

# **BONANZA CREEK ENERGY**

**WELD COUNTY**

**SEC 5-T5N-R61W**

**PRONGHORN K-5 31W-10-09**

**OWB**

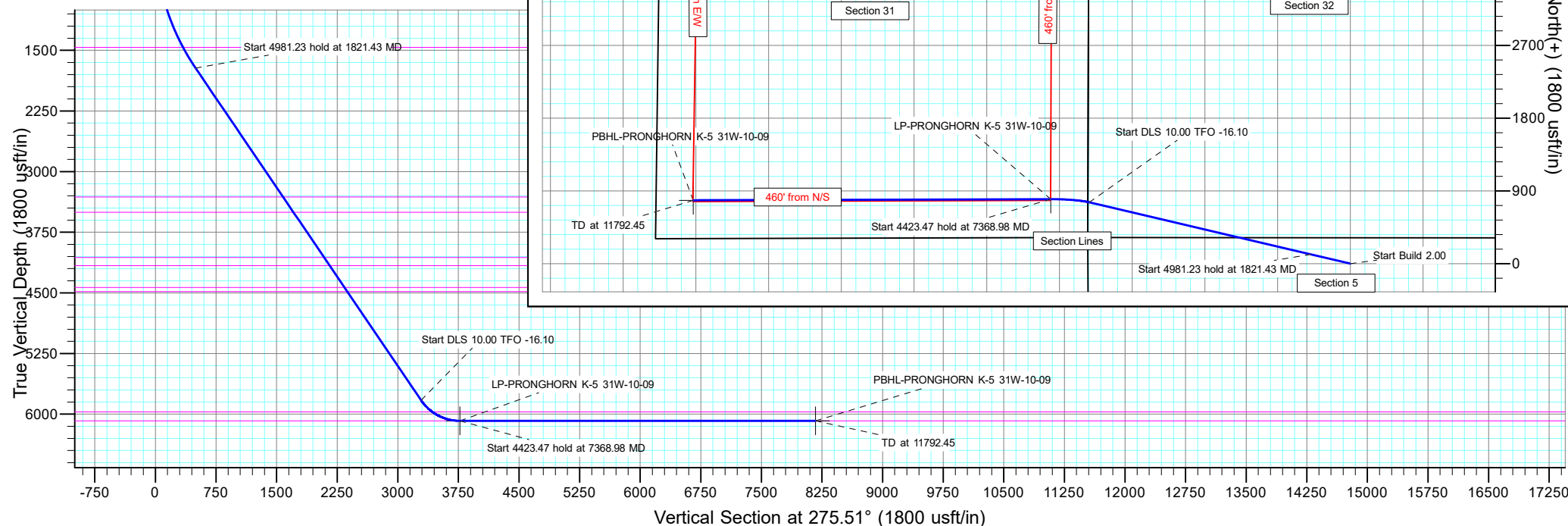
**Plan: PROPOSAL 1**

## **Standard Planning Report**

**17 November, 2022**

Magnetic Field  
Strength: 51878.6snT  
Dip Angle: 66.70°  
Date: 11/15/2022  
Model: IGRF2020

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
LP-PRONGHORN K-5 31W-10-09 - plan hits target center	6083.00	797.40	-3708.89	1405151.37	3349414.22	40.438753°N	104.244658°W	Point
PBHL-PRONGHORN K-5 31W-10-09 - plan hits target center	6083.00	783.89	-8132.34	1405074.57	3344991.58	40.438713°N	104.260549°W	Point



## Planning Report

<b>Database:</b>	EDT_32Bit_ODBC	<b>Local Co-ordinate Reference:</b>	Well PRONGHORN K-5 31W-10-09
<b>Company:</b>	BONANZA CREEK ENERGY	<b>TVD Reference:</b>	KB 25' @ 4684.00usft
<b>Project:</b>	WELD COUNTY	<b>MD Reference:</b>	KB 25' @ 4684.00usft
<b>Site:</b>	SEC 5-T5N-R61W	<b>North Reference:</b>	True
<b>Well:</b>	PRONGHORN K-5 31W-10-09	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OWB		
<b>Design:</b>	PROPOSAL 1		

