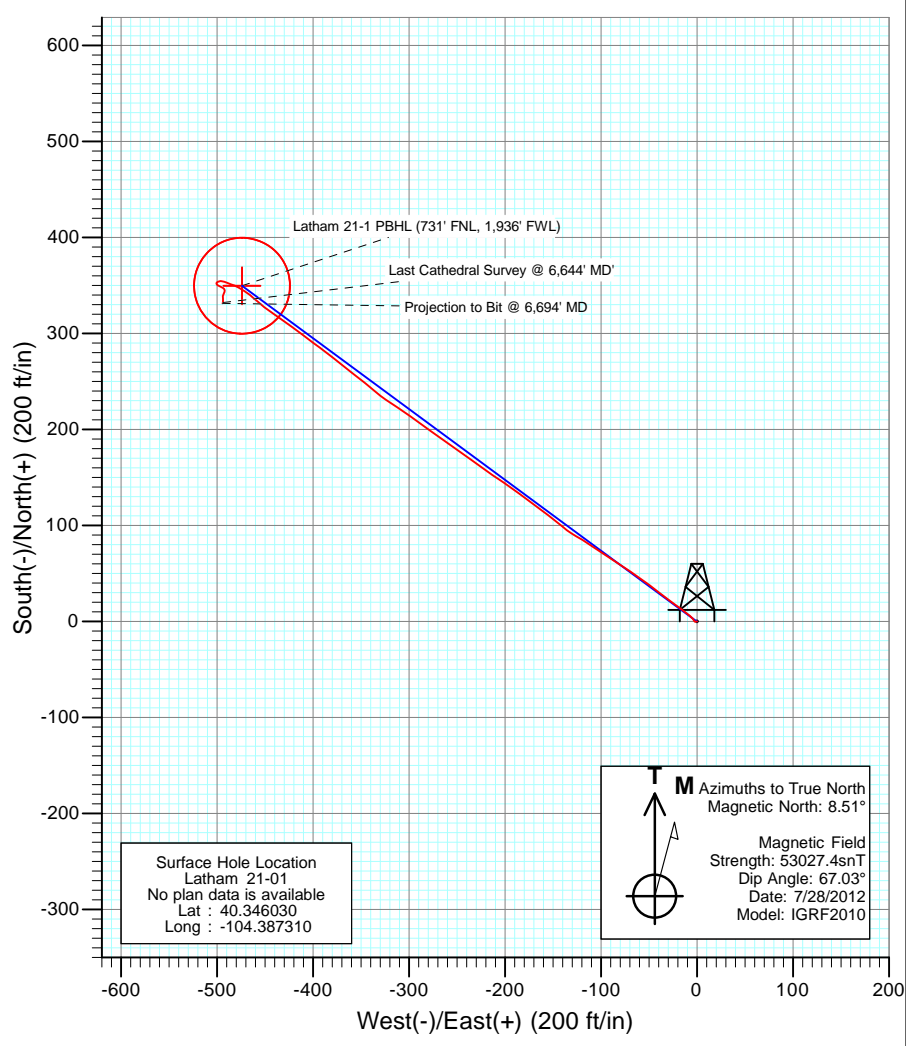
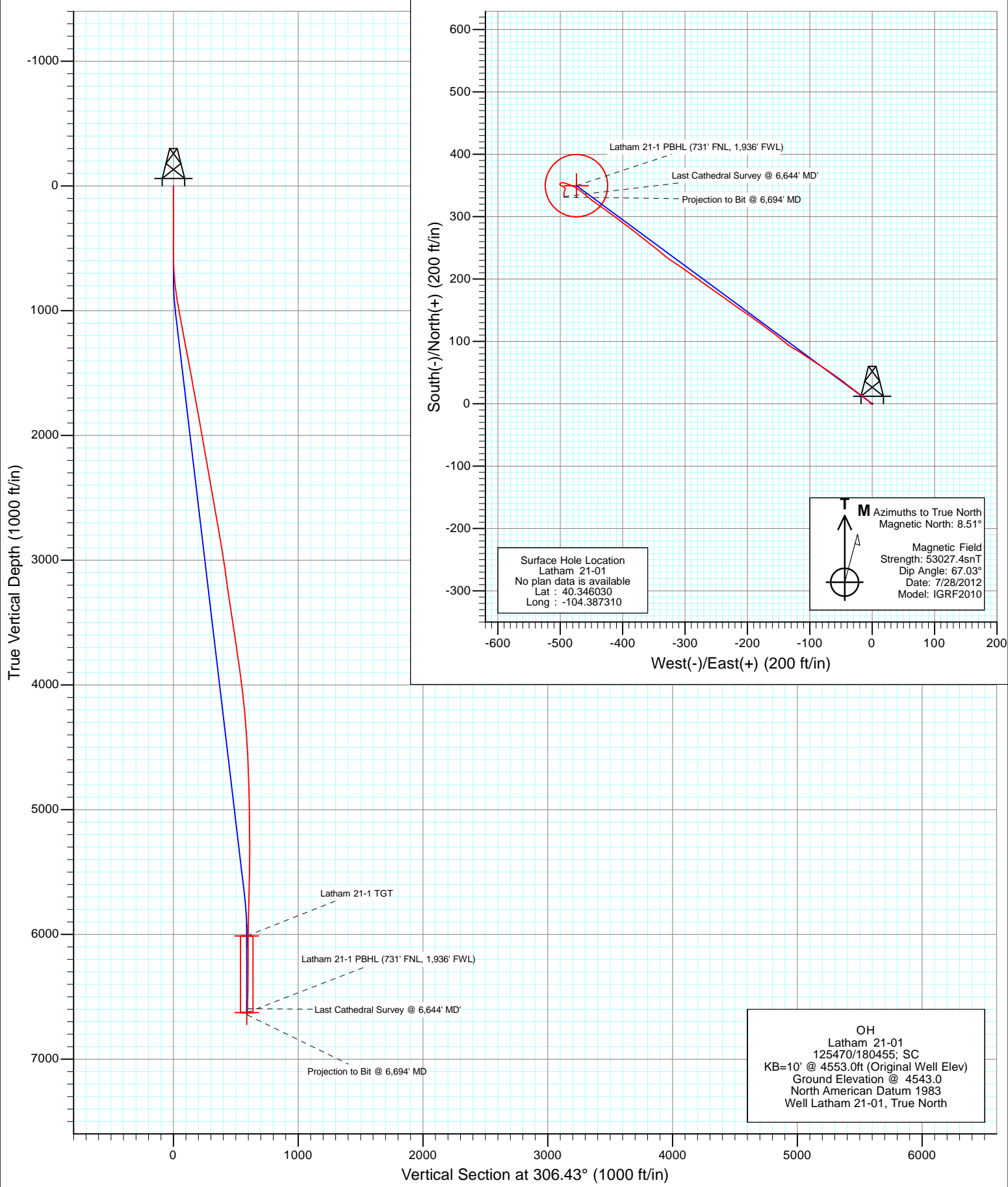




