

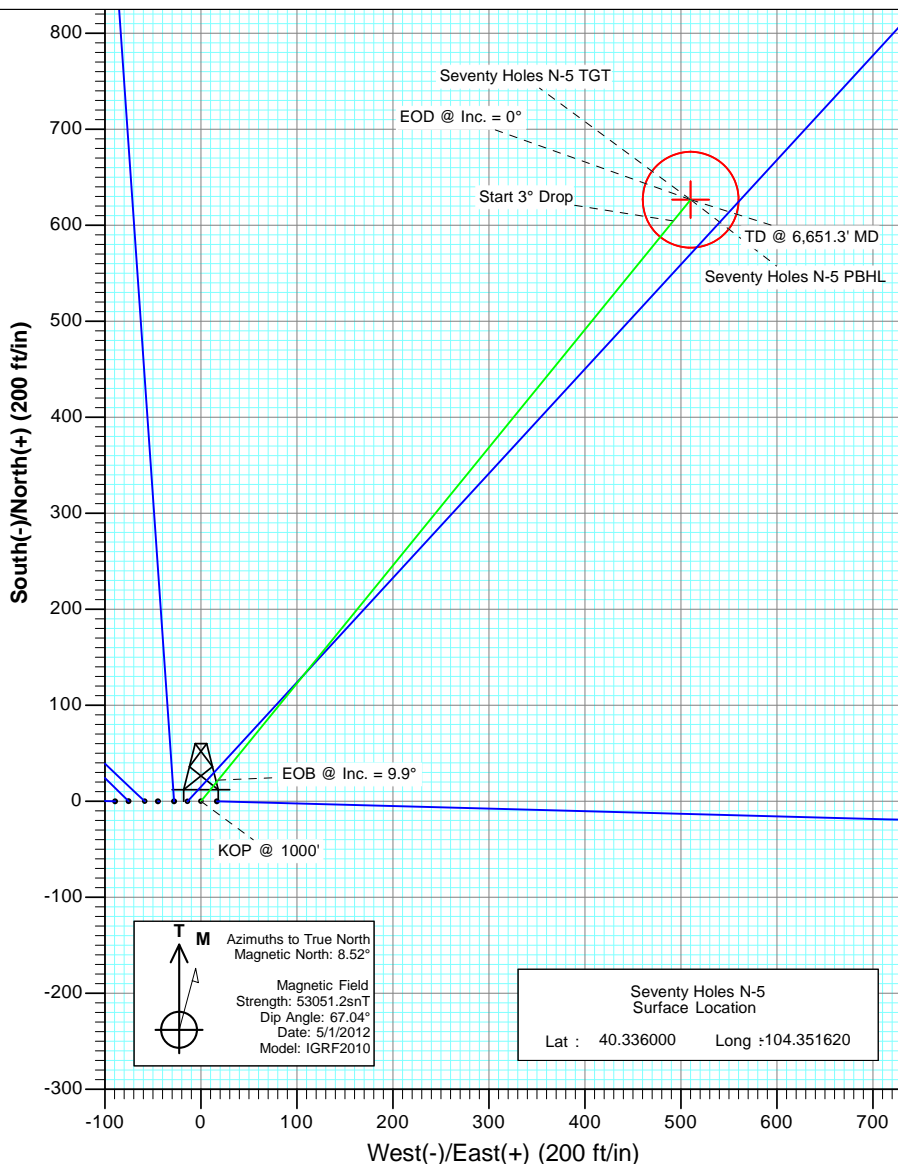
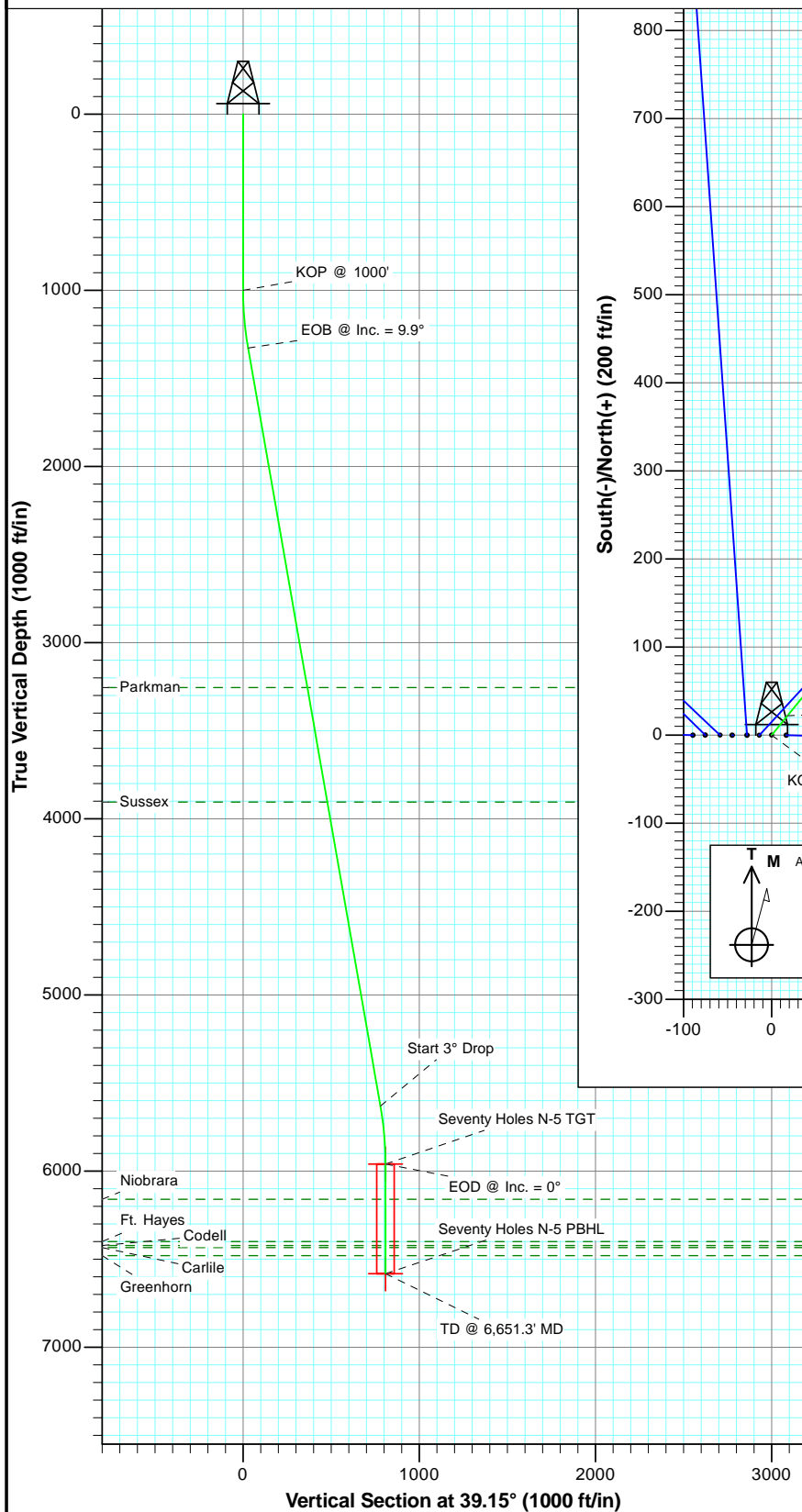


Project: Weld County  
 Site: Seventy Holes 24-5 Pad  
 Well: Seventy Holes N-5  
 Wellbore: OH  
 Plan: Plan #1



#### SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	1000.0	0.00	0.00	1000.0	0.0	0.0	0.00	0.00	0.0	
3	1330.0	9.90	39.15	1328.4	22.1	18.0	3.00	39.15	28.4	
4	5698.3	9.90	39.15	5631.6	604.5	492.2	0.00	0.00	779.6	
5	6028.3	0.00	0.00	5960.0	626.6	510.1	3.00	180.00	808.0	Seventy Holes N-5 TGT
6	6651.3	0.00	0.00	6583.0	626.6	510.1	0.00	0.00	808.0	Seventy Holes N-5 PBHL



#### FORMATION TOP DETAILS

TVDPPath	MDPath	Formation
3255.0	3285.8	Parkman
3905.0	3945.6	Sussex
6160.0	6228.3	Niobrara
6400.0	6468.3	Ft. Hayes
6423.0	6491.3	Codell
6434.0	6502.3	Carlile
6480.0	6548.3	Greenhorn

