

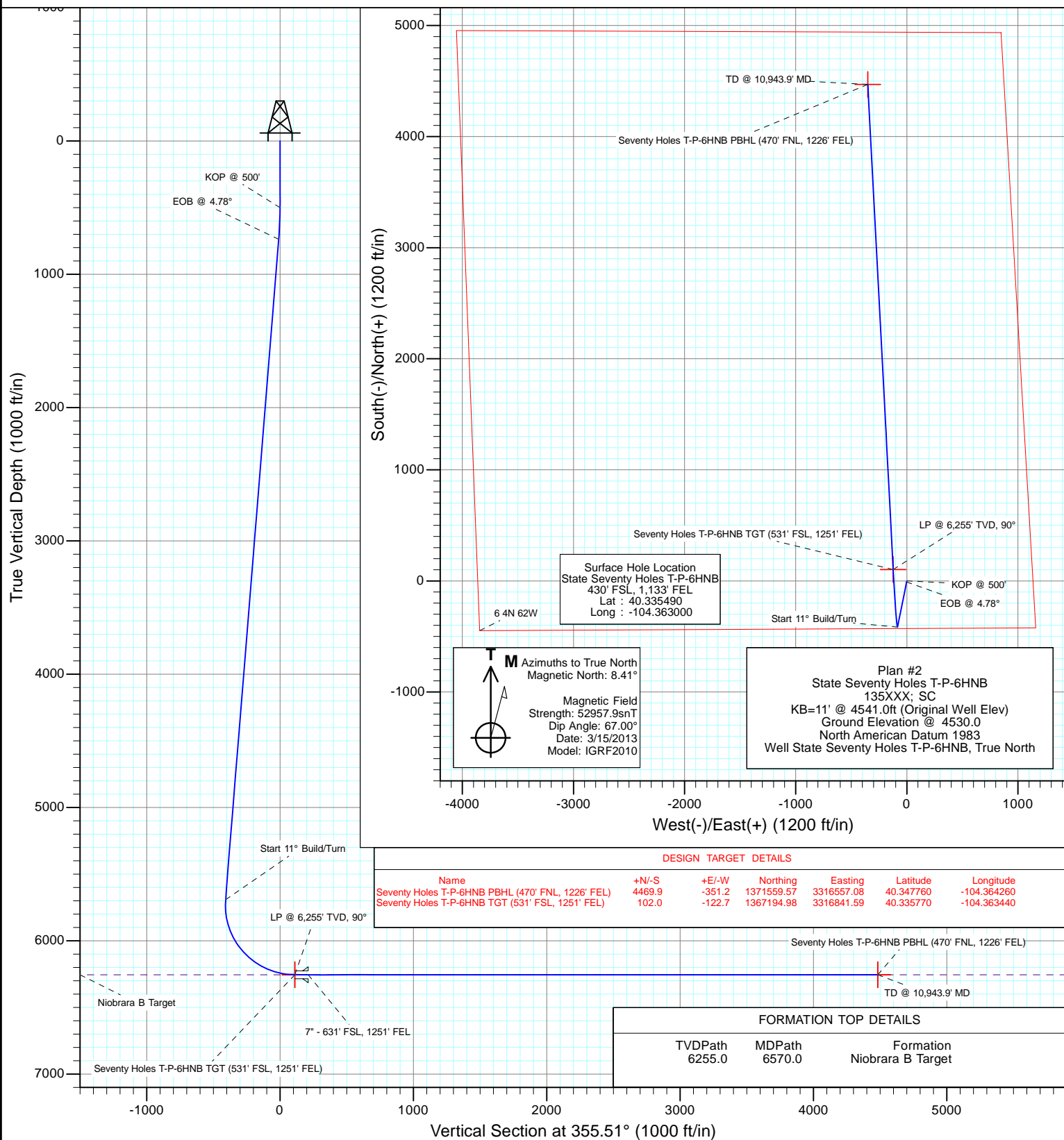


Project: Weld County  
Site: State Seventy Holes T-6 Pad  
Well: State Seventy Holes T-P-6HNB  
Wellbore: OH  
Design: Plan #2



#### 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	739.0	4.78	191.40	738.7	-9.8	-2.0	2.00	191.40	-9.6	
4	5709.8	4.78	191.40	5692.2	-415.8	-83.8	0.00	0.00	-408.0	
5	6570.0	90.00	357.00	6255.0	102.0	-122.7	11.00	165.56	111.3	Seventy Holes T-P-6HNB TGT (531' FSL, 1251' FEL)
6	10943.9	90.00	357.00	6255.0	4469.9	-351.2	0.00	0.00	4483.7	Seventy Holes T-P-6HNB PBHL (470' FNL, 1226' FEL)



