

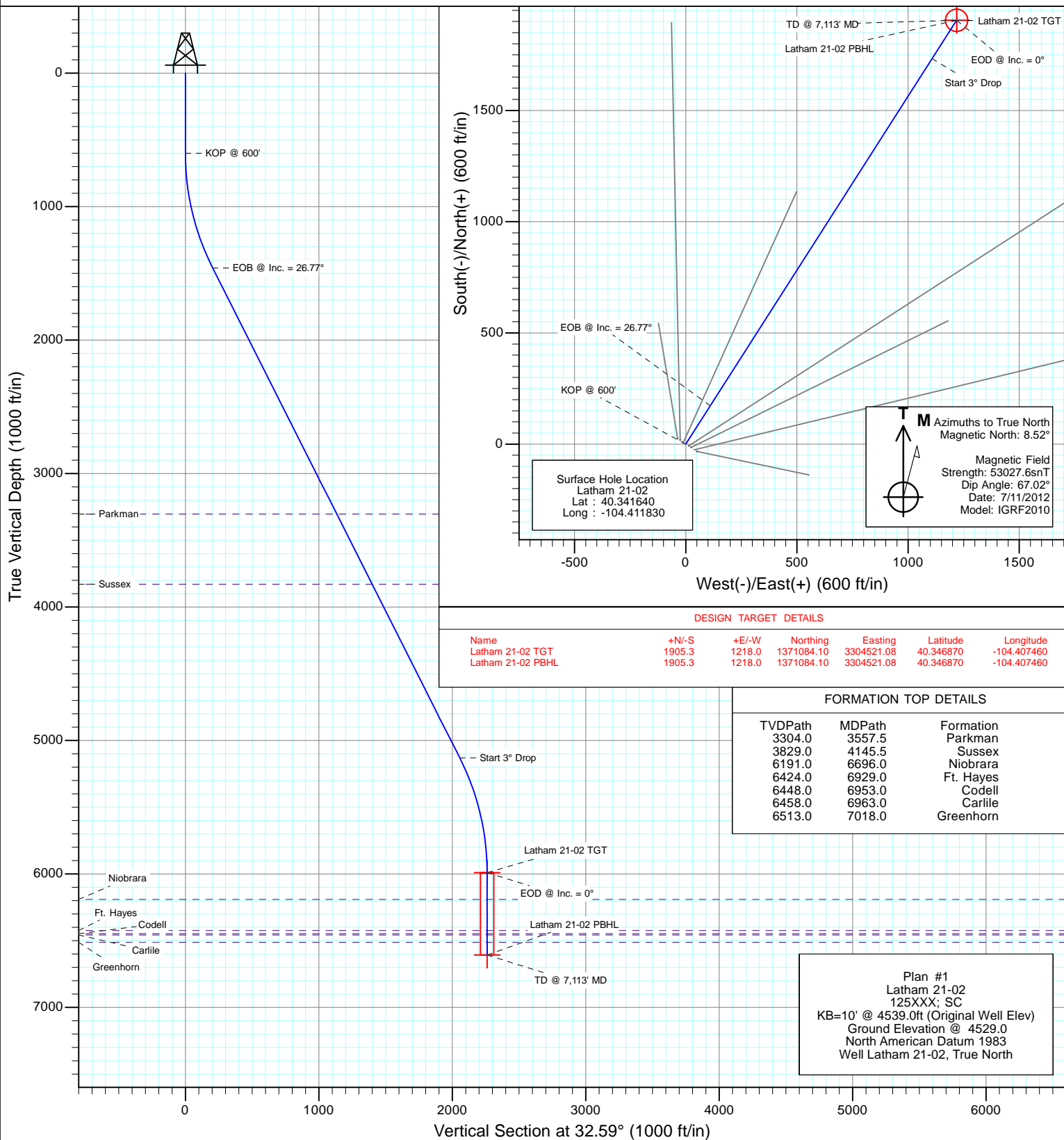


Project: Weld County  
Site: Latham 12-02 Pad  
Well: Latham 21-02  
Wellbore: OH  
Design: Plan #1



#### 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	600.0	0.00	0.00	600.0	0.0	0.0	0.00	0.00	0.0	
3	1492.4	26.77	32.59	1460.3	172.5	110.3	3.00	32.59	204.7	
4	5603.5	26.77	32.59	5130.7	1732.8	1107.8	0.00	0.00	2056.6	
5	6496.0	0.00	0.00	5991.0	1905.3	1218.0	3.00	180.00	2261.4	Latham 21-02 TGT
6	7113.0	0.00	0.00	6608.0	1905.3	1218.0	0.00	0.00	2261.4	Latham 21-02 PBHL



#### DESIGN TARGET DETAILS

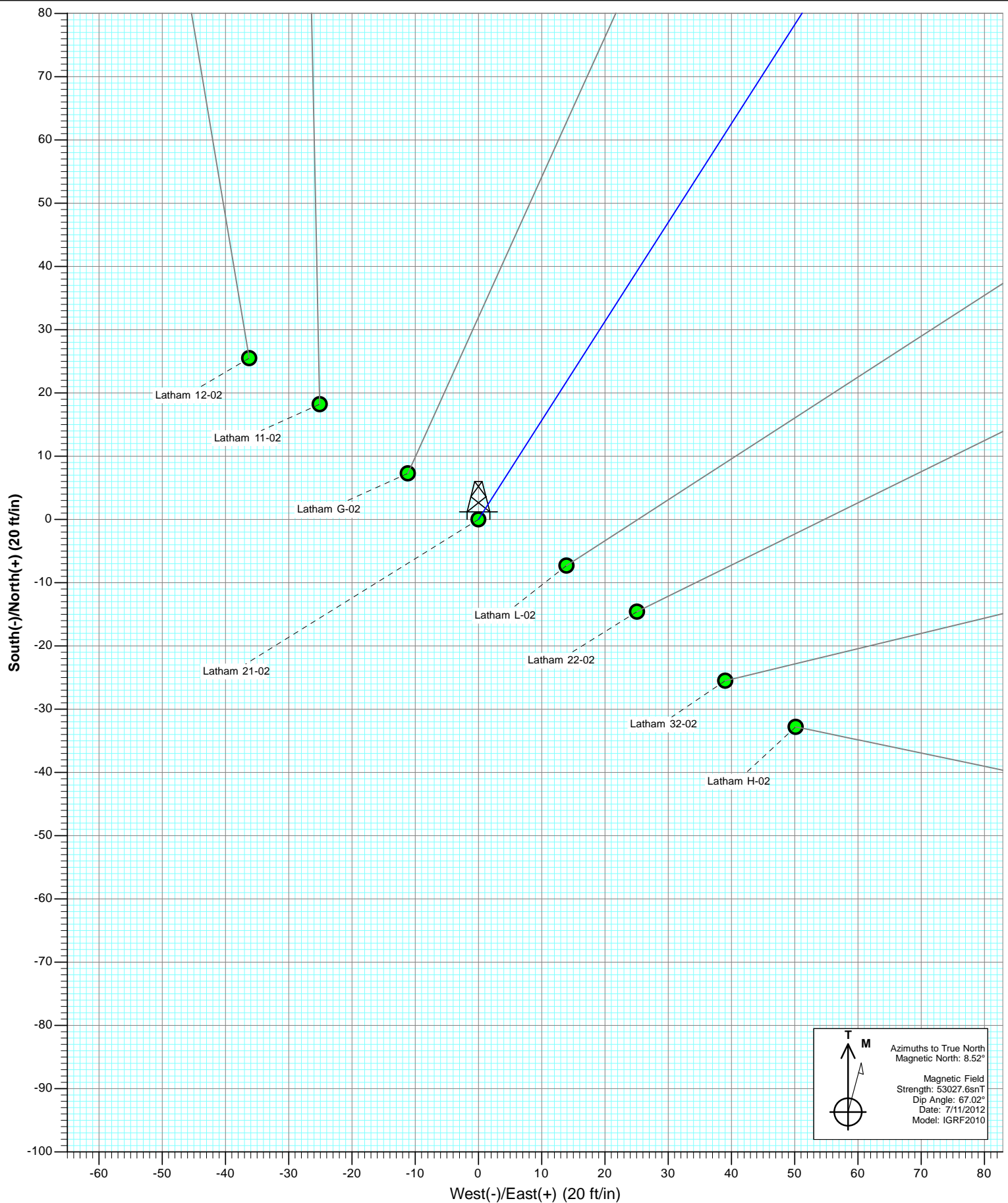
Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
Latham 21-02 TGT	1905.3	1218.0	1371084.10	3304521.08	40.346870	-104.407460
Latham 21-02 PBHL	1905.3	1218.0	1371084.10	3304521.08	40.346870	-104.407460

