

BONANZA CREEK ENERGY

WELD COUNTY

SEC 5-T5N-R61W

PRONGHORN K-5 31W-10-08

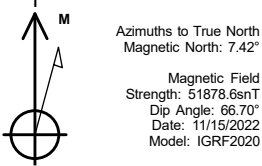
OWB

Plan: PROPOSAL 1

Standard Planning Report

15 November, 2022

Project: WELD COUNTY
Site: SEC 5-T5N-R61W
Well: PRONGHORN K-5 31W-10-08
Wellbore: OWB
Design: PROPOSAL 1



WELL DETAILS: PRONGHORN K-5 31W-10-08						
			4659.00			
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	1404422.07	3353133.78	40.436606°N	104.231334°W	

ANNOTATIONS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	VSect	Departure	Annotation	
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	Start Build 2.00	
1940.05	36.80	295.65	1816.12	247.08	-514.66	552.86	570.89	Start 5015.20 hold at 1940.05 MD	
6955.25	36.80	295.65	5831.88	1547.32	-3223.01	3462.23	3575.19	Start DLS 10.00 TFO -31.22	
7529.14	90.00	269.76	6083.00	1627.31	-3705.98	3951.54	4068.25	Start 4415.55 hold at 7529.14 MD	
11944.68	90.00	269.76	6083.00	1608.69	-8121.49	8279.28	8483.79	TD at 11944.68	

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	
3	1940.05	36.80	295.65	1816.12	247.08	-514.66	2.00	295.65	552.86	
4	6955.25	36.80	295.65	5831.88	1547.32	-3223.01	0.00	0.00	3462.23	
5	7529.14	90.00	269.76	6083.00	1627.31	-3705.98	10.00	-31.22	3951.54	LP-PRONGHORN K-5 31W-10-08
6	11944.68	90.00	269.76	6083.00	1608.69	-8121.49	0.00	0.00	8279.28	PBHL-PRONGHORN K-5 31W-10-08

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
LP-PRONGHORN K-5 31W-10-08	6083.00	1627.31	-3705.98	1405996.13	3349405.04	40.441072°N	104.244648°W	Point
- plan hits target center								
PBHL-PRONGHORN K-5 31W-10-08	6083.00	1608.69	-8121.49	1405914.35	3344990.42	40.441018°N	104.260511°W	Point
- plan hits target center								