<b>Project</b>	WELD COUNTY		
<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		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-10-09					
Well Position	+N/-S	-317.96 usft	Northing:	1,404,407.14 usft	Latitude:	40.436565°N
	+E/-W	-2,130.65 usft	Easting:	3,353,134.00 usft	Longitude:	104.231334°W
Position Uncertainty		0.00 usft	Wellhead Elevation:		Ground Level:	4,659.00 usft

<b>Wellbore</b>	OWB				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2020	11/15/2022	7.42	66.70	51,878.58050132

<b>Design</b>	PROPOSAL 1			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PROTOTYPE	<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	275.51

<b>Plan Survey Tool Program</b>	<b>Date</b>	11/17/2022		
<b>Depth From (usft)</b>	<b>Depth To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Remarks</b>
1	0.00	11,792.45 PROPOSAL 1 (OWB)	MWD OWSG	
			OWSG MWD - Standard	

<b>Plan Sections</b>										
<b>Measured Depth (usft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Dogleg Rate (°/100ft)</b>	<b>Build Rate (°/100ft)</b>	<b>Turn Rate (°/100ft)</b>	<b>TFO (°)</b>	<b>Target</b>
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	
1,821.43	34.43	283.21	1,719.69	114.71	-488.54	2.00	2.00	0.00	283.21	
6,802.66	34.43	283.21	5,828.36	758.45	-3,230.26	0.00	0.00	0.00	0.00	
7,368.98	90.00	269.82	6,083.00	797.40	-3,708.89	10.00	9.81	-2.36	-16.10	LP-PRONGHORN K-5
11,792.45	90.00	269.82	6,083.00	783.89	-8,132.34	0.00	0.00	0.00	0.00	PBHL-PRONGHORN