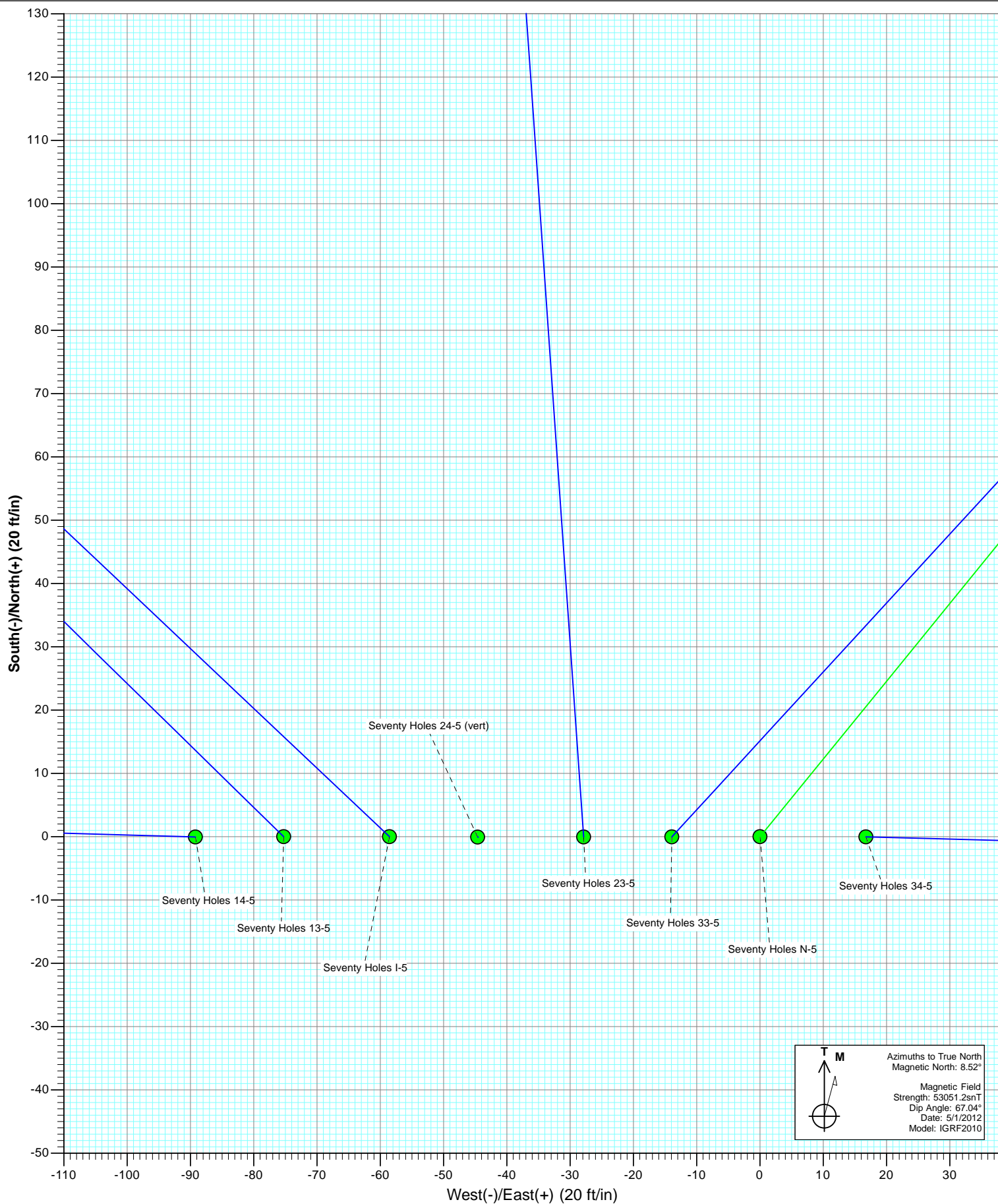
Plan #1  
 Seventy Holes N-5  
 125XXX; SC

KBE @ 4570.0ft (Original Well Elev)  
 North American Datum 1983  
 Well Seventy Holes N-5, True North

Type	Target	TD	No Target (Freehand)	Azimuth	Origin Type	N/S	E/W	From TVD
				39.15	Slot	0.0	0.0	0.0
Name		TVD		+N/-S	+E/-W		Latitude	Longitude
Seventy Holes N-5 TGT		5960.0		626.6	510.1		40.337720	-104.349790
Seventy Holes N-5 PBHL		6583.0		626.6	510.1		40.337720	-104.349790

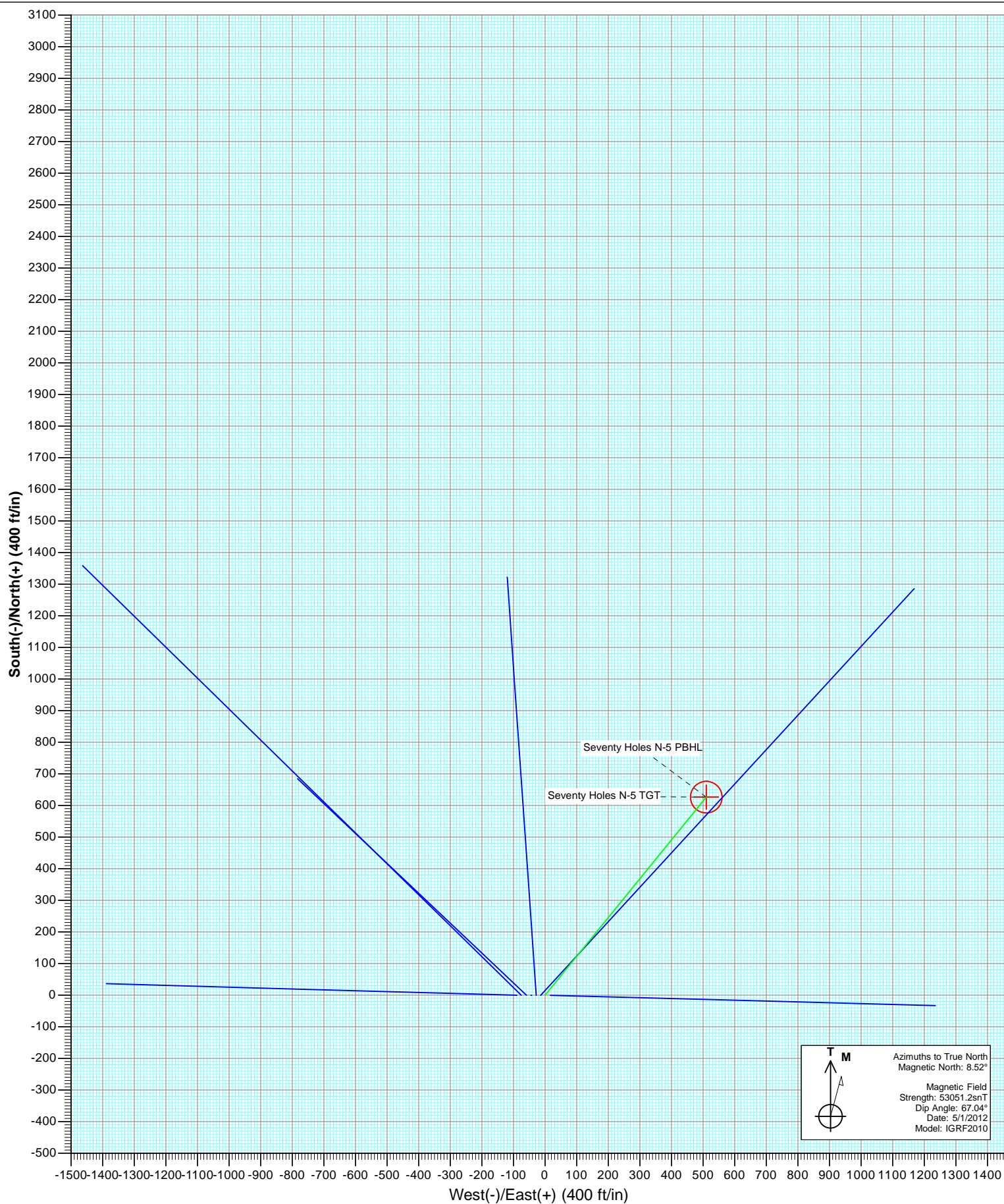


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Site: Seventy Holes 24-5 Pad  
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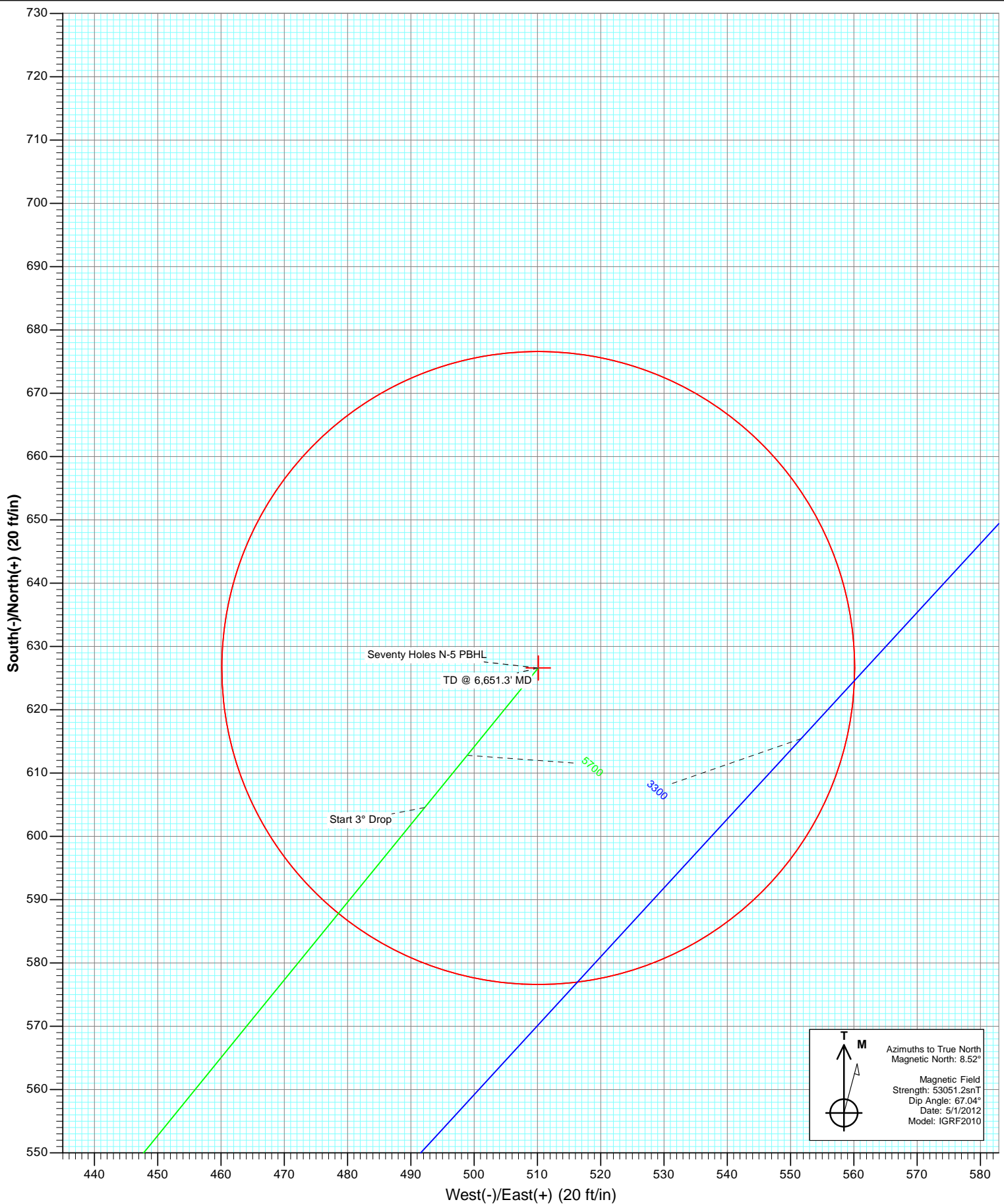


