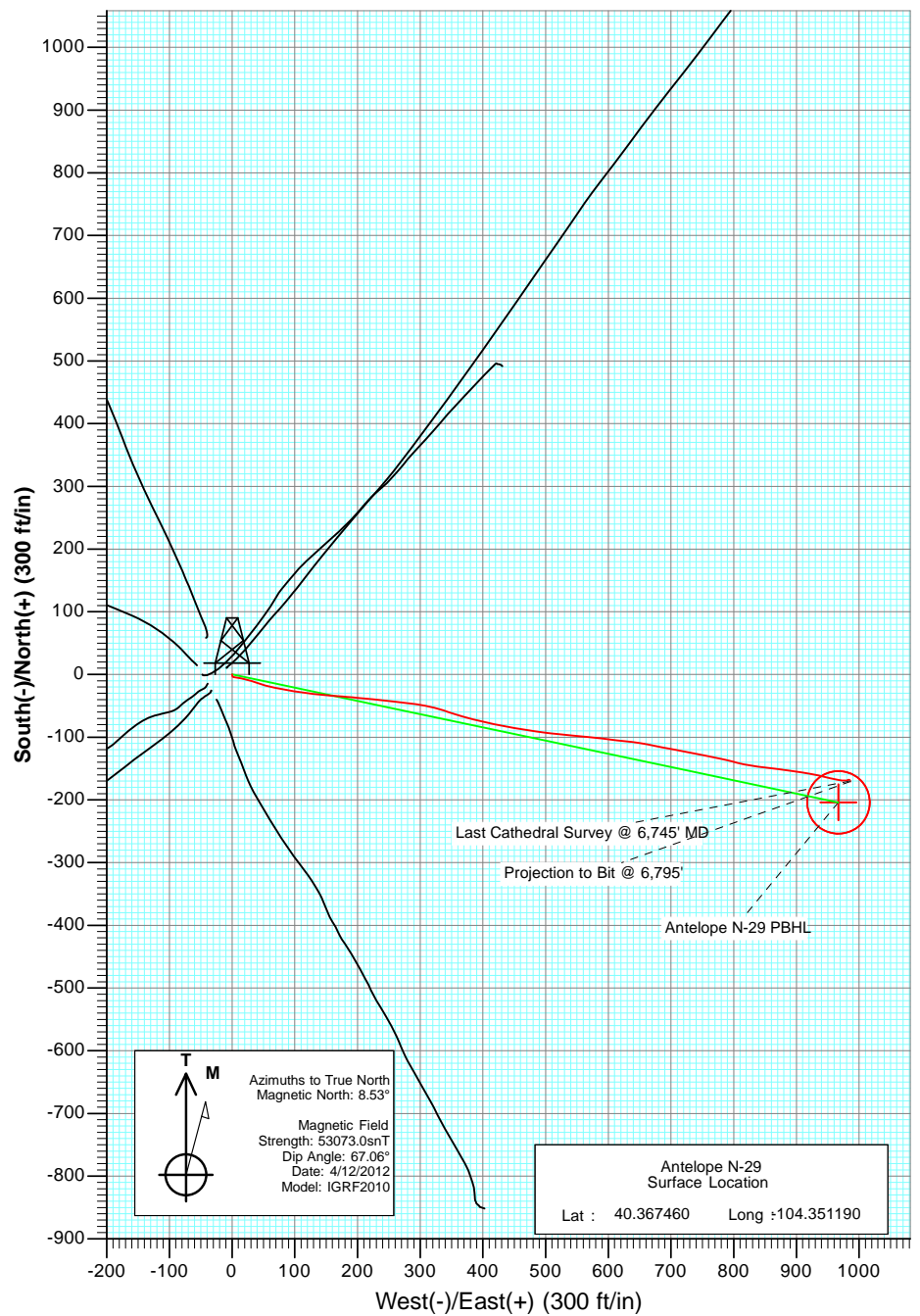
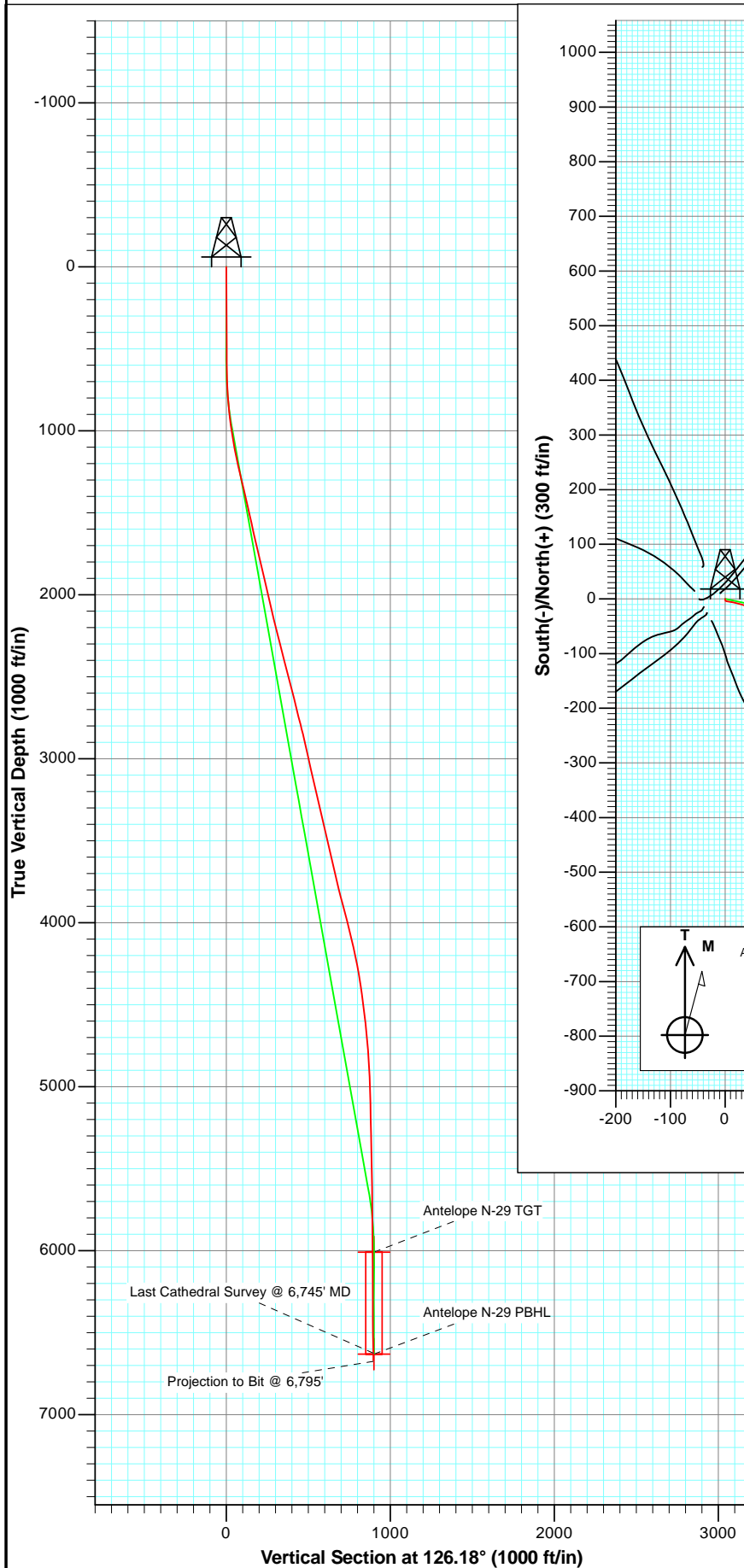




