

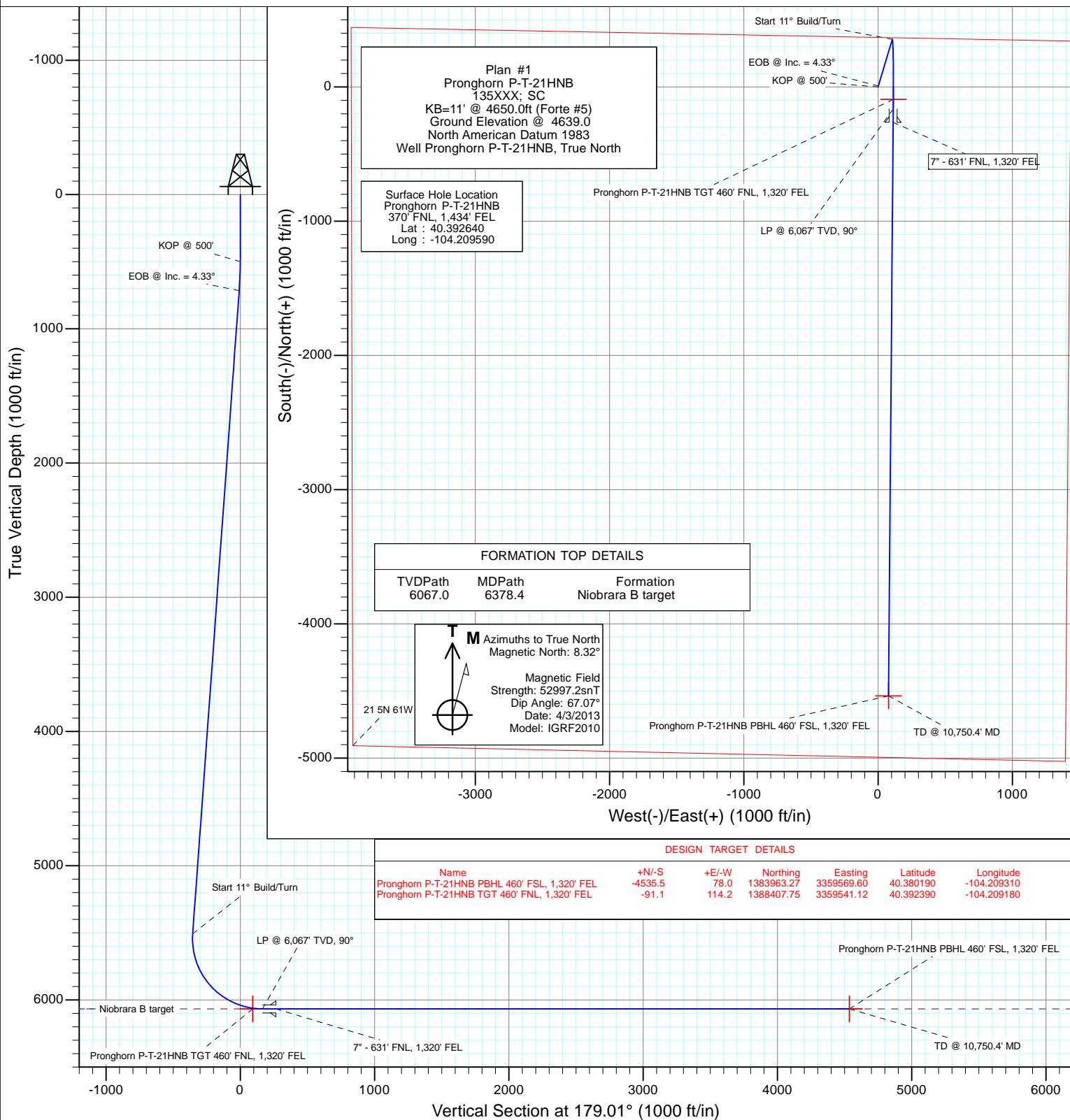


Project: Weld County  
Site: Pronghorn P-21 Pad  
Well: Pronghorn P-T-21HNB  
Wellbore: OH  
Design: Plan #1



#### SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	500.0	0.00	0.00	500.0	0.0	0.0	0.00	0.00	0.0	
3	716.7	4.33	16.60	716.5	7.9	2.3	2.00	16.60	-7.8	
4	5522.4	4.33	16.60	5508.4	355.9	106.1	0.00	0.00	-354.1	
5	6378.4	90.00	180.47	6067.0	-163.6	113.6	11.00	163.83	165.6	
6	10750.4	90.00	180.47	6067.0	-4535.5	78.0	0.00	0.00	4536.2	Pronghorn P-T-21HNB PBHL 460' FSL, 1,320' FEL