Project: Weld County  
Site: Seventy Holes 24-5 Pad  
Well: Seventy Holes N-5  
Wellbore: OH  
Plan: Plan #1





Project: Weld County  
Site: Seventy Holes 24-5 Pad  
Well: Seventy Holes N-5  
Wellbore: OH  
Plan: Plan #1



# Cathedral Energy Services

## Planning Report

<b>Database:</b>	USA EDM 5000 Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well Seventy Holes N-5
<b>Company:</b>	Bonanza Creek Energy Operating Company, LLC	<b>TVD Reference:</b>	KBE @ 4570.0ft (Original Well Elev)
<b>Project:</b>	Weld County	<b>MD Reference:</b>	KBE @ 4570.0ft (Original Well Elev)
<b>Site:</b>	Seventy Holes 24-5 Pad	<b>North Reference:</b>	True
<b>Well:</b>	Seventy Holes N-5	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan #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		

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 N-5					
Well Position	+N/-S	0.0 ft	Northing:	1,367,321.20 ft	Latitude:	40.336000
	+E/-W	0.0 ft	Easting:	3,320,135.35 ft	Longitude:	-104.351620
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,560.0 ft

<b>Wellbore</b>	OH				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination</b>	<b>Dip Angle</b>	<b>Field Strength</b>
			(°)	(°)	(nT)
	IGRF2010	5/1/2012	8.52	67.04	53,051

<b>Design</b>	Plan #1				
<b>Audit Notes:</b>					
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.0	
<b>Vertical Section:</b>	<b>Depth From (TVD)</b>	<b>+N/-S</b>	<b>+E/-W</b>	<b>Direction</b>	
	(ft)	(ft)	(ft)	(°)	
	0.0	0.0	0.0	39.15	

<b>Plan Sections</b>										
<b>Measured Depth</b>	<b>Inclination</b>	<b>Azimuth</b>	<b>Vertical Depth</b>	<b>+N/-S</b>	<b>+E/-W</b>	<b>Dogleg Rate</b>	<b>Build Rate</b>	<b>Turn Rate</b>	<b>TFO</b>	<b>Target</b>
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(°/100ft)	(°/100ft)	(°/100ft)	(°)	
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,330.0	9.90	39.15	1,328.4	22.1	18.0	3.00	3.00	0.00	39.15	
5,698.3	9.90	39.15	5,631.6	604.5	492.2	0.00	0.00	0.00	0.00	
6,028.3	0.00	0.00	5,960.0	626.6	510.1	3.00	-3.00	0.00	180.00	Seventy Holes N-5 TC
6,651.3	0.00	0.00	6,583.0	626.6	510.1	0.00	0.00	0.00	0.00	Seventy Holes N-5 PE

# Cathedral Energy Services

## Planning Report

<b>Database:</b>	USA EDM 5000 Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well Seventy Holes N-5
<b>Company:</b>	Bonanza Creek Energy Operating Company, LLC	<b>TVD Reference:</b>	KBE @ 4570.0ft (Original Well Elev)
<b>Project:</b>	Weld County	<b>MD Reference:</b>	KBE @ 4570.0ft (Original Well Elev)
<b>Site:</b>	Seventy Holes 24-5 Pad	<b>North Reference:</b>	True
<b>Well:</b>	Seventy Holes N-5	<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	
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	KOP @ 1000'
1,100.0	3.00	39.15	1,100.0	2.0	1.7	2.6	3.00	3.00	
1,200.0	6.00	39.15	1,199.6	8.1	6.6	10.5	3.00	3.00	
1,300.0	9.00	39.15	1,298.8	18.2	14.8	23.5	3.00	3.00	
1,330.0	9.90	39.15	1,328.4	22.1	18.0	28.4	3.00	3.00	EOB @ Inc. = 9.9°
1,400.0	9.90	39.15	1,397.3	31.4	25.6	40.5	0.00	0.00	
1,500.0	9.90	39.15	1,495.8	44.7	36.4	57.7	0.00	0.00	
1,600.0	9.90	39.15	1,594.3	58.1	47.3	74.9	0.00	0.00	
1,700.0	9.90	39.15	1,692.8	71.4	58.1	92.1	0.00	0.00	
1,800.0	9.90	39.15	1,791.4	84.7	69.0	109.3	0.00	0.00	
1,900.0	9.90	39.15	1,889.9	98.1	79.8	126.5	0.00	0.00	
2,000.0	9.90	39.15	1,988.4	111.4	90.7	143.6	0.00	0.00	
2,100.0	9.90	39.15	2,086.9	124.7	101.5	160.8	0.00	0.00	
2,200.0	9.90	39.15	2,185.4	138.1	112.4	178.0	0.00	0.00	
2,300.0	9.90	39.15	2,283.9	151.4	123.3	195.2	0.00	0.00	
2,400.0	9.90	39.15	2,382.4	164.7	134.1	212.4	0.00	0.00	
2,500.0	9.90	39.15	2,480.9	178.1	145.0	229.6	0.00	0.00	
2,600.0	9.90	39.15	2,579.4	191.4	155.8	246.8	0.00	0.00	
2,700.0	9.90	39.15	2,678.0	204.7	166.7	264.0	0.00	0.00	
2,800.0	9.90	39.15	2,776.5	218.1	177.5	281.2	0.00	0.00	
2,900.0	9.90	39.15	2,875.0	231.4	188.4	298.4	0.00	0.00	
3,000.0	9.90	39.15	2,973.5	244.7	199.3	315.6	0.00	0.00	
3,100.0	9.90	39.15	3,072.0	258.1	210.1	332.8	0.00	0.00	
3,200.0	9.90	39.15	3,170.5	271.4	221.0	350.0	0.00	0.00	
3,285.8	9.90	39.15	3,255.0	282.8	230.3	364.7	0.00	0.00	Parkman
3,300.0	9.90	39.15	3,269.0	284.7	231.8	367.2	0.00	0.00	
3,400.0	9.90	39.15	3,367.5	298.1	242.7	384.4	0.00	0.00	
3,500.0	9.90	39.15	3,466.0	311.4	253.5	401.6	0.00	0.00	
3,600.0	9.90	39.15	3,564.6	324.7	264.4	418.8	0.00	0.00	
3,700.0	9.90	39.15	3,663.1	338.1	275.2	436.0	0.00	0.00	
3,800.0	9.90	39.15	3,761.6	351.4	286.1	453.2	0.00	0.00	
3,900.0	9.90	39.15	3,860.1	364.8	297.0	470.3	0.00	0.00	
3,945.6	9.90	39.15	3,905.0	370.8	301.9	478.2	0.00	0.00	Sussex
4,000.0	9.90	39.15	3,958.6	378.1	307.8	487.5	0.00	0.00	
4,100.0	9.90	39.15	4,057.1	391.4	318.7	504.7	0.00	0.00	
4,200.0	9.90	39.15	4,155.6	404.8	329.5	521.9	0.00	0.00	
4,300.0	9.90	39.15	4,254.1	418.1	340.4	539.1	0.00	0.00	
4,400.0	9.90	39.15	4,352.6	431.4	351.2	556.3	0.00	0.00	
4,500.0	9.90	39.15	4,451.1	444.8	362.1	573.5	0.00	0.00	
4,600.0	9.90	39.15	4,549.7	458.1	373.0	590.7	0.00	0.00	
4,700.0	9.90	39.15	4,648.2	471.4	383.8	607.9	0.00	0.00	
4,800.0	9.90	39.15	4,746.7	484.8	394.7	625.1	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 Seventy Holes N-5
<b>Company:</b>	Bonanza Creek Energy Operating Company, LLC	<b>TVD Reference:</b>	KBE @ 4570.0ft (Original Well Elev)
<b>Project:</b>	Weld County	<b>MD Reference:</b>	KBE @ 4570.0ft (Original Well Elev)
<b>Site:</b>	Seventy Holes 24-5 Pad	<b>North Reference:</b>	True
<b>Well:</b>	Seventy Holes N-5	<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
4,900.0	9.90	39.15	4,845.2	498.1	405.5	642.3	0.00	0.00	
5,000.0	9.90	39.15	4,943.7	511.4	416.4	659.5	0.00	0.00	
5,100.0	9.90	39.15	5,042.2	524.8	427.2	676.7	0.00	0.00	
5,200.0	9.90	39.15	5,140.7	538.1	438.1	693.9	0.00	0.00	
5,300.0	9.90	39.15	5,239.2	551.4	448.9	711.1	0.00	0.00	
5,400.0	9.90	39.15	5,337.7	564.8	459.8	728.3	0.00	0.00	
5,500.0	9.90	39.15	5,436.3	578.1	470.7	745.5	0.00	0.00	
5,600.0	9.90	39.15	5,534.8	591.4	481.5	762.7	0.00	0.00	
5,698.3	9.90	39.15	5,631.6	604.5	492.2	779.6	0.00	0.00	Start 3° Drop
5,700.0	9.85	39.15	5,633.3	604.8	492.4	779.9	3.00	-3.00	
5,800.0	6.85	39.15	5,732.2	616.0	501.5	794.4	3.00	-3.00	
5,900.0	3.85	39.15	5,831.8	623.3	507.4	803.7	3.00	-3.00	
6,000.0	0.85	39.15	5,931.7	626.4	510.0	807.8	3.00	-3.00	
6,028.3	0.00	0.00	5,960.0	626.6	510.1	808.0	3.00	-3.00	EOD @ Inc. = 0°
6,100.0	0.00	0.00	6,031.7	626.6	510.1	808.0	0.00	0.00	
6,200.0	0.00	0.00	6,131.7	626.6	510.1	808.0	0.00	0.00	
6,228.3	0.00	0.00	6,160.0	626.6	510.1	808.0	0.00	0.00	Niobrara
6,300.0	0.00	0.00	6,231.7	626.6	510.1	808.0	0.00	0.00	
6,400.0	0.00	0.00	6,331.7	626.6	510.1	808.0	0.00	0.00	
6,468.3	0.00	0.00	6,400.0	626.6	510.1	808.0	0.00	0.00	Ft. Hayes
6,491.3	0.00	0.00	6,423.0	626.6	510.1	808.0	0.00	0.00	Codell
6,500.0	0.00	0.00	6,431.7	626.6	510.1	808.0	0.00	0.00	
6,502.3	0.00	0.00	6,434.0	626.6	510.1	808.0	0.00	0.00	Carlile
6,548.3	0.00	0.00	6,480.0	626.6	510.1	808.0	0.00	0.00	Greenhorn
6,600.0	0.00	0.00	6,531.7	626.6	510.1	808.0	0.00	0.00	
6,651.3	0.00	0.00	6,583.0	626.6	510.1	808.0	0.00	0.00	TD @ 6,651.3' 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 N-5 PBH - plan hits target center - Circle (radius 50.0)	0.00	0.00	6,583.0	626.6	510.1	1,367,954.36	3,320,637.34	40.337720	-104.349790
Seventy Holes N-5 TGT - plan hits target center - Point	0.00	0.00	5,960.0	626.6	510.1	1,367,954.36	3,320,637.34	40.337720	-104.349790