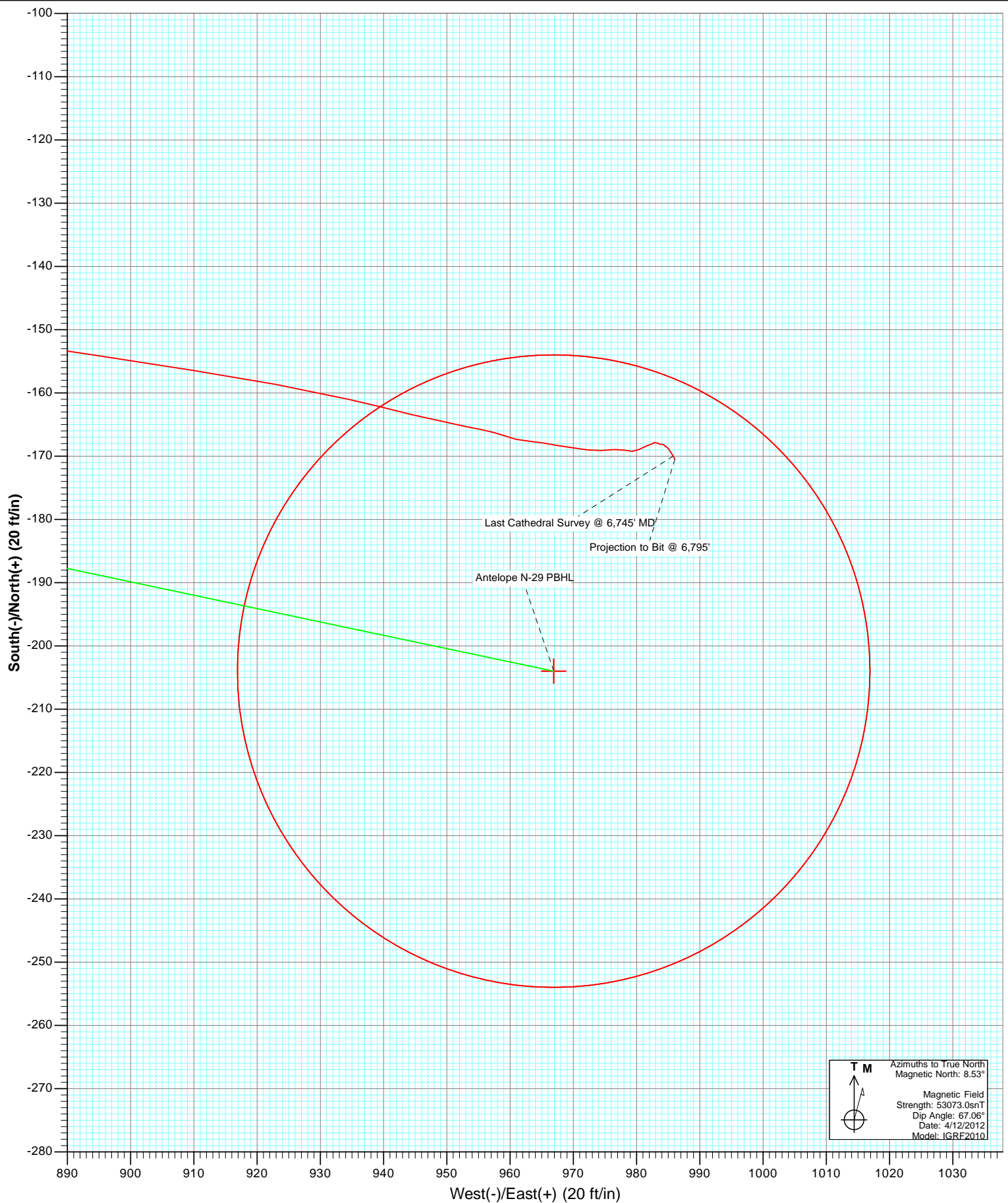
Project: Weld County
Site: Antelope I 29 Pad
Well: Antelope N-29
Wellbore: DD
Plan: FINAL