# Cathedral Energy Services

## Planning Report

<b>Database:</b>	USA EDM 5000 Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well Pronghorn P-T-21HNB
<b>Company:</b>	Bonanza Creek Energy Operating Company, LLC	<b>TVD Reference:</b>	KB=11' @ 4650.0ft (Forte #5)
<b>Project:</b>	Weld County	<b>MD Reference:</b>	KB=11' @ 4650.0ft (Forte #5)
<b>Site:</b>	Pronghorn P-21 Pad	<b>North Reference:</b>	True
<b>Well:</b>	Pronghorn P-T-21HNB	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan #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		

Site		Pronghorn P-21 Pad			
Site Position:		Northing:	1,388,497.15 ft	Latitude:	40.392640
From:	Lat/Long	Easting:	3,359,425.60 ft	Longitude:	-104.209590
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence:	0.83 °

Well	Pronghorn P-T-21HNB					
Well Position	+N/-S	0.0 ft	Northing:	1,388,497.15 ft	Latitude:	40.392640
	+E/-W	0.0 ft	Easting:	3,359,425.60 ft	Longitude:	-104.209590
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,639.0 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	4/3/2013	8.32	67.07	52,997

Design	Plan #1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	179.01

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
500.0	0.00	0.00	500.0	0.0	0.0	0.00	0.00	0.00	0.00	
716.7	4.33	16.60	716.5	7.9	2.3	2.00	2.00	0.00	16.60	
5,522.4	4.33	16.60	5,508.4	355.9	106.1	0.00	0.00	0.00	0.00	
6,378.4	90.00	180.47	6,067.0	-163.6	113.6	11.00	10.01	19.14	163.83	
10,750.4	90.00	180.47	6,067.0	-4,535.5	78.0	0.00	0.00	0.00	0.00	Pronghorn P-T-21HNI

# Cathedral Energy Services

## Planning Report

<b>Database:</b>	USA EDM 5000 Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well Pronghorn P-T-21HNB
<b>Company:</b>	Bonanza Creek Energy Operating Company, LLC	<b>TVD Reference:</b>	KB=11' @ 4650.0ft (Forte #5)
<b>Project:</b>	Weld County	<b>MD Reference:</b>	KB=11' @ 4650.0ft (Forte #5)
<b>Site:</b>	Pronghorn P-21 Pad	<b>North Reference:</b>	True
<b>Well:</b>	Pronghorn P-T-21HNB	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan #1		

### Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	KOP @ 500'
600.0	2.00	16.60	600.0	1.7	0.5	-1.7	2.00	2.00	
700.0	4.00	16.60	699.8	6.7	2.0	-6.7	2.00	2.00	
716.7	4.33	16.60	716.5	7.9	2.3	-7.8	2.00	2.00	EOB @ Inc. = 4.33°
800.0	4.33	16.60	799.6	13.9	4.1	-13.8	0.00	0.00	
900.0	4.33	16.60	899.3	21.1	6.3	-21.0	0.00	0.00	
1,000.0	4.33	16.60	999.0	28.4	8.5	-28.2	0.00	0.00	
1,100.0	4.33	16.60	1,098.7	35.6	10.6	-35.4	0.00	0.00	
1,200.0	4.33	16.60	1,198.4	42.9	12.8	-42.6	0.00	0.00	
1,300.0	4.33	16.60	1,298.1	50.1	14.9	-49.8	0.00	0.00	
1,400.0	4.33	16.60	1,397.8	57.3	17.1	-57.0	0.00	0.00	
1,500.0	4.33	16.60	1,497.6	64.6	19.2	-64.2	0.00	0.00	
1,600.0	4.33	16.60	1,597.3	71.8	21.4	-71.5	0.00	0.00	
1,700.0	4.33	16.60	1,697.0	79.1	23.6	-78.7	0.00	0.00	
1,800.0	4.33	16.60	1,796.7	86.3	25.7	-85.9	0.00	0.00	
1,900.0	4.33	16.60	1,896.4	93.6	27.9	-93.1	0.00	0.00	
2,000.0	4.33	16.60	1,996.1	100.8	30.0	-100.3	0.00	0.00	
2,100.0	4.33	16.60	2,095.8	108.0	32.2	-107.5	0.00	0.00	
2,200.0	4.33	16.60	2,195.6	115.3	34.4	-114.7	0.00	0.00	
2,300.0	4.33	16.60	2,295.3	122.5	36.5	-121.9	0.00	0.00	
2,400.0	4.33	16.60	2,395.0	129.8	38.7	-129.1	0.00	0.00	
2,500.0	4.33	16.60	2,494.7	137.0	40.8	-136.3	0.00	0.00	
2,600.0	4.33	16.60	2,594.4	144.3	43.0	-143.5	0.00	0.00	
2,700.0	4.33	16.60	2,694.1	151.5	45.2	-150.7	0.00	0.00	
2,800.0	4.33	16.60	2,793.8	158.8	47.3	-157.9	0.00	0.00	
2,900.0	4.33	16.60	2,893.5	166.0	49.5	-165.1	0.00	0.00	
3,000.0	4.33	16.60	2,993.3	173.2	51.6	-172.3	0.00	0.00	
3,100.0	4.33	16.60	3,093.0	180.5	53.8	-179.5	0.00	0.00	
3,200.0	4.33	16.60	3,192.7	187.7	55.9	-186.7	0.00	0.00	
3,300.0	4.33	16.60	3,292.4	195.0	58.1	-193.9	0.00	0.00	
3,400.0	4.33	16.60	3,392.1	202.2	60.3	-201.1	0.00	0.00	
3,500.0	4.33	16.60	3,491.8	209.5	62.4	-208.3	0.00	0.00	
3,600.0	4.33	16.60	3,591.5	216.7	64.6	-215.6	0.00	0.00	
3,700.0	4.33	16.60	3,691.3	223.9	66.7	-222.8	0.00	0.00	
3,800.0	4.33	16.60	3,791.0	231.2	68.9	-230.0	0.00	0.00	
3,900.0	4.33	16.60	3,890.7	238.4	71.1	-237.2	0.00	0.00	
4,000.0	4.33	16.60	3,990.4	245.7	73.2	-244.4	0.00	0.00	
4,100.0	4.33	16.60	4,090.1	252.9	75.4	-251.6	0.00	0.00	
4,200.0	4.33	16.60	4,189.8	260.2	77.5	-258.8	0.00	0.00	
4,300.0	4.33	16.60	4,289.5	267.4	79.7	-266.0	0.00	0.00	
4,400.0	4.33	16.60	4,389.3	274.6	81.9	-273.2	0.00	0.00	
4,500.0	4.33	16.60	4,489.0	281.9	84.0	-280.4	0.00	0.00	
4,600.0	4.33	16.60	4,588.7	289.1	86.2	-287.6	0.00	0.00	
4,700.0	4.33	16.60	4,688.4	296.4	88.3	-294.8	0.00	0.00	
4,800.0	4.33	16.60	4,788.1	303.6	90.5	-302.0	0.00	0.00	
4,900.0	4.33	16.60	4,887.8	310.9	92.6	-309.2	0.00	0.00	
5,000.0	4.33	16.60	4,987.5	318.1	94.8	-316.4	0.00	0.00	