#### FORMATION TOP DETAILS

TVDPPath	MDPath	Formation
3304.0	3557.5	Parkman
3829.0	4145.5	Sussex
6191.0	6696.0	Niobrara
6424.0	6929.0	Ft. Hayes
6448.0	6953.0	Codell
6458.0	6963.0	Carlile
6513.0	7018.0	Greenhorn

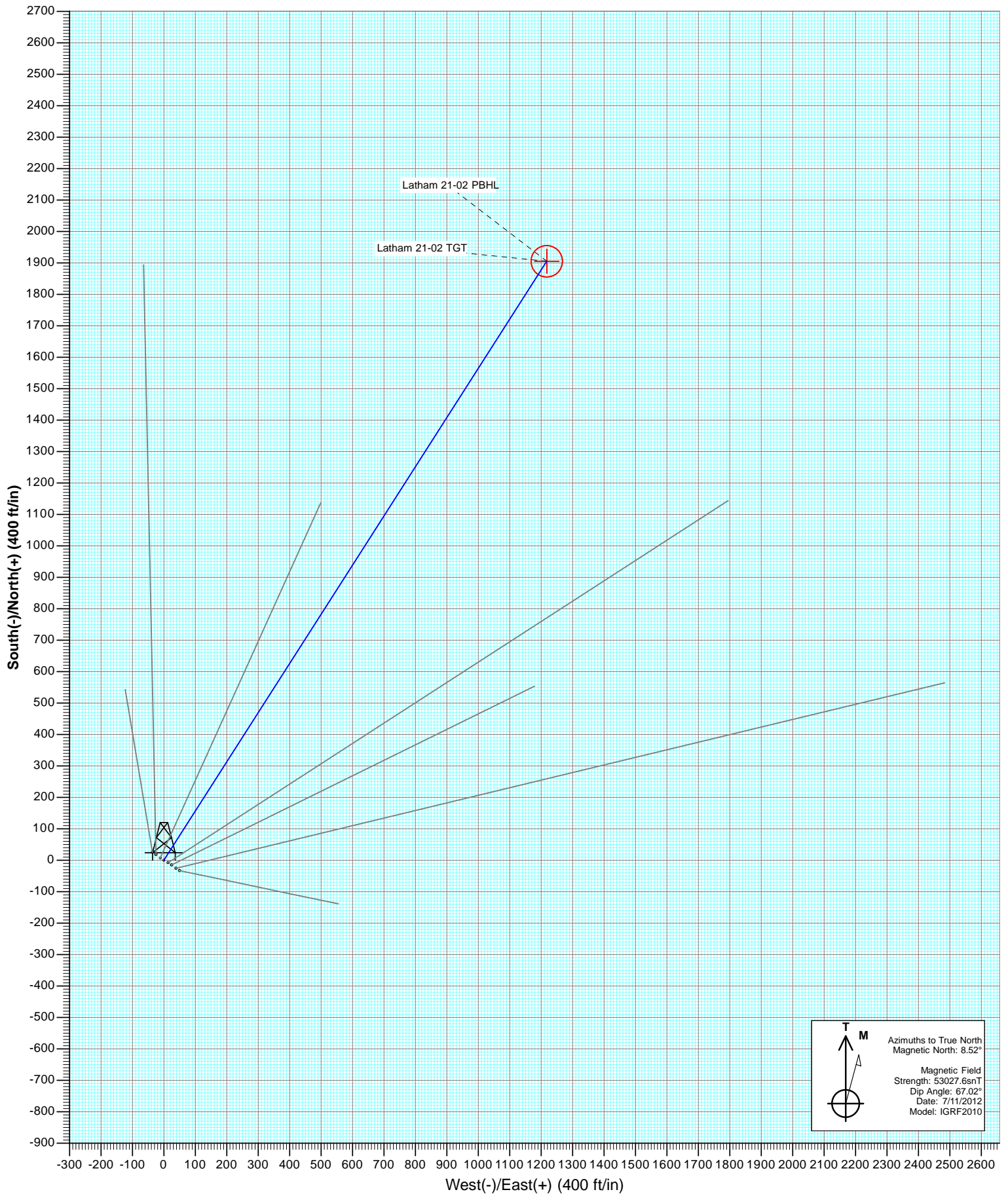


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Site: Latham 12-02 Pad  
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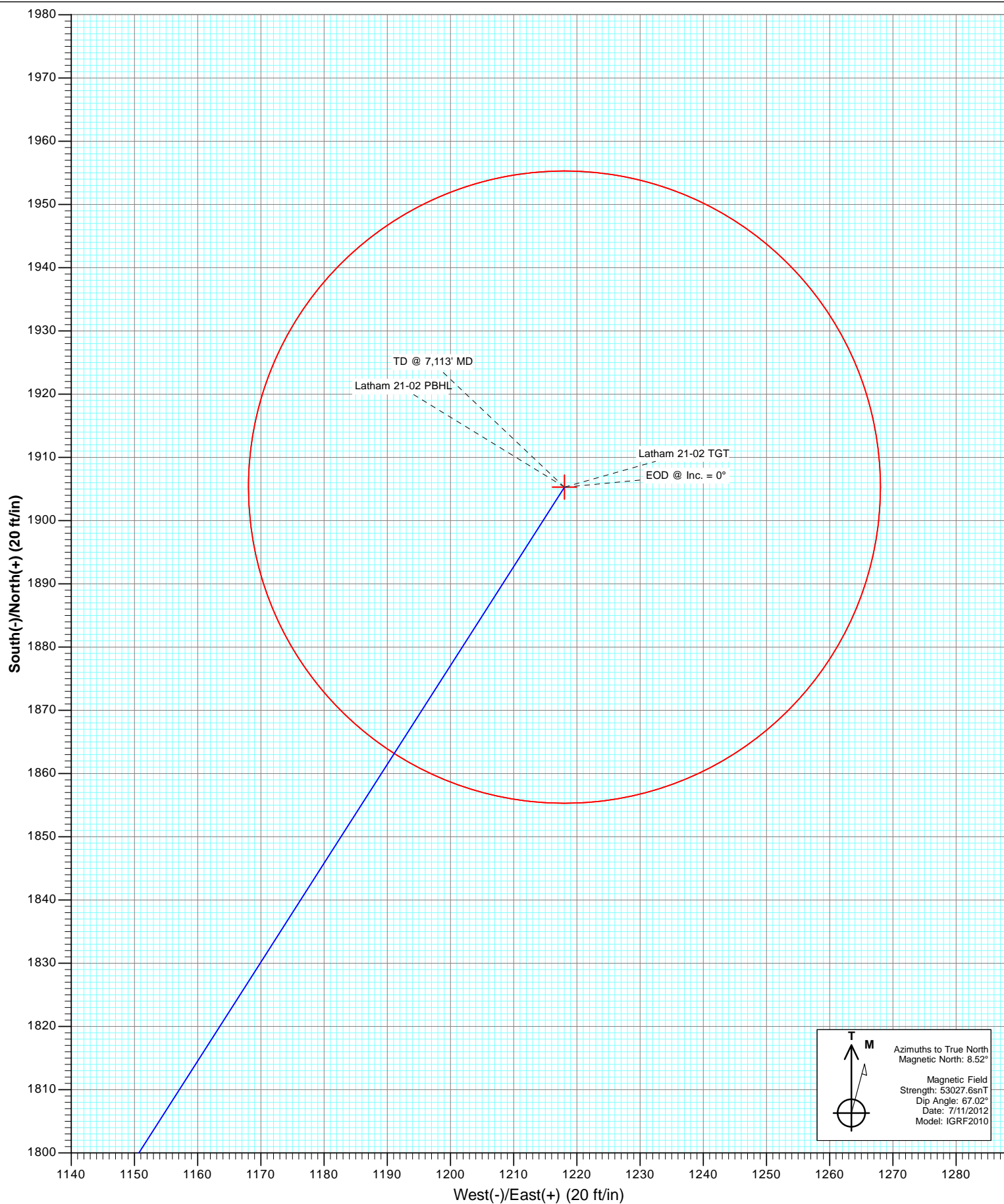