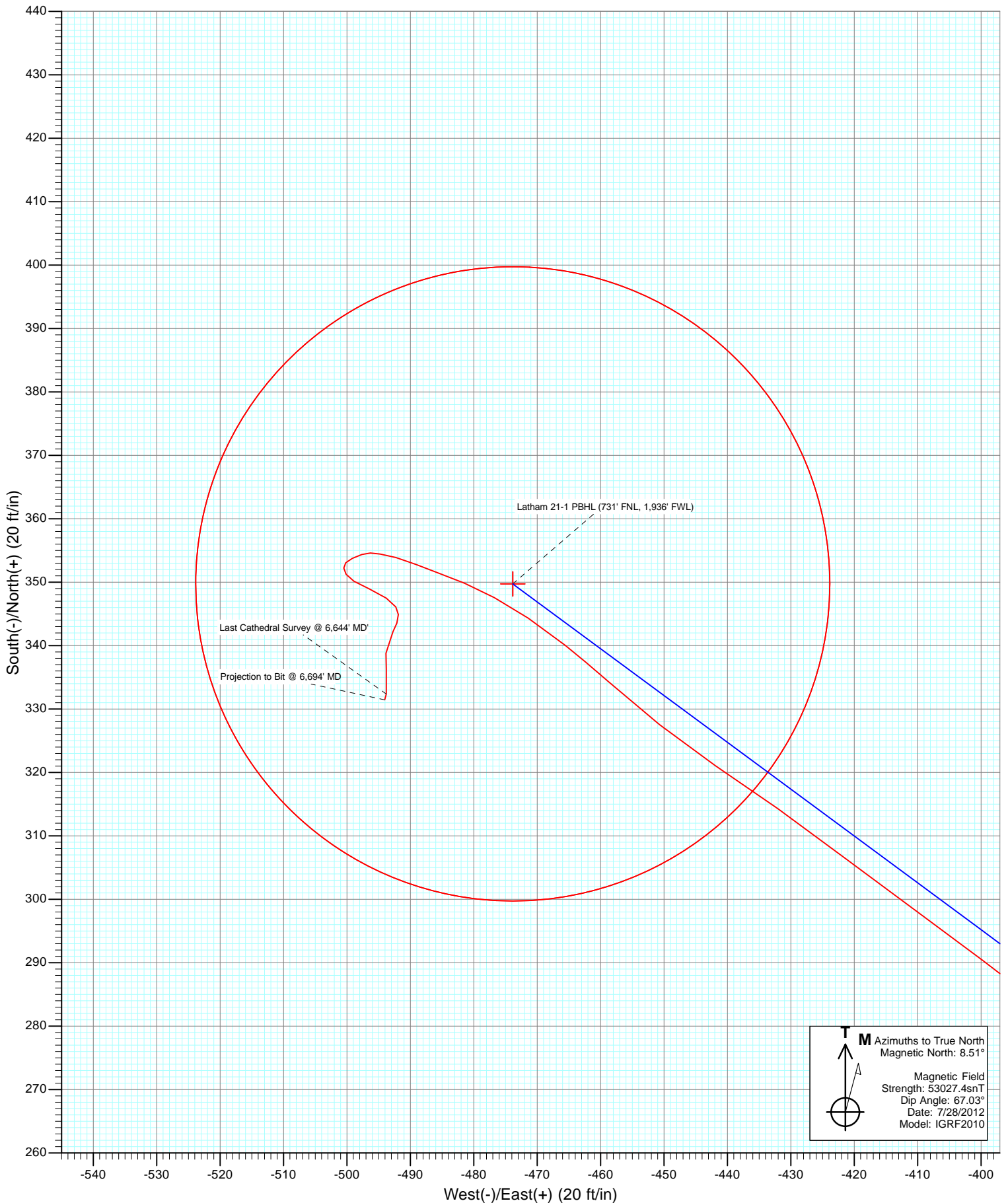
Project: Weld County
Site: Latham 21-01 Pad
Well: Latham 21-01
Wellbore: OH
Design: AB FINAL



