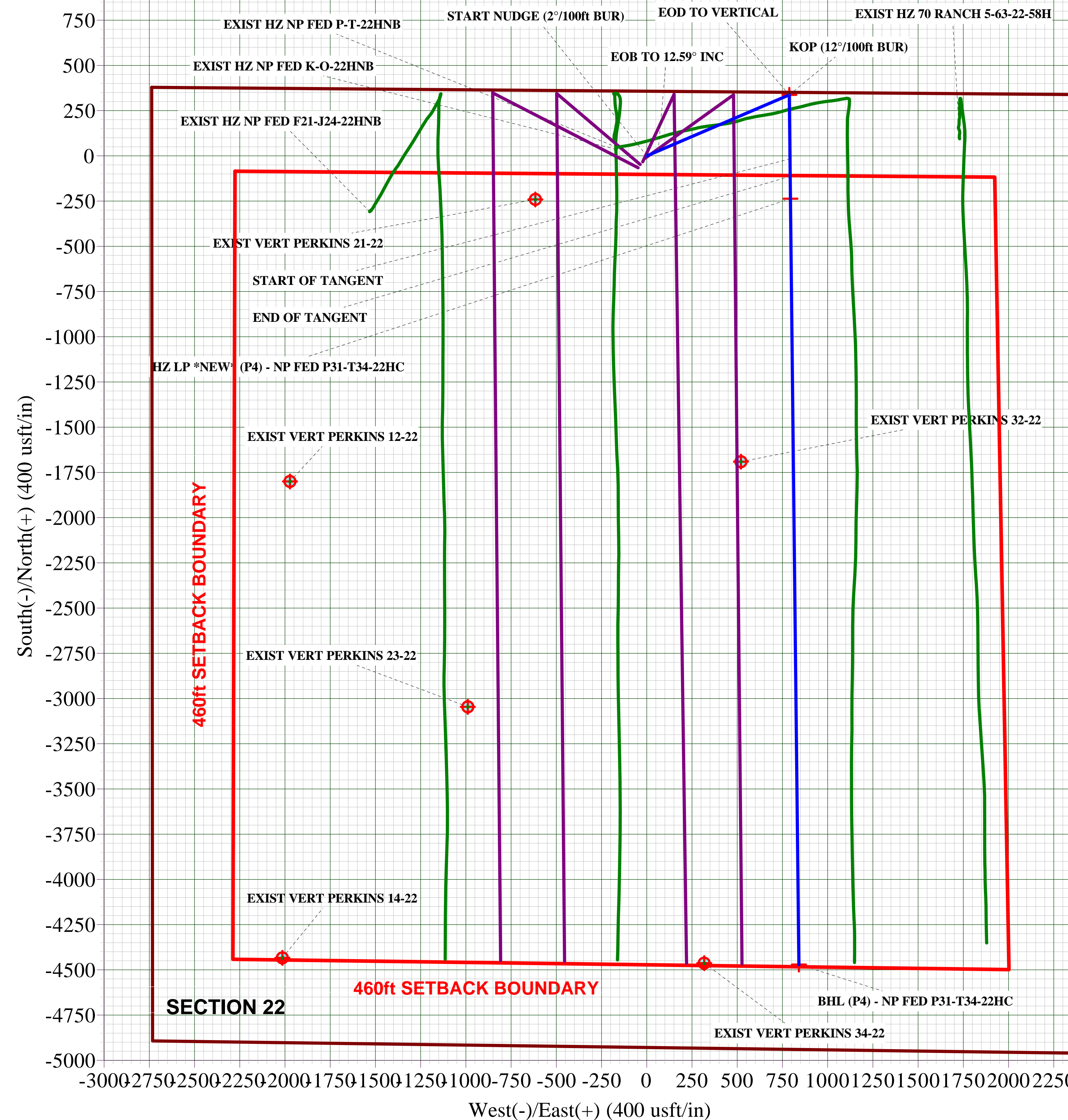
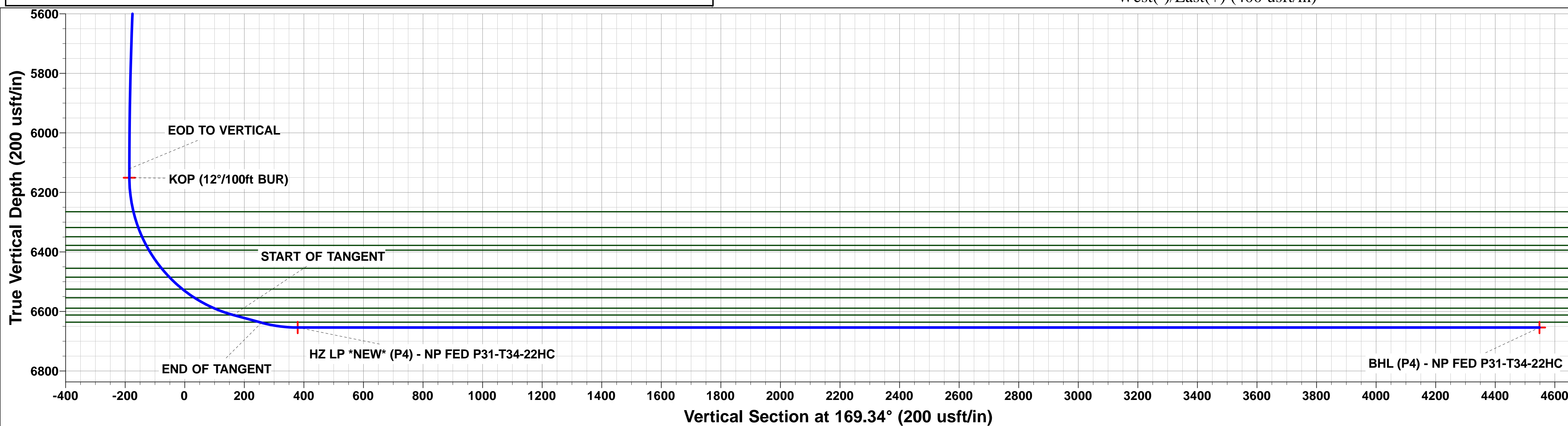