Project: Weld County  
Site: Latham 12-02 Pad  
Well: Latham 21-02  
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Project: Weld County  
Site: Latham 12-02 Pad  
Well: Latham 21-02  
Wellbore: OH  
Plan: Plan #1



# Cathedral Energy Services

## Planning Report

<b>Database:</b>	USA EDM 5000 Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well Latham 21-02
<b>Company:</b>	Bonanza Creek Energy Operating Company, LLC	<b>TVD Reference:</b>	KB=10' @ 4539.0ft (Original Well Elev)
<b>Project:</b>	Weld County	<b>MD Reference:</b>	KB=10' @ 4539.0ft (Original Well Elev)
<b>Site:</b>	Latham 12-02 Pad	<b>North Reference:</b>	True
<b>Well:</b>	Latham 21-02	<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		Latham 12-02 Pad			
Site Position:		Northing:	1,369,181.91 ft	Latitude:	40.341690
From:	Lat/Long	Easting:	3,303,301.19 ft	Longitude:	-104.411920
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence:	0.70 °

Well	Latham 21-02					
Well Position	+N/-S	0.0 ft	Northing:	1,369,163.99 ft	Latitude:	40.341640
	+E/-W	0.0 ft	Easting:	3,303,326.50 ft	Longitude:	-104.411830
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,529.0 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	7/11/2012	8.52	67.02	53,028

<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	32.59	

<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	
600.0	0.00	0.00	600.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,492.4	26.77	32.59	1,460.3	172.5	110.3	3.00	3.00	0.00	32.59	
5,603.5	26.77	32.59	5,130.7	1,732.8	1,107.8	0.00	0.00	0.00	0.00	
6,496.0	0.00	0.00	5,991.0	1,905.3	1,218.0	3.00	-3.00	0.00	180.00	Latham 21-02 TGT
7,113.0	0.00	0.00	6,608.0	1,905.3	1,218.0	0.00	0.00	0.00	0.00	Latham 21-02 PBHL

# Cathedral Energy Services

## Planning Report

<b>Database:</b>	USA EDM 5000 Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well Latham 21-02
<b>Company:</b>	Bonanza Creek Energy Operating Company, LLC	<b>TVD Reference:</b>	KB=10' @ 4539.0ft (Original Well Elev)
<b>Project:</b>	Weld County	<b>MD Reference:</b>	KB=10' @ 4539.0ft (Original Well Elev)
<b>Site:</b>	Latham 12-02 Pad	<b>North Reference:</b>	True
<b>Well:</b>	Latham 21-02	<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	KOP @ 600'
700.0	3.00	32.59	700.0	2.2	1.4	2.6	3.00	3.00	
800.0	6.00	32.59	799.6	8.8	5.6	10.5	3.00	3.00	
900.0	9.00	32.59	898.8	19.8	12.7	23.5	3.00	3.00	
1,000.0	12.00	32.59	997.1	35.2	22.5	41.7	3.00	3.00	
1,100.0	15.00	32.59	1,094.3	54.8	35.1	65.1	3.00	3.00	
1,200.0	18.00	32.59	1,190.2	78.8	50.3	93.5	3.00	3.00	
1,300.0	21.00	32.59	1,284.4	106.9	68.3	126.9	3.00	3.00	
1,400.0	24.00	32.59	1,376.8	139.1	88.9	165.1	3.00	3.00	
1,492.4	26.77	32.59	1,460.3	172.5	110.3	204.7	3.00	3.00	EOB @ Inc. = 26.77°
1,500.0	26.77	32.59	1,467.1	175.4	112.1	208.1	0.00	0.00	
1,600.0	26.77	32.59	1,556.3	213.3	136.4	253.2	0.00	0.00	
1,700.0	26.77	32.59	1,645.6	251.3	160.6	298.2	0.00	0.00	
1,800.0	26.77	32.59	1,734.9	289.2	184.9	343.3	0.00	0.00	
1,900.0	26.77	32.59	1,824.2	327.2	209.2	388.3	0.00	0.00	
2,000.0	26.77	32.59	1,913.5	365.1	233.4	433.4	0.00	0.00	
2,100.0	26.77	32.59	2,002.7	403.1	257.7	478.4	0.00	0.00	
2,200.0	26.77	32.59	2,092.0	441.0	282.0	523.5	0.00	0.00	
2,300.0	26.77	32.59	2,181.3	479.0	306.2	568.5	0.00	0.00	
2,400.0	26.77	32.59	2,270.6	517.0	330.5	613.6	0.00	0.00	
2,500.0	26.77	32.59	2,359.9	554.9	354.7	658.6	0.00	0.00	
2,600.0	26.77	32.59	2,449.1	592.9	379.0	703.7	0.00	0.00	
2,700.0	26.77	32.59	2,538.4	630.8	403.3	748.7	0.00	0.00	
2,800.0	26.77	32.59	2,627.7	668.8	427.5	793.7	0.00	0.00	
2,900.0	26.77	32.59	2,717.0	706.7	451.8	838.8	0.00	0.00	
3,000.0	26.77	32.59	2,806.3	744.7	476.1	883.8	0.00	0.00	
3,100.0	26.77	32.59	2,895.5	782.6	500.3	928.9	0.00	0.00	
3,200.0	26.77	32.59	2,984.8	820.6	524.6	973.9	0.00	0.00	
3,300.0	26.77	32.59	3,074.1	858.5	548.9	1,019.0	0.00	0.00	
3,400.0	26.77	32.59	3,163.4	896.5	573.1	1,064.0	0.00	0.00	
3,500.0	26.77	32.59	3,252.7	934.4	597.4	1,109.1	0.00	0.00	
3,557.5	26.77	32.59	3,304.0	956.3	611.3	1,135.0	0.00	0.00	Parkman
3,600.0	26.77	32.59	3,341.9	972.4	621.6	1,154.1	0.00	0.00	
3,700.0	26.77	32.59	3,431.2	1,010.3	645.9	1,199.2	0.00	0.00	
3,800.0	26.77	32.59	3,520.5	1,048.3	670.2	1,244.2	0.00	0.00	
3,900.0	26.77	32.59	3,609.8	1,086.3	694.4	1,289.3	0.00	0.00	
4,000.0	26.77	32.59	3,699.1	1,124.2	718.7	1,334.3	0.00	0.00	
4,100.0	26.77	32.59	3,788.3	1,162.2	743.0	1,379.3	0.00	0.00	
4,145.5	26.77	32.59	3,829.0	1,179.4	754.0	1,399.9	0.00	0.00	Sussex
4,200.0	26.77	32.59	3,877.6	1,200.1	767.2	1,424.4	0.00	0.00	
4,300.0	26.77	32.59	3,966.9	1,238.1	791.5	1,469.4	0.00	0.00	
4,400.0	26.77	32.59	4,056.2	1,276.0	815.7	1,514.5	0.00	0.00	
4,500.0	26.77	32.59	4,145.5	1,314.0	840.0	1,559.5	0.00	0.00	
4,600.0	26.77	32.59	4,234.7	1,351.9	864.3	1,604.6	0.00	0.00	
4,700.0	26.77	32.59	4,324.0	1,389.9	888.5	1,649.6	0.00	0.00	
4,800.0	26.77	32.59	4,413.3	1,427.8	912.8	1,694.7	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 Latham 21-02
<b>Company:</b>	Bonanza Creek Energy Operating Company, LLC	<b>TVD Reference:</b>	KB=10' @ 4539.0ft (Original Well Elev)
<b>Project:</b>	Weld County	<b>MD Reference:</b>	KB=10' @ 4539.0ft (Original Well Elev)
<b>Site:</b>	Latham 12-02 Pad	<b>North Reference:</b>	True
<b>Well:</b>	Latham 21-02	<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	26.77	32.59	4,502.6	1,465.8	937.1	1,739.7	0.00	0.00	
5,000.0	26.77	32.59	4,591.9	1,503.7	961.3	1,784.8	0.00	0.00	
5,100.0	26.77	32.59	4,681.1	1,541.7	985.6	1,829.8	0.00	0.00	
5,200.0	26.77	32.59	4,770.4	1,579.6	1,009.9	1,874.9	0.00	0.00	
5,300.0	26.77	32.59	4,859.7	1,617.6	1,034.1	1,919.9	0.00	0.00	
5,400.0	26.77	32.59	4,949.0	1,655.5	1,058.4	1,964.9	0.00	0.00	
5,500.0	26.77	32.59	5,038.2	1,693.5	1,082.6	2,010.0	0.00	0.00	
5,603.5	26.77	32.59	5,130.7	1,732.8	1,107.8	2,056.6	0.00	0.00	Start 3° Drop
5,700.0	23.88	32.59	5,217.9	1,767.6	1,130.0	2,097.9	3.00	-3.00	
5,800.0	20.88	32.59	5,310.3	1,799.6	1,150.5	2,136.0	3.00	-3.00	
5,900.0	17.88	32.59	5,404.7	1,827.6	1,168.4	2,169.1	3.00	-3.00	
6,000.0	14.88	32.59	5,500.6	1,851.3	1,183.6	2,197.3	3.00	-3.00	
6,100.0	11.88	32.59	5,597.9	1,870.8	1,196.0	2,220.5	3.00	-3.00	
6,200.0	8.88	32.59	5,696.2	1,886.0	1,205.7	2,238.5	3.00	-3.00	
6,300.0	5.88	32.59	5,795.4	1,896.8	1,212.6	2,251.3	3.00	-3.00	
6,400.0	2.88	32.59	5,895.1	1,903.3	1,216.7	2,259.0	3.00	-3.00	
6,496.0	0.00	0.00	5,991.0	1,905.3	1,218.0	2,261.4	3.00	-3.00	EOD @ Inc. = 0°
6,500.0	0.00	0.00	5,995.0	1,905.3	1,218.0	2,261.4	0.00	0.00	
6,600.0	0.00	0.00	6,095.0	1,905.3	1,218.0	2,261.4	0.00	0.00	
6,696.0	0.00	0.00	6,191.0	1,905.3	1,218.0	2,261.4	0.00	0.00	Niobrara
6,700.0	0.00	0.00	6,195.0	1,905.3	1,218.0	2,261.4	0.00	0.00	
6,800.0	0.00	0.00	6,295.0	1,905.3	1,218.0	2,261.4	0.00	0.00	
6,900.0	0.00	0.00	6,395.0	1,905.3	1,218.0	2,261.4	0.00	0.00	
6,929.0	0.00	0.00	6,424.0	1,905.3	1,218.0	2,261.4	0.00	0.00	Ft. Hayes
6,953.0	0.00	0.00	6,448.0	1,905.3	1,218.0	2,261.4	0.00	0.00	Codell
6,963.0	0.00	0.00	6,458.0	1,905.3	1,218.0	2,261.4	0.00	0.00	Carlile
7,000.0	0.00	0.00	6,495.0	1,905.3	1,218.0	2,261.4	0.00	0.00	
7,018.0	0.00	0.00	6,513.0	1,905.3	1,218.0	2,261.4	0.00	0.00	Greenhorn
7,100.0	0.00	0.00	6,595.0	1,905.3	1,218.0	2,261.4	0.00	0.00	
7,113.0	0.00	0.00	6,608.0	1,905.3	1,218.0	2,261.4	0.00	0.00	TD @ 7,113' 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									
Latham 21-02 TGT	0.00	0.00	5,991.0	1,905.3	1,218.0	1,371,084.10	3,304,521.08	40.346870	-104.407460
- plan hits target center									
- Point									
Latham 21-02 PBHL	0.00	0.00	6,608.0	1,905.3	1,218.0	1,371,084.10	3,304,521.08	40.346870	-104.407460
- plan hits target center									
- Circle (radius 50.0)									