# Cathedral Energy Services

## Planning Report

<b>Database:</b>	USA EDM 5000 Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well State Seventy Holes T-P-6HNB
<b>Company:</b>	Bonanza Creek Energy Operating Company, LLC	<b>TVD Reference:</b>	KB=11' @ 4541.0ft (Original Well Elev)
<b>Project:</b>	Weld County	<b>MD Reference:</b>	KB=11' @ 4541.0ft (Original Well Elev)
<b>Site:</b>	State Seventy Holes T-6 Pad	<b>North Reference:</b>	True
<b>Well:</b>	State Seventy Holes T-P-6HNB	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan #2		

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		State Seventy Holes T-6 Pad			
Site Position:		Northing:	1,367,094.57 ft	Latitude:	40.335490
From:	Lat/Long	Easting:	3,316,965.55 ft	Longitude:	-104.363000
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence:	0.73 °

Well	State Seventy Holes T-P-6HNB					
Well Position	+N/-S	0.0 ft	Northing:	1,367,094.55 ft	Latitude:	40.335490
	+E/-W	0.0 ft	Easting:	3,316,965.55 ft	Longitude:	-104.363000
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,530.0 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	3/15/2013	8.41	67.00	52,958

Design	Plan #2			
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	355.51

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	
739.0	4.78	191.40	738.7	-9.8	-2.0	2.00	2.00	0.00	191.40	
5,709.8	4.78	191.40	5,692.2	-415.8	-83.8	0.00	0.00	0.00	0.00	
6,570.0	90.00	357.00	6,255.0	102.0	-122.7	11.00	9.91	19.25	165.56	Seventy Holes T-P-6H
10,943.9	90.00	357.00	6,255.0	4,469.9	-351.2	0.00	0.00	0.00	0.00	Seventy Holes T-P-6H

# Cathedral Energy Services

## Planning Report

<b>Database:</b>	USA EDM 5000 Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well State Seventy Holes T-P-6HNB
<b>Company:</b>	Bonanza Creek Energy Operating Company, LLC	<b>TVD Reference:</b>	KB=11' @ 4541.0ft (Original Well Elev)
<b>Project:</b>	Weld County	<b>MD Reference:</b>	KB=11' @ 4541.0ft (Original Well Elev)
<b>Site:</b>	State Seventy Holes T-6 Pad	<b>North Reference:</b>	True
<b>Well:</b>	State Seventy Holes T-P-6HNB	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan #2		