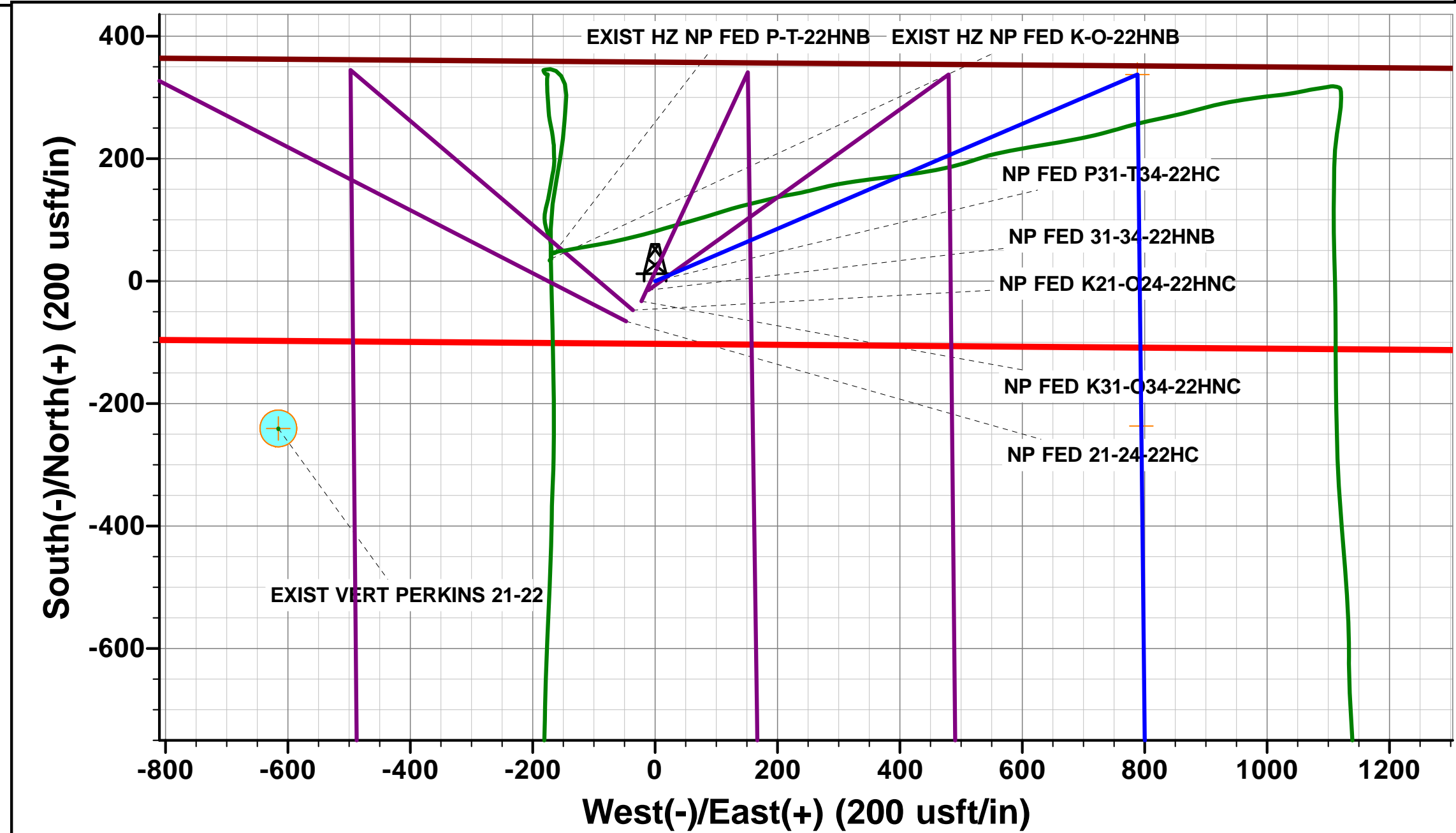
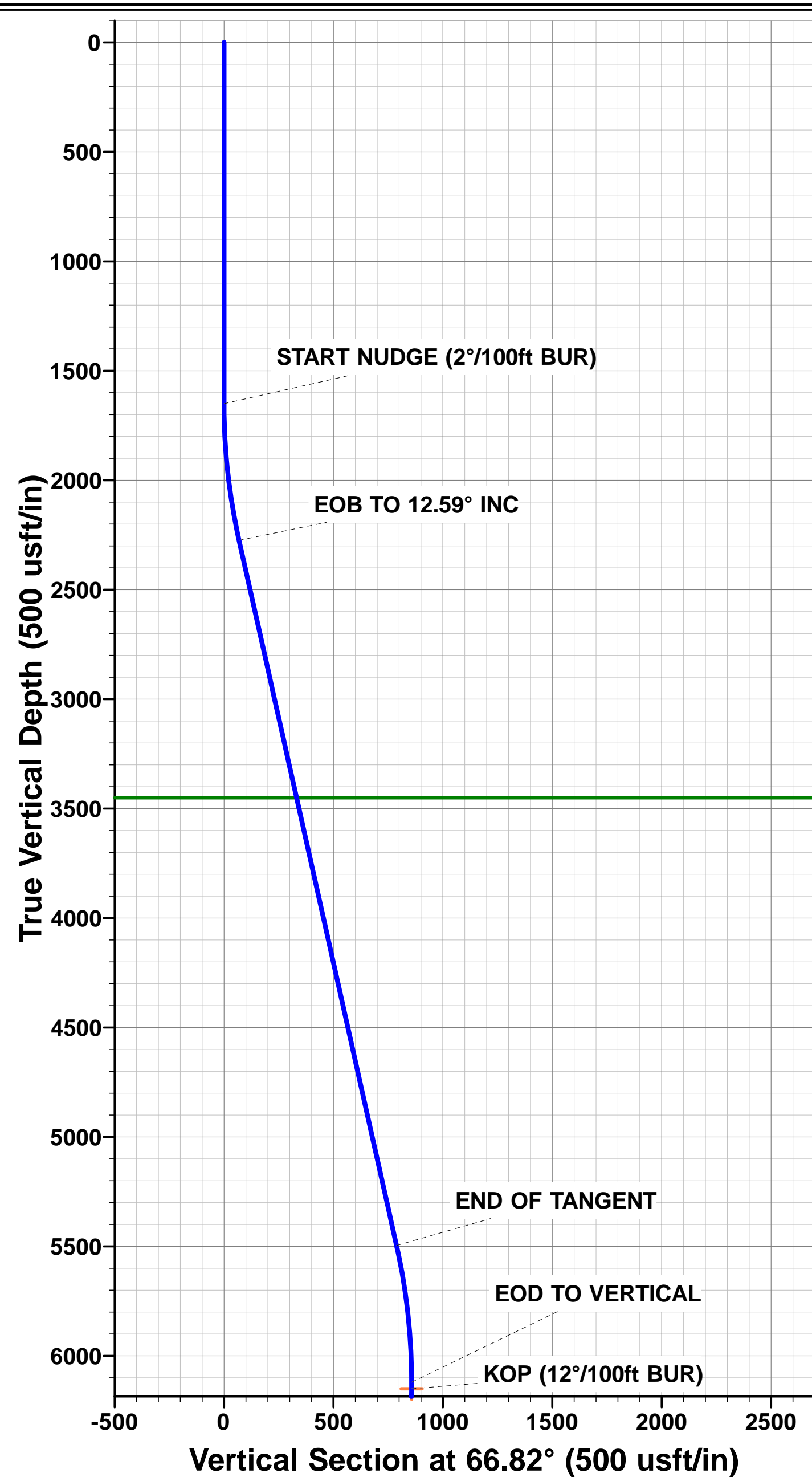
ANNOTATIONS