SHL:
306' FNL, 2131' FEL
Sec 5-T5N-R61W

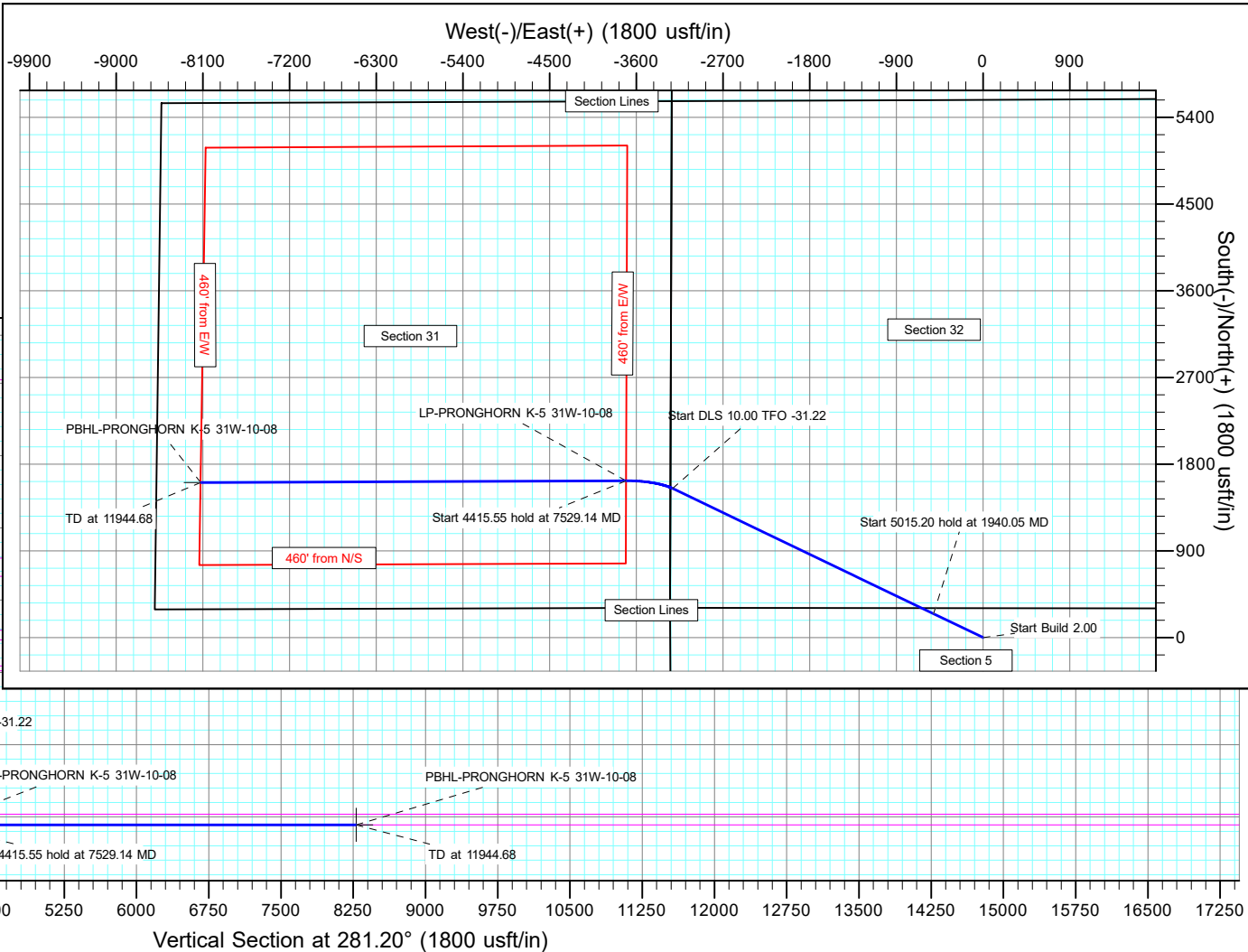
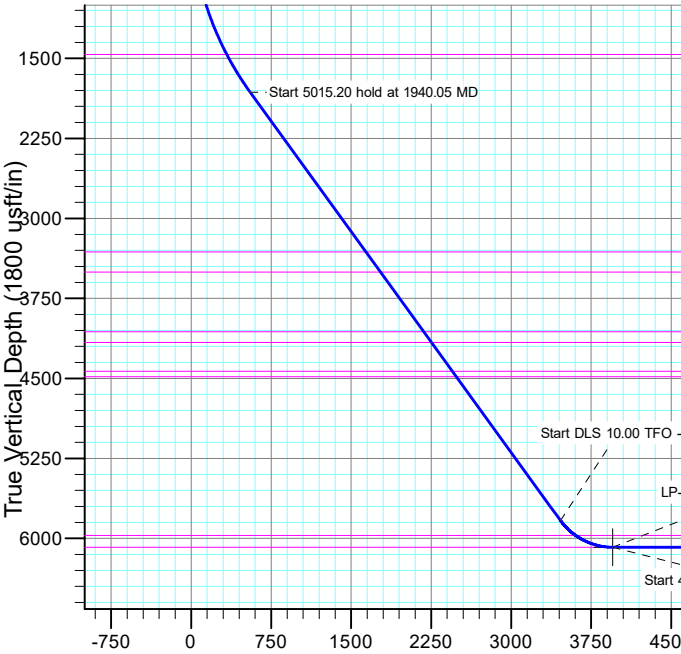
LP:
1320' FSL, 460' FEL
Sec 31-T5N-R61W

BHL:
1315' FSL, 460' FWL
Sec 31-T5N-R61W

PROJECT DETAILS: WELD COUNTY

Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: Colorado Northern Zone

System Datum: Mean Sea Level



Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well PRONGHORN K-5 31W-10-08
Company:	BONANZA CREEK ENERGY	TVD Reference:	KB 25' @ 4684.00usft
Project:	WELD COUNTY	MD Reference:	KB 25' @ 4684.00usft
Site:	SEC 5-T5N-R61W	North Reference:	True
Well:	PRONGHORN K-5 31W-10-08	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PROPOSAL 1		

Project	WELD COUNTY		
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		SEC 5-T5N-R61W			
Site Position:		Northing:	1,404,755.71 usft	Latitude:	40.437438°N
From:	Lat/Long	Easting:	3,355,259.77 usft	Longitude:	104.223680°W
Position Uncertainty:	0.00 usft	Slot Radius:	13.200 in	Grid Convergence:	0.82 °