OH
Latham 21-01
125470/180455; SC
KB=10' @ 4553.0ft (Original Well Elev)
Ground Elevation @ 4543.0
North American Datum 1983
Well Latham 21-01, True North



Project: Weld County
Site: Latham 21-01 Pad
Well: Latham 21-01
Wellbore: OH
Design: AB FINAL



Cathedral Energy Services

Survey Report

Company:	Bonanza Creek Energy Operating Company, LLC	Local Co-ordinate Reference:	Well Latham 21-01
Project:	Weld County	TVD Reference:	KB=10' @ 4553.0ft (Original Well Elev)
Site:	Latham 21-01 Pad	MD Reference:	KB=10' @ 4553.0ft (Original Well Elev)
Well:	Latham 21-01	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		Latham 21-01 Pad			
Site Position:		Northing:	1,370,844.27 ft	Latitude:	40.346020
From:	Lat/Long	Easting:	3,310,138.13 ft	Longitude:	-104.387320
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence:	0.72 °

Well		Latham 21-01				
Well Position	+N/-S	0.0 ft	Northing:	1,370,847.94 ft	Latitude:	40.346030
	+E/-W	0.0 ft	Easting:	3,310,140.88 ft	Longitude:	-104.387310
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,543.0 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	7/28/2012	8.51	67.03	53,027