TVD	MD	Inc	Azi	+N/-S	+E/-W	Vsect	Dep	Annotation
1650.0	1650.0	0.00	0.00	0.0	0.0	0.0	0.0	START NUDDGE (2°/100ft BUR)
2274.5	2279.6	12.59	66.82	27.1	63.3	-14.9	68.9	EOB TO 12.59° INC
5496.2	5580.6	12.59	66.82	310.4	724.9	-170.9	788.5	END OF TANGENT
6120.7	6210.2	0.00	0.00	337.5	788.2	-185.9	857.4	EOD TO VERTICAL
6150.7	6240.2	0.00	0.00	337.5	788.2	-185.9	857.4	KOP (12°/100ft BUR)
6611.9	6865.2	75.00	179.37	-16.4	792.1	162.6	1211.3	START OF TANGENT
6637.8	6965.2	75.00	179.37	-113.0	793.2	257.7	1307.9	END OF TANGENT
6654.0	7090.2	90.00	179.37	-236.5	794.5	379.4	1431.5	HZ LP *NEW* (P4) - NP FED P31-T34-22HC
6654.0	11324.0	90.00	179.36	-4470.1	841.4	4548.6	5665.3	BHL (P4) - NP FED P31-T34-22HC

PROPOSED LOCAL COORDINATES:
 SHL: 357ft FNL & 2392ft FEL Sec 22
 HZ LP *NEW*: 589ft FNL & 1600ft FEL Sec 22
 BHL: 470ft FSL & 1630ft FEL Sec 22