DD Antelope N-29 125242/154055; SC						
KBE @ 4599.0ft (Original Well Elev) North American Datum 1983 Well Antelope N-29, True North						
Type	Target		Azimuth	Origin Type	N/S	E/W
User	No Target (Freehand)		126.18	Slot	0.0	0.0
From TVD 0.0						
Name	TVD	+N/-S	+E/-W	Latitude	Longitude	
Antelope N-29 TGT	6009.0	-204.0	966.9	40.366900	-104.347720	
Antelope N-29 PBHL	6631.0	-204.0	966.9	40.366900	-104.347720	



Project: Weld County
Site: Antelope I 29 Pad
Well: Antelope N-29
Wellbore: DD
Plan: FINAL



Cathedral Energy Services

Survey Report

Company:	Bonanza Creek Energy Operating Company, LLC	Local Co-ordinate Reference:	Well Antelope N-29
Project:	Weld County	TVD Reference:	KBE @ 4599.0ft (Original Well Elev)
Site:	Antelope I 29 Pad	MD Reference:	KBE @ 4599.0ft (Original Well Elev)
Well:	Antelope N-29	North Reference:	True
Wellbore:	DD	Survey Calculation Method:	Minimum Curvature
Design:	DD	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		Antelope I 29 Pad			
Site Position:		Northing:	1,378,781.88 ft	Latitude:	40.367460
From:	Lat/Long	Easting:	3,320,059.38 ft	Longitude:	-104.351360
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence:	0.74 °

Well	Antelope N-29					
Well Position	+N/-S	0.0 ft	Northing:	1,378,782.49 ft	Latitude:	40.367460
	+E/-W	0.0 ft	Easting:	3,320,106.74 ft	Longitude:	-104.351190
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,589.0 ft

Wellbore	DD				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	4/12/2012	8.53	67.06	53,073