# Cathedral Energy Services

## Planning Report

<b>Database:</b>	USA EDM 5000 Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well Pronghorn P-T-21HNB
<b>Company:</b>	Bonanza Creek Energy Operating Company, LLC	<b>TVD Reference:</b>	KB=11' @ 4650.0ft (Forte #5)
<b>Project:</b>	Weld County	<b>MD Reference:</b>	KB=11' @ 4650.0ft (Forte #5)
<b>Site:</b>	Pronghorn P-21 Pad	<b>North Reference:</b>	True
<b>Well:</b>	Pronghorn P-T-21HNB	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan #1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
5,100.0	4.33	16.60	5,087.3	325.3	97.0	-323.6	0.00	0.00	
5,200.0	4.33	16.60	5,187.0	332.6	99.1	-330.8	0.00	0.00	
5,300.0	4.33	16.60	5,286.7	339.8	101.3	-338.0	0.00	0.00	
5,400.0	4.33	16.60	5,386.4	347.1	103.4	-345.2	0.00	0.00	
5,500.0	4.33	16.60	5,486.1	354.3	105.6	-352.5	0.00	0.00	
5,522.4	4.33	16.60	5,508.4	355.9	106.1	-354.1	0.00	0.00	Start 11° Build/Turn
5,550.0	1.65	47.42	5,536.0	357.2	106.7	-355.3	11.00	-9.72	
5,600.0	4.54	165.08	5,586.0	355.8	107.7	-353.9	11.00	5.77	
5,650.0	9.95	173.57	5,635.5	349.6	108.7	-347.7	11.00	10.82	
5,700.0	15.42	176.09	5,684.3	338.6	109.6	-336.7	11.00	10.95	
5,750.0	20.91	177.31	5,731.8	323.1	110.5	-321.1	11.00	10.97	
5,800.0	26.40	178.04	5,777.6	303.1	111.3	-301.1	11.00	10.98	
5,850.0	31.89	178.53	5,821.2	278.7	112.0	-276.8	11.00	10.99	
5,900.0	37.39	178.89	5,862.3	250.3	112.7	-248.3	11.00	10.99	
5,950.0	42.89	179.17	5,900.6	218.1	113.2	-216.1	11.00	10.99	
6,000.0	48.38	179.39	5,935.5	182.4	113.7	-180.4	11.00	11.00	
6,050.0	53.88	179.59	5,966.9	143.5	114.0	-141.5	11.00	11.00	
6,100.0	59.38	179.75	5,994.4	101.7	114.2	-99.7	11.00	11.00	
6,150.0	64.88	179.90	6,017.7	57.5	114.4	-55.6	11.00	11.00	
6,200.0	70.38	180.04	6,036.7	11.3	114.4	-9.3	11.00	11.00	
6,250.0	75.88	180.16	6,051.3	-36.5	114.3	38.5	11.00	11.00	
6,300.0	81.38	180.28	6,061.1	-85.5	114.1	87.5	11.00	11.00	
6,350.0	86.87	180.40	6,066.2	-135.2	113.8	137.2	11.00	11.00	
6,378.4	90.00	180.47	6,067.0	-163.6	113.6	165.6	11.00	11.00	LP @ 6,067' TVD, 90° - Niobrara B target
6,400.0	90.00	180.47	6,067.0	-185.2	113.4	187.1	0.00	0.00	
6,478.4	90.00	180.47	6,067.0	-263.6	112.8	265.5	0.00	0.00	7" - 631' FNL, 1,320' FEL
6,500.0	90.00	180.47	6,067.0	-285.2	112.6	287.1	0.00	0.00	
6,600.0	90.00	180.47	6,067.0	-385.2	111.8	387.1	0.00	0.00	
6,700.0	90.00	180.47	6,067.0	-485.2	111.0	487.0	0.00	0.00	
6,800.0	90.00	180.47	6,067.0	-585.2	110.2	587.0	0.00	0.00	
6,900.0	90.00	180.47	6,067.0	-685.2	109.4	687.0	0.00	0.00	
7,000.0	90.00	180.47	6,067.0	-785.2	108.5	786.9	0.00	0.00	
7,100.0	90.00	180.47	6,067.0	-885.2	107.7	886.9	0.00	0.00	
7,200.0	90.00	180.47	6,067.0	-985.2	106.9	986.9	0.00	0.00	
7,300.0	90.00	180.47	6,067.0	-1,085.2	106.1	1,086.8	0.00	0.00	
7,400.0	90.00	180.47	6,067.0	-1,185.2	105.3	1,186.8	0.00	0.00	
7,500.0	90.00	180.47	6,067.0	-1,285.2	104.5	1,286.8	0.00	0.00	
7,600.0	90.00	180.47	6,067.0	-1,385.2	103.7	1,386.7	0.00	0.00	
7,700.0	90.00	180.47	6,067.0	-1,485.2	102.8	1,486.7	0.00	0.00	
7,800.0	90.00	180.47	6,067.0	-1,585.2	102.0	1,586.7	0.00	0.00	
7,900.0	90.00	180.47	6,067.0	-1,685.2	101.2	1,686.7	0.00	0.00	
8,000.0	90.00	180.47	6,067.0	-1,785.2	100.4	1,786.6	0.00	0.00	
8,100.0	90.00	180.47	6,067.0	-1,885.2	99.6	1,886.6	0.00	0.00	
8,200.0	90.00	180.47	6,067.0	-1,985.2	98.8	1,986.6	0.00	0.00	
8,300.0	90.00	180.47	6,067.0	-2,085.1	98.0	2,086.5	0.00	0.00	
8,400.0	90.00	180.47	6,067.0	-2,185.1	97.1	2,186.5	0.00	0.00	
8,500.0	90.00	180.47	6,067.0	-2,285.1	96.3	2,286.5	0.00	0.00	
8,600.0	90.00	180.47	6,067.0	-2,385.1	95.5	2,386.4	0.00	0.00	
8,700.0	90.00	180.47	6,067.0	-2,485.1	94.7	2,486.4	0.00	0.00	
8,800.0	90.00	180.47	6,067.0	-2,585.1	93.9	2,586.4	0.00	0.00	
8,900.0	90.00	180.47	6,067.0	-2,685.1	93.1	2,686.3	0.00	0.00	
9,000.0	90.00	180.47	6,067.0	-2,785.1	92.3	2,786.3	0.00	0.00	