# Planning Report

<b>Database:</b>	EDT_32Bit_ODBC	<b>Local Co-ordinate Reference:</b>	Well PRONGHORN K-5 31W-10-09
<b>Company:</b>	BONANZA CREEK ENERGY	<b>TVD Reference:</b>	KB 25' @ 4684.00usft
<b>Project:</b>	WELD COUNTY	<b>MD Reference:</b>	KB 25' @ 4684.00usft
<b>Site:</b>	SEC 5-T5N-R61W	<b>North Reference:</b>	True
<b>Well:</b>	PRONGHORN K-5 31W-10-09	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OWB		
<b>Design:</b>	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	283.21	199.98	0.40	-1.70	1.73	2.00	2.00	0.00
208.03	2.16	283.21	208.00	0.47	-1.98	2.02	2.00	2.00	0.00
Pierre Formation									
300.00	4.00	283.21	299.84	1.60	-6.79	6.92	2.00	2.00	0.00
400.00	6.00	283.21	399.45	3.59	-15.28	15.55	2.00	2.00	0.00
443.82	6.88	283.21	443.00	4.71	-20.06	20.42	2.00	2.00	0.00
Upper Pierre aquifer									
500.00	8.00	283.21	498.70	6.37	-27.14	27.63	2.00	2.00	0.00
600.00	10.00	283.21	597.47	9.95	-42.37	43.13	2.00	2.00	0.00
700.00	12.00	283.21	695.62	14.31	-60.95	62.04	2.00	2.00	0.00
800.00	14.00	283.21	793.06	19.45	-82.84	84.33	2.00	2.00	0.00
900.00	16.00	283.21	889.64	25.37	-108.04	109.97	2.00	2.00	0.00
1,000.00	18.00	283.21	985.27	32.05	-136.50	138.95	2.00	2.00	0.00
1,100.00	20.00	283.21	1,079.82	39.49	-168.19	171.21	2.00	2.00	0.00
1,200.00	22.00	283.21	1,173.17	47.68	-203.08	206.72	2.00	2.00	0.00
1,300.00	24.00	283.21	1,265.21	56.61	-241.12	245.44	2.00	2.00	0.00
1,400.00	26.00	283.21	1,355.84	66.27	-282.26	287.31	2.00	2.00	0.00
1,500.00	28.00	283.21	1,444.94	76.65	-326.45	332.30	2.00	2.00	0.00
1,520.50	28.41	283.21	1,463.00	78.86	-335.88	341.90	2.00	2.00	0.00
Base of Upper Pierre aquifer									
1,600.00	30.00	283.21	1,532.39	87.73	-373.65	380.34	2.00	2.00	0.00
1,700.00	32.00	283.21	1,618.11	99.50	-423.79	431.38	2.00	2.00	0.00
1,800.00	34.00	283.21	1,701.97	111.95	-476.81	485.35	2.00	2.00	0.00
1,821.43	34.43	283.21	1,719.69	114.71	-488.54	497.29	2.00	2.00	0.00
Start 4981.23 hold at 1821.43 MD									
1,900.00	34.43	283.21	1,784.50	124.86	-531.78	541.31	0.00	0.00	0.00
2,000.00	34.43	283.21	1,866.98	137.78	-586.82	597.34	0.00	0.00	0.00
2,100.00	34.43	283.21	1,949.46	150.71	-641.86	653.36	0.00	0.00	0.00
2,200.00	34.43	283.21	2,031.95	163.63	-696.91	709.39	0.00	0.00	0.00
2,300.00	34.43	283.21	2,114.43	176.55	-751.95	765.42	0.00	0.00	0.00
2,400.00	34.43	283.21	2,196.91	189.48	-806.99	821.44	0.00	0.00	0.00
2,500.00	34.43	283.21	2,279.40	202.40	-862.03	877.47	0.00	0.00	0.00
2,600.00	34.43	283.21	2,361.88	215.32	-917.07	933.50	0.00	0.00	0.00
2,700.00	34.43	283.21	2,444.36	228.25	-972.11	989.53	0.00	0.00	0.00
2,800.00	34.43	283.21	2,526.85	241.17	-1,027.15	1,045.55	0.00	0.00	0.00
2,900.00	34.43	283.21	2,609.33	254.09	-1,082.19	1,101.58	0.00	0.00	0.00
3,000.00	34.43	283.21	2,691.81	267.02	-1,137.23	1,157.61	0.00	0.00	0.00
3,100.00	34.43	283.21	2,774.29	279.94	-1,192.28	1,213.63	0.00	0.00	0.00
3,200.00	34.43	283.21	2,856.78	292.86	-1,247.32	1,269.66	0.00	0.00	0.00
3,300.00	34.43	283.21	2,939.26	305.79	-1,302.36	1,325.69	0.00	0.00	0.00
3,400.00	34.43	283.21	3,021.74	318.71	-1,357.40	1,381.71	0.00	0.00	0.00
3,500.00	34.43	283.21	3,104.23	331.63	-1,412.44	1,437.74	0.00	0.00	0.00
3,600.00	34.43	283.21	3,186.71	344.56	-1,467.48	1,493.77	0.00	0.00	0.00
3,700.00	34.43	283.21	3,269.19	357.48	-1,522.52	1,549.80	0.00	0.00	0.00
3,753.11	34.43	283.21	3,313.00	364.34	-1,551.75	1,579.55	0.00	0.00	0.00
Larimer ("Parkman") sandstone									
3,800.00	34.43	283.21	3,351.68	370.40	-1,577.56	1,605.82	0.00	0.00	0.00
3,900.00	34.43	283.21	3,434.16	383.33	-1,632.60	1,661.85	0.00	0.00	0.00