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
KOP (P4) - NP FED P31-T34-22HC	6150.7	337.5	788.2	40.392056	-104.418490
BHL (P4) - NP FED P31-T34-22HC	6654.0	-4470.1	841.4	40.378860	-104.418300
HZ LP *NEW* (P4) - NP FED P31-T34-22HC	6654.0	-236.5	794.5	40.390481	-104.418468





Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well NORTH PLATTE FEDERAL P31-T34-22HC
Company:	BONANZA CREEK ENERGY INC.	TVD Reference:	KB-EST @ 4664.0usft (Original Well Elev)
Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB-EST @ 4664.0usft (Original Well Elev)
Site:	NW NE SEC. 22 T5N R63W 6th P.M.	North Reference:	True
Well:	NORTH PLATTE FEDERAL P31-T34-22HC	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #4		

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 NE SEC. 22 T5N R63W 6th P.M.				
Site Position:		Northing:	1,386,960.17 usft	Latitude:	40.390590
From:	Lat/Long	Easting:	3,300,476.11 usft	Longitude:	-104.421254
Position Uncertainty:	0.0 usft	Slot Radius:	1.10000ft	Grid Convergence:	0.70 °

Well	NORTH PLATTE FEDERAL P31-T34-22HC					
Well Position	+N/-S	196.6 usft	Northing:	1,387,156.53 usft	Latitude:	40.391130
	+E/-W	-18.3 usft	Easting:	3,300,455.45 usft	Longitude:	-104.421320
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level:	4,647.0 usft

Wellbore	ORIGINAL WELLBORE				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	07/09/2016	8.11	66.92	52,513

Design	PROPOSAL #4			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	169.34

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	-4,664.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,650.0	0.00	0.00	1,650.0	-3,014.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,279.6	12.59	66.82	2,274.5	-2,389.5	27.1	63.3	2.00	2.00	0.00	66.82	
5,580.6	12.59	66.82	5,496.2	832.2	310.4	724.9	0.00	0.00	0.00	0.00	
6,210.2	0.00	0.00	6,120.7	1,456.7	337.5	788.2	2.00	-2.00	0.00	180.00	
6,240.2	0.00	0.00	6,150.7	1,486.7	337.5	788.2	0.00	0.00	0.00	0.00	KOP (P4) - NP FEC
6,865.2	75.00	179.37	6,611.9	1,947.9	-16.4	792.1	12.00	12.00	0.00	179.37	
6,965.2	75.00	179.37	6,637.8	1,973.8	-113.0	793.2	0.00	0.00	0.00	0.00	
7,090.2	90.00	179.37	6,654.0	1,990.0	-236.5	794.5	12.00	12.00	0.00	0.00	
11,324.0	90.00	179.36	6,654.0	1,990.0	-4,470.1	841.4	0.00	0.00	0.00	-82.01	BHL (P4) - NP FED



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Site:	NW NE SEC. 22 T5N R63W 6th P.M.	North Reference:	True
Well:	NORTH PLATTE FEDERAL P31-T34-22HC	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #4		