# Cathedral Energy Services

## Planning Report

<b>Database:</b>	USA EDM 5000 Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well Latham 21-02
<b>Company:</b>	Bonanza Creek Energy Operating Company, LLC	<b>TVD Reference:</b>	KB=10' @ 4539.0ft (Original Well Elev)
<b>Project:</b>	Weld County	<b>MD Reference:</b>	KB=10' @ 4539.0ft (Original Well Elev)
<b>Site:</b>	Latham 12-02 Pad	<b>North Reference:</b>	True
<b>Well:</b>	Latham 21-02	<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 (°)	
3,557.5	3,304.0	Parkman				
4,145.5	3,829.0	Sussex				
6,696.0	6,191.0	Niobrara				
6,929.0	6,424.0	Ft. Hayes				
6,953.0	6,448.0	Codell				
6,963.0	6,458.0	Carlile				
7,018.0	6,513.0	Greenhorn				

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
600.0	600.0	0.0	0.0	KOP @ 600'	
1,492.4	1,460.3	172.5	110.3	EOB @ Inc. = 26.77°	
5,603.5	5,130.7	1,732.8	1,107.8	Start 3° Drop	
6,496.0	5,991.0	1,905.3	1,218.0	EOD @ Inc. = 0°	
7,113.0	6,608.0	1,905.3	1,218.0	TD @ 7,113' MD	



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

**Weld County  
Latham 12-02 Pad  
Latham 21-02  
OH  
Plan #1**

## **Anticollision Report**

**11 July, 2012**

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Bonanza Creek Energy Operating Company, LLC	<b>Local Co-ordinate Reference:</b>	Well Latham 21-02
<b>Project:</b>	Weld County	<b>TVD Reference:</b>	KB=10' @ 4539.0ft (Original Well Elev)
<b>Reference Site:</b>	Latham 12-02 Pad	<b>MD Reference:</b>	KB=10' @ 4539.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Latham 21-02	<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	7/11/2012		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.0	7,113.0	Plan #1 (OH)	MWD	Geolink MWD	

