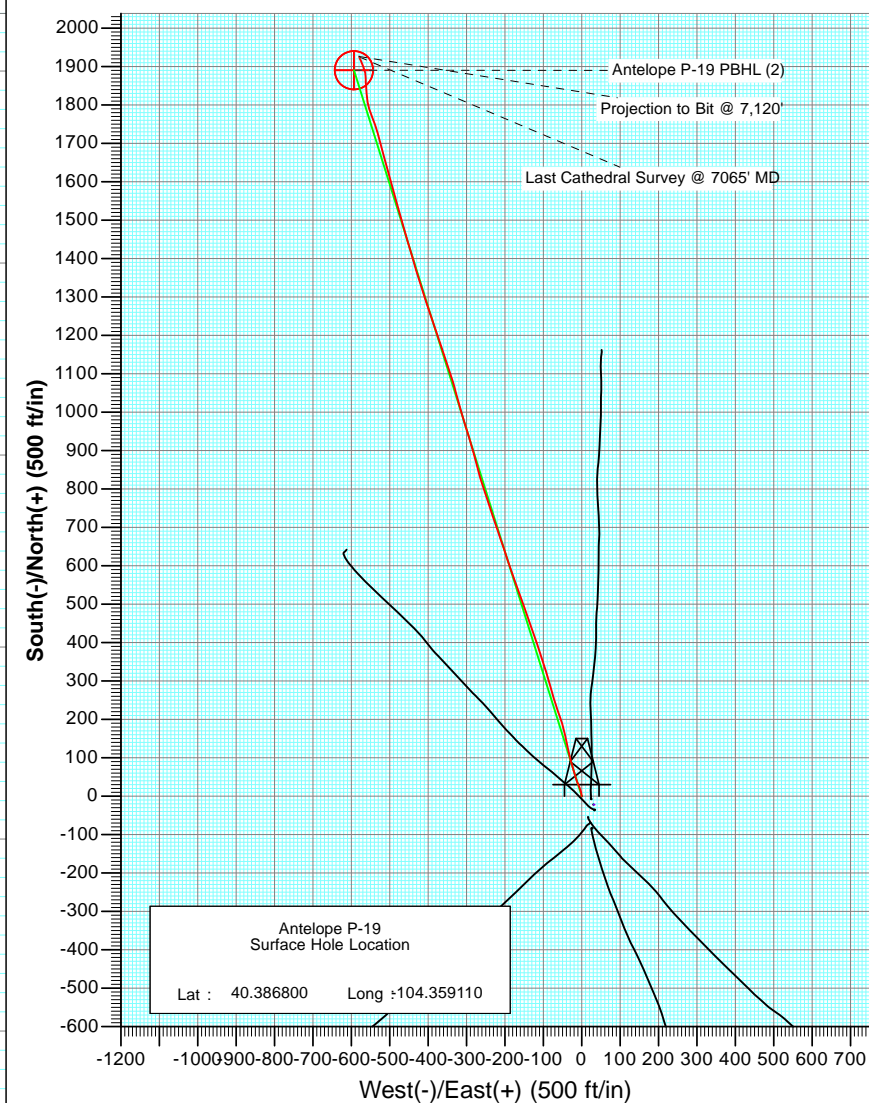