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)
0.0	0.00	0.00	0.0	4,664.00	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	4,564.00	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	4,464.00	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	4,364.00	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	4,264.00	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	4,164.00	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	4,064.00	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	3,964.00	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	3,864.00	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	3,764.00	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	3,664.00	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	3,564.00	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	3,464.00	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	3,364.00	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	3,264.00	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	3,164.00	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	3,064.00	0.0	0.0	0.0	0.00	0.00	0.00
START NUDGE (2°/100ft BUR)										
1,650.0	0.00	0.00	1,650.0	3,014.00	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	1.00	66.82	1,700.0	2,964.00	0.2	0.4	-0.1	2.00	2.00	0.00
1,800.0	3.00	66.82	1,799.9	2,864.07	1.5	3.6	-0.9	2.00	2.00	0.00
1,900.0	5.00	66.82	1,899.7	2,764.32	4.3	10.0	-2.4	2.00	2.00	0.00
2,000.0	7.00	66.82	1,999.1	2,664.87	8.4	19.6	-4.6	2.00	2.00	0.00
2,100.0	9.00	66.82	2,098.2	2,565.85	13.9	32.4	-7.6	2.00	2.00	0.00
2,200.0	11.00	66.82	2,196.6	2,467.37	20.7	48.4	-11.4	2.00	2.00	0.00
EOB TO 12.59° INC										
2,279.6	12.59	66.82	2,274.5	2,389.46	27.1	63.3	-14.9	2.00	2.00	0.00
2,300.0	12.59	66.82	2,294.5	2,369.55	28.9	67.4	-15.9	0.00	0.00	0.00
2,400.0	12.59	66.82	2,392.0	2,271.95	37.5	87.5	-20.6	0.00	0.00	0.00
2,500.0	12.59	66.82	2,489.6	2,174.36	46.0	107.5	-25.4	0.00	0.00	0.00
2,600.0	12.59	66.82	2,587.2	2,076.76	54.6	127.6	-30.1	0.00	0.00	0.00
2,700.0	12.59	66.82	2,684.8	1,979.17	63.2	147.6	-34.8	0.00	0.00	0.00
2,800.0	12.59	66.82	2,782.4	1,881.57	71.8	167.6	-39.5	0.00	0.00	0.00
2,900.0	12.59	66.82	2,880.0	1,783.98	80.4	187.7	-44.3	0.00	0.00	0.00
3,000.0	12.59	66.82	2,977.6	1,686.38	88.9	207.7	-49.0	0.00	0.00	0.00
3,100.0	12.59	66.82	3,075.2	1,588.79	97.5	227.7	-53.7	0.00	0.00	0.00
3,200.0	12.59	66.82	3,172.8	1,491.19	106.1	247.8	-58.4	0.00	0.00	0.00
3,300.0	12.59	66.82	3,270.4	1,393.60	114.7	267.8	-63.2	0.00	0.00	0.00
3,400.0	12.59	66.82	3,368.0	1,296.00	123.3	287.9	-67.9	0.00	0.00	0.00
PARKMAN										
3,485.0	12.59	66.82	3,451.0	1,213.00	130.6	304.9	-71.9	0.00	0.00	0.00
3,500.0	12.59	66.82	3,465.6	1,198.41	131.8	307.9	-72.6	0.00	0.00	0.00
3,600.0	12.59	66.82	3,563.2	1,100.81	140.4	327.9	-77.3	0.00	0.00	0.00
3,700.0	12.59	66.82	3,660.8	1,003.22	149.0	348.0	-82.1	0.00	0.00	0.00
3,800.0	12.59	66.82	3,758.4	905.62	157.6	368.0	-86.8	0.00	0.00	0.00
3,900.0	12.59	66.82	3,856.0	808.03	166.2	388.1	-91.5	0.00	0.00	0.00
4,000.0	12.59	66.82	3,953.6	710.43	174.7	408.1	-96.2	0.00	0.00	0.00
4,100.0	12.59	66.82	4,051.2	612.84	183.3	428.1	-101.0	0.00	0.00	0.00
4,200.0	12.59	66.82	4,148.8	515.24	191.9	448.2	-105.7	0.00	0.00	0.00
4,300.0	12.59	66.82	4,246.4	417.65	200.5	468.2	-110.4	0.00	0.00	0.00
4,400.0	12.59	66.82	4,343.9	320.05	209.1	488.3	-115.1	0.00	0.00	0.00
4,500.0	12.59	66.82	4,441.5	222.46	217.7	508.3	-119.9	0.00	0.00	0.00
4,600.0	12.59	66.82	4,539.1	124.86	226.2	528.3	-124.6	0.00	0.00	0.00



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Well:	NORTH PLATTE FEDERAL P31-T34-22HC	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #4		

