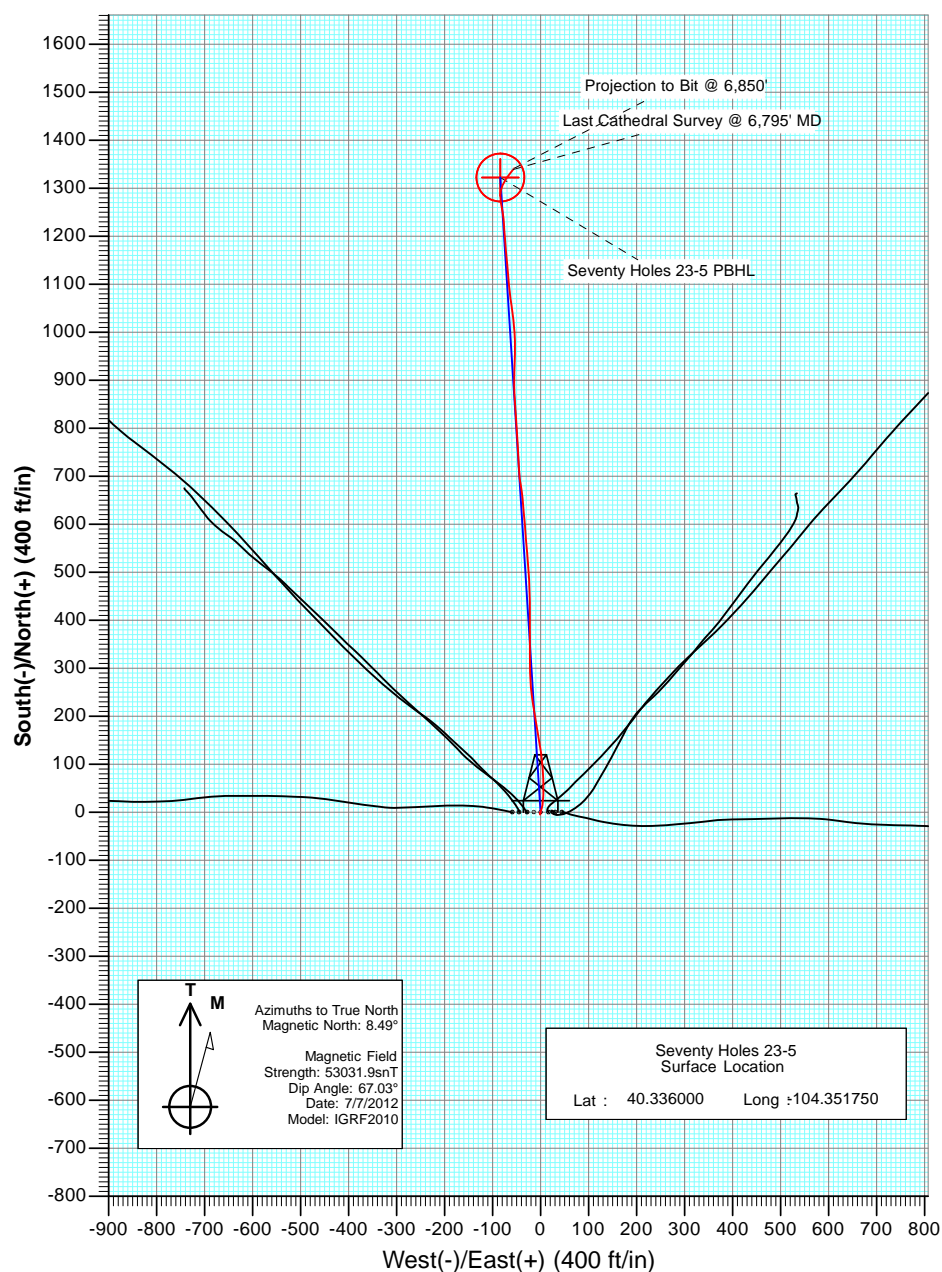
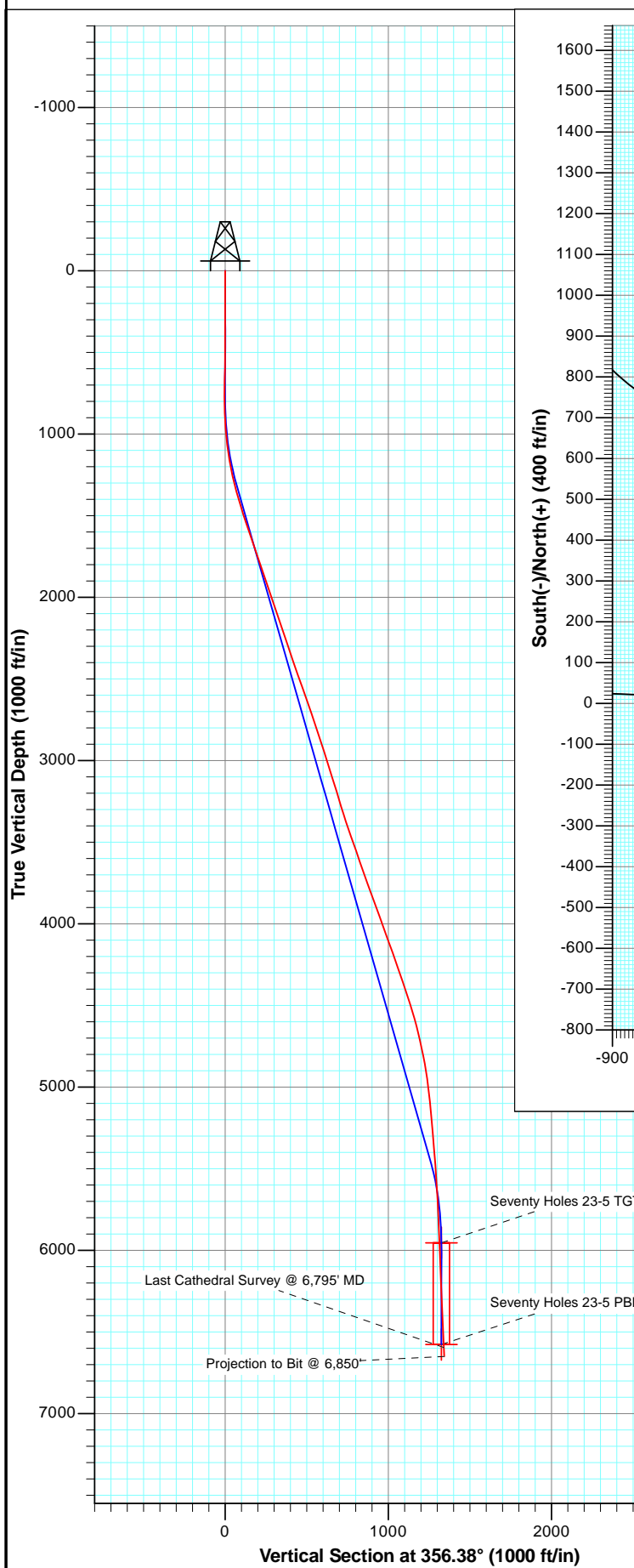