# Cathedral Energy Services

## Planning Report

<b>Database:</b>	USA EDM 5000 Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well Seventy Holes N-5
<b>Company:</b>	Bonanza Creek Energy Operating Company, LLC	<b>TVD Reference:</b>	KBE @ 4570.0ft (Original Well Elev)
<b>Project:</b>	Weld County	<b>MD Reference:</b>	KBE @ 4570.0ft (Original Well Elev)
<b>Site:</b>	Seventy Holes 24-5 Pad	<b>North Reference:</b>	True
<b>Well:</b>	Seventy Holes N-5	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan #1		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
3,285.8	3,255.0	Parkman				
3,945.6	3,905.0	Sussex				
6,228.3	6,160.0	Niobrara				
6,468.3	6,400.0	Ft. Hayes				
6,491.3	6,423.0	Codell				
6,502.3	6,434.0	Carlile				
6,548.3	6,480.0	Greenhorn				

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
1,000.0	1,000.0	0.0	0.0	KOP @ 1000'	
1,330.0	1,328.4	22.1	18.0	EOB @ Inc. = 9.9°	
5,698.3	5,631.6	604.5	492.2	Start 3° Drop	
6,028.3	5,960.0	626.6	510.1	EOD @ Inc. = 0°	
6,651.3	6,583.0	626.6	510.1	TD @ 6,651.3' MD	



# **Bonanza Creek Energy Operating Company, LLC**

**Weld County**

**Seventy Holes 24-5 Pad**

**Seventy Holes N-5**

**OH**

**Plan #1**

## **Anticollision Report**

**01 May, 2012**

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Bonanza Creek Energy Operating Company, LLC	<b>Local Co-ordinate Reference:</b>	Well Seventy Holes N-5
<b>Project:</b>	Weld County	<b>TVD Reference:</b>	KBE @ 4570.0ft (Original Well Elev)
<b>Reference Site:</b>	Seventy Holes 24-5 Pad	<b>MD Reference:</b>	KBE @ 4570.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Seventy Holes N-5	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Reference	Plan #1		
Filter type:	GLOBAL FILTER APPLIED: All wellpaths within 200'+ 100/1000 of reference		
Interpolation Method:	MD Interval 100.0ft	Error Model:	Systematic Ellipse
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 500.0ft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma		

Survey Tool Program		Date	5/1/2012		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.0	6,651.3	Plan #1 (OH)	MWD	Geolink MWD	

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Seventy Holes 24-5 Pad						
Seventy Holes 13-5 - OH - Plan #1	0.0	0.0	76.7			
Seventy Holes 13-5 - OH - Plan #1	600.0	585.0	75.3	75.3	10,000.000	CC, ES
Seventy Holes 14-5 - OH - Plan #1	0.0	0.0	89.8			
Seventy Holes 14-5 - OH - Plan #1	800.0	790.0	89.2	89.2	10,000.000	CC, ES
Seventy Holes 23-5 - OH - Plan #1	0.0	0.0	31.7			
Seventy Holes 23-5 - OH - Plan #1	807.2	792.2	27.9	27.9	10,000.000	CC, ES
Seventy Holes 24-5 (vert) - OH - Plan #1	0.0	0.0	44.6			
Seventy Holes 24-5 (vert) - OH - Plan #1	1,000.0	1,000.0	44.6	44.6	10,000.000	CC, ES
Seventy Holes 33-5 - OH - Plan #1	0.0	0.0	20.5			
Seventy Holes 33-5 - OH - Plan #1	1,004.9	990.2	10.3	10.3	10,000.000	CC, ES
Seventy Holes 34-5 - OH - Plan #1	0.0	0.0	22.5			
Seventy Holes 34-5 - OH - Plan #1	800.0	785.0	16.7	16.7	10,000.000	CC, ES
Seventy Holes I-5 - OH - Plan #1	0.0	0.0	60.4			
Seventy Holes I-5 - OH - Plan #1	800.0	785.0	58.5	58.5	10,000.000	CC, ES

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Bonanza Creek Energy Operating Company, LLC	<b>Local Co-ordinate Reference:</b>	Well Seventy Holes N-5
<b>Project:</b>	Weld County	<b>TVD Reference:</b>	KBE @ 4570.0ft (Original Well Elev)
<b>Reference Site:</b>	Seventy Holes 24-5 Pad	<b>MD Reference:</b>	KBE @ 4570.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Seventy Holes N-5	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Seventy Holes 24-5 Pad - Seventy Holes 13-5 - OH - Plan #1													Offset Well Error:	0.0 ft
Survey Program: 0-MWD														
Reference		Offset		Semi Major Axis			Distance				Total Uncertainty Axis	Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)				
0.0	0.0	0.0	0.0	0.0	0.0	-90.00	0.0	-75.3	76.7					
100.0	100.0	85.0	85.0	0.2	0.1	-90.00	0.0	-75.3	75.3	75.3	0.00	N/A		
200.0	200.0	185.0	185.0	0.3	0.3	-90.00	0.0	-75.3	75.3	75.3	0.00	N/A		
300.0	300.0	285.0	285.0	0.5	0.5	-90.00	0.0	-75.3	75.3	75.3	0.00	N/A		
400.0	400.0	385.0	385.0	0.7	0.7	-90.00	0.0	-75.3	75.3	75.3	0.00	N/A		
500.0	500.0	485.0	485.0	0.9	0.8	-90.00	0.0	-75.3	75.3	75.3	0.00	N/A		
600.0	600.0	585.0	585.0	1.0	1.0	-90.00	0.0	-75.3	75.3	75.3	0.00	N/A CC, ES		
700.0	700.0	682.6	682.6	1.2	1.2	-89.06	1.2	-76.5	76.6	76.6	0.00	N/A		
800.0	800.0	779.4	779.1	1.4	1.4	-85.86	5.9	-81.3	81.7	81.7	0.00	N/A		
900.0	900.0	875.3	874.3	1.6	1.6	-81.19	13.9	-89.4	91.1	91.1	0.00	N/A		
1,000.0	1,000.0	969.8	967.5	1.7	1.9	-76.09	25.0	-100.8	105.3	105.3	0.00	N/A		
1,100.0	1,100.0	1,062.5	1,058.0	1.9	2.2	-110.94	39.0	-115.1	125.4	125.4	0.00	N/A		
1,200.0	1,199.6	1,152.9	1,145.2	2.1	2.6	-108.62	55.6	-132.1	151.8	151.8	0.00	N/A		
1,300.0	1,298.8	1,240.6	1,228.7	2.3	3.1	-107.54	74.5	-151.3	183.9	183.9	0.00	N/A		
1,400.0	1,397.3	1,325.3	1,308.0	2.6	3.6	-107.65	95.2	-172.5	221.0	221.0	0.00	N/A		
1,500.0	1,495.8	1,412.4	1,388.4	2.8	4.2	-107.68	118.7	-196.5	261.3	261.3	0.00	N/A		
1,600.0	1,594.3	1,503.7	1,472.4	3.1	4.8	-107.67	143.6	-222.0	302.1	302.1	0.00	N/A		
1,700.0	1,692.8	1,595.0	1,556.5	3.4	5.4	-107.66	168.5	-247.4	342.8	342.8	0.00	N/A		
1,800.0	1,791.4	1,686.4	1,640.6	3.7	6.0	-107.65	193.5	-272.9	383.6	383.6	0.00	N/A		
1,900.0	1,889.9	1,777.7	1,724.7	4.1	6.7	-107.65	218.4	-298.4	424.4	424.4	0.00	N/A		
2,000.0	1,988.4	1,869.0	1,808.7	4.4	7.3	-107.64	243.3	-323.8	465.1	465.1	0.00	N/A		