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)
4,700.0	12.59	66.82	4,636.7	27.27	234.8	548.4	-129.3	0.00	0.00	0.00
4,800.0	12.59	66.82	4,734.3	-70.33	243.4	568.4	-134.0	0.00	0.00	0.00
4,900.0	12.59	66.82	4,831.9	-167.92	252.0	588.5	-138.8	0.00	0.00	0.00
5,000.0	12.59	66.82	4,929.5	-265.52	260.6	608.5	-143.5	0.00	0.00	0.00
5,100.0	12.59	66.82	5,027.1	-363.11	269.1	628.5	-148.2	0.00	0.00	0.00
5,200.0	12.59	66.82	5,124.7	-460.71	277.7	648.6	-152.9	0.00	0.00	0.00
5,300.0	12.59	66.82	5,222.3	-558.30	286.3	668.6	-157.7	0.00	0.00	0.00
5,400.0	12.59	66.82	5,319.9	-655.90	294.9	688.7	-162.4	0.00	0.00	0.00
5,500.0	12.59	66.82	5,417.5	-753.49	303.5	708.7	-167.1	0.00	0.00	0.00
END OF TANGENT										
5,580.6	12.59	66.82	5,496.2	-832.15	310.4	724.9	-170.9	0.00	0.00	0.00
5,600.0	12.20	66.82	5,515.1	-851.10	312.0	728.7	-171.8	2.00	-2.00	0.00
5,700.0	10.20	66.82	5,613.2	-949.19	319.7	746.5	-176.1	2.00	-2.00	0.00
5,800.0	8.20	66.82	5,711.9	-1,047.90	326.0	761.2	-179.5	2.00	-2.00	0.00
5,900.0	6.20	66.82	5,811.1	-1,147.10	330.9	772.8	-182.2	2.00	-2.00	0.00
6,000.0	4.20	66.82	5,910.7	-1,246.69	334.5	781.1	-184.2	2.00	-2.00	0.00
6,100.0	2.20	66.82	6,010.5	-1,346.52	336.7	786.3	-185.4	2.00	-2.00	0.00
6,200.0	0.20	66.82	6,110.5	-1,446.50	337.5	788.2	-185.9	2.00	-2.00	0.00
EOD TO VERTICAL										
6,210.2	0.00	0.00	6,120.7	-1,456.70	337.5	788.2	-185.9	2.00	-2.00	-655.10
KOP (12°/100ft BUR)										
6,240.2	0.00	0.00	6,150.7	-1,486.70	337.5	788.2	-185.9	0.00	0.00	0.00
6,300.0	7.18	179.37	6,210.3	-1,546.34	333.8	788.2	-182.2	12.00	12.00	0.00
SHARON SPRINGS										
6,355.6	13.85	179.37	6,265.0	-1,601.00	323.6	788.4	-172.2	12.00	12.00	0.00
6,400.0	19.18	179.37	6,307.5	-1,643.53	311.0	788.5	-159.8	12.00	12.00	0.00
SHARON SPRINGS "A"										
6,411.1	20.51	179.37	6,318.0	-1,654.00	307.2	788.5	-156.1	12.00	12.00	0.00
SHARON SPRINGS "B"										
6,444.7	24.54	179.37	6,349.0	-1,685.00	294.4	788.7	-143.4	12.00	12.00	0.00
NIOBRARA "A" CHALK										
6,477.1	28.43	179.37	6,378.0	-1,714.00	279.9	788.8	-129.2	12.00	12.00	0.00
NIOBRARA "A" MARL										
6,495.5	30.63	179.37	6,394.0	-1,730.00	270.9	788.9	-120.3	12.00	12.00	0.00
6,500.0	31.18	179.37	6,397.9	-1,733.87	268.6	789.0	-118.0	12.00	12.00	0.00
NIOBRARA "B" CHALK										
6,570.1	39.59	179.37	6,455.0	-1,791.00	228.0	789.4	-78.0	12.00	12.00	0.00
6,600.0	43.18	179.37	6,477.4	-1,813.40	208.2	789.6	-58.6	12.00	12.00	0.00
NIOBRARA "B" MARL										
6,610.5	44.44	179.37	6,485.0	-1,821.00	200.9	789.7	-51.4	12.00	12.00	0.00
NIOBRARA "C" CHALK										
6,670.4	51.62	179.37	6,525.0	-1,861.00	156.5	790.2	-7.6	12.00	12.00	0.00
6,700.0	55.18	179.37	6,542.7	-1,878.65	132.7	790.5	15.8	12.00	12.00	0.00
NIOBRARA "C" MARL										
6,720.5	57.64	179.37	6,554.0	-1,890.00	115.6	790.6	32.6	12.00	12.00	0.00
BASE "C" MARL										
6,795.5	66.63	179.37	6,589.0	-1,925.00	49.4	791.4	97.8	12.00	12.00	0.00
6,800.0	67.18	179.37	6,590.8	-1,926.78	45.3	791.4	101.9	12.00	12.00	0.00
START OF TANGENT										
6,865.2	75.00	179.37	6,611.9	-1,947.90	-16.4	792.1	162.6	12.00	12.00	0.00
FT HAYS										



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Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB-EST @ 4664.0usft (Original Well Elev)
Site:	NW NE SEC. 22 T5N R63W 6th P.M.	North Reference:	True
Well:	NORTH PLATTE FEDERAL P31-T34-22HC	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #4		