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	306.43	

Survey Program	Date	8/6/2012			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
562.0	6,694.0	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		
562.0	0.40	261.00	562.0	-0.3	-1.9	1.4	0.07	0.07		
656.0	2.70	330.60	656.0	1.6	-3.3	3.6	2.75	2.45		
751.0	5.00	309.10	750.7	6.1	-7.7	9.8	2.82	2.42		
845.0	7.50	307.30	844.2	12.4	-15.7	20.0	2.67	2.66		
940.0	10.20	306.40	938.0	21.2	-27.4	34.6	2.85	2.84		
1,034.0	10.20	306.80	1,030.6	31.1	-40.8	51.3	0.08	0.00		
1,127.0	9.80	307.20	1,122.1	40.8	-53.7	67.4	0.44	-0.43		
1,220.0	11.30	304.30	1,213.6	50.7	-67.5	84.5	1.71	1.61		
1,314.0	11.20	304.00	1,305.8	61.0	-82.7	102.8	0.12	-0.11		
1,409.0	10.40	301.90	1,399.1	70.7	-97.6	120.6	0.94	-0.84		
1,504.0	10.80	304.50	1,492.5	80.3	-112.2	138.0	0.66	0.42		
1,598.0	9.60	299.40	1,585.0	89.1	-126.3	154.6	1.60	-1.28		

Cathedral Energy Services

Survey Report

Company: Bonanza Creek Energy Operating Company, LLC
Project: Weld County
Site: Latham 21-01 Pad
Well: Latham 21-01
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well Latham 21-01
TVD Reference: KB=10' @ 4553.0ft (Original Well Elev)
MD Reference: KB=10' @ 4553.0ft (Original Well Elev)
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
1,693.0	10.60	310.00	1,678.5	98.6	-139.9	171.2	2.22	1.05	
1,786.0	9.70	307.10	1,770.0	108.9	-152.7	187.5	1.11	-0.97	
1,878.0	11.10	307.40	1,860.5	118.9	-165.9	204.1	1.52	1.52	
1,973.0	10.70	306.50	1,953.8	129.7	-180.3	222.1	0.46	-0.42	
2,066.0	10.00	305.60	2,045.3	139.6	-193.8	238.8	0.77	-0.75	
2,160.0	8.90	303.30	2,138.0	148.3	-206.5	254.2	1.24	-1.17	
2,255.0	10.70	305.00	2,231.6	157.4	-219.9	270.4	1.92	1.89	
2,348.0	9.90	306.50	2,323.1	167.1	-233.4	287.0	0.91	-0.86	
2,442.0	9.00	305.30	2,415.9	176.2	-245.9	302.4	0.98	-0.96	
2,536.0	10.40	305.20	2,508.5	185.3	-258.8	318.3	1.49	1.49	
2,629.0	10.10	305.70	2,600.0	194.9	-272.3	334.8	0.34	-0.32	
2,722.0	9.60	305.80	2,691.7	204.2	-285.2	350.7	0.54	-0.54	
2,816.0	10.50	304.80	2,784.2	213.7	-298.6	367.1	0.98	0.96	
2,909.0	9.50	304.80	2,875.8	222.9	-311.9	383.3	1.08	-1.08	
3,002.0	8.70	303.20	2,967.6	231.1	-324.0	398.0	0.90	-0.86	
3,094.0	8.90	311.30	3,058.6	239.6	-335.2	412.0	1.36	0.22	
3,188.0	7.60	307.90	3,151.6	248.2	-345.6	425.5	1.48	-1.38	
3,283.0	7.50	308.10	3,245.8	255.9	-355.4	437.9	0.11	-0.11	
3,377.0	8.70	309.40	3,338.8	264.2	-365.7	451.2	1.29	1.28	
3,471.0	8.70	307.20	3,431.7	273.0	-376.9	465.4	0.35	0.00	
3,565.0	8.70	307.20	3,524.7	281.6	-388.2	479.6	0.00	0.00	
3,660.0	8.80	307.20	3,618.5	290.4	-399.7	494.1	0.11	0.11	
3,754.0	8.30	306.00	3,711.5	298.7	-411.0	508.0	0.56	-0.53	
3,848.0	8.10	307.20	3,804.5	306.7	-421.7	521.4	0.28	-0.21	
3,942.0	7.60	305.50	3,897.7	314.3	-432.1	534.3	0.59	-0.53	
4,037.0	6.80	303.30	3,991.9	321.0	-441.9	546.2	0.89	-0.84	