Well	PRONGHORN K-5 31W-10-08					
Well Position	+N/-S	-303.02 usft	Northing:	1,404,422.07 usft	Latitude:	40.436606°N
	+E/-W	-2,130.65 usft	Easting:	3,353,133.79 usft	Longitude:	104.231334°W
Position Uncertainty		0.00 usft	Wellhead Elevation:		Ground Level:	4,659.00 usft

Wellbore	OWB				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	11/15/2022	7.42	66.70	51,878.60183758

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 (°)
	0.00	0.00	0.00	281.20

Plan Survey Tool Program	Date	11/15/2022		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	11,944.68	PROPOSAL 1 (OWB)	MWD OWSG
				OWSG MWD - Standard

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,940.05	36.80	295.65	1,816.12	247.08	-514.66	2.00	2.00	0.00	295.65	
6,955.25	36.80	295.65	5,831.88	1,547.32	-3,223.01	0.00	0.00	0.00	0.00	
7,529.14	90.00	269.76	6,083.00	1,627.31	-3,705.98	10.00	9.27	-4.51	-31.22	LP-PRONGHORN K-5
11,944.68	90.00	269.76	6,083.00	1,608.69	-8,121.49	0.00	0.00	0.00	0.00	PBHL-PRONGHORN

Planning Report

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Company:	BONANZA CREEK ENERGY	TVD Reference:	KB 25' @ 4684.00usft
Project:	WELD COUNTY	MD Reference:	KB 25' @ 4684.00usft
Site:	SEC 5-T5N-R61W	North Reference:	True
Well:	PRONGHORN K-5 31W-10-08	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PROPOSAL 1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24.00	0.00	0.00	24.00	0.00	0.00	0.00	0.00	0.00	0.00
Laramie-Fox Hills Formation									
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2.00									
200.00	2.00	295.65	199.98	0.76	-1.57	1.69	2.00	2.00	0.00
208.03	2.16	295.65	208.00	0.88	-1.84	1.97	2.00	2.00	0.00
Pierre Formation									
300.00	4.00	295.65	299.84	3.02	-6.29	6.76	2.00	2.00	0.00
400.00	6.00	295.65	399.45	6.79	-14.15	15.20	2.00	2.00	0.00
443.82	6.88	295.65	443.00	8.92	-18.58	19.96	2.00	2.00	0.00
Upper Pierre aquifer									
500.00	8.00	295.65	498.70	12.07	-25.13	27.00	2.00	2.00	0.00
600.00	10.00	295.65	597.47	18.84	-39.24	42.15	2.00	2.00	0.00
700.00	12.00	295.65	695.62	27.09	-56.44	60.62	2.00	2.00	0.00
800.00	14.00	295.65	793.06	36.83	-76.71	82.41	2.00	2.00	0.00
900.00	16.00	295.65	889.64	48.03	-100.05	107.47	2.00	2.00	0.00
1,000.00	18.00	295.65	985.27	60.68	-126.40	135.78	2.00	2.00	0.00
1,100.00	20.00	295.65	1,079.82	74.77	-155.75	167.31	2.00	2.00	0.00