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<b>Well:</b>	PRONGHORN K-5 31W-10-09	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OWB		
<b>Design:</b>	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)	
3,983.46	34.43	283.21	3,503.00	394.11	-1,678.54	1,708.61	0.00	0.00	0.00	
<b>Pierre Formation</b>										
4,000.00	34.43	283.21	3,516.64	396.25	-1,687.65	1,717.88	0.00	0.00	0.00	
4,100.00	34.43	283.21	3,599.13	409.17	-1,742.69	1,773.90	0.00	0.00	0.00	
4,200.00	34.43	283.21	3,681.61	422.10	-1,797.73	1,829.93	0.00	0.00	0.00	
4,300.00	34.43	283.21	3,764.09	435.02	-1,852.77	1,885.96	0.00	0.00	0.00	
4,400.00	34.43	283.21	3,846.58	447.94	-1,907.81	1,941.99	0.00	0.00	0.00	
4,500.00	34.43	283.21	3,929.06	460.87	-1,962.85	1,998.01	0.00	0.00	0.00	
4,600.00	34.43	283.21	4,011.54	473.79	-2,017.89	2,054.04	0.00	0.00	0.00	
4,662.39	34.43	283.21	4,063.00	481.85	-2,052.23	2,088.99	0.00	0.00	0.00	
<b>Terry ("Sussex") sandstone</b>										
4,700.00	34.43	283.21	4,094.02	486.71	-2,072.93	2,110.07	0.00	0.00	0.00	
4,783.62	34.43	283.21	4,163.00	497.52	-2,118.96	2,156.92	0.00	0.00	0.00	
<b>Pierre Formation</b>										
4,800.00	34.43	283.21	4,176.51	499.64	-2,127.97	2,166.09	0.00	0.00	0.00	
4,900.00	34.43	283.21	4,258.99	512.56	-2,183.02	2,222.12	0.00	0.00	0.00	
5,000.00	34.43	283.21	4,341.47	525.48	-2,238.06	2,278.15	0.00	0.00	0.00	
5,100.00	34.43	283.21	4,423.96	538.41	-2,293.10	2,334.18	0.00	0.00	0.00	
5,110.96	34.43	283.21	4,433.00	539.82	-2,299.13	2,340.32	0.00	0.00	0.00	
<b>Hygiene ("Shannon") sandstone</b>										
5,171.58	34.43	283.21	4,483.00	547.66	-2,332.50	2,374.28	0.00	0.00	0.00	
<b>Pierre Formation</b>										
5,200.00	34.43	283.21	4,506.44	551.33	-2,348.14	2,390.20	0.00	0.00	0.00	
5,300.00	34.43	283.21	4,588.92	564.25	-2,403.18	2,446.23	0.00	0.00	0.00	
5,400.00	34.43	283.21	4,671.41	577.18	-2,458.22	2,502.26	0.00	0.00	0.00	
5,500.00	34.43	283.21	4,753.89	590.10	-2,513.26	2,558.28	0.00	0.00	0.00	
5,600.00	34.43	283.21	4,836.37	603.02	-2,568.30	2,614.31	0.00	0.00	0.00	
5,700.00	34.43	283.21	4,918.86	615.95	-2,623.34	2,670.34	0.00	0.00	0.00	
5,800.00	34.43	283.21	5,001.34	628.87	-2,678.39	2,726.37	0.00	0.00	0.00	
5,900.00	34.43	283.21	5,083.82	641.79	-2,733.43	2,782.39	0.00	0.00	0.00	
6,000.00	34.43	283.21	5,166.30	654.72	-2,788.47	2,838.42	0.00	0.00	0.00	
6,100.00	34.43	283.21	5,248.79	667.64	-2,843.51	2,894.45	0.00	0.00	0.00	
6,200.00	34.43	283.21	5,331.27	680.56	-2,898.55	2,950.47	0.00	0.00	0.00	
6,300.00	34.43	283.21	5,413.75	693.49	-2,953.59	3,006.50	0.00	0.00	0.00	
6,400.00	34.43	283.21	5,496.24	706.41	-3,008.63	3,062.53	0.00	0.00	0.00	
6,500.00	34.43	283.21	5,578.72	719.33	-3,063.67	3,118.55	0.00	0.00	0.00	
6,600.00	34.43	283.21	5,661.20	732.26	-3,118.72	3,174.58	0.00	0.00	0.00	
6,700.00	34.43	283.21	5,743.69	745.18	-3,173.76	3,230.61	0.00	0.00	0.00	
6,802.66	34.43	283.21	5,828.36	758.45	-3,230.26	3,288.13	0.00	0.00	0.00	
<b>Start DLS 10.00 TFO -16.10</b>										
6,850.00	39.00	281.13	5,866.30	764.39	-3,257.92	3,316.23	10.00	9.65	-4.40	
6,900.00	43.85	279.33	5,903.79	770.24	-3,290.47	3,349.19	10.00	9.71	-3.59	
6,950.00	48.73	277.83	5,938.32	775.61	-3,326.20	3,385.27	10.00	9.76	-3.01	
7,000.00	53.63	276.54	5,969.66	780.46	-3,364.84	3,424.19	10.00	9.80	-2.59	
7,005.67	54.19	276.40	5,973.00	780.98	-3,369.39	3,428.78	10.00	9.81	-2.40	
<b>Sharon Springs Member</b>										
7,050.00	58.54	275.40	5,997.55	784.76	-3,406.09	3,465.67	10.00	9.82	-2.26	
7,100.00	63.46	274.37	6,021.78	788.48	-3,449.65	3,509.39	10.00	9.84	-2.05	
7,150.00	68.39	273.43	6,042.17	791.57	-3,495.18	3,555.01	10.00	9.85	-1.88	
7,200.00	73.32	272.55	6,058.57	794.03	-3,542.34	3,602.18	10.00	9.86	-1.76	
7,250.00	78.25	271.72	6,070.84	795.83	-3,590.76	3,650.55	10.00	9.87	-1.67	
7,300.00	83.19	270.91	6,078.90	796.96	-3,640.08	3,699.75	10.00	9.87	-1.61	
7,350.00	88.13	270.12	6,082.69	797.41	-3,689.91	3,749.40	10.00	9.88	-1.58	