Summary						
Site Name	Reference	Offset	Distance		Separation	Warning
	Measured	Measured	Between	Between		
Offset Well - Wellbore - Design	Depth	Depth	Centres	Ellipses	Factor	
	(ft)	(ft)	(ft)	(ft)		
Latham 12-02 Pad						
Latham 11-02 - OH - Plan #1	0.0	0.0	31.0			
Latham 11-02 - OH - Plan #1	600.0	600.0	31.0	31.0	10,000.000	CC, ES
Latham 12-02 - OH - Plan #1	0.0	0.0	44.3			
Latham 12-02 - OH - Plan #1	600.0	600.0	44.3	44.3	10,000.000	CC, ES
Latham 22-02 - OH - Plan #1	0.0	0.0	29.0			
Latham 22-02 - OH - Plan #1	600.0	600.0	29.0	29.0	10,000.000	CC, ES
Latham 32-02 - OH - Plan #1	0.0	0.0	46.6			
Latham 32-02 - OH - Plan #1	600.0	600.0	46.6	46.6	10,000.000	CC, ES
Latham G-02 - OH - Plan #1	0.0	0.0	13.3			
Latham G-02 - OH - Plan #1	600.0	600.0	13.3	13.3	10,000.000	CC, ES
Latham H-02 - OH - Plan #1	0.0	1.0	59.9			
Latham H-02 - OH - Plan #1	566.3	567.3	59.9	59.9	10,000.000	CC, ES
Latham L-02 - OH - Plan #1	0.0	1.0	15.7			
Latham L-02 - OH - Plan #1	566.3	567.3	15.7	15.7	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 Latham 21-02
<b>Project:</b>	Weld County	<b>TVD Reference:</b>	KB=10' @ 4539.0ft (Original Well Elev)
<b>Reference Site:</b>	Latham 12-02 Pad	<b>MD Reference:</b>	KB=10' @ 4539.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Latham 21-02	<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 Latham 12-02 Pad - Latham 11-02 - 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				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	-54.01	18.2	-25.1	31.0					
100.0	100.0	100.0	100.0	0.2	0.2	-54.01	18.2	-25.1	31.0	31.0	0.00	N/A		
200.0	200.0	200.0	200.0	0.3	0.3	-54.01	18.2	-25.1	31.0	31.0	0.00	N/A		
300.0	300.0	300.0	300.0	0.5	0.5	-54.01	18.2	-25.1	31.0	31.0	0.00	N/A		
400.0	400.0	400.0	400.0	0.7	0.7	-54.01	18.2	-25.1	31.0	31.0	0.00	N/A		
500.0	500.0	500.0	500.0	0.9	0.9	-54.01	18.2	-25.1	31.0	31.0	0.00	N/A		
600.0	600.0	600.0	600.0	1.0	1.0	-54.01	18.2	-25.1	31.0	31.0	0.00	N/A CC, ES		
700.0	700.0	699.0	699.0	1.2	1.2	-87.51	20.8	-25.1	32.4	32.4	0.00	N/A		
800.0	799.6	797.9	797.5	1.4	1.4	-89.83	28.5	-25.3	36.7	36.7	0.00	N/A		
900.0	898.8	896.5	895.3	1.6	1.6	-92.63	41.2	-25.6	43.9	43.9	0.00	N/A		
1,000.0	997.1	994.7	991.9	2.0	1.9	-95.23	58.9	-25.9	54.1	54.1	0.00	N/A		
1,100.0	1,094.3	1,092.4	1,087.0	2.3	2.3	-97.33	81.3	-26.4	67.3	67.3	0.00	N/A		
1,200.0	1,190.2	1,189.5	1,180.2	2.8	2.8	-98.91	108.5	-27.0	83.4	83.4	0.00	N/A		
1,300.0	1,284.4	1,285.9	1,271.2	3.4	3.3	-100.02	140.0	-27.6	102.4	102.4	0.00	N/A		
1,400.0	1,376.8	1,382.5	1,361.1	4.1	3.9	-101.07	175.7	-28.4	123.9	123.9	0.00	N/A		
1,500.0	1,467.1	1,479.6	1,451.1	4.8	4.5	-103.46	212.0	-29.1	146.8	146.8	0.00	N/A		
1,600.0	1,556.3	1,576.4	1,540.9	5.6	5.1	-106.41	248.2	-29.9	170.6	170.6	0.00	N/A		
1,700.0	1,645.6	1,673.2	1,630.7	6.4	5.8	-108.63	284.4	-30.6	194.7	194.7	0.00	N/A		
1,800.0	1,734.9	1,770.0	1,720.5	7.2	6.4	-110.37	320.6	-31.4	219.0	219.0	0.00	N/A		
1,900.0	1,824.2	1,866.8	1,810.2	8.0	7.0	-111.76	356.8	-32.1	243.5	243.5	0.00	N/A		
2,000.0	1,913.5	1,963.6	1,900.0	8.8	7.7	-112.89	393.0	-32.9	268.1	268.1	0.00	N/A		
2,100.0	2,002.7	2,060.4	1,989.8	9.6	8.3	-113.83	429.2	-33.6	292.8	292.8	0.00	N/A		
2,200.0	2,092.0	2,157.3	2,079.6	10.5	8.9	-114.63	465.4	-34.4	317.5	317.5	0.00	N/A		
2,300.0	2,181.3	2,254.1	2,169.3	11.3	9.6	-115.31	501.6	-35.1	342.3	342.3	0.00	N/A		
2,400.0	2,270.6	2,350.9	2,259.1	12.1	10.2	-115.90	537.8	-35.9	367.1	367.1	0.00	N/A		
2,500.0	2,359.9	2,447.7	2,348.9	12.9	10.9	-116.42	574.0	-36.6	392.0	392.0	0.00	N/A		
2,600.0	2,449.1	2,544.5	2,438.7	13.7	11.5	-116.87	610.2	-37.4	416.9	416.9	0.00	N/A		
2,700.0	2,538.4	2,641.3	2,528.4	14.6	12.2	-117.27	646.4	-38.2	441.8	441.8	0.00	N/A		
2,800.0	2,627.7	2,738.1	2,618.2	15.4	12.8	-117.63	682.6	-38.9	466.7	466.7	0.00	N/A		
2,900.0	2,717.0	2,834.9	2,708.0	16.2	13.5	-117.96	718.8	-39.7	491.7	491.7	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 Latham 21-02
<b>Project:</b>	Weld County	<b>TVD Reference:</b>	KB=10' @ 4539.0ft (Original Well Elev)
<b>Reference Site:</b>	Latham 12-02 Pad	<b>MD Reference:</b>	KB=10' @ 4539.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Latham 21-02	<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 Latham 12-02 Pad - Latham 12-02 - 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				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	-54.87	25.5	-36.2	44.3					
100.0	100.0	100.0	100.0	0.2	0.2	-54.87	25.5	-36.2	44.3	44.3	0.00	N/A		
200.0	200.0	200.0	200.0	0.3	0.3	-54.87	25.5	-36.2	44.3	44.3	0.00	N/A		
300.0	300.0	300.0	300.0	0.5	0.5	-54.87	25.5	-36.2	44.3	44.3	0.00	N/A		
400.0	400.0	400.0	400.0	0.7	0.7	-54.87	25.5	-36.2	44.3	44.3	0.00	N/A		
500.0	500.0	500.0	500.0	0.9	0.9	-54.87	25.5	-36.2	44.3	44.3	0.00	N/A		
600.0	600.0	600.0	600.0	1.0	1.0	-54.87	25.5	-36.2	44.3	44.3	0.00	N/A CC, ES		
700.0	700.0	698.4	698.3	1.2	1.2	-88.36	28.0	-36.7	46.0	46.0	0.00	N/A		
800.0	799.6	796.6	796.3	1.4	1.4	-90.72	35.5	-37.9	51.2	51.2	0.00	N/A		
900.0	898.8	896.2	895.4	1.6	1.6	-95.95	45.3	-39.5	58.2	58.2	0.00	N/A		
1,000.0	997.1	995.4	994.0	2.0	1.8	-104.33	55.1	-41.2	66.8	66.8	0.00	N/A		
1,100.0	1,094.3	1,093.9	1,092.0	2.3	2.0	-114.08	64.9	-42.8	78.5	78.5	0.00	N/A		
1,200.0	1,190.2	1,191.4	1,189.0	2.8	2.3	-123.62	74.5	-44.4	94.9	94.9	0.00	N/A		