1,200.00	22.00	295.65	1,173.17	90.28	-188.05	202.01	2.00	2.00	0.00
1,300.00	24.00	295.65	1,265.21	107.19	-223.28	239.85	2.00	2.00	0.00
1,400.00	26.00	295.65	1,355.84	125.48	-261.37	280.77	2.00	2.00	0.00
1,500.00	28.00	295.65	1,444.94	145.13	-302.30	324.74	2.00	2.00	0.00
1,520.50	28.41	295.65	1,463.00	149.32	-311.03	334.12	2.00	2.00	0.00
Base of Upper Pierre aquifer									
1,600.00	30.00	295.65	1,532.39	166.11	-346.00	371.68	2.00	2.00	0.00
1,700.00	32.00	295.65	1,618.11	188.40	-392.43	421.56	2.00	2.00	0.00
1,800.00	34.00	295.65	1,701.97	211.97	-441.53	474.30	2.00	2.00	0.00
1,900.00	36.00	295.65	1,783.88	236.79	-493.23	529.84	2.00	2.00	0.00
1,940.05	36.80	295.65	1,816.12	247.08	-514.66	552.86	2.00	2.00	0.00
Start 5015.20 hold at 1940.05 MD									
2,000.00	36.80	295.65	1,864.12	262.62	-547.03	587.63	0.00	0.00	0.00
2,100.00	36.80	295.65	1,944.19	288.55	-601.03	645.65	0.00	0.00	0.00
2,200.00	36.80	295.65	2,024.26	314.47	-655.04	703.66	0.00	0.00	0.00
2,300.00	36.80	295.65	2,104.33	340.40	-709.04	761.67	0.00	0.00	0.00
2,400.00	36.80	295.65	2,184.41	366.33	-763.04	819.68	0.00	0.00	0.00
2,500.00	36.80	295.65	2,264.48	392.25	-817.05	877.69	0.00	0.00	0.00
2,600.00	36.80	295.65	2,344.55	418.18	-871.05	935.70	0.00	0.00	0.00
2,700.00	36.80	295.65	2,424.62	444.10	-925.05	993.71	0.00	0.00	0.00
2,800.00	36.80	295.65	2,504.69	470.03	-979.05	1,051.72	0.00	0.00	0.00
2,900.00	36.80	295.65	2,584.77	495.96	-1,033.06	1,109.74	0.00	0.00	0.00
3,000.00	36.80	295.65	2,664.84	521.88	-1,087.06	1,167.75	0.00	0.00	0.00
3,100.00	36.80	295.65	2,744.91	547.81	-1,141.06	1,225.76	0.00	0.00	0.00
3,200.00	36.80	295.65	2,824.98	573.73	-1,195.07	1,283.77	0.00	0.00	0.00
3,300.00	36.80	295.65	2,905.05	599.66	-1,249.07	1,341.78	0.00	0.00	0.00
3,400.00	36.80	295.65	2,985.13	625.59	-1,303.07	1,399.79	0.00	0.00	0.00
3,500.00	36.80	295.65	3,065.20	651.51	-1,357.08	1,457.80	0.00	0.00	0.00
3,600.00	36.80	295.65	3,145.27	677.44	-1,411.08	1,515.81	0.00	0.00	0.00
3,700.00	36.80	295.65	3,225.34	703.37	-1,465.08	1,573.83	0.00	0.00	0.00
3,800.00	36.80	295.65	3,305.41	729.29	-1,519.08	1,631.84	0.00	0.00	0.00
3,809.47	36.80	295.65	3,313.00	731.75	-1,524.20	1,637.33	0.00	0.00	0.00
Larimer ("Parkman") sandstone									
3,900.00	36.80	295.65	3,385.49	755.22	-1,573.09	1,689.85	0.00	0.00	0.00