# Planning Report

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<b>Site:</b>	SEC 5-T5N-R61W	<b>North Reference:</b>	True
<b>Well:</b>	PRONGHORN K-5 31W-10-09	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OWB		
<b>Design:</b>	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)	
7,368.98	90.00	269.82	6,083.00	797.40	-3,708.89	3,768.29	10.00	9.88	-1.57	
Start 4423.47 hold at 7368.98 MD - Niobrara Formation										
7,400.00	90.00	269.82	6,083.00	797.31	-3,739.91	3,799.15	0.00	0.00	0.00	
7,500.00	90.00	269.82	6,083.00	797.00	-3,839.91	3,898.66	0.00	0.00	0.00	
7,600.00	90.00	269.82	6,083.00	796.70	-3,939.91	3,998.17	0.00	0.00	0.00	
7,700.00	90.00	269.82	6,083.00	796.39	-4,039.91	4,097.68	0.00	0.00	0.00	
7,800.00	90.00	269.82	6,083.00	796.08	-4,139.91	4,197.19	0.00	0.00	0.00	
7,900.00	90.00	269.82	6,083.00	795.78	-4,239.91	4,296.70	0.00	0.00	0.00	
8,000.00	90.00	269.82	6,083.00	795.47	-4,339.91	4,396.21	0.00	0.00	0.00	
8,100.00	90.00	269.82	6,083.00	795.17	-4,439.91	4,495.72	0.00	0.00	0.00	
8,200.00	90.00	269.82	6,083.00	794.86	-4,539.91	4,595.22	0.00	0.00	0.00	
8,300.00	90.00	269.82	6,083.00	794.56	-4,639.91	4,694.73	0.00	0.00	0.00	
8,400.00	90.00	269.82	6,083.00	794.25	-4,739.91	4,794.24	0.00	0.00	0.00	
8,500.00	90.00	269.82	6,083.00	793.95	-4,839.91	4,893.75	0.00	0.00	0.00	
8,600.00	90.00	269.82	6,083.00	793.64	-4,939.90	4,993.26	0.00	0.00	0.00	
8,700.00	90.00	269.82	6,083.00	793.34	-5,039.90	5,092.77	0.00	0.00	0.00	
8,800.00	90.00	269.82	6,083.00	793.03	-5,139.90	5,192.28	0.00	0.00	0.00	
8,900.00	90.00	269.82	6,083.00	792.72	-5,239.90	5,291.79	0.00	0.00	0.00	
9,000.00	90.00	269.82	6,083.00	792.42	-5,339.90	5,391.30	0.00	0.00	0.00	
9,100.00	90.00	269.82	6,083.00	792.11	-5,439.90	5,490.80	0.00	0.00	0.00	
9,200.00	90.00	269.82	6,083.00	791.81	-5,539.90	5,590.31	0.00	0.00	0.00	
9,300.00	90.00	269.82	6,083.00	791.50	-5,639.90	5,689.82	0.00	0.00	0.00	
9,400.00	90.00	269.82	6,083.00	791.20	-5,739.90	5,789.33	0.00	0.00	0.00	
9,500.00	90.00	269.82	6,083.00	790.89	-5,839.90	5,888.84	0.00	0.00	0.00	
9,600.00	90.00	269.82	6,083.00	790.59	-5,939.90	5,988.35	0.00	0.00	0.00	
9,700.00	90.00	269.82	6,083.00	790.28	-6,039.90	6,087.86	0.00	0.00	0.00	
9,800.00	90.00	269.82	6,083.00	789.98	-6,139.90	6,187.37	0.00	0.00	0.00	
9,900.00	90.00	269.82	6,083.00	789.67	-6,239.90	6,286.88	0.00	0.00	0.00	
10,000.00	90.00	269.82	6,083.00	789.36	-6,339.90	6,386.38	0.00	0.00	0.00	
10,100.00	90.00	269.82	6,083.00	789.06	-6,439.90	6,485.89	0.00	0.00	0.00	
10,200.00	90.00	269.82	6,083.00	788.75	-6,539.90	6,585.40	0.00	0.00	0.00	
10,300.00	90.00	269.82	6,083.00	788.45	-6,639.90	6,684.91	0.00	0.00	0.00	
10,400.00	90.00	269.82	6,083.00	788.14	-6,739.90	6,784.42	0.00	0.00	0.00	
10,500.00	90.00	269.82	6,083.00	787.84	-6,839.90	6,883.93	0.00	0.00	0.00	
10,600.00	90.00	269.82	6,083.00	787.53	-6,939.90	6,983.44	0.00	0.00	0.00	
10,700.00	90.00	269.82	6,083.00	787.23	-7,039.90	7,082.95	0.00	0.00	0.00	
10,800.00	90.00	269.82	6,083.00	786.92	-7,139.89	7,182.46	0.00	0.00	0.00	
10,900.00	90.00	269.82	6,083.00	786.62	-7,239.89	7,281.97	0.00	0.00	0.00	
11,000.00	90.00	269.82	6,083.00	786.31	-7,339.89	7,381.47	0.00	0.00	0.00	
11,100.00	90.00	269.82	6,083.00	786.00	-7,439.89	7,480.98	0.00	0.00	0.00	
11,200.00	90.00	269.82	6,083.00	785.70	-7,539.89	7,580.49	0.00	0.00	0.00	
11,300.00	90.00	269.82	6,083.00	785.39	-7,639.89	7,680.00	0.00	0.00	0.00	
11,400.00	90.00	269.82	6,083.00	785.09	-7,739.89	7,779.51	0.00	0.00	0.00	
11,500.00	90.00	269.82	6,083.00	784.78	-7,839.89	7,879.02	0.00	0.00	0.00	
11,600.00	90.00	269.82	6,083.00	784.48	-7,939.89	7,978.53	0.00	0.00	0.00	
11,700.00	90.00	269.82	6,083.00	784.17	-8,039.89	8,078.04	0.00	0.00	0.00	
11,792.45	90.00	269.82	6,083.00	783.89	-8,132.34	8,170.03	0.00	0.00	0.00	
TD at 11792.45										