1,300.0	1,284.4	1,287.6	1,284.8	3.4	2.5	-131.97	84.1	-46.0	116.6	116.6	0.00	N/A		
1,400.0	1,376.8	1,382.4	1,379.1	4.1	2.7	-138.80	93.4	-47.6	144.0	144.0	0.00	N/A		
1,500.0	1,467.1	1,475.4	1,471.6	4.8	2.9	-144.26	102.6	-49.1	176.9	176.9	0.00	N/A		
1,600.0	1,556.3	1,567.6	1,563.3	5.6	3.2	-148.75	111.8	-50.6	212.9	212.9	0.00	N/A		
1,700.0	1,645.6	1,659.8	1,655.1	6.4	3.4	-151.95	120.9	-52.2	249.8	249.8	0.00	N/A		
1,800.0	1,734.9	1,751.9	1,746.8	7.2	3.6	-154.34	130.0	-53.7	287.1	287.1	0.00	N/A		
1,900.0	1,824.2	1,844.1	1,838.5	8.0	3.8	-156.18	139.1	-55.2	324.8	324.8	0.00	N/A		
2,000.0	1,913.5	1,936.3	1,930.2	8.8	4.0	-157.64	148.2	-56.7	362.7	362.7	0.00	N/A		
2,100.0	2,002.7	2,028.5	2,021.9	9.6	4.3	-158.82	157.4	-58.3	400.7	400.7	0.00	N/A		
2,200.0	2,092.0	2,120.7	2,113.7	10.5	4.5	-159.80	166.5	-59.8	438.9	438.9	0.00	N/A		
2,300.0	2,181.3	2,212.9	2,205.4	11.3	4.7	-160.62	175.6	-61.3	477.2	477.2	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 Latham 21-02
<b>Project:</b>	Weld County	<b>TVD Reference:</b>	KB=10' @ 4539.0ft (Original Well Elev)
<b>Reference Site:</b>	Latham 12-02 Pad	<b>MD Reference:</b>	KB=10' @ 4539.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Latham 21-02	<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 Latham 12-02 Pad - Latham 22-02 - 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		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			
0.0	0.0	0.0	0.0	0.0	0.0	120.15	-14.6	25.1	29.0					
100.0	100.0	100.0	100.0	0.2	0.2	120.15	-14.6	25.1	29.0	29.0	0.00	N/A		
200.0	200.0	200.0	200.0	0.3	0.3	120.15	-14.6	25.1	29.0	29.0	0.00	N/A		
300.0	300.0	300.0	300.0	0.5	0.5	120.15	-14.6	25.1	29.0	29.0	0.00	N/A		
400.0	400.0	400.0	400.0	0.7	0.7	120.15	-14.6	25.1	29.0	29.0	0.00	N/A		
500.0	500.0	500.0	500.0	0.9	0.9	120.15	-14.6	25.1	29.0	29.0	0.00	N/A		
600.0	600.0	600.0	600.0	1.0	1.0	120.15	-14.6	25.1	29.0	29.0	0.00	N/A CC, ES		
700.0	700.0	699.1	699.1	1.2	1.2	88.37	-13.4	27.4	30.3	30.3	0.00	N/A		
800.0	799.6	798.2	797.8	1.4	1.4	90.41	-10.0	34.3	34.4	34.4	0.00	N/A		
900.0	898.8	897.0	895.8	1.6	1.6	92.89	-4.4	45.8	41.1	41.1	0.00	N/A		
1,000.0	997.1	995.5	992.6	2.0	1.9	95.19	3.5	61.7	50.6	50.6	0.00	N/A		
1,100.0	1,094.3	1,093.5	1,088.1	2.3	2.3	97.05	13.4	82.0	62.9	62.9	0.00	N/A		
1,200.0	1,190.2	1,192.4	1,183.7	2.8	2.7	100.36	24.5	104.5	76.9	76.9	0.00	N/A		
1,300.0	1,284.4	1,290.8	1,278.9	3.4	3.2	105.65	35.6	127.0	92.5	92.5	0.00	N/A		
1,400.0	1,376.8	1,388.5	1,373.3	4.1	3.6	111.75	46.6	149.2	110.5	110.5	0.00	N/A		
1,500.0	1,467.1	1,485.1	1,466.8	4.8	4.0	117.96	57.4	171.3	132.0	132.0	0.00	N/A		
1,600.0	1,556.3	1,581.3	1,559.8	5.6	4.5	123.50	68.2	193.2	155.9	155.9	0.00	N/A		
1,700.0	1,645.6	1,677.4	1,652.8	6.4	4.9	127.56	79.0	215.1	180.8	180.8	0.00	N/A		
1,800.0	1,734.9	1,773.6	1,745.8	7.2	5.4	130.63	89.8	237.0	206.4	206.4	0.00	N/A		
1,900.0	1,824.2	1,869.7	1,838.8	8.0	5.9	133.03	100.6	258.9	232.4	232.4	0.00	N/A		
2,000.0	1,913.5	1,965.9	1,931.7	8.8	6.3	134.95	111.4	280.9	258.8	258.8	0.00	N/A		
2,100.0	2,002.7	2,062.0	2,024.7	9.6	6.8	136.51	122.2	302.8	285.3	285.3	0.00	N/A		
2,200.0	2,092.0	2,158.1	2,117.7	10.5	7.2	137.81	133.0	324.7	312.1	312.1	0.00	N/A		
2,300.0	2,181.3	2,254.3	2,210.7	11.3	7.7	138.90	143.8	346.6	338.9	338.9	0.00	N/A		
2,400.0	2,270.6	2,350.4	2,303.7	12.1	8.2	139.83	154.6	368.5	365.9	365.9	0.00	N/A		
2,500.0	2,359.9	2,446.6	2,396.7	12.9	8.6	140.64	165.4	390.4	392.9	392.9	0.00	N/A		
2,600.0	2,449.1	2,542.7	2,489.7	13.7	9.1	141.34	176.2	412.4	420.0	420.0	0.00	N/A		
2,700.0	2,538.4	2,638.8	2,582.6	14.6	9.5	141.95	187.0	434.3	447.1	447.1	0.00	N/A		
2,800.0	2,627.7	2,735.0	2,675.6	15.4	10.0	142.50	197.7	456.2	474.3	474.3	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 Latham 21-02
<b>Project:</b>	Weld County	<b>TVD Reference:</b>	KB=10' @ 4539.0ft (Original Well Elev)
<b>Reference Site:</b>	Latham 12-02 Pad	<b>MD Reference:</b>	KB=10' @ 4539.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Latham 21-02	<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 Latham 12-02 Pad - Latham 32-02 - 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				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	123.16	-25.5	39.0	46.6					
100.0	100.0	100.0	100.0	0.2	0.2	123.16	-25.5	39.0	46.6	46.6	0.00	N/A		
200.0	200.0	200.0	200.0	0.3	0.3	123.16	-25.5	39.0	46.6	46.6	0.00	N/A		
300.0	300.0	300.0	300.0	0.5	0.5	123.16	-25.5	39.0	46.6	46.6	0.00	N/A		
400.0	400.0	400.0	400.0	0.7	0.7	123.16	-25.5	39.0	46.6	46.6	0.00	N/A		
500.0	500.0	500.0	500.0	0.9	0.9	123.16	-25.5	39.0	46.6	46.6	0.00	N/A		
600.0	600.0	600.0	600.0	1.0	1.0	123.16	-25.5	39.0	46.6	46.6	0.00	N/A CC, ES		
700.0	700.0	698.3	698.3	1.2	1.2	91.38	-24.9	41.5	48.4	48.4	0.00	N/A		
800.0	799.6	796.4	796.1	1.4	1.4	93.47	-23.1	48.8	53.8	53.8	0.00	N/A		
900.0	898.8	894.1	892.9	1.6	1.6	96.11	-20.2	61.0	63.0	63.0	0.00	N/A		
1,000.0	997.1	991.1	988.4	2.0	1.9	98.66	-16.1	77.8	76.0	76.0	0.00	N/A		
1,100.0	1,094.3	1,087.4	1,082.1	2.3	2.3	100.79	-11.0	99.1	92.7	92.7	0.00	N/A		
1,200.0	1,190.2	1,182.6	1,173.6	2.8	2.8	102.43	-4.8	124.7	113.1	113.1	0.00	N/A		
1,300.0	1,284.4	1,276.7	1,262.6	3.4	3.3	103.60	2.3	154.3	137.1	137.1	0.00	N/A		
1,400.0	1,376.8	1,369.4	1,348.8	4.1	3.9	104.38	10.4	187.7	164.6	164.6	0.00	N/A		