Planning Report

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Company:	BONANZA CREEK ENERGY	TVD Reference:	KB 25' @ 4684.00usft
Project:	WELD COUNTY	MD Reference:	KB 25' @ 4684.00usft
Site:	SEC 5-T5N-R61W	North Reference:	True
Well:	PRONGHORN K-5 31W-10-08	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PROPOSAL 1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
4,000.00	36.80	295.65	3,465.56	781.14	-1,627.09	1,747.86	0.00	0.00	0.00	
4,046.76	36.80	295.65	3,503.00	793.27	-1,652.34	1,774.98	0.00	0.00	0.00	
Pierre Formation										
4,100.00	36.80	295.65	3,545.63	807.07	-1,681.09	1,805.87	0.00	0.00	0.00	
4,200.00	36.80	295.65	3,625.70	833.00	-1,735.10	1,863.88	0.00	0.00	0.00	
4,300.00	36.80	295.65	3,705.77	858.92	-1,789.10	1,921.89	0.00	0.00	0.00	
4,400.00	36.80	295.65	3,785.85	884.85	-1,843.10	1,979.90	0.00	0.00	0.00	
4,500.00	36.80	295.65	3,865.92	910.77	-1,897.10	2,037.91	0.00	0.00	0.00	
4,600.00	36.80	295.65	3,945.99	936.70	-1,951.11	2,095.93	0.00	0.00	0.00	
4,700.00	36.80	295.65	4,026.06	962.63	-2,005.11	2,153.94	0.00	0.00	0.00	
4,746.13	36.80	295.65	4,063.00	974.59	-2,030.02	2,180.70	0.00	0.00	0.00	
Terry ("Sussex") sandstone										
4,800.00	36.80	295.65	4,106.13	988.55	-2,059.11	2,211.95	0.00	0.00	0.00	
4,871.02	36.80	295.65	4,163.00	1,006.96	-2,097.46	2,253.15	0.00	0.00	0.00	
Pierre Formation										
4,900.00	36.80	295.65	4,186.21	1,014.48	-2,113.12	2,269.96	0.00	0.00	0.00	
5,000.00	36.80	295.65	4,266.28	1,040.40	-2,167.12	2,327.97	0.00	0.00	0.00	
5,100.00	36.80	295.65	4,346.35	1,066.33	-2,221.12	2,385.98	0.00	0.00	0.00	
5,200.00	36.80	295.65	4,426.42	1,092.26	-2,275.12	2,443.99	0.00	0.00	0.00	
5,208.21	36.80	295.65	4,433.00	1,094.39	-2,279.56	2,448.76	0.00	0.00	0.00	
Hygiene ("Shannon") sandstone										
5,270.66	36.80	295.65	4,483.00	1,110.58	-2,313.28	2,484.98	0.00	0.00	0.00	
Pierre Formation										
5,300.00	36.80	295.65	4,506.49	1,118.18	-2,329.13	2,502.00	0.00	0.00	0.00	
5,400.00	36.80	295.65	4,586.57	1,144.11	-2,383.13	2,560.02	0.00	0.00	0.00	
5,500.00	36.80	295.65	4,666.64	1,170.03	-2,437.13	2,618.03	0.00	0.00	0.00	
5,600.00	36.80	295.65	4,746.71	1,195.96	-2,491.14	2,676.04	0.00	0.00	0.00	
5,700.00	36.80	295.65	4,826.78	1,221.89	-2,545.14	2,734.05	0.00	0.00	0.00	
5,800.00	36.80	295.65	4,906.85	1,247.81	-2,599.14	2,792.06	0.00	0.00	0.00	
5,900.00	36.80	295.65	4,986.93	1,273.74	-2,653.15	2,850.07	0.00	0.00	0.00	
6,000.00	36.80	295.65	5,067.00	1,299.66	-2,707.15	2,908.08	0.00	0.00	0.00	
6,100.00	36.80	295.65	5,147.07	1,325.59	-2,761.15	2,966.09	0.00	0.00	0.00	
6,200.00	36.80	295.65	5,227.14	1,351.52	-2,815.15	3,024.11	0.00	0.00	0.00	
6,300.00	36.80	295.65	5,307.21	1,377.44	-2,869.16	3,082.12	0.00	0.00	0.00	
6,400.00	36.80	295.65	5,387.29	1,403.37	-2,923.16	3,140.13	0.00	0.00	0.00	
6,500.00	36.80	295.65	5,467.36	1,429.30	-2,977.16	3,198.14	0.00	0.00	0.00	
6,600.00	36.80	295.65	5,547.43	1,455.22	-3,031.17	3,256.15	0.00	0.00	0.00	
6,700.00	36.80	295.65	5,627.50	1,481.15	-3,085.17	3,314.16	0.00	0.00	0.00	
6,800.00	36.80	295.65	5,707.57	1,507.07	-3,139.17	3,372.17	0.00	0.00	0.00	
6,900.00	36.80	295.65	5,787.65	1,533.00	-3,193.17	3,430.18	0.00	0.00	0.00	
6,955.25	36.80	295.65	5,831.88	1,547.32	-3,223.01	3,462.23	0.00	0.00	0.00	
Start DLS 10.00 TFO -31.22										
7,000.00	40.69	292.09	5,866.79	1,558.62	-3,248.62	3,489.55	10.00	8.68	-7.95	
7,050.00	45.13	288.73	5,903.40	1,570.44	-3,280.53	3,523.15	10.00	8.90	-6.72	
7,100.00	49.67	285.86	5,937.24	1,581.35	-3,315.66	3,559.73	10.00	9.06	-5.74	
7,150.00	54.26	283.35	5,968.05	1,591.25	-3,353.76	3,599.03	10.00	9.19	-5.01	
7,158.56	55.05	282.95	5,973.00	1,592.84	-3,360.56	3,606.01	10.00	9.25	-4.67	
Sharon Springs Member										
7,200.00	58.90	281.12	5,995.58	1,600.07	-3,394.53	3,640.74	10.00	9.29	-4.42	
7,250.00	63.58	279.10	6,019.63	1,607.74	-3,437.67	3,684.54	10.00	9.35	-4.04	
7,300.00	68.28	277.24	6,040.02	1,614.21	-3,482.85	3,730.12	10.00	9.40	-3.73	
7,350.00	73.00	275.49	6,056.60	1,619.43	-3,529.71	3,777.10	10.00	9.44	-3.49	
7,400.00	77.73	273.83	6,069.23	1,623.35	-3,577.92	3,825.15	10.00	9.47	-3.32	