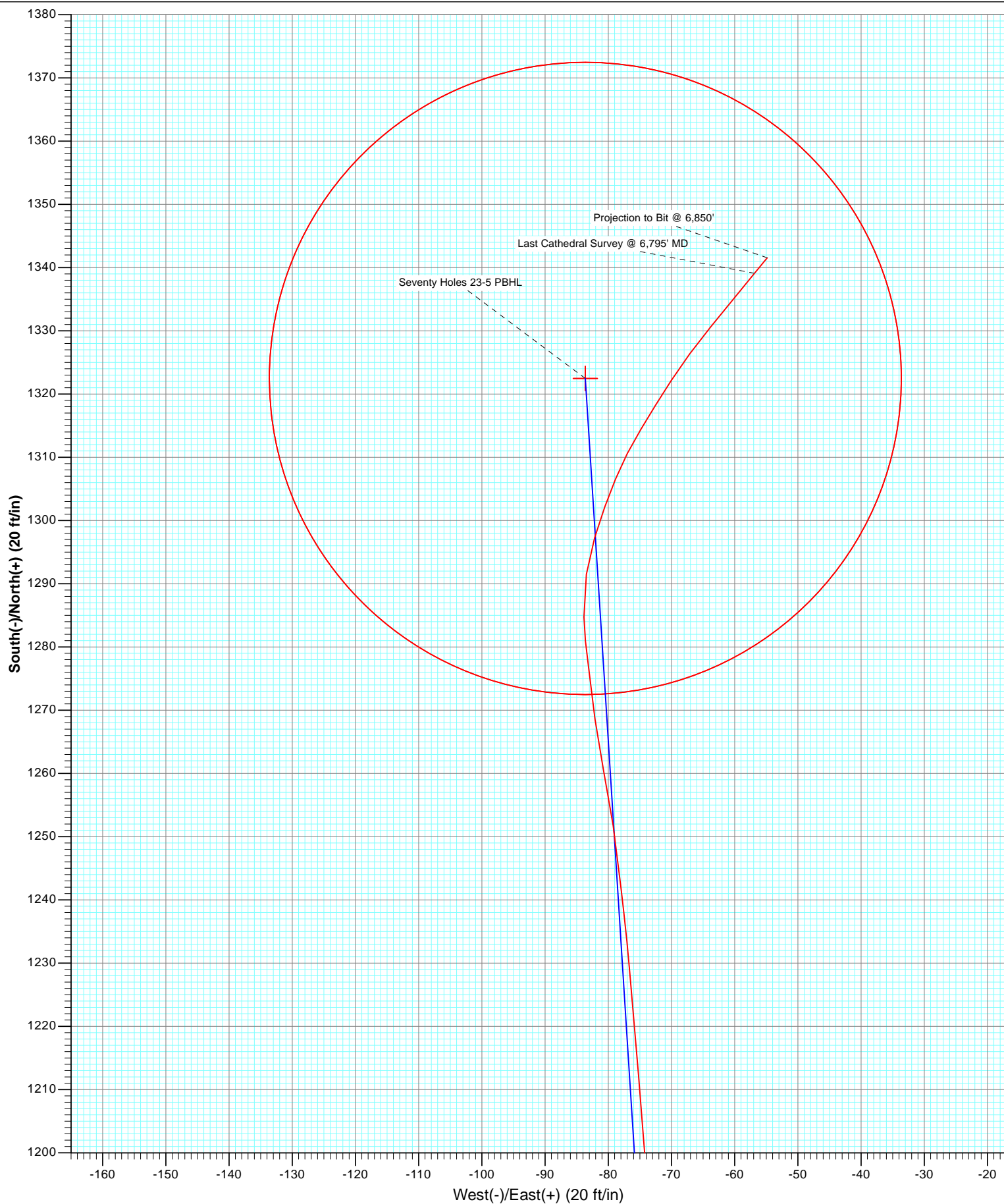
Project: Weld County
 Site: Seventy Holes 24-5 Pad
 Well: Seventy Holes 23-5
 Wellbore: OH
 Plan: AB FINAL