1,500.0	1,467.1	1,460.8	1,432.0	4.8	4.6	104.91	19.3	224.4	195.5	195.5	0.00	N/A		
1,600.0	1,556.3	1,551.0	1,512.2	5.6	5.4	105.43	28.9	264.5	228.8	228.8	0.00	N/A		
1,700.0	1,645.6	1,642.3	1,591.6	6.4	6.3	105.02	39.5	308.3	263.7	263.7	0.00	N/A		
1,800.0	1,734.9	1,735.9	1,672.7	7.2	7.2	104.58	50.5	353.7	298.9	298.9	0.00	N/A		
1,900.0	1,824.2	1,829.5	1,753.9	8.0	8.0	104.24	61.4	399.0	334.1	334.1	0.00	N/A		
2,000.0	1,913.5	1,923.1	1,835.0	8.8	8.9	103.96	72.4	444.4	369.3	369.3	0.00	N/A		
2,100.0	2,002.7	2,016.7	1,916.1	9.6	9.8	103.73	83.4	489.8	404.5	404.5	0.00	N/A		
2,200.0	2,092.0	2,110.3	1,997.2	10.5	10.7	103.54	94.3	535.2	439.7	439.7	0.00	N/A		
2,300.0	2,181.3	2,203.9	2,078.3	11.3	11.7	103.37	105.3	580.6	474.9	474.9	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 Latham 21-02
<b>Project:</b>	Weld County	<b>TVD Reference:</b>	KB=10' @ 4539.0ft (Original Well Elev)
<b>Reference Site:</b>	Latham 12-02 Pad	<b>MD Reference:</b>	KB=10' @ 4539.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Latham 21-02	<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 Latham 12-02 Pad - Latham G-02 - 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									
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	-56.82	7.3	-11.2	13.3						
100.0	100.0	100.0	100.0	0.2	0.2	-56.82	7.3	-11.2	13.3	13.3	0.00	N/A			
200.0	200.0	200.0	200.0	0.3	0.3	-56.82	7.3	-11.2	13.3	13.3	0.00	N/A			
300.0	300.0	300.0	300.0	0.5	0.5	-56.82	7.3	-11.2	13.3	13.3	0.00	N/A			
400.0	400.0	400.0	400.0	0.7	0.7	-56.82	7.3	-11.2	13.3	13.3	0.00	N/A			
500.0	500.0	500.0	500.0	0.9	0.9	-56.82	7.3	-11.2	13.3	13.3	0.00	N/A			
600.0	600.0	600.0	600.0	1.0	1.0	-56.82	7.3	-11.2	13.3	13.3	0.00	N/A CC, ES			
700.0	700.0	699.9	699.8	1.2	1.2	-89.54	9.7	-10.1	13.7	13.7	0.00	N/A			
800.0	799.6	799.8	799.4	1.4	1.4	-89.89	16.8	-6.9	14.8	14.8	0.00	N/A			
900.0	898.8	899.6	898.4	1.6	1.6	-90.37	28.7	-1.5	16.7	16.7	0.00	N/A			
1,000.0	997.1	999.5	996.6	2.0	2.0	-90.86	45.2	6.0	19.3	19.3	0.00	N/A			
1,100.0	1,094.3	1,099.3	1,093.7	2.3	2.3	-91.83	66.3	15.5	22.7	22.7	0.00	N/A			
1,200.0	1,190.2	1,199.2	1,190.5	2.8	2.7	-100.87	88.5	25.5	26.7	26.7	0.00	N/A			
1,300.0	1,284.4	1,298.6	1,287.0	3.4	3.1	-115.97	110.6	35.5	33.1	33.1	0.00	N/A			
1,400.0	1,376.8	1,397.5	1,382.8	4.1	3.6	-131.01	132.6	45.5	44.4	44.4	0.00	N/A			
1,500.0	1,467.1	1,495.4	1,477.8	4.8	4.0	-142.62	154.4	55.3	61.5	61.5	0.00	N/A			
1,600.0	1,556.3	1,592.8	1,572.3	5.6	4.4	-150.04	176.1	65.1	81.9	81.9	0.00	N/A			
1,700.0	1,645.6	1,690.3	1,666.8	6.4	4.9	-154.47	197.8	74.9	103.2	103.2	0.00	N/A			
1,800.0	1,734.9	1,787.8	1,761.3	7.2	5.3	-157.38	219.6	84.7	124.9	124.9	0.00	N/A			
1,900.0	1,824.2	1,885.2	1,855.8	8.0	5.7	-159.43	241.3	94.5	146.7	146.7	0.00	N/A			
2,000.0	1,913.5	1,982.7	1,950.3	8.8	6.2	-160.94	263.0	104.3	168.7	168.7	0.00	N/A			
2,100.0	2,002.7	2,080.2	2,044.8	9.6	6.6	-162.11	284.7	114.1	190.8	190.8	0.00	N/A			
2,200.0	2,092.0	2,177.6	2,139.3	10.5	7.1	-163.03	306.4	123.9	213.0	213.0	0.00	N/A			
2,300.0	2,181.3	2,275.1	2,233.9	11.3	7.5	-163.78	328.1	133.7	235.2	235.2	0.00	N/A			
2,400.0	2,270.6	2,372.6	2,328.4	12.1	7.9	-164.41	349.8	143.5	257.4	257.4	0.00	N/A			
2,500.0	2,359.9	2,470.0	2,422.9	12.9	8.4	-164.93	371.5	153.3	279.6	279.6	0.00	N/A			
2,600.0	2,449.1	2,567.5	2,517.4	13.7	8.8	-165.37	393.2	163.1	301.9	301.9	0.00	N/A			
2,700.0	2,538.4	2,665.0	2,611.9	14.6	9.3	-165.76	414.9	172.9	324.2	324.2	0.00	N/A			
2,800.0	2,627.7	2,762.4	2,706.4	15.4	9.7	-166.09	436.6	182.7	346.5	346.5	0.00	N/A			
2,900.0	2,717.0	2,859.9	2,800.9	16.2	10.2	-166.39	458.3	192.5	368.8	368.8	0.00	N/A			
3,000.0	2,806.3	2,957.4	2,895.4	17.0	10.6	-166.65	480.0	202.4	391.1	391.1	0.00	N/A			
3,100.0	2,895.5	3,054.8	2,989.9	17.9	11.1	-166.88	501.7	212.2	413.4	413.4	0.00	N/A			
3,200.0	2,984.8	3,152.3	3,084.5	18.7	11.5	-167.09	523.4	222.0	435.7	435.7	0.00	N/A			
3,300.0	3,074.1	3,249.8	3,179.0	19.5	12.0	-167.28	545.1	231.8	458.0	458.0	0.00	N/A			
3,400.0	3,163.4	3,347.2	3,273.5	20.3	12.4	-167.45	566.8	241.6	480.4	480.4	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 Latham 21-02
<b>Project:</b>	Weld County	<b>TVD Reference:</b>	KB=10' @ 4539.0ft (Original Well Elev)
<b>Reference Site:</b>	Latham 12-02 Pad	<b>MD Reference:</b>	KB=10' @ 4539.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Latham 21-02	<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 Latham 12-02 Pad - Latham H-02 - 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	1.0	1.0	0.0	0.0	123.16	-32.8	50.2	59.9					
100.0	100.0	101.0	101.0	0.2	0.2	123.16	-32.8	50.2	59.9	59.9	0.00	N/A		
200.0	200.0	201.0	201.0	0.3	0.3	123.16	-32.8	50.2	59.9	59.9	0.00	N/A		
300.0	300.0	301.0	301.0	0.5	0.5	123.16	-32.8	50.2	59.9	59.9	0.00	N/A		
400.0	400.0	401.0	401.0	0.7	0.7	123.16	-32.8	50.2	59.9	59.9	0.00	N/A		
500.0	500.0	501.0	501.0	0.9	0.9	123.16	-32.8	50.2	59.9	59.9	0.00	N/A		
566.3	566.3	567.3	567.3	1.0	1.0	123.16	-32.8	50.2	59.9	59.9	0.00	N/A CC, ES		
600.0	600.0	600.0	600.0	1.0	1.0	123.16	-32.8	50.2	59.9	59.9	0.00	N/A		
700.0	700.0	698.0	698.0	1.2	1.2	91.99	-33.3	52.6	62.4	62.4	0.00	N/A		
800.0	799.6	794.8	794.5	1.4	1.4	95.66	-34.8	59.9	69.9	69.9	0.00	N/A		
900.0	898.8	893.9	893.1	1.6	1.6	101.46	-36.8	69.4	80.5	80.5	0.00	N/A		