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Bonanza Creek Energy Operating Company, LLC	<b>Local Co-ordinate Reference:</b>	Well Seventy Holes N-5
<b>Project:</b>	Weld County	<b>TVD Reference:</b>	KBE @ 4570.0ft (Original Well Elev)
<b>Reference Site:</b>	Seventy Holes 24-5 Pad	<b>MD Reference:</b>	KBE @ 4570.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Seventy Holes N-5	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Seventy Holes 24-5 Pad - Seventy Holes 14-5 - OH - Plan #1													Offset Well Error:	0.0 ft
Survey Program: 0-MWD														
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning	
0.0	0.0	0.0	0.0	0.0	0.0	-90.02	0.0	-89.2	89.8					
100.0	100.0	90.0	90.0	0.2	0.1	-90.02	0.0	-89.2	89.2	89.2	0.00	N/A		
200.0	200.0	190.0	190.0	0.3	0.3	-90.02	0.0	-89.2	89.2	89.2	0.00	N/A		
300.0	300.0	290.0	290.0	0.5	0.5	-90.02	0.0	-89.2	89.2	89.2	0.00	N/A		
400.0	400.0	390.0	390.0	0.7	0.7	-90.02	0.0	-89.2	89.2	89.2	0.00	N/A		
500.0	500.0	490.0	490.0	0.9	0.8	-90.02	0.0	-89.2	89.2	89.2	0.00	N/A		
600.0	600.0	590.0	590.0	1.0	1.0	-90.02	0.0	-89.2	89.2	89.2	0.00	N/A		
700.0	700.0	690.0	690.0	1.2	1.2	-90.02	0.0	-89.2	89.2	89.2	0.00	N/A		
800.0	800.0	790.0	790.0	1.4	1.4	-90.02	0.0	-89.2	89.2	89.2	0.00	N/A CC, ES		
900.0	900.0	885.9	885.9	1.6	1.5	-89.98	0.0	-91.1	91.2	91.2	0.00	N/A		
1,000.0	1,000.0	981.0	980.7	1.7	1.7	-89.87	0.2	-97.8	98.2	98.2	0.00	N/A		
1,100.0	1,100.0	1,074.9	1,073.9	1.9	1.9	-129.55	0.5	-108.9	111.8	111.8	0.00	N/A		
1,200.0	1,199.6	1,166.5	1,164.3	2.1	2.2	-131.25	1.0	-124.3	133.5	133.5	0.00	N/A		
1,300.0	1,298.8	1,254.8	1,250.6	2.3	2.5	-133.27	1.5	-143.1	163.4	163.4	0.00	N/A		
1,400.0	1,397.3	1,341.3	1,334.1	2.6	2.8	-135.53	2.1	-165.3	200.3	200.3	0.00	N/A		
1,500.0	1,495.8	1,433.3	1,422.7	2.8	3.2	-137.37	2.8	-190.1	238.8	238.8	0.00	N/A		
1,600.0	1,594.3	1,525.4	1,511.4	3.1	3.6	-138.69	3.5	-214.9	277.5	277.5	0.00	N/A		
1,700.0	1,692.8	1,617.4	1,600.0	3.4	4.1	-139.70	4.2	-239.7	316.4	316.4	0.00	N/A		
1,800.0	1,791.4	1,709.5	1,688.6	3.7	4.5	-140.48	4.9	-264.5	355.2	355.2	0.00	N/A		
1,900.0	1,889.9	1,801.5	1,777.2	4.1	4.9	-141.11	5.6	-289.3	394.2	394.2	0.00	N/A		
2,000.0	1,988.4	1,893.5	1,865.9	4.4	5.4	-141.63	6.3	-314.1	433.1	433.1	0.00	N/A		
2,100.0	2,086.9	1,985.6	1,954.5	4.7	5.8	-142.06	7.0	-339.0	472.1	472.1	0.00	N/A		

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Bonanza Creek Energy Operating Company, LLC	<b>Local Co-ordinate Reference:</b>	Well Seventy Holes N-5
<b>Project:</b>	Weld County	<b>TVD Reference:</b>	KBE @ 4570.0ft (Original Well Elev)
<b>Reference Site:</b>	Seventy Holes 24-5 Pad	<b>MD Reference:</b>	KBE @ 4570.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Seventy Holes N-5	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Seventy Holes 24-5 Pad - Seventy Holes 23-5 - OH - Plan #1													Offset Well Error:	0.0 ft
Survey Program: 0-MWD														
Reference		Offset		Semi Major Axis			Distance				Total		Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-90.07	0.0	-27.9	31.7					
100.0	100.0	85.0	85.0	0.2	0.1	-90.07	0.0	-27.9	27.9	27.9	0.00	N/A		
200.0	200.0	185.0	185.0	0.3	0.3	-90.07	0.0	-27.9	27.9	27.9	0.00	N/A		
300.0	300.0	285.0	285.0	0.5	0.5	-90.07	0.0	-27.9	27.9	27.9	0.00	N/A		
400.0	400.0	385.0	385.0	0.7	0.7	-90.07	0.0	-27.9	27.9	27.9	0.00	N/A		
500.0	500.0	485.0	485.0	0.9	0.8	-90.07	0.0	-27.9	27.9	27.9	0.00	N/A		
600.0	600.0	585.0	585.0	1.0	1.0	-90.07	0.0	-27.9	27.9	27.9	0.00	N/A		
700.0	700.0	685.0	685.0	1.2	1.2	-90.07	0.0	-27.9	27.9	27.9	0.00	N/A		
800.0	800.0	785.0	785.0	1.4	1.4	-90.07	0.0	-27.9	27.9	27.9	0.00	N/A		
807.2	807.2	792.2	792.2	1.4	1.4	-90.07	0.0	-27.9	27.9	27.9	0.00	N/A CC, ES		
900.0	900.0	884.9	884.8	1.6	1.5	-86.23	1.8	-28.0	28.1	28.1	0.00	N/A		
1,000.0	1,000.0	984.2	984.0	1.7	1.7	-72.79	8.8	-28.5	29.8	29.8	0.00	N/A		
1,100.0	1,100.0	1,082.9	1,081.8	1.9	1.9	-97.64	20.8	-29.3	36.4	36.4	0.00	N/A		
1,200.0	1,199.6	1,180.7	1,178.2	2.1	2.2	-89.77	37.7	-30.5	47.9	47.9	0.00	N/A		
1,300.0	1,298.8	1,277.5	1,272.5	2.3	2.5	-86.39	59.2	-32.0	63.2	63.2	0.00	N/A		
1,400.0	1,397.3	1,374.2	1,365.7	2.6	2.9	-85.04	85.0	-33.8	81.7	81.7	0.00	N/A		
1,500.0	1,495.8	1,472.4	1,460.1	2.8	3.4	-84.08	112.1	-35.7	100.8	100.8	0.00	N/A		
1,600.0	1,594.3	1,570.5	1,554.4	3.1	3.8	-83.43	139.1	-37.6	120.0	120.0	0.00	N/A		
1,700.0	1,692.8	1,668.7	1,648.7	3.4	4.3	-82.95	166.2	-39.4	139.1	139.1	0.00	N/A		
1,800.0	1,791.4	1,766.8	1,743.0	3.7	4.7	-82.59	193.2	-41.3	158.3	158.3	0.00	N/A		
1,900.0	1,889.9	1,865.0	1,837.4	4.1	5.2	-82.31	220.3	-43.2	177.4	177.4	0.00	N/A		
2,000.0	1,988.4	1,963.1	1,931.7	4.4	5.7	-82.09	247.3	-45.1	196.6	196.6	0.00	N/A		
2,100.0	2,086.9	2,061.3	2,026.0	4.7	6.2	-81.90	274.4	-47.0	215.8	215.8	0.00	N/A		
2,200.0	2,185.4	2,159.4	2,120.3	5.0	6.7	-81.74	301.4	-48.8	234.9	234.9	0.00	N/A		
2,300.0	2,283.9	2,257.5	2,214.7	5.4	7.2	-81.61	328.5	-50.7	254.1	254.1	0.00	N/A		
2,400.0	2,382.4	2,355.7	2,309.0	5.7	7.6	-81.50	355.5	-52.6	273.3	273.3	0.00	N/A		
2,500.0	2,480.9	2,453.8	2,403.3	6.0	8.1	-81.40	382.6	-54.5	292.4	292.4	0.00	N/A		
2,600.0	2,579.4	2,552.0	2,497.6	6.4	8.6	-81.31	409.6	-56.4	311.6	311.6	0.00	N/A		
2,700.0	2,678.0	2,650.1	2,592.0	6.7	9.1	-81.23	436.7	-58.3	330.8	330.8	0.00	N/A		
2,800.0	2,776.5	2,748.3	2,686.3	7.0	9.6	-81.17	463.7	-60.1	350.0	350.0	0.00	N/A		
2,900.0	2,875.0	2,846.4	2,780.6	7.4	10.1	-81.10	490.7	-62.0	369.1	369.1	0.00	N/A		
3,000.0	2,973.5	2,944.5	2,874.9	7.7	10.6	-81.05	517.8	-63.9	388.3	388.3	0.00	N/A		
3,100.0	3,072.0	3,042.7	2,969.3	8.1	11.1	-81.00	544.8	-65.8	407.5	407.5	0.00	N/A		
3,200.0	3,170.5	3,140.8	3,063.6	8.4	11.6	-80.95	571.9	-67.7	426.7	426.7	0.00	N/A		
3,300.0	3,269.0	3,239.0	3,157.9	8.7	12.1	-80.91	598.9	-69.5	445.8	445.8	0.00	N/A		
3,400.0	3,367.5	3,337.1	3,252.2	9.1	12.6	-80.87	626.0	-71.4	465.0	465.0	0.00	N/A		
3,500.0	3,466.0	3,435.3	3,346.6	9.4	13.1	-80.84	653.0	-73.3	484.2	484.2	0.00	N/A		