## Planning Report

<b>Database:</b>	EDT_32Bit_ODBC	<b>Local Co-ordinate Reference:</b>	Well PRONGHORN K-5 31W-10-09
<b>Company:</b>	BONANZA CREEK ENERGY	<b>TVD Reference:</b>	KB 25' @ 4684.00usft
<b>Project:</b>	WELD COUNTY	<b>MD Reference:</b>	KB 25' @ 4684.00usft
<b>Site:</b>	SEC 5-T5N-R61W	<b>North Reference:</b>	True
<b>Well:</b>	PRONGHORN K-5 31W-10-09	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OWB		
<b>Design:</b>	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	783.89	-8,132.34	1,405,074.58	3,344,991.59	40.438713°N	104.260549°W
LP-PRONGHORN K-5 3 - plan hits target center - Point	0.00	0.00	6,083.00	797.40	-3,708.89	1,405,151.37	3,349,414.22	40.438753°N	104.244658°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			
3,753.11	3,313.00	Larimer ("Parkman") sandstone			
3,983.46	3,503.00	Pierre Formation			
4,662.39	4,063.00	Terry ("Sussex") sandstone			
4,783.62	4,163.00	Pierre Formation			
5,110.96	4,433.00	Hygiene ("Shannon") sandstone			
5,171.58	4,483.00	Pierre Formation			
7,005.67	5,973.00	Sharon Springs Member			
7,368.98	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
1,821.43	1,719.69	114.71	-488.54	Start 4981.23 hold at 1821.43 MD
6,802.66	5,828.36	758.45	-3,230.26	Start DLS 10.00 TFO -16.10
7,368.98	6,083.00	797.40	-3,708.89	Start 4423.47 hold at 7368.98 MD
11,792.45	6,083.00	783.89	-8,132.34	TD at 11792.45