### 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	191.40	600.0	-1.7	-0.3	-1.7	2.00	2.00	
700.0	4.00	191.40	699.8	-6.8	-1.4	-6.7	2.00	2.00	
739.0	4.78	191.40	738.7	-9.8	-2.0	-9.6	2.00	2.00	EOB @ 4.78°
800.0	4.78	191.40	799.5	-14.8	-3.0	-14.5	0.00	0.00	
900.0	4.78	191.40	899.2	-22.9	-4.6	-22.5	0.00	0.00	
1,000.0	4.78	191.40	998.8	-31.1	-6.3	-30.5	0.00	0.00	
1,100.0	4.78	191.40	1,098.5	-39.3	-7.9	-38.5	0.00	0.00	
1,200.0	4.78	191.40	1,198.1	-47.4	-9.6	-46.5	0.00	0.00	
1,300.0	4.78	191.40	1,297.8	-55.6	-11.2	-54.5	0.00	0.00	
1,400.0	4.78	191.40	1,397.4	-63.8	-12.9	-62.6	0.00	0.00	
1,500.0	4.78	191.40	1,497.1	-71.9	-14.5	-70.6	0.00	0.00	
1,600.0	4.78	191.40	1,596.7	-80.1	-16.2	-78.6	0.00	0.00	
1,700.0	4.78	191.40	1,696.4	-88.3	-17.8	-86.6	0.00	0.00	
1,800.0	4.78	191.40	1,796.0	-96.4	-19.4	-94.6	0.00	0.00	
1,900.0	4.78	191.40	1,895.7	-104.6	-21.1	-102.6	0.00	0.00	
2,000.0	4.78	191.40	1,995.3	-112.8	-22.7	-110.7	0.00	0.00	
2,100.0	4.78	191.40	2,095.0	-121.0	-24.4	-118.7	0.00	0.00	
2,200.0	4.78	191.40	2,194.6	-129.1	-26.0	-126.7	0.00	0.00	
2,300.0	4.78	191.40	2,294.3	-137.3	-27.7	-134.7	0.00	0.00	
2,400.0	4.78	191.40	2,393.9	-145.5	-29.3	-142.7	0.00	0.00	
2,500.0	4.78	191.40	2,493.6	-153.6	-31.0	-150.7	0.00	0.00	
2,600.0	4.78	191.40	2,593.2	-161.8	-32.6	-158.7	0.00	0.00	
2,700.0	4.78	191.40	2,692.9	-170.0	-34.3	-166.8	0.00	0.00	
2,800.0	4.78	191.40	2,792.6	-178.1	-35.9	-174.8	0.00	0.00	
2,900.0	4.78	191.40	2,892.2	-186.3	-37.6	-182.8	0.00	0.00	
3,000.0	4.78	191.40	2,991.9	-194.5	-39.2	-190.8	0.00	0.00	
3,100.0	4.78	191.40	3,091.5	-202.6	-40.9	-198.8	0.00	0.00	
3,200.0	4.78	191.40	3,191.2	-210.8	-42.5	-206.8	0.00	0.00	
3,300.0	4.78	191.40	3,290.8	-219.0	-44.2	-214.8	0.00	0.00	
3,400.0	4.78	191.40	3,390.5	-227.1	-45.8	-222.9	0.00	0.00	
3,500.0	4.78	191.40	3,490.1	-235.3	-47.4	-230.9	0.00	0.00	
3,600.0	4.78	191.40	3,589.8	-243.5	-49.1	-238.9	0.00	0.00	
3,700.0	4.78	191.40	3,689.4	-251.7	-50.7	-246.9	0.00	0.00	
3,800.0	4.78	191.40	3,789.1	-259.8	-52.4	-254.9	0.00	0.00	
3,900.0	4.78	191.40	3,888.7	-268.0	-54.0	-262.9	0.00	0.00	
4,000.0	4.78	191.40	3,988.4	-276.2	-55.7	-271.0	0.00	0.00	
4,100.0	4.78	191.40	4,088.0	-284.3	-57.3	-279.0	0.00	0.00	
4,200.0	4.78	191.40	4,187.7	-292.5	-59.0	-287.0	0.00	0.00	
4,300.0	4.78	191.40	4,287.3	-300.7	-60.6	-295.0	0.00	0.00	
4,400.0	4.78	191.40	4,387.0	-308.8	-62.3	-303.0	0.00	0.00	
4,500.0	4.78	191.40	4,486.6	-317.0	-63.9	-311.0	0.00	0.00	
4,600.0	4.78	191.40	4,586.3	-325.2	-65.6	-319.0	0.00	0.00	
4,700.0	4.78	191.40	4,685.9	-333.3	-67.2	-327.1	0.00	0.00	
4,800.0	4.78	191.40	4,785.6	-341.5	-68.9	-335.1	0.00	0.00	
4,900.0	4.78	191.40	4,885.2	-349.7	-70.5	-343.1	0.00	0.00	
5,000.0	4.78	191.40	4,984.9	-357.9	-72.2	-351.1	0.00	0.00	

# Cathedral Energy Services

## Planning Report

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<b>Company:</b>	Bonanza Creek Energy Operating Company, LLC	<b>TVD Reference:</b>	KB=11' @ 4541.0ft (Original Well Elev)
<b>Project:</b>	Weld County	<b>MD Reference:</b>	KB=11' @ 4541.0ft (Original Well Elev)
<b>Site:</b>	State Seventy Holes T-6 Pad	<b>North Reference:</b>	True
<b>Well:</b>	State Seventy Holes T-P-6HNB	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan #2		