OH Seventy Holes 23-5 125443; 176855 DN							
KB=26° @ 4559.0ft (Mid Continent #1) North American Datum 1983 Well Seventy Holes 23-5, True North							
Type	Target	Azimuth	Origin	Type	N/S	E/W	From TVD
Target	Seventy Holes 23-5 PBHL	356.38	Slot		0.0	0.0	0.0
Name	TVD	+N/-S	+E/-W	Latitude	Longitude		
Seventy Holes 23-5 TGT	5954.0	1322.5	-83.6	40.339630	-104.352050		
Seventy Holes 23-5 PBHL	6577.0	1322.5	-83.6	40.339630	-104.352050		



Project: Weld County
Site: Seventy Holes 24-5 Pad
Well: Seventy Holes 23-5
Wellbore: OH
Plan: AB FINAL



Cathedral Energy Services

Survey Report

Company:	Bonanza Creek Energy Operating Company, LLC	Local Co-ordinate Reference:	Well Seventy Holes 23-5
Project:	Weld County	TVD Reference:	KB=26' @ 4559.0ft (Mid Continent #1)
Site:	Seventy Holes 24-5 Pad	MD Reference:	KB=26' @ 4559.0ft (Mid Continent #1)
Well:	Seventy Holes 23-5	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	USA EDM 5000 Multi Users DB

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		Seventy Holes 24-5 Pad			
Site Position:		Northing:	1,367,320.25 ft	Latitude:	40.336000
From:	Lat/Long	Easting:	3,320,060.09 ft	Longitude:	-104.351890
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence:	0.74 °

Well	Seventy Holes 23-5					
Well Position	+N/-S	0.0 ft	Northing:	1,367,320.68 ft	Latitude:	40.336000
	+E/-W	0.0 ft	Easting:	3,320,099.12 ft	Longitude:	-104.351750
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,533.0 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	7/7/2012	8.49	67.03	53,032

Design	OH				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction	
	(ft)	(ft)	(ft)	(°)	
	0.0	0.0	0.0	356.38	

Survey Program	Date	7/18/2012			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
561.0	6,850.0	Survey #1 (OH)	MWD	Geolink MWD	