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)
6,865.6	75.00	179.37	6,612.0	-1,948.00	-16.8	792.1	163.0	0.07	0.07	0.00
6,900.0	75.00	179.37	6,620.9	-1,956.90	-50.0	792.5	195.7	0.00	0.00	0.00
CODELL										
6,958.3	75.00	179.37	6,636.0	-1,972.00	-106.3	793.1	251.2	0.00	0.00	0.00
END OF TANGENT										
6,965.2	75.00	179.37	6,637.8	-1,973.78	-113.0	793.2	257.7	0.00	0.00	0.00
7,000.0	79.18	179.37	6,645.6	-1,981.55	-146.9	793.5	291.1	12.00	12.00	0.00
HZ LP *NEW* (P4) - NP FED P31-T34-22HC										
7,090.2	90.00	179.37	6,654.0	-1,990.05	-236.5	794.5	379.4	12.00	12.00	0.00
7,100.0	90.00	179.37	6,654.0	-1,990.05	-246.3	794.6	389.1	0.00	0.00	0.00
7,200.0	90.00	179.37	6,654.0	-1,990.05	-346.3	795.7	487.5	0.00	0.00	0.00
7,300.0	90.00	179.37	6,654.0	-1,990.05	-446.3	796.8	586.0	0.00	0.00	0.00
7,400.0	90.00	179.37	6,654.0	-1,990.05	-546.3	797.9	684.5	0.00	0.00	0.00
7,500.0	90.00	179.37	6,654.0	-1,990.05	-646.3	799.0	782.9	0.00	0.00	0.00
7,600.0	90.00	179.37	6,654.0	-1,990.05	-746.3	800.1	881.4	0.00	0.00	0.00
7,700.0	90.00	179.37	6,654.0	-1,990.05	-846.3	801.2	979.9	0.00	0.00	0.00
7,800.0	90.00	179.37	6,654.0	-1,990.05	-946.3	802.3	1,078.4	0.00	0.00	0.00
7,900.0	90.00	179.37	6,654.0	-1,990.05	-1,046.3	803.4	1,176.8	0.00	0.00	0.00
8,000.0	90.00	179.37	6,654.0	-1,990.04	-1,146.3	804.5	1,275.3	0.00	0.00	0.00
8,100.0	90.00	179.37	6,654.0	-1,990.04	-1,246.3	805.6	1,373.8	0.00	0.00	0.00
8,200.0	90.00	179.37	6,654.0	-1,990.04	-1,346.3	806.7	1,472.3	0.00	0.00	0.00
8,300.0	90.00	179.37	6,654.0	-1,990.04	-1,446.2	807.8	1,570.7	0.00	0.00	0.00
8,400.0	90.00	179.37	6,654.0	-1,990.04	-1,546.2	808.9	1,669.2	0.00	0.00	0.00
8,500.0	90.00	179.37	6,654.0	-1,990.04	-1,646.2	810.1	1,767.7	0.00	0.00	0.00
8,600.0	90.00	179.37	6,654.0	-1,990.04	-1,746.2	811.2	1,866.1	0.00	0.00	0.00
8,700.0	90.00	179.37	6,654.0	-1,990.04	-1,846.2	812.3	1,964.6	0.00	0.00	0.00
8,800.0	90.00	179.37	6,654.0	-1,990.04	-1,946.2	813.4	2,063.1	0.00	0.00	0.00
8,900.0	90.00	179.37	6,654.0	-1,990.04	-2,046.2	814.5	2,161.6	0.00	0.00	0.00
9,000.0	90.00	179.37	6,654.0	-1,990.04	-2,146.2	815.6	2,260.0	0.00	0.00	0.00
9,100.0	90.00	179.37	6,654.0	-1,990.04	-2,246.2	816.7	2,358.5	0.00	0.00	0.00
9,200.0	90.00	179.37	6,654.0	-1,990.04	-2,346.2	817.8	2,457.0	0.00	0.00	0.00
9,300.0	90.00	179.37	6,654.0	-1,990.03	-2,446.2	818.9	2,555.5	0.00	0.00	0.00
9,400.0	90.00	179.37	6,654.0	-1,990.03	-2,546.2	820.0	2,653.9	0.00	0.00	0.00
9,500.0	90.00	179.36	6,654.0	-1,990.03	-2,646.2	821.1	2,752.4	0.00	0.00	0.00
9,600.0	90.00	179.36	6,654.0	-1,990.03	-2,746.2	822.2	2,850.9	0.00	0.00	0.00
9,700.0	90.00	179.36	6,654.0	-1,990.03	-2,846.2	823.3	2,949.3	0.00	0.00	0.00
9,800.0	90.00	179.36	6,654.0	-1,990.03	-2,946.2	824.4	3,047.8	0.00	0.00	0.00
9,900.0	90.00	179.36	6,654.0	-1,990.03	-3,046.1	825.6	3,146.3	0.00	0.00	0.00
10,000.0	90.00	179.36	6,654.0	-1,990.02	-3,146.1	826.7	3,244.8	0.00	0.00	0.00
10,100.0	90.00	179.36	6,654.0	-1,990.02	-3,246.1	827.8	3,343.2	0.00	0.00	0.00
10,200.0	90.00	179.36	6,654.0	-1,990.02	-3,346.1	828.9	3,441.7	0.00	0.00	0.00
10,300.0	90.00	179.36	6,654.0	-1,990.02	-3,446.1	830.0	3,540.2	0.00	0.00	0.00
10,400.0	90.00	179.36	6,654.0	-1,990.02	-3,546.1	831.1	3,638.7	0.00	0.00	0.00
10,500.0	90.00	179.36	6,654.0	-1,990.02	-3,646.1	832.2	3,737.1	0.00	0.00	0.00
10,600.0	90.00	179.36	6,654.0	-1,990.01	-3,746.1	833.3	3,835.6	0.00	0.00	0.00
10,700.0	90.00	179.36	6,654.0	-1,990.01	-3,846.1	834.4	3,934.1	0.00	0.00	0.00
10,800.0	90.00	179.36	6,654.0	-1,990.01	-3,946.1	835.6	4,032.6	0.00	0.00	0.00
10,900.0	90.00	179.36	6,654.0	-1,990.01	-4,046.1	836.7	4,131.0	0.00	0.00	0.00
11,000.0	90.00	179.36	6,654.0	-1,990.01	-4,146.1	837.8	4,229.5	0.00	0.00	0.00
11,100.0	90.00	179.36	6,654.0	-1,990.00	-4,246.1	838.9	4,328.0	0.00	0.00	0.00
11,200.0	90.00	179.36	6,654.0	-1,990.00	-4,346.1	840.0	4,426.5	0.00	0.00	0.00
11,300.0	90.00	179.36	6,654.0	-1,990.00	-4,446.1	841.1	4,524.9	0.00	0.00	0.00