4,131.0	6.60	309.30	4,085.3	327.5	-450.7	557.1	0.77	-0.21	
4,225.0	6.10	311.10	4,178.7	334.2	-458.6	567.5	0.57	-0.53	
4,320.0	4.80	308.60	4,273.3	340.0	-465.6	576.5	1.39	-1.37	
4,414.0	4.10	303.70	4,367.0	344.3	-471.4	583.8	0.85	-0.74	
4,508.0	3.50	298.40	4,460.8	347.6	-476.7	590.0	0.74	-0.64	
4,603.0	2.80	292.40	4,555.6	349.8	-481.4	595.1	0.81	-0.74	
4,697.0	2.40	289.90	4,649.5	351.4	-485.4	599.2	0.44	-0.43	
4,791.0	2.30	292.50	4,743.5	352.8	-489.0	602.9	0.16	-0.11	
4,885.0	1.90	284.90	4,837.4	353.9	-492.3	606.2	0.52	-0.43	
4,979.0	1.20	277.80	4,931.4	354.4	-494.7	608.5	0.77	-0.74	
5,073.0	0.70	274.40	5,025.3	354.6	-496.3	609.9	0.54	-0.53	
5,168.0	1.00	249.70	5,120.3	354.4	-497.6	610.8	0.49	0.32	
5,262.0	1.00	246.70	5,214.3	353.8	-499.2	611.7	0.06	0.00	
5,355.0	0.60	215.80	5,307.3	353.0	-500.2	612.1	0.62	-0.43	
5,449.0	0.50	180.90	5,401.3	352.2	-500.5	611.8	0.37	-0.11	
5,543.0	0.80	147.50	5,495.3	351.3	-500.1	611.0	0.50	0.32	
5,637.0	1.30	122.20	5,589.3	350.1	-498.9	609.3	0.71	0.53	
5,732.0	2.00	113.00	5,684.2	348.9	-496.4	606.6	0.79	0.74	
5,826.0	1.70	125.00	5,778.2	347.5	-493.8	603.6	0.52	-0.32	
5,921.0	0.80	147.80	5,873.2	346.1	-492.3	601.6	1.06	-0.95	
6,015.0	0.80	176.80	5,967.2	344.9	-491.9	600.6	0.43	0.00	
6,109.0	0.90	199.80	6,061.2	343.6	-492.1	600.0	0.38	0.11	
6,204.0	0.90	208.60	6,156.1	342.2	-492.7	599.6	0.15	0.00	
6,392.0	1.30	190.70	6,344.1	338.8	-493.8	598.5	0.28	0.21	
6,486.0	1.80	171.30	6,438.1	336.3	-493.8	597.0	0.76	0.53	
6,644.0	1.10	194.00	6,596.0	332.4	-493.8	594.7	0.56	-0.44	Last Cathedral Survey @ 6,644' MD'
6,694.0	1.10	194.00	6,646.0	331.4	-494.0	594.3	0.00	0.00	Projection to Bit @ 6,694' MD

Cathedral Energy Services

Survey Report

Company: Bonanza Creek Energy Operating Company, LLC
Project: Weld County
Site: Latham 21-01 Pad
Well: Latham 21-01
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well Latham 21-01
TVD Reference: KB=10' @ 4553.0ft (Original Well Elev)
MD Reference: KB=10' @ 4553.0ft (Original Well Elev)
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
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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
Latham 21-1 TGT - actual wellpath misses target center by 18.9ft at 6060.7ft MD (6012.9 TVD, 344.3 N, -491.9 E) - Point	0.00	0.00	6,013.0	349.7	-473.8	1,371,191.70	3,309,662.69	40.346990	-104.389010
Latham 21-1 PBHL (731 - actual wellpath misses target center by 26.9ft at 6674.6ft MD (6626.6 TVD, 331.8 N, -493.9 E) - Circle (radius 50.0)	0.00	0.00	6,627.0	349.7	-473.8	1,371,191.70	3,309,662.69	40.346990	-104.389010

Design Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
6,644.0	6,596.0	332.4	-493.8	Last Cathedral Survey @ 6,644' MD'
6,694.0	6,646.0	331.4	-494.0	Projection to Bit @ 6,694' MD

Checked By: _____ Approved By: _____ Date: _____