### 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	4.78	191.40	5,084.6	-366.0	-73.8	-359.1	0.00	0.00	
5,200.0	4.78	191.40	5,184.2	-374.2	-75.5	-367.1	0.00	0.00	
5,300.0	4.78	191.40	5,283.9	-382.4	-77.1	-375.2	0.00	0.00	
5,400.0	4.78	191.40	5,383.5	-390.5	-78.7	-383.2	0.00	0.00	
5,500.0	4.78	191.40	5,483.2	-398.7	-80.4	-391.2	0.00	0.00	
5,600.0	4.78	191.40	5,582.8	-406.9	-82.0	-399.2	0.00	0.00	
5,709.8	4.78	191.40	5,692.2	-415.8	-83.8	-408.0	0.00	0.00	Start 11° Build/Turn
5,750.0	1.21	257.23	5,732.4	-417.6	-84.6	-409.7	11.00	-8.88	
5,800.0	5.43	344.36	5,782.3	-415.4	-85.7	-407.4	11.00	8.44	
5,850.0	10.86	350.78	5,831.8	-408.5	-87.1	-400.4	11.00	10.87	
5,900.0	16.34	352.94	5,880.4	-396.8	-88.8	-388.7	11.00	10.96	
5,950.0	21.83	354.03	5,927.6	-380.6	-90.6	-372.3	11.00	10.98	
6,000.0	27.32	354.70	5,973.0	-359.9	-92.6	-351.6	11.00	10.99	
6,050.0	32.81	355.16	6,016.3	-335.0	-94.8	-326.5	11.00	10.99	
6,100.0	38.31	355.50	6,057.0	-306.0	-97.2	-297.5	11.00	10.99	
6,150.0	43.81	355.76	6,094.6	-273.3	-99.7	-264.6	11.00	10.99	
6,200.0	49.31	355.98	6,129.0	-237.1	-102.3	-228.3	11.00	11.00	
6,250.0	54.80	356.16	6,159.7	-197.8	-105.0	-188.9	11.00	11.00	
6,300.0	60.30	356.33	6,186.6	-155.7	-107.8	-146.8	11.00	11.00	
6,350.0	65.80	356.47	6,209.2	-111.2	-110.6	-102.2	11.00	11.00	
6,400.0	71.30	356.60	6,227.5	-64.8	-113.4	-55.7	11.00	11.00	
6,450.0	76.80	356.73	6,241.2	-16.8	-116.2	-7.6	11.00	11.00	
6,500.0	82.30	356.84	6,250.3	32.3	-118.9	41.5	11.00	11.00	
6,550.0	87.80	356.96	6,254.6	82.0	-121.6	91.3	11.00	11.00	
6,570.0	90.00	357.00	6,255.0	102.0	-122.7	111.3	11.00	11.00	LP @ 6,255' TVD, 90° - Niobrara B Target
6,600.0	90.00	357.00	6,255.0	131.9	-124.2	141.2	0.00	0.00	
6,670.0	90.00	357.00	6,255.0	201.8	-127.9	211.2	0.00	0.00	7" - 631' FSL, 1251' FEL
6,700.0	90.00	357.00	6,255.0	231.8	-129.5	241.2	0.00	0.00	
6,800.0	90.00	357.00	6,255.0	331.6	-134.7	341.2	0.00	0.00	
6,900.0	90.00	357.00	6,255.0	431.5	-139.9	441.1	0.00	0.00	
7,000.0	90.00	357.00	6,255.0	531.4	-145.1	541.1	0.00	0.00	
7,100.0	90.00	357.00	6,255.0	631.2	-150.4	641.1	0.00	0.00	
7,200.0	90.00	357.00	6,255.0	731.1	-155.6	741.0	0.00	0.00	
7,300.0	90.00	357.00	6,255.0	831.0	-160.8	841.0	0.00	0.00	
7,400.0	90.00	357.00	6,255.0	930.8	-166.0	941.0	0.00	0.00	
7,500.0	90.00	357.00	6,255.0	1,030.7	-171.3	1,040.9	0.00	0.00	
7,600.0	90.00	357.00	6,255.0	1,130.6	-176.5	1,140.9	0.00	0.00	
7,700.0	90.00	357.00	6,255.0	1,230.4	-181.7	1,240.9	0.00	0.00	
7,800.0	90.00	357.00	6,255.0	1,330.3	-186.9	1,340.8	0.00	0.00	
7,900.0	90.00	357.00	6,255.0	1,430.1	-192.2	1,440.8	0.00	0.00	
8,000.0	90.00	357.00	6,255.0	1,530.0	-197.4	1,540.8	0.00	0.00	
8,100.0	90.00	357.00	6,255.0	1,629.9	-202.6	1,640.7	0.00	0.00	
8,200.0	90.00	357.00	6,255.0	1,729.7	-207.8	1,740.7	0.00	0.00	
8,300.0	90.00	357.00	6,255.0	1,829.6	-213.1	1,840.7	0.00	0.00	
8,400.0	90.00	357.00	6,255.0	1,929.5	-218.3	1,940.6	0.00	0.00	
8,500.0	90.00	357.00	6,255.0	2,029.3	-223.5	2,040.6	0.00	0.00	
8,600.0	90.00	357.00	6,255.0	2,129.2	-228.7	2,140.6	0.00	0.00	
8,700.0	90.00	357.00	6,255.0	2,229.1	-234.0	2,240.5	0.00	0.00	
8,800.0	90.00	357.00	6,255.0	2,328.9	-239.2	2,340.5	0.00	0.00	
8,900.0	90.00	357.00	6,255.0	2,428.8	-244.4	2,440.5	0.00	0.00	
9,000.0	90.00	357.00	6,255.0	2,528.6	-249.6	2,540.4	0.00	0.00	
9,100.0	90.00	357.00	6,255.0	2,628.5	-254.9	2,640.4	0.00	0.00	