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Formations / Comments	
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00		
561.0	0.10	194.20	561.0	-0.5	-0.1	-0.5	0.02	0.02		
655.0	2.30	189.80	655.0	-2.4	-0.5	-2.4	2.34	2.34		
750.0	0.50	184.70	749.9	-4.7	-0.8	-4.6	1.90	-1.89		
844.0	2.40	351.90	843.9	-3.2	-1.1	-3.1	3.07	2.02		
938.0	3.20	24.60	937.8	1.2	-0.3	1.2	1.86	0.85		
1,033.0	6.40	17.20	1,032.5	8.6	2.4	8.5	3.42	3.37		
1,127.0	8.90	4.80	1,125.6	20.9	4.5	20.6	3.17	2.66		
1,221.0	11.60	3.70	1,218.1	37.6	5.7	37.1	2.88	2.87		
1,314.0	14.20	357.70	1,308.8	58.3	5.9	57.8	3.14	2.80		
1,410.0	16.50	357.10	1,401.3	83.7	4.7	83.2	2.40	2.40		
1,503.0	17.80	354.20	1,490.2	111.0	2.6	110.6	1.67	1.40		
1,598.0	19.40	351.10	1,580.2	141.1	-1.3	140.9	1.98	1.68		

Cathedral Energy Services

Survey Report

Company: Bonanza Creek Energy Operating Company, LLC
Project: Weld County
Site: Seventy Holes 24-5 Pad
Well: Seventy Holes 23-5
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well Seventy Holes 23-5
TVD Reference: KB=26' @ 4559.0ft (Mid Continent #1)
MD Reference: KB=26' @ 4559.0ft (Mid Continent #1)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: USA EDM 5000 Multi Users DB

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Formations / Comments
1,692.0	18.50	348.30	1,669.1	171.1	-6.7	171.2	1.36	-0.96	
1,787.0	18.60	350.70	1,759.2	200.8	-12.2	201.2	0.81	0.11	
1,881.0	18.70	352.00	1,848.3	230.5	-16.8	231.1	0.45	0.11	
1,976.0	18.80	355.70	1,938.2	260.9	-20.0	261.6	1.26	0.11	
2,071.0	19.40	357.70	2,028.0	291.9	-21.8	292.7	0.93	0.63	
2,166.0	19.20	0.20	2,117.7	323.3	-22.4	324.0	0.89	-0.21	
2,261.0	18.50	0.10	2,207.6	354.0	-22.3	354.7	0.74	-0.74	
2,355.0	18.60	0.40	2,296.7	383.9	-22.2	384.5	0.15	0.11	
2,450.0	18.80	359.80	2,386.7	414.3	-22.1	414.9	0.29	0.21	
2,544.0	18.80	359.00	2,475.7	444.6	-22.4	445.2	0.27	0.00	
2,639.0	19.50	357.70	2,565.4	475.8	-23.3	476.3	0.86	0.74	
2,733.0	20.30	355.20	2,653.8	507.7	-25.3	508.3	1.24	0.85	
2,828.0	18.80	355.30	2,743.3	539.4	-28.0	540.1	1.58	-1.58	
2,923.0	17.50	355.00	2,833.6	568.9	-30.5	569.7	1.37	-1.37	
3,017.0	17.80	355.90	2,923.2	597.3	-32.7	598.2	0.43	0.32	
3,111.0	17.80	355.10	3,012.7	625.9	-35.0	626.9	0.26	0.00	
3,205.0	17.50	355.20	3,102.2	654.3	-37.4	655.4	0.32	-0.32	
3,298.0	17.40	349.60	3,191.0	681.9	-41.1	683.2	1.81	-0.11	
3,393.0	16.70	355.90	3,281.8	709.5	-44.6	710.9	2.08	-0.74	
3,489.0	18.50	357.40	3,373.3	738.5	-46.3	739.9	1.93	1.87	
3,584.0	19.20	356.90	3,463.2	769.2	-47.8	770.6	0.76	0.74	
3,680.0	19.60	356.40	3,553.8	801.0	-49.7	802.5	0.45	0.42	
3,775.0	18.50	355.70	3,643.5	831.9	-51.8	833.5	1.18	-1.16	
3,870.0	19.80	356.70	3,733.3	863.0	-53.9	864.7	1.41	1.37	
3,964.0	20.10	359.80	3,821.6	895.1	-54.8	896.7	1.17	0.32	
4,059.0	20.60	2.90	3,910.7	928.1	-54.1	929.6	1.25	0.53	
4,155.0	19.50	0.10	4,000.9	961.0	-53.2	962.4	1.52	-1.15	
4,250.0	20.20	357.20	4,090.3	993.2	-54.0	994.6	1.27	0.74	
4,344.0	19.40	353.10	4,178.7	1,024.9	-56.6	1,026.4	1.70	-0.85	
4,439.0	19.40	351.70	4,268.3	1,056.2	-60.8	1,057.9	0.49	0.00	
4,533.0	18.20	354.90	4,357.3	1,086.3	-64.4	1,088.2	1.68	-1.28	
4,628.0	19.00	354.30	4,447.3	1,116.4	-67.2	1,118.4	0.87	0.84	
4,722.0	16.60	354.60	4,536.8	1,145.0	-70.0	1,147.2	2.56	-2.55	
4,815.0	14.50	356.10	4,626.4	1,169.9	-72.0	1,172.1	2.30	-2.26	
4,909.0	13.10	355.60	4,717.7	1,192.2	-73.7	1,194.5	1.49	-1.49	
5,004.0	11.30	355.50	4,810.6	1,212.3	-75.2	1,214.6	1.89	-1.89	
5,097.0	9.10	354.70	4,902.1	1,228.7	-76.6	1,231.0	2.37	-2.37	
5,191.0	6.90	353.10	4,995.2	1,241.7	-78.0	1,244.1	2.35	-2.34	
5,285.0	5.50	352.60	5,088.6	1,251.7	-79.2	1,254.2	1.49	-1.49	
5,380.0	5.30	347.30	5,183.2	1,260.5	-80.8	1,263.1	0.57	-0.21	
5,474.0	4.60	354.60	5,276.8	1,268.5	-82.1	1,271.2	1.00	-0.74	
5,569.0	5.40	351.50	5,371.5	1,276.7	-83.1	1,279.4	0.89	0.84	
5,663.0	4.40	358.50	5,465.1	1,284.7	-83.9	1,287.4	1.24	-1.06	
5,757.0	3.90	8.70	5,558.9	1,291.5	-83.5	1,294.2	0.95	-0.53	
5,851.0	3.30	17.20	5,652.7	1,297.2	-82.2	1,299.8	0.85	-0.64	
5,947.0	2.90	19.60	5,748.6	1,302.2	-80.5	1,304.6	0.44	-0.42	
6,042.0	2.80	22.60	5,843.4	1,306.6	-78.9	1,308.9	0.19	-0.11	
6,136.0	2.60	27.50	5,937.3	1,310.6	-77.0	1,312.8	0.32	-0.21	
6,230.0	2.70	30.70	6,031.2	1,314.4	-74.9	1,316.5	0.19	0.11	
6,324.0	2.70	31.70	6,125.1	1,318.2	-72.6	1,320.1	0.05	0.00	
6,418.0	3.00	33.30	6,219.0	1,322.1	-70.1	1,323.9	0.33	0.32	
6,513.0	3.20	36.40	6,313.9	1,326.3	-67.1	1,327.9	0.27	0.21	
6,607.0	3.40	38.80	6,407.7	1,330.6	-63.8	1,332.0	0.26	0.21	