Design	DD				
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	126.18	

Survey Program	Date	5/8/2012			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
493.0	6,795.0	Survey #1 (DD)	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		
493.0	0.70	166.70	493.0	-2.9	0.7	2.3	0.14	0.14		
588.0	0.20	158.00	588.0	-3.6	0.9	2.9	0.53	-0.53		
682.0	1.80	103.50	682.0	-4.1	2.4	4.4	1.80	1.70		
776.0	4.00	101.50	775.8	-5.1	7.0	8.7	2.34	2.34		
871.0	6.00	96.50	870.5	-6.4	15.2	16.0	2.15	2.11		
965.0	8.60	108.10	963.7	-9.1	26.8	27.0	3.17	2.77		
1,060.0	10.00	109.20	1,057.5	-14.0	41.3	41.6	1.49	1.47		
1,155.0	12.40	102.70	1,150.6	-19.0	59.1	58.9	2.85	2.53		
1,249.0	14.20	102.00	1,242.1	-23.6	80.2	78.7	1.92	1.91		
1,343.0	15.60	97.30	1,333.0	-27.6	104.0	100.2	1.97	1.49		
1,438.0	14.20	98.10	1,424.8	-30.9	128.2	121.7	1.49	-1.47		
1,532.0	15.50	94.80	1,515.6	-33.5	152.1	142.6	1.65	1.38		

Cathedral Energy Services

Survey Report

Company:	Bonanza Creek Energy Operating Company, LLC	Local Co-ordinate Reference:	Well Antelope N-29
Project:	Weld County	TVD Reference:	KBE @ 4599.0ft (Original Well Elev)
Site:	Antelope I 29 Pad	MD Reference:	KBE @ 4599.0ft (Original Well Elev)
Well:	Antelope N-29	North Reference:	True
Wellbore:	DD	Survey Calculation Method:	Minimum Curvature
Design:	DD	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
1,626.0	13.90	93.80	1,606.5	-35.3	175.9	162.9	1.72	-1.70	
1,720.0	16.30	95.40	1,697.3	-37.3	200.3	183.7	2.59	2.55	
1,814.0	14.50	95.40	1,787.9	-39.7	225.2	205.2	1.91	-1.91	
1,908.0	15.60	96.90	1,878.7	-42.3	249.4	226.3	1.24	1.17	
2,003.0	14.40	95.60	1,970.5	-45.0	273.9	247.6	1.31	-1.26	
2,098.0	14.80	98.80	2,062.4	-48.0	297.6	268.6	0.95	0.42	
2,192.0	14.70	104.40	2,153.3	-52.8	321.0	290.3	1.52	-0.11	
2,287.0	15.50	108.50	2,245.0	-59.8	344.8	313.6	1.40	0.84	
2,381.0	14.20	106.00	2,335.9	-67.0	367.8	336.4	1.54	-1.38	
2,476.0	16.70	103.40	2,427.4	-73.4	392.2	359.9	2.73	2.63	
2,570.0	14.90	103.00	2,517.9	-79.2	417.2	383.5	1.92	-1.91	
2,664.0	16.20	98.90	2,608.4	-84.0	441.9	406.3	1.81	1.38	
2,759.0	15.30	100.00	2,699.9	-88.2	467.3	429.3	1.00	-0.95	
2,853.0	16.70	97.40	2,790.2	-92.1	492.9	452.2	1.67	1.49	
2,947.0	14.60	95.50	2,880.7	-95.0	518.1	474.3	2.30	-2.23	
3,042.0	15.00	96.10	2,972.6	-97.4	542.3	495.2	0.45	0.42	
3,136.0	14.80	94.80	3,063.4	-99.7	566.3	516.0	0.41	-0.21	
3,231.0	14.50	97.40	3,155.3	-102.3	590.2	536.8	0.76	-0.32	
3,325.0	14.70	96.20	3,246.3	-105.1	613.7	557.4	0.39	0.21	
3,419.0	15.20	95.80	3,337.1	-107.6	637.9	578.4	0.54	0.53	
3,514.0	14.50	102.80	3,429.0	-111.5	661.8	600.0	2.03	-0.74	
3,609.0	14.40	100.20	3,521.0	-116.2	685.1	621.6	0.69	-0.11	
3,703.0	14.80	100.90	3,611.9	-120.6	708.4	642.9	0.47	0.43	
3,798.0	13.90	100.60	3,704.0	-125.0	731.5	664.2	0.95	-0.95	
3,892.0	15.00	101.30	3,795.0	-129.4	754.5	685.4	1.18	1.17	
3,987.0	16.90	102.00	3,886.3	-134.7	780.1	709.2	2.01	2.00	
4,082.0	15.00	105.20	3,977.7	-140.8	805.5	733.3	2.20	-2.00	
4,176.0	15.70	98.20	4,068.3	-145.8	829.8	755.8	2.11	0.74	
4,270.0	14.00	97.10	4,159.2	-149.0	853.7	777.0	1.83	-1.81	
4,365.0	12.70	96.10	4,251.6	-151.5	875.4	796.1	1.39	-1.37	
4,459.0	10.50	99.10	4,343.7	-154.0	894.2	812.7	2.43	-2.34	
4,554.0	8.60	98.50	4,437.4	-156.4	909.8	826.7	2.00	-2.00	
4,648.0	7.70	100.70	4,530.4	-158.6	922.9	838.6	1.01	-0.96	
4,742.0	6.80	102.70	4,623.7	-161.0	934.5	849.4	0.99	-0.96	
4,837.0	5.60	104.80	4,718.1	-163.4	944.5	858.8	1.29	-1.26	
4,931.0	5.00	99.70	4,811.7	-165.3	953.0	866.8	0.81	-0.64	
5,024.0	2.70	110.20	4,904.5	-166.7	959.0	872.5	2.58	-2.47	
5,119.0	1.90	92.40	4,999.4	-167.6	962.7	876.0	1.12	-0.84	
5,214.0	1.30	104.10	5,094.4	-167.9	965.3	878.3	0.72	-0.63	
5,310.0	1.70	96.90	5,190.3	-168.3	967.8	880.5	0.46	0.42	
5,404.0	1.20	100.60	5,284.3	-168.7	970.1	882.6	0.54	-0.53	
5,498.0	1.40	96.20	5,378.3	-169.0	972.2	884.5	0.24	0.21	
5,592.0	1.30	88.20	5,472.3	-169.1	974.4	886.4	0.23	-0.11	
5,687.0	1.20	84.20	5,567.2	-169.0	976.5	887.9	0.14	-0.11	
5,782.0	0.80	107.40	5,662.2	-169.1	978.1	889.3	0.59	-0.42	
5,876.0	0.70	89.30	5,756.2	-169.2	979.3	890.4	0.27	-0.11	
5,970.0	0.70	60.20	5,850.2	-168.9	980.4	891.1	0.37	0.00	
6,064.0	1.00	67.90	5,944.2	-168.4	981.7	891.7	0.34	0.32	
6,158.0	0.10	99.20	6,038.2	-168.1	982.5	892.3	0.97	-0.96	
6,253.0	0.40	45.80	6,133.2	-167.8	982.8	892.4	0.37	0.32	
6,347.0	0.50	138.90	6,227.2	-167.9	983.3	892.8	0.70	0.11	
6,441.0	0.20	33.00	6,321.2	-168.1	983.7	893.2	0.62	-0.32	
6,535.0	0.60	113.10	6,415.2	-168.1	984.2	893.7	0.64	0.43	