# Cathedral Energy Services

## Planning Report

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<b>Site:</b>	State Seventy Holes T-6 Pad	<b>North Reference:</b>	True
<b>Well:</b>	State Seventy Holes T-P-6HNB	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan #2		

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
9,200.0	90.00	357.00	6,255.0	2,728.4	-260.1	2,740.4	0.00	0.00	
9,300.0	90.00	357.00	6,255.0	2,828.2	-265.3	2,840.3	0.00	0.00	
9,400.0	90.00	357.00	6,255.0	2,928.1	-270.5	2,940.3	0.00	0.00	
9,500.0	90.00	357.00	6,255.0	3,028.0	-275.8	3,040.3	0.00	0.00	
9,600.0	90.00	357.00	6,255.0	3,127.8	-281.0	3,140.2	0.00	0.00	
9,700.0	90.00	357.00	6,255.0	3,227.7	-286.2	3,240.2	0.00	0.00	
9,800.0	90.00	357.00	6,255.0	3,327.6	-291.4	3,340.2	0.00	0.00	
9,900.0	90.00	357.00	6,255.0	3,427.4	-296.7	3,440.1	0.00	0.00	
10,000.0	90.00	357.00	6,255.0	3,527.3	-301.9	3,540.1	0.00	0.00	
10,100.0	90.00	357.00	6,255.0	3,627.1	-307.1	3,640.1	0.00	0.00	
10,200.0	90.00	357.00	6,255.0	3,727.0	-312.3	3,740.0	0.00	0.00	
10,300.0	90.00	357.00	6,255.0	3,826.9	-317.6	3,840.0	0.00	0.00	
10,400.0	90.00	357.00	6,255.0	3,926.7	-322.8	3,940.0	0.00	0.00	
10,500.0	90.00	357.00	6,255.0	4,026.6	-328.0	4,039.9	0.00	0.00	
10,600.0	90.00	357.00	6,255.0	4,126.5	-333.2	4,139.9	0.00	0.00	
10,700.0	90.00	357.00	6,255.0	4,226.3	-338.5	4,239.8	0.00	0.00	
10,800.0	90.00	357.00	6,255.0	4,326.2	-343.7	4,339.8	0.00	0.00	
10,900.0	90.00	357.00	6,255.0	4,426.0	-348.9	4,439.8	0.00	0.00	
10,943.9	90.00	357.00	6,255.0	4,469.9	-351.2	4,483.7	0.00	0.00	TD @ 10,943.9' 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									
Seventy Holes T-P-6HNB - plan hits target center - Point	0.00	0.00	6,255.0	4,469.9	-351.2	1,371,559.57	3,316,557.08	40.347760	-104.364260
Seventy Holes T-P-6HNB - plan hits target center - Point	0.00	0.00	6,255.0	102.0	-122.7	1,367,194.98	3,316,841.59	40.335770	-104.363440

Casing Points				
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)
6,670.0	6,255.0	7" - 631' FSL, 1251' FEL		

Formations				
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)
6,570.0	6,255.0	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 State Seventy Holes T-P-6HNB
<b>Company:</b>	Bonanza Creek Energy Operating Company, LLC	<b>TVD Reference:</b>	KB=11' @ 4541.0ft (Original Well Elev)
<b>Project:</b>	Weld County	<b>MD Reference:</b>	KB=11' @ 4541.0ft (Original Well Elev)
<b>Site:</b>	State Seventy Holes T-6 Pad	<b>North Reference:</b>	True
<b>Well:</b>	State Seventy Holes T-P-6HNB	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan #2		

### 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'
739.0	738.7	-9.8	-2.0	EOB @ 4.78°
5,709.8	5,692.2	-415.8	-83.8	Start 11° Build/Turn
6,570.0	6,255.0	102.0	-122.7	LP @ 6,255' TVD, 90°
10,943.9	6,255.0	4,469.9	-351.2	TD @ 10,943.9' MD