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Project:	WELD COUNTY	MD Reference:	KB 25' @ 4684.00usft
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Wellbore:	OWB		
Design:	PROPOSAL 1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
7,450.00	82.48	272.23	6,077.81	1,625.95	-3,627.09	3,873.89	10.00	9.49	-3.20
7,500.00	87.23	270.66	6,082.30	1,627.20	-3,676.86	3,922.95	10.00	9.50	-3.13
7,529.14	90.00	269.76	6,083.00	1,627.31	-3,705.98	3,951.54	10.00	9.51	-3.11
Start 4415.55 hold at 7529.14 MD - Niobrara Formation									
7,600.00	90.00	269.76	6,083.00	1,627.01	-3,776.84	4,021.00	0.00	0.00	0.00
7,700.00	90.00	269.76	6,083.00	1,626.59	-3,876.84	4,119.01	0.00	0.00	0.00
7,800.00	90.00	269.76	6,083.00	1,626.17	-3,976.84	4,217.02	0.00	0.00	0.00
7,900.00	90.00	269.76	6,083.00	1,625.74	-4,076.84	4,315.03	0.00	0.00	0.00
8,000.00	90.00	269.76	6,083.00	1,625.32	-4,176.84	4,413.04	0.00	0.00	0.00
8,100.00	90.00	269.76	6,083.00	1,624.90	-4,276.84	4,511.05	0.00	0.00	0.00
8,200.00	90.00	269.76	6,083.00	1,624.48	-4,376.84	4,609.06	0.00	0.00	0.00
8,300.00	90.00	269.76	6,083.00	1,624.06	-4,476.84	4,707.08	0.00	0.00	0.00
8,400.00	90.00	269.76	6,083.00	1,623.64	-4,576.84	4,805.09	0.00	0.00	0.00
8,500.00	90.00	269.76	6,083.00	1,623.22	-4,676.84	4,903.10	0.00	0.00	0.00
8,600.00	90.00	269.76	6,083.00	1,622.79	-4,776.84	5,001.11	0.00	0.00	0.00
8,700.00	90.00	269.76	6,083.00	1,622.37	-4,876.83	5,099.12	0.00	0.00	0.00
8,800.00	90.00	269.76	6,083.00	1,621.95	-4,976.83	5,197.13	0.00	0.00	0.00
8,900.00	90.00	269.76	6,083.00	1,621.53	-5,076.83	5,295.14	0.00	0.00	0.00
9,000.00	90.00	269.76	6,083.00	1,621.11	-5,176.83	5,393.16	0.00	0.00	0.00
9,100.00	90.00	269.76	6,083.00	1,620.69	-5,276.83	5,491.17	0.00	0.00	0.00
9,200.00	90.00	269.76	6,083.00	1,620.26	-5,376.83	5,589.18	0.00	0.00	0.00
9,300.00	90.00	269.76	6,083.00	1,619.84	-5,476.83	5,687.19	0.00	0.00	0.00
9,400.00	90.00	269.76	6,083.00	1,619.42	-5,576.83	5,785.20	0.00	0.00	0.00
9,500.00	90.00	269.76	6,083.00	1,619.00	-5,676.83	5,883.21	0.00	0.00	0.00
9,600.00	90.00	269.76	6,083.00	1,618.58	-5,776.83	5,981.22	0.00	0.00	0.00
9,700.00	90.00	269.76	6,083.00	1,618.16	-5,876.83	6,079.24	0.00	0.00	0.00
9,800.00	90.00	269.76	6,083.00	1,617.73	-5,976.82	6,177.25	0.00	0.00	0.00
9,900.00	90.00	269.76	6,083.00	1,617.31	-6,076.82	6,275.26	0.00	0.00	0.00
10,000.00	90.00	269.76	6,083.00	1,616.89	-6,176.82	6,373.27	0.00	0.00	0.00
10,100.00	90.00	269.76	6,083.00	1,616.47	-6,276.82	6,471.28	0.00	0.00	0.00
10,200.00	90.00	269.76	6,083.00	1,616.05	-6,376.82	6,569.29	0.00	0.00	0.00
10,300.00	90.00	269.76	6,083.00	1,615.63	-6,476.82	6,667.30	0.00	0.00	0.00
10,400.00	90.00	269.76	6,083.00	1,615.21	-6,576.82	6,765.31	0.00	0.00	0.00
10,500.00	90.00	269.76	6,083.00	1,614.78	-6,676.82	6,863.33	0.00	0.00	0.00
10,600.00	90.00	269.76	6,083.00	1,614.36	-6,776.82	6,961.34	0.00	0.00	0.00
10,700.00	90.00	269.76	6,083.00	1,613.94	-6,876.82	7,059.35	0.00	0.00	0.00
10,800.00	90.00	269.76	6,083.00	1,613.52	-6,976.82	7,157.36	0.00	0.00	0.00
10,900.00	90.00	269.76	6,083.00	1,613.10	-7,076.81	7,255.37	0.00	0.00	0.00
11,000.00	90.00	269.76	6,083.00	1,612.68	-7,176.81	7,353.38	0.00	0.00	0.00
11,100.00	90.00	269.76	6,083.00	1,612.25	-7,276.81	7,451.39	0.00	0.00	0.00
11,200.00	90.00	269.76	6,083.00	1,611.83	-7,376.81	7,549.41	0.00	0.00	0.00
11,300.00	90.00	269.76	6,083.00	1,611.41	-7,476.81	7,647.42	0.00	0.00	0.00
11,400.00	90.00	269.76	6,083.00	1,610.99	-7,576.81	7,745.43	0.00	0.00	0.00
11,500.00	90.00	269.76	6,083.00	1,610.57	-7,676.81	7,843.44	0.00	0.00	0.00
11,600.00	90.00	269.76	6,083.00	1,610.15	-7,776.81	7,941.45	0.00	0.00	0.00
11,700.00	90.00	269.76	6,083.00	1,609.72	-7,876.81	8,039.46	0.00	0.00	0.00
11,800.00	90.00	269.76	6,083.00	1,609.30	-7,976.81	8,137.47	0.00	0.00	0.00
11,900.00	90.00	269.76	6,083.00	1,608.88	-8,076.81	8,235.48	0.00	0.00	0.00
11,944.68	90.00	269.76	6,083.00	1,608.69	-8,121.49	8,279.28	0.00	0.00	0.00
TD at 11944.68									

Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well PRONGHORN K-5 31W-10-08
Company:	BONANZA CREEK ENERGY	TVD Reference:	KB 25' @ 4684.00usft
Project:	WELD COUNTY	MD Reference:	KB 25' @ 4684.00usft
Site:	SEC 5-T5N-R61W	North Reference:	True
Well:	PRONGHORN K-5 31W-10-08	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PROPOSAL 1		

Design Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
PBHL-PRONGHORN K- - plan hits target center - Point	0.00	0.00	6,083.00	1,608.69	-8,121.49	1,405,914.35	3,344,990.42	40.441018°N	104.260511°W
LP-PRONGHORN K-5 3 - plan hits target center - Point	0.00	0.00	6,083.00	1,627.31	-3,705.98	1,405,996.13	3,349,405.05	40.441072°N	104.244648°W

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
24.00	24.00	Laramie-Fox Hills Formation			
208.03	208.00	Pierre Formation			
443.82	443.00	Upper Pierre aquifer			
1,520.50	1,463.00	Base of Upper Pierre aquifer			
3,809.47	3,313.00	Larimer ("Parkman") sandstone			
4,046.76	3,503.00	Pierre Formation			
4,746.13	4,063.00	Terry ("Sussex") sandstone			
4,871.02	4,163.00	Pierre Formation			
5,208.21	4,433.00	Hygiene ("Shannon") sandstone			
5,270.66	4,483.00	Pierre Formation			
7,158.56	5,973.00	Sharon Springs Member			
7,529.14	6,083.00	Niobrara Formation			

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
100.00	100.00	0.00	0.00	Start Build 2.00
1,940.05	1,816.12	247.08	-514.66	Start 5015.20 hold at 1940.05 MD
6,955.25	5,831.88	1,547.32	-3,223.01	Start DLS 10.00 TFO -31.22
7,529.14	6,083.00	1,627.31	-3,705.98	Start 4415.55 hold at 7529.14 MD
11,944.68	6,083.00	1,608.69	-8,121.49	TD at 11944.68