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Bonanza Creek Energy Operating Company, LLC	<b>Local Co-ordinate Reference:</b>	Well Seventy Holes N-5
<b>Project:</b>	Weld County	<b>TVD Reference:</b>	KBE @ 4570.0ft (Original Well Elev)
<b>Reference Site:</b>	Seventy Holes 24-5 Pad	<b>MD Reference:</b>	KBE @ 4570.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Seventy Holes N-5	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Seventy Holes 24-5 Pad - Seventy Holes 24-5 (vert) - OH - Plan #1													Offset Well Error:	0.0 ft
Survey Program: 0-MWD														
Reference		Offset		Semi Major Axis		Distance		Total		Separation		Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis	Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-90.05	0.0	-44.6	44.6					
100.0	100.0	100.0	100.0	0.2	0.2	-90.05	0.0	-44.6	44.6	44.6	0.00	N/A		
200.0	200.0	200.0	200.0	0.3	0.3	-90.05	0.0	-44.6	44.6	44.6	0.00	N/A		
300.0	300.0	300.0	300.0	0.5	0.5	-90.05	0.0	-44.6	44.6	44.6	0.00	N/A		
400.0	400.0	400.0	400.0	0.7	0.7	-90.05	0.0	-44.6	44.6	44.6	0.00	N/A		
500.0	500.0	500.0	500.0	0.9	0.9	-90.05	0.0	-44.6	44.6	44.6	0.00	N/A		
600.0	600.0	600.0	600.0	1.0	1.0	-90.05	0.0	-44.6	44.6	44.6	0.00	N/A		
700.0	700.0	700.0	700.0	1.2	1.2	-90.05	0.0	-44.6	44.6	44.6	0.00	N/A		
800.0	800.0	800.0	800.0	1.4	1.4	-90.05	0.0	-44.6	44.6	44.6	0.00	N/A		
900.0	900.0	900.0	900.0	1.6	1.6	-90.05	0.0	-44.6	44.6	44.6	0.00	N/A		
1,000.0	1,000.0	1,000.0	1,000.0	1.7	1.7	-90.05	0.0	-44.6	44.6	44.6	0.00	N/A CC, ES		
1,100.0	1,100.0	1,100.0	1,100.0	1.9	1.9	-131.67	0.0	-44.6	46.3	46.3	0.00	N/A		
1,200.0	1,199.6	1,199.6	1,199.6	2.1	2.1	-138.04	0.0	-44.6	51.9	51.9	0.00	N/A		
1,300.0	1,298.8	1,298.8	1,298.8	2.3	2.2	-145.91	0.0	-44.6	62.2	62.2	0.00	N/A		
1,400.0	1,397.3	1,397.3	1,397.3	2.6	2.4	-152.93	0.0	-44.6	76.9	76.9	0.00	N/A		
1,500.0	1,495.8	1,495.8	1,495.8	2.8	2.6	-157.77	0.0	-44.6	92.6	92.6	0.00	N/A		
1,600.0	1,594.3	1,594.3	1,594.3	3.1	2.8	-161.20	0.0	-44.6	108.7	108.7	0.00	N/A		
1,700.0	1,692.8	1,692.8	1,692.8	3.4	2.9	-163.73	0.0	-44.6	125.1	125.1	0.00	N/A		
1,800.0	1,791.4	1,791.4	1,791.4	3.7	3.1	-165.68	0.0	-44.6	141.7	141.7	0.00	N/A		
1,900.0	1,889.9	1,889.9	1,889.9	4.1	3.3	-167.22	0.0	-44.6	158.5	158.5	0.00	N/A		
2,000.0	1,988.4	1,988.4	1,988.4	4.4	3.5	-168.46	0.0	-44.6	175.3	175.3	0.00	N/A		
2,100.0	2,086.9	2,086.9	2,086.9	4.7	3.6	-169.48	0.0	-44.6	192.2	192.2	0.00	N/A		
2,200.0	2,185.4	2,185.4	2,185.4	5.0	3.8	-170.34	0.0	-44.6	209.1	209.1	0.00	N/A		
2,300.0	2,283.9	2,283.9	2,283.9	5.4	4.0	-171.08	0.0	-44.6	226.1	226.1	0.00	N/A		
2,400.0	2,382.4	2,382.4	2,382.4	5.7	4.1	-171.70	0.0	-44.6	243.1	243.1	0.00	N/A		
2,500.0	2,480.9	2,480.9	2,480.9	6.0	4.3	-172.25	0.0	-44.6	260.1	260.1	0.00	N/A		
2,600.0	2,579.4	2,579.4	2,579.4	6.4	4.5	-172.73	0.0	-44.6	277.2	277.2	0.00	N/A		
2,700.0	2,678.0	2,678.0	2,678.0	6.7	4.7	-173.15	0.0	-44.6	294.2	294.2	0.00	N/A		
2,800.0	2,776.5	2,776.5	2,776.5	7.0	4.8	-173.53	0.0	-44.6	311.3	311.3	0.00	N/A		
2,900.0	2,875.0	2,875.0	2,875.0	7.4	5.0	-173.87	0.0	-44.6	328.4	328.4	0.00	N/A		
3,000.0	2,973.5	2,973.5	2,973.5	7.7	5.2	-174.17	0.0	-44.6	345.5	345.5	0.00	N/A		
3,100.0	3,072.0	3,072.0	3,072.0	8.1	5.3	-174.45	0.0	-44.6	362.6	362.6	0.00	N/A		
3,200.0	3,170.5	3,170.5	3,170.5	8.4	5.5	-174.70	0.0	-44.6	379.8	379.8	0.00	N/A		
3,300.0	3,269.0	3,269.0	3,269.0	8.7	5.7	-174.93	0.0	-44.6	396.9	396.9	0.00	N/A		
3,400.0	3,367.5	3,367.5	3,367.5	9.1	5.9	-175.14	0.0	-44.6	414.0	414.0	0.00	N/A		
3,500.0	3,466.0	3,466.0	3,466.0	9.4	6.0	-175.33	0.0	-44.6	431.1	431.1	0.00	N/A		
3,600.0	3,564.6	3,564.6	3,564.6	9.8	6.2	-175.51	0.0	-44.6	448.3	448.3	0.00	N/A		
3,700.0	3,663.1	3,663.1	3,663.1	10.1	6.4	-175.68	0.0	-44.6	465.4	465.4	0.00	N/A		
3,800.0	3,761.6	3,761.6	3,761.6	10.5	6.5	-175.83	0.0	-44.6	482.6	482.6	0.00	N/A		
3,900.0	3,860.1	3,860.1	3,860.1	10.8	6.7	-175.97	0.0	-44.6	499.7	499.7	0.00	N/A		