Cathedral Energy Services

Survey Report

Company:	Bonanza Creek Energy Operating Company, LLC	Local Co-ordinate Reference:	Well Antelope N-29
Project:	Weld County	TVD Reference:	KBE @ 4599.0ft (Original Well Elev)
Site:	Antelope I 29 Pad	MD Reference:	KBE @ 4599.0ft (Original Well Elev)
Well:	Antelope N-29	North Reference:	True
Wellbore:	DD	Survey Calculation Method:	Minimum Curvature
Design:	DD	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
6,629.0	0.70	140.30	6,509.2	-168.8	985.0	894.7	0.34	0.11	
6,745.0	0.70	154.30	6,625.2	-170.0	985.8	896.0	0.15	0.00	Last Cathedral Survey @ 6,745' MD
6,795.0	0.70	154.30	6,675.2	-170.5	986.1	896.6	0.00	0.00	Projection to Bit @ 6,795'

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
Antelope N-29 PBHL - actual wellpath misses target center by 39.3ft at 6745.0ft MD (6625.2 TVD, -170.0 N, 985.8 E) - Circle (radius 50.0)	0.00	0.00	6,631.0	-204.0	966.9	1,378,591.05	3,321,076.21	40.366900	-104.347720
Antelope N-29 TGT - actual wellpath misses target center by 39.1ft at 6128.6ft MD (6008.7 TVD, -168.1 N, 982.4 E) - Point	0.00	0.00	6,009.0	-204.0	966.9	1,378,591.05	3,321,076.21	40.366900	-104.347720

Design Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
6,745.0	6,625.2	-170.0	985.8	Last Cathedral Survey @ 6,745' MD	
6,795.0	6,675.2	-170.5	986.1	Projection to Bit @ 6,795'	

Checked By: _____ Approved By: _____ Date: _____