# Cathedral Energy Services

## Planning Report

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<b>Project:</b>	Weld County	<b>MD Reference:</b>	KB=11' @ 4650.0ft (Forte #5)
<b>Site:</b>	Pronghorn P-21 Pad	<b>North Reference:</b>	True
<b>Well:</b>	Pronghorn P-T-21HNB	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan #1		

### Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
9,100.0	90.00	180.47	6,067.0	-2,885.1	91.4	2,886.3	0.00	0.00	
9,200.0	90.00	180.47	6,067.0	-2,985.1	90.6	2,986.2	0.00	0.00	
9,300.0	90.00	180.47	6,067.0	-3,085.1	89.8	3,086.2	0.00	0.00	
9,400.0	90.00	180.47	6,067.0	-3,185.1	89.0	3,186.2	0.00	0.00	
9,500.0	90.00	180.47	6,067.0	-3,285.1	88.2	3,286.1	0.00	0.00	
9,600.0	90.00	180.47	6,067.0	-3,385.1	87.4	3,386.1	0.00	0.00	
9,700.0	90.00	180.47	6,067.0	-3,485.1	86.6	3,486.1	0.00	0.00	
9,800.0	90.00	180.47	6,067.0	-3,585.1	85.7	3,586.0	0.00	0.00	
9,900.0	90.00	180.47	6,067.0	-3,685.1	84.9	3,686.0	0.00	0.00	
10,000.0	90.00	180.47	6,067.0	-3,785.1	84.1	3,786.0	0.00	0.00	
10,100.0	90.00	180.47	6,067.0	-3,885.1	83.3	3,885.9	0.00	0.00	
10,200.0	90.00	180.47	6,067.0	-3,985.1	82.5	3,985.9	0.00	0.00	
10,300.0	90.00	180.47	6,067.0	-4,085.1	81.7	4,085.9	0.00	0.00	
10,400.0	90.00	180.47	6,067.0	-4,185.1	80.9	4,185.9	0.00	0.00	
10,500.0	90.00	180.47	6,067.0	-4,285.1	80.0	4,285.8	0.00	0.00	
10,600.0	90.00	180.47	6,067.0	-4,385.1	79.2	4,385.8	0.00	0.00	
10,700.0	90.00	180.47	6,067.0	-4,485.1	78.4	4,485.8	0.00	0.00	
10,750.4	90.00	180.47	6,067.0	-4,535.5	78.0	4,536.2	0.00	0.00	TD @ 10,750.4' MD

### Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- hit/miss target									
- Shape									
Pronghorn P-T-21HNB T	0.00	0.00	6,067.0	-91.1	114.2	1,388,407.75	3,359,541.12	40.392390	-104.209180
- plan misses target center by 5.0ft at 6306.1ft MD (6062.0 TVD, -91.6 N, 114.1 E)									
- Point									
Pronghorn P-T-21HNB F	0.00	0.00	6,067.0	-4,535.5	78.0	1,383,963.27	3,359,569.60	40.380190	-104.209310
- plan hits target center									
- Point									

### Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)
6,478.4	6,067.0	7" - 631' FNL, 1,320' FEL		

### Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
6,378.4	6,067.0	Niobrara B target		0.00	

# Cathedral Energy Services

## Planning Report

<b>Database:</b>	USA EDM 5000 Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well Pronghorn P-T-21HNB
<b>Company:</b>	Bonanza Creek Energy Operating Company, LLC	<b>TVD Reference:</b>	KB=11' @ 4650.0ft (Forte #5)
<b>Project:</b>	Weld County	<b>MD Reference:</b>	KB=11' @ 4650.0ft (Forte #5)
<b>Site:</b>	Pronghorn P-21 Pad	<b>North Reference:</b>	True
<b>Well:</b>	Pronghorn P-T-21HNB	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan #1		

### Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
500.0	500.0	0.0	0.0	KOP @ 500'
716.7	716.5	7.9	2.3	EOB @ Inc. = 4.33°
5,522.4	5,508.4	355.9	106.1	Start 11° Build/Turn
6,378.4	6,067.0	-163.6	113.6	LP @ 6,067' TVD, 90°
10,750.4	6,067.0	-4,535.5	78.0	TD @ 10,750.4' MD