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Bonanza Creek Energy Operating Company, LLC	<b>Local Co-ordinate Reference:</b>	Well Seventy Holes N-5
<b>Project:</b>	Weld County	<b>TVD Reference:</b>	KBE @ 4570.0ft (Original Well Elev)
<b>Reference Site:</b>	Seventy Holes 24-5 Pad	<b>MD Reference:</b>	KBE @ 4570.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Seventy Holes N-5	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design												Seventy Holes 24-5 Pad - Seventy Holes 33-5 - OH - Plan #1		Offset Site Error: 0.0 ft	
Survey Program: 0-MWD												Offset Well Error: 0.0 ft			
Reference		Offset		Semi Major Axis			Distance					Separation Factor	Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis				
0.0	0.0	0.0	0.0	0.0	0.0	-90.03	0.0	-13.9	20.5						
100.0	100.0	85.0	85.0	0.2	0.1	-90.03	0.0	-13.9	13.9	13.9	0.00	N/A			
200.0	200.0	185.0	185.0	0.3	0.3	-90.03	0.0	-13.9	13.9	13.9	0.00	N/A			
300.0	300.0	285.0	285.0	0.5	0.5	-90.03	0.0	-13.9	13.9	13.9	0.00	N/A			
400.0	400.0	385.0	385.0	0.7	0.7	-90.03	0.0	-13.9	13.9	13.9	0.00	N/A			
500.0	500.0	485.0	485.0	0.9	0.8	-90.03	0.0	-13.9	13.9	13.9	0.00	N/A			
600.0	600.0	585.0	585.0	1.0	1.0	-90.03	0.0	-13.9	13.9	13.9	0.00	N/A			
700.0	700.0	685.0	685.0	1.2	1.2	-90.03	0.0	-13.9	13.9	13.9	0.00	N/A			
800.0	800.0	785.0	785.0	1.4	1.4	-90.03	0.0	-13.9	13.9	13.9	0.00	N/A			
900.0	900.0	885.4	885.3	1.6	1.5	-83.70	1.4	-12.6	12.7	12.7	0.00	N/A			
1,000.0	1,000.0	985.3	985.0	1.7	1.7	-49.94	6.6	-7.9	10.3	10.3	0.00	N/A			
1,004.9	1,004.9	990.2	989.9	1.7	1.7	-86.48	7.0	-7.5	10.3	10.3	0.00	N/A CC, ES			
1,100.0	1,100.0	1,084.6	1,083.6	1.9	1.9	-44.31	15.6	0.4	13.7	13.7	0.00	N/A			
1,200.0	1,199.6	1,183.4	1,180.9	2.1	2.2	-23.77	28.2	12.0	21.2	21.2	0.00	N/A			
1,300.0	1,298.8	1,281.8	1,276.7	2.3	2.6	-14.01	44.5	27.0	29.8	29.8	0.00	N/A			
1,400.0	1,397.3	1,379.5	1,370.6	2.6	3.0	-8.09	64.2	45.1	40.0	40.0	0.00	N/A			
1,500.0	1,495.8	1,475.9	1,461.9	2.8	3.5	-3.92	87.1	66.1	55.2	55.2	0.00	N/A			
1,600.0	1,594.3	1,572.7	1,552.1	3.1	4.1	-1.26	112.9	89.9	74.6	74.6	0.00	N/A			
1,700.0	1,692.8	1,670.6	1,643.2	3.4	4.7	0.33	139.4	114.2	94.7	94.7	0.00	N/A			
1,800.0	1,791.4	1,768.6	1,734.3	3.7	5.3	1.37	165.8	138.5	114.7	114.7	0.00	N/A			
1,900.0	1,889.9	1,866.5	1,825.5	4.1	5.9	2.10	192.2	162.7	134.8	134.8	0.00	N/A			
2,000.0	1,988.4	1,964.5	1,916.6	4.4	6.6	2.64	218.7	187.0	154.9	154.9	0.00	N/A			
2,100.0	2,086.9	2,062.4	2,007.7	4.7	7.2	3.06	245.1	211.3	175.1	175.1	0.00	N/A			
2,200.0	2,185.4	2,160.4	2,098.9	5.0	7.9	3.39	271.5	235.6	195.2	195.2	0.00	N/A			
2,300.0	2,283.9	2,258.3	2,190.0	5.4	8.5	3.65	297.9	259.9	215.3	215.3	0.00	N/A			
2,400.0	2,382.4	2,356.2	2,281.1	5.7	9.2	3.88	324.4	284.2	235.5	235.5	0.00	N/A			
2,500.0	2,480.9	2,454.2	2,372.3	6.0	9.8	4.06	350.8	308.5	255.6	255.6	0.00	N/A			
2,600.0	2,579.4	2,552.1	2,463.4	6.4	10.5	4.22	377.2	332.8	275.7	275.7	0.00	N/A			
2,700.0	2,678.0	2,650.1	2,554.5	6.7	11.1	4.36	403.6	357.0	295.9	295.9	0.00	N/A			
2,800.0	2,776.5	2,748.0	2,645.7	7.0	11.8	4.48	430.1	381.3	316.0	316.0	0.00	N/A			
2,900.0	2,875.0	2,846.0	2,736.8	7.4	12.5	4.59	456.5	405.6	336.2	336.2	0.00	N/A			
3,000.0	2,973.5	2,943.9	2,828.0	7.7	13.1	4.68	482.9	429.9	356.3	356.3	0.00	N/A			
3,100.0	3,072.0	3,041.9	2,919.1	8.1	13.8	4.77	509.3	454.2	376.5	376.5	0.00	N/A			
3,200.0	3,170.5	3,139.8	3,010.2	8.4	14.4	4.84	535.8	478.5	396.6	396.6	0.00	N/A			
3,300.0	3,269.0	3,237.8	3,101.4	8.7	15.1	4.91	562.2	502.8	416.8	416.8	0.00	N/A			
3,400.0	3,367.5	3,335.7	3,192.5	9.1	15.8	4.97	588.6	527.1	436.9	436.9	0.00	N/A			
3,500.0	3,466.0	3,433.7	3,283.6	9.4	16.4	5.03	615.0	551.3	457.1	457.1	0.00	N/A			
3,600.0	3,564.6	3,531.6	3,374.8	9.8	17.1	5.08	641.5	575.6	477.2	477.2	0.00	N/A			
3,700.0	3,663.1	3,629.6	3,465.9	10.1	17.8	5.13	667.9	599.9	497.4	497.4	0.00	N/A			

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Bonanza Creek Energy Operating Company, LLC	<b>Local Co-ordinate Reference:</b>	Well Seventy Holes N-5
<b>Project:</b>	Weld County	<b>TVD Reference:</b>	KBE @ 4570.0ft (Original Well Elev)
<b>Reference Site:</b>	Seventy Holes 24-5 Pad	<b>MD Reference:</b>	KBE @ 4570.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Seventy Holes N-5	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design														Offset Site Error:	0.0 ft
Seventy Holes 24-5 Pad - Seventy Holes 34-5 - OH - Plan #1														Offset Well Error:	0.0 ft
Survey Program: 0-MWD															
Reference		Offset		Semi Major Axis		Distance									
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning		
0.0	0.0	0.0	0.0	0.0	0.0	90.06	0.0	16.7	22.5						
100.0	100.0	85.0	85.0	0.2	0.1	90.06	0.0	16.7	16.7	16.7	0.00	N/A			
200.0	200.0	185.0	185.0	0.3	0.3	90.06	0.0	16.7	16.7	16.7	0.00	N/A			
300.0	300.0	285.0	285.0	0.5	0.5	90.06	0.0	16.7	16.7	16.7	0.00	N/A			
400.0	400.0	385.0	385.0	0.7	0.7	90.06	0.0	16.7	16.7	16.7	0.00	N/A			
500.0	500.0	485.0	485.0	0.9	0.8	90.06	0.0	16.7	16.7	16.7	0.00	N/A			
600.0	600.0	585.0	585.0	1.0	1.0	90.06	0.0	16.7	16.7	16.7	0.00	N/A			
700.0	700.0	685.0	685.0	1.2	1.2	90.06	0.0	16.7	16.7	16.7	0.00	N/A			
800.0	800.0	785.0	785.0	1.4	1.4	90.06	0.0	16.7	16.7	16.7	0.00	N/A CC, ES			
900.0	900.0	884.2	884.2	1.6	1.5	90.20	-0.1	18.6	18.6	18.6	0.00	N/A			
1,000.0	1,000.0	982.8	982.6	1.7	1.7	90.57	-0.3	25.5	25.6	25.6	0.00	N/A			
1,100.0	1,100.0	1,080.7	1,079.7	1.9	1.9	54.69	-0.6	37.3	36.1	36.1	0.00	N/A			
1,200.0	1,199.6	1,177.6	1,175.1	2.1	2.2	60.87	-1.0	53.9	49.1	49.1	0.00	N/A			
1,300.0	1,298.8	1,273.2	1,268.4	2.3	2.5	67.30	-1.6	75.0	65.2	65.2	0.00	N/A			
1,400.0	1,397.3	1,370.7	1,362.8	2.6	2.9	73.22	-2.2	99.6	83.6	83.6	0.00	N/A			
1,500.0	1,495.8	1,468.7	1,457.6	2.8	3.3	77.22	-2.9	124.3	102.7	102.7	0.00	N/A			
1,600.0	1,594.3	1,566.7	1,552.4	3.1	3.8	79.96	-3.6	149.1	122.0	122.0	0.00	N/A			
1,700.0	1,692.8	1,664.6	1,647.1	3.4	4.2	81.95	-4.2	173.8	141.6	141.6	0.00	N/A			
1,800.0	1,791.4	1,762.6	1,741.9	3.7	4.6	83.46	-4.9	198.5	161.2	161.2	0.00	N/A			
1,900.0	1,889.9	1,860.6	1,836.7	4.1	5.1	84.63	-5.6	223.2	181.0	181.0	0.00	N/A			
2,000.0	1,988.4	1,958.5	1,931.5	4.4	5.5	85.58	-6.2	248.0	200.8	200.8	0.00	N/A			
2,100.0	2,086.9	2,056.5	2,026.3	4.7	6.0	86.36	-6.9	272.7	220.7	220.7	0.00	N/A			
2,200.0	2,185.4	2,154.5	2,121.1	5.0	6.5	87.01	-7.6	297.4	240.6	240.6	0.00	N/A			
2,300.0	2,283.9	2,252.5	2,215.9	5.4	6.9	87.56	-8.2	322.2	260.5	260.5	0.00	N/A			
2,400.0	2,382.4	2,350.4	2,310.7	5.7	7.4	88.03	-8.9	346.9	280.4	280.4	0.00	N/A			
2,500.0	2,480.9	2,448.4	2,405.5	6.0	7.8	88.44	-9.5	371.6	300.4	300.4	0.00	N/A			
2,600.0	2,579.4	2,546.4	2,500.3	6.4	8.3	88.79	-10.2	396.4	320.3	320.3	0.00	N/A			
2,700.0	2,678.0	2,644.3	2,595.1	6.7	8.8	89.11	-10.9	421.1	340.3	340.3	0.00	N/A			
2,800.0	2,776.5	2,742.3	2,689.9	7.0	9.3	89.39	-11.5	445.8	360.3	360.3	0.00	N/A			
2,900.0	2,875.0	2,840.3	2,784.7	7.4	9.7	89.64	-12.2	470.5	380.3	380.3	0.00	N/A			
3,000.0	2,973.5	2,938.2	2,879.5	7.7	10.2	89.87	-12.9	495.3	400.3	400.3	0.00	N/A			
3,100.0	3,072.0	3,036.2	2,974.3	8.1	10.7	90.07	-13.5	520.0	420.3	420.3	0.00	N/A			
3,200.0	3,170.5	3,134.2	3,069.0	8.4	11.1	90.26	-14.2	544.7	440.3	440.3	0.00	N/A			
3,300.0	3,269.0	3,232.1	3,163.8	8.7	11.6	90.43	-14.9	569.5	460.3	460.3	0.00	N/A			
3,400.0	3,367.5	3,330.1	3,258.6	9.1	12.1	90.59	-15.5	594.2	480.3	480.3	0.00	N/A			



# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Bonanza Creek Energy Operating Company, LLC	<b>Local Co-ordinate Reference:</b>	Well Seventy Holes N-5
<b>Project:</b>	Weld County	<b>TVD Reference:</b>	KBE @ 4570.0ft (Original Well Elev)
<b>Reference Site:</b>	Seventy Holes 24-5 Pad	<b>MD Reference:</b>	KBE @ 4570.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Seventy Holes N-5	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Seventy Holes 24-5 Pad - Seventy Holes I-5 - OH - Plan #1													Offset Well Error:	0.0 ft
Survey Program: 0-MWD														
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning	
0.0	0.0	0.0	0.0	0.0	0.0	-89.99	0.0	-58.5	60.4					
100.0	100.0	85.0	85.0	0.2	0.1	-89.99	0.0	-58.5	58.5	58.5	0.00	N/A		
200.0	200.0	185.0	185.0	0.3	0.3	-89.99	0.0	-58.5	58.5	58.5	0.00	N/A		
300.0	300.0	285.0	285.0	0.5	0.5	-89.99	0.0	-58.5	58.5	58.5	0.00	N/A		
400.0	400.0	385.0	385.0	0.7	0.7	-89.99	0.0	-58.5	58.5	58.5	0.00	N/A		
500.0	500.0	485.0	485.0	0.9	0.8	-89.99	0.0	-58.5	58.5	58.5	0.00	N/A		
600.0	600.0	585.0	585.0	1.0	1.0	-89.99	0.0	-58.5	58.5	58.5	0.00	N/A		
700.0	700.0	685.0	685.0	1.2	1.2	-89.99	0.0	-58.5	58.5	58.5	0.00	N/A		
800.0	800.0	785.0	785.0	1.4	1.4	-89.99	0.0	-58.5	58.5	58.5	0.00	N/A CC, ES		
900.0	900.0	883.1	883.1	1.6	1.5	-88.80	1.2	-59.9	59.9	59.9	0.00	N/A		
1,000.0	1,000.0	980.4	980.2	1.7	1.7	-84.83	5.9	-64.7	65.2	65.2	0.00	N/A		
1,100.0	1,100.0	1,076.8	1,075.8	1.9	1.9	-119.88	13.8	-73.1	76.2	76.2	0.00	N/A		
1,200.0	1,199.6	1,171.6	1,169.3	2.1	2.2	-117.81	24.8	-84.7	94.1	94.1	0.00	N/A		
1,300.0	1,298.8	1,267.9	1,263.6	2.3	2.5	-117.49	38.2	-99.0	117.3	117.3	0.00	N/A		
1,400.0	1,397.3	1,364.6	1,358.2	2.6	2.8	-118.91	51.9	-113.4	142.5	142.5	0.00	N/A		
1,500.0	1,495.8	1,461.3	1,452.8	2.8	3.1	-120.12	65.5	-127.8	167.9	167.9	0.00	N/A		
1,600.0	1,594.3	1,558.0	1,547.5	3.1	3.5	-121.01	79.1	-142.2	193.3	193.3	0.00	N/A		
1,700.0	1,692.8	1,654.7	1,642.1	3.4	3.8	-121.69	92.7	-156.6	218.8	218.8	0.00	N/A		
1,800.0	1,791.4	1,751.3	1,736.7	3.7	4.2	-122.23	106.3	-171.1	244.2	244.2	0.00	N/A		
1,900.0	1,889.9	1,848.0	1,831.3	4.1	4.6	-122.67	119.9	-185.5	269.7	269.7	0.00	N/A		
2,000.0	1,988.4	1,944.7	1,925.9	4.4	4.9	-123.04	133.6	-199.9	295.2	295.2	0.00	N/A		
2,100.0	2,086.9	2,041.4	2,020.6	4.7	5.3	-123.34	147.2	-214.3	320.8	320.8	0.00	N/A		
2,200.0	2,185.4	2,138.0	2,115.2	5.0	5.7	-123.60	160.8	-228.7	346.3	346.3	0.00	N/A		
2,300.0	2,283.9	2,234.7	2,209.8	5.4	6.1	-123.83	174.4	-243.1	371.8	371.8	0.00	N/A		
2,400.0	2,382.4	2,331.4	2,304.4	5.7	6.4	-124.02	188.0	-257.5	397.3	397.3	0.00	N/A		
2,500.0	2,480.9	2,428.1	2,399.1	6.0	6.8	-124.19	201.6	-271.9	422.9	422.9	0.00	N/A		
2,600.0	2,579.4	2,524.7	2,493.7	6.4	7.2	-124.35	215.3	-286.3	448.4	448.4	0.00	N/A		
2,700.0	2,678.0	2,621.4	2,588.3	6.7	7.6	-124.48	228.9	-300.7	474.0	474.0	0.00	N/A		
2,800.0	2,776.5	2,718.1	2,682.9	7.0	8.0	-124.60	242.5	-315.2	499.5	499.5	0.00	N/A		

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Bonanza Creek Energy Operating Company, LLC	<b>Local Co-ordinate Reference:</b>	Well Seventy Holes N-5
<b>Project:</b>	Weld County	<b>TVD Reference:</b>	KBE @ 4570.0ft (Original Well Elev)
<b>Reference Site:</b>	Seventy Holes 24-5 Pad	<b>MD Reference:</b>	KBE @ 4570.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Seventy Holes N-5	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to KBE @ 4570.0ft (Original Well Elev)

Offset Depths are relative to Offset Datum

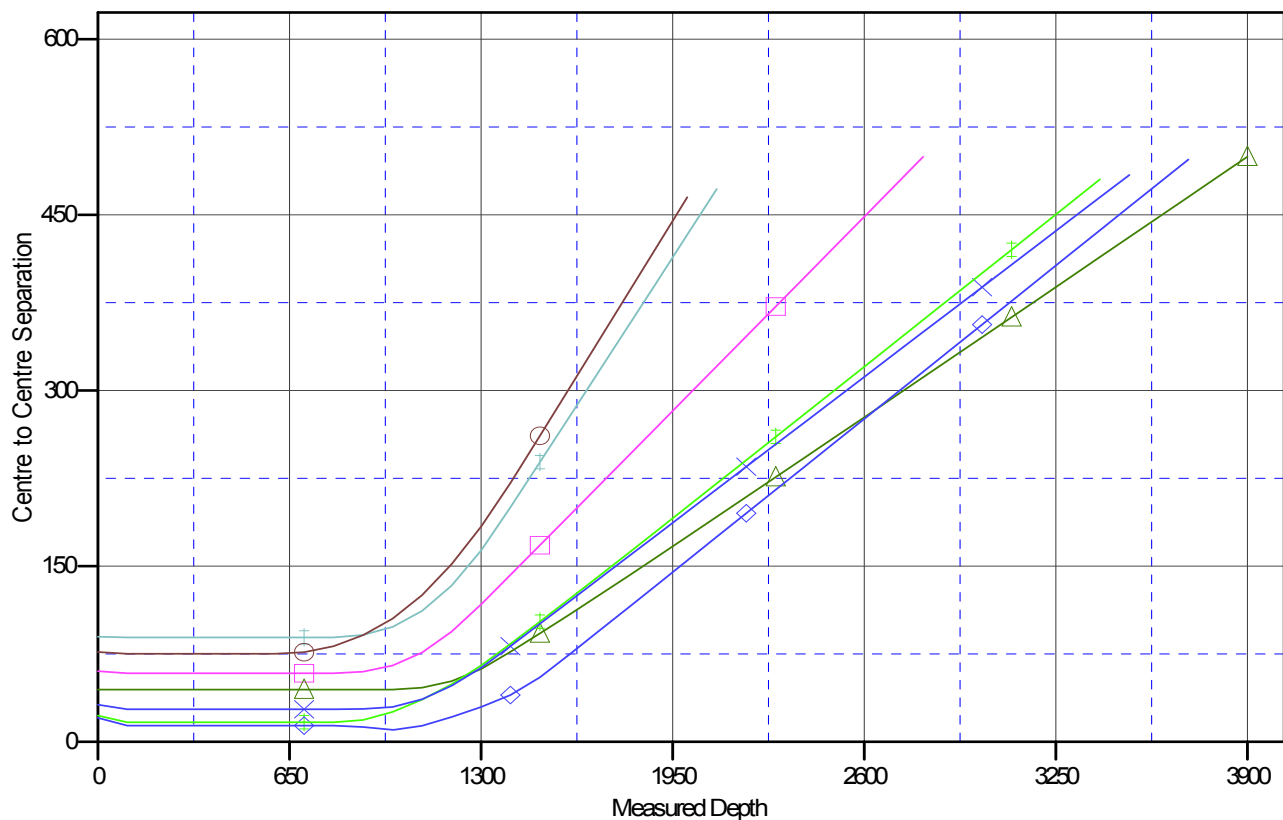
Central Meridian is -105.500000 °

Coordinates are relative to: Seventy Holes N-5

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 0.74°

### Ladder Plot



### LEGEND

- SeventyHoles 14-5, OH, Plan #1 V0
- SeventyHoles 24-5 (vert), OH, Plan #1 V0
- SeventyHoles 23-5, OH, Plan #1 V0
- SeventyHoles 1-5, OH, Plan #1 V0
- SeventyHoles 34-5, OH, Plan #1 V0
- SeventyHoles 33-5, OH, Plan #1 V0
- SeventyHoles 13-5, OH, Plan #1 V0