Cathedral Energy Services

Survey Report

Company:	Bonanza Creek Energy Operating Company, LLC	Local Co-ordinate Reference:	Well Seventy Holes 23-5
Project:	Weld County	TVD Reference:	KB=26' @ 4559.0ft (Mid Continent #1)
Site:	Seventy Holes 24-5 Pad	MD Reference:	KB=26' @ 4559.0ft (Mid Continent #1)
Well:	Seventy Holes 23-5	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	USA EDM 5000 Multi Users DB

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Formations / Comments
6,795.0	3.30	39.70	6,595.4	1,339.1	-56.9	1,340.0	0.06	-0.05	Last Cathedral Survey @ 6,795' MD Projection to Bit @ 6,850'
6,850.0	3.30	39.70	6,650.3	1,341.5	-54.8	1,342.3	0.00	0.00	

Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
Seventy Holes 23-5 PBI - actual wellpath misses target center by 30.5ft at 6774.9ft MD (6575.3 TVD, 1338.2 N, -57.6 E) - Circle (radius 50.0)	0.00	0.00	6,577.0	1,322.5	-83.6	1,368,641.94	3,319,998.37	40.339630	-104.352050
Seventy Holes 23-5 TG1 - actual wellpath misses target center by 13.2ft at 6153.0ft MD (5954.3 TVD, 1311.3 N, -76.6 E) - Point	0.00	0.00	5,954.0	1,322.5	-83.6	1,368,641.94	3,319,998.37	40.339630	-104.352050

Design Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
6,795.0	6,595.4	1,339.1	-56.9	Last Cathedral Survey @ 6,795' MD
6,850.0	6,650.3	1,341.5	-54.8	Projection to Bit @ 6,850'

Checked By: _____ Approved By: _____ Date: _____