1,000.0	997.1	992.4	991.1	2.0	1.8	108.81	-38.8	78.9	93.3	93.3	0.00	N/A		
1,100.0	1,094.3	1,090.0	1,088.2	2.3	2.0	116.59	-40.8	88.3	109.7	109.7	0.00	N/A		
1,200.0	1,190.2	1,186.4	1,184.1	2.8	2.3	123.98	-42.7	97.6	130.5	130.5	0.00	N/A		
1,300.0	1,284.4	1,281.3	1,278.6	3.4	2.5	130.51	-44.6	106.8	156.5	156.5	0.00	N/A		
1,400.0	1,376.8	1,374.6	1,371.4	4.1	2.7	136.03	-46.5	115.8	187.7	187.7	0.00	N/A		
1,500.0	1,467.1	1,465.9	1,462.3	4.8	2.9	140.64	-48.4	124.6	224.1	224.1	0.00	N/A		
1,600.0	1,556.3	1,556.3	1,552.3	5.6	3.1	144.79	-50.2	133.3	263.6	263.6	0.00	N/A		
1,700.0	1,645.6	1,646.8	1,642.3	6.4	3.3	147.88	-52.0	142.0	303.9	303.9	0.00	N/A		
1,800.0	1,734.9	1,737.2	1,732.3	7.2	3.6	150.25	-53.8	150.7	344.8	344.8	0.00	N/A		
1,900.0	1,824.2	1,827.6	1,822.2	8.0	3.8	152.12	-55.7	159.4	386.1	386.1	0.00	N/A		
2,000.0	1,913.5	1,918.0	1,912.2	8.8	4.0	153.64	-57.5	168.1	427.6	427.6	0.00	N/A		
2,100.0	2,002.7	2,008.4	2,002.2	9.6	4.2	154.88	-59.3	176.8	469.4	469.4	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 Latham 21-02
<b>Project:</b>	Weld County	<b>TVD Reference:</b>	KB=10' @ 4539.0ft (Original Well Elev)
<b>Reference Site:</b>	Latham 12-02 Pad	<b>MD Reference:</b>	KB=10' @ 4539.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Latham 21-02	<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 Latham 12-02 Pad - Latham L-02 - 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						Warning	
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Total Uncertainty Axis	Separation Factor		
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)				
0.0	0.0	1.0	1.0	0.0	0.0	117.59	-7.3	13.9	15.7					
100.0	100.0	101.0	101.0	0.2	0.2	117.59	-7.3	13.9	15.7	15.7	0.00	N/A		
200.0	200.0	201.0	201.0	0.3	0.3	117.59	-7.3	13.9	15.7	15.7	0.00	N/A		
300.0	300.0	301.0	301.0	0.5	0.5	117.59	-7.3	13.9	15.7	15.7	0.00	N/A		
400.0	400.0	401.0	401.0	0.7	0.7	117.59	-7.3	13.9	15.7	15.7	0.00	N/A		
500.0	500.0	501.0	501.0	0.9	0.9	117.59	-7.3	13.9	15.7	15.7	0.00	N/A		
566.3	566.3	567.3	567.3	1.0	1.0	117.59	-7.3	13.9	15.7	15.7	0.00	N/A CC, ES		
600.0	600.0	601.0	601.0	1.0	1.0	117.58	-7.3	13.9	15.7	15.7	0.00	N/A		
700.0	700.0	700.6	700.5	1.2	1.2	85.96	-5.8	16.2	16.8	16.8	0.00	N/A		
800.0	799.6	800.0	799.6	1.4	1.4	88.48	-1.6	22.7	20.0	20.0	0.00	N/A		
900.0	898.8	899.4	898.2	1.6	1.6	91.30	5.4	33.6	25.5	25.5	0.00	N/A		
1,000.0	997.1	998.6	995.7	2.0	2.0	93.67	15.2	48.7	33.1	33.1	0.00	N/A		
1,100.0	1,094.3	1,097.5	1,091.9	2.3	2.3	95.43	27.7	68.0	42.9	42.9	0.00	N/A		
1,200.0	1,190.2	1,196.0	1,186.4	2.8	2.8	96.66	42.8	91.4	54.8	54.8	0.00	N/A		
1,300.0	1,284.4	1,294.1	1,278.9	3.4	3.4	97.49	60.4	118.7	68.8	68.8	0.00	N/A		
1,400.0	1,376.8	1,391.8	1,369.3	4.1	4.1	98.02	80.5	149.8	84.9	84.9	0.00	N/A		
1,500.0	1,467.1	1,489.7	1,458.2	4.8	4.8	98.81	102.8	184.2	102.8	102.8	0.00	N/A		
1,600.0	1,556.3	1,587.9	1,547.2	5.6	5.5	100.56	125.3	219.1	121.2	121.2	0.00	N/A		
1,700.0	1,645.6	1,686.1	1,636.2	6.4	6.3	101.84	147.9	254.0	139.7	139.7	0.00	N/A		
1,800.0	1,734.9	1,784.4	1,725.2	7.2	7.1	102.83	170.5	288.9	158.2	158.2	0.00	N/A		
1,900.0	1,824.2	1,882.6	1,814.2	8.0	7.8	103.61	193.0	323.8	176.8	176.8	0.00	N/A		
2,000.0	1,913.5	1,980.8	1,903.3	8.8	8.6	104.24	215.6	358.7	195.4	195.4	0.00	N/A		
2,100.0	2,002.7	2,079.1	1,992.3	9.6	9.4	104.76	238.1	393.6	214.1	214.1	0.00	N/A		
2,200.0	2,092.0	2,177.3	2,081.3	10.5	10.1	105.20	260.7	428.5	232.7	232.7	0.00	N/A		
2,300.0	2,181.3	2,275.5	2,170.3	11.3	10.9	105.57	283.2	463.4	251.3	251.3	0.00	N/A		
2,400.0	2,270.6	2,373.8	2,259.3	12.1	11.7	105.89	305.8	498.3	270.0	270.0	0.00	N/A		
2,500.0	2,359.9	2,472.0	2,348.3	12.9	12.5	106.17	328.3	533.2	288.7	288.7	0.00	N/A		
2,600.0	2,449.1	2,570.2	2,437.3	13.7	13.3	106.41	350.9	568.1	307.3	307.3	0.00	N/A		
2,700.0	2,538.4	2,668.5	2,526.3	14.6	14.0	106.63	373.4	603.0	326.0	326.0	0.00	N/A		
2,800.0	2,627.7	2,766.7	2,615.4	15.4	14.8	106.83	396.0	637.9	344.7	344.7	0.00	N/A		
2,900.0	2,717.0	2,864.9	2,704.4	16.2	15.6	107.00	418.6	672.8	363.4	363.4	0.00	N/A		
3,000.0	2,806.3	2,963.2	2,793.4	17.0	16.4	107.16	441.1	707.7	382.1	382.1	0.00	N/A		
3,100.0	2,895.5	3,061.4	2,882.4	17.9	17.2	107.30	463.7	742.6	400.8	400.8	0.00	N/A		
3,200.0	2,984.8	3,159.6	2,971.4	18.7	18.0	107.43	486.2	777.5	419.5	419.5	0.00	N/A		
3,300.0	3,074.1	3,257.9	3,060.4	19.5	18.7	107.55	508.8	812.3	438.1	438.1	0.00	N/A		
3,400.0	3,163.4	3,356.1	3,149.4	20.3	19.5	107.66	531.3	847.2	456.8	456.8	0.00	N/A		
3,500.0	3,252.7	3,454.3	3,238.5	21.2	20.3	107.76	553.9	882.1	475.5	475.5	0.00	N/A		
3,600.0	3,341.9	3,552.6	3,327.5	22.0	21.1	107.85	576.4	917.0	494.2	494.2	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 Latham 21-02
<b>Project:</b>	Weld County	<b>TVD Reference:</b>	KB=10' @ 4539.0ft (Original Well Elev)
<b>Reference Site:</b>	Latham 12-02 Pad	<b>MD Reference:</b>	KB=10' @ 4539.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Latham 21-02	<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 KB=10' @ 4539.0ft (Original Well Elev)  
Offset Depths are relative to Offset Datum  
Central Meridian is -105.500000 °

Coordinates are relative to: Latham 21-02  
Coordinate System is US State Plane 1983, Colorado Northern Zone  
Grid Convergence at Surface is: 0.70°