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well NORTH PLATTE FEDERAL P31-T34-22HC
Company:	BONANZA CREEK ENERGY INC.	TVD Reference:	KB-EST @ 4664.0usft (Original Well Elev)
Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB-EST @ 4664.0usft (Original Well Elev)
Site:	NW NE SEC. 22 T5N R63W 6th P.M.	North Reference:	True
Well:	NORTH PLATTE FEDERAL P31-T34-22HC	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #4		

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)
BHL (P4) - NP FED P31-T34-22HC										
11,324.0	90.00	179.36	6,654.0	-1,990.00	-4,470.1	841.4	4,548.6	0.00	0.00	0.00

Formations

MD (usft)	TVD (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,485.0	3,451.0	PARKMAN		0.00	
6,355.6	6,265.0	SHARON SPRINGS		0.00	
6,411.1	6,318.0	SHARON SPRINGS "A"		0.00	
6,444.7	6,349.0	SHARON SPRINGS "B"		0.00	
6,477.1	6,378.0	NIOBRARA "A" CHALK		0.00	
6,495.5	6,394.0	NIOBRARA "A" MARL		0.00	
6,570.1	6,455.0	NIOBRARA "B" CHALK		0.00	
6,610.5	6,485.0	NIOBRARA "B" MARL		0.00	
6,670.4	6,525.0	NIOBRARA "C" CHALK		0.00	
6,720.5	6,554.0	NIOBRARA "C" MARL		0.00	
6,795.5	6,589.0	BASE "C" MARL		0.00	
6,865.6	6,612.0	FT HAYS		0.00	
6,958.3	6,636.0	CODELL		0.00	

Plan Annotations

MD (usft)	TVD (usft)	Local Coordinates		Comment
		+N-S (usft)	+E-W (usft)	
1,650.0	1,650.0	0.0	0.0	START NUDGE (2°/100ft BUR)
2,279.6	2,274.5	27.1	63.3	EOB TO 12.59° INC
5,580.6	5,496.2	310.4	724.9	END OF TANGENT
6,210.2	6,120.7	337.5	788.2	EOD TO VERTICAL
6,240.2	6,150.7	337.5	788.2	KOP (12°/100ft BUR)
6,865.2	6,611.9	-16.4	792.1	START OF TANGENT
6,965.2	6,637.8	-113.0	793.2	END OF TANGENT
7,090.2	6,654.0	-236.5	794.5	HZ LP *NEW* (P4) - NP FED P31-T34-22HC
11,324.0	6,654.0	-4,470.1	841.4	BHL (P4) - NP FED P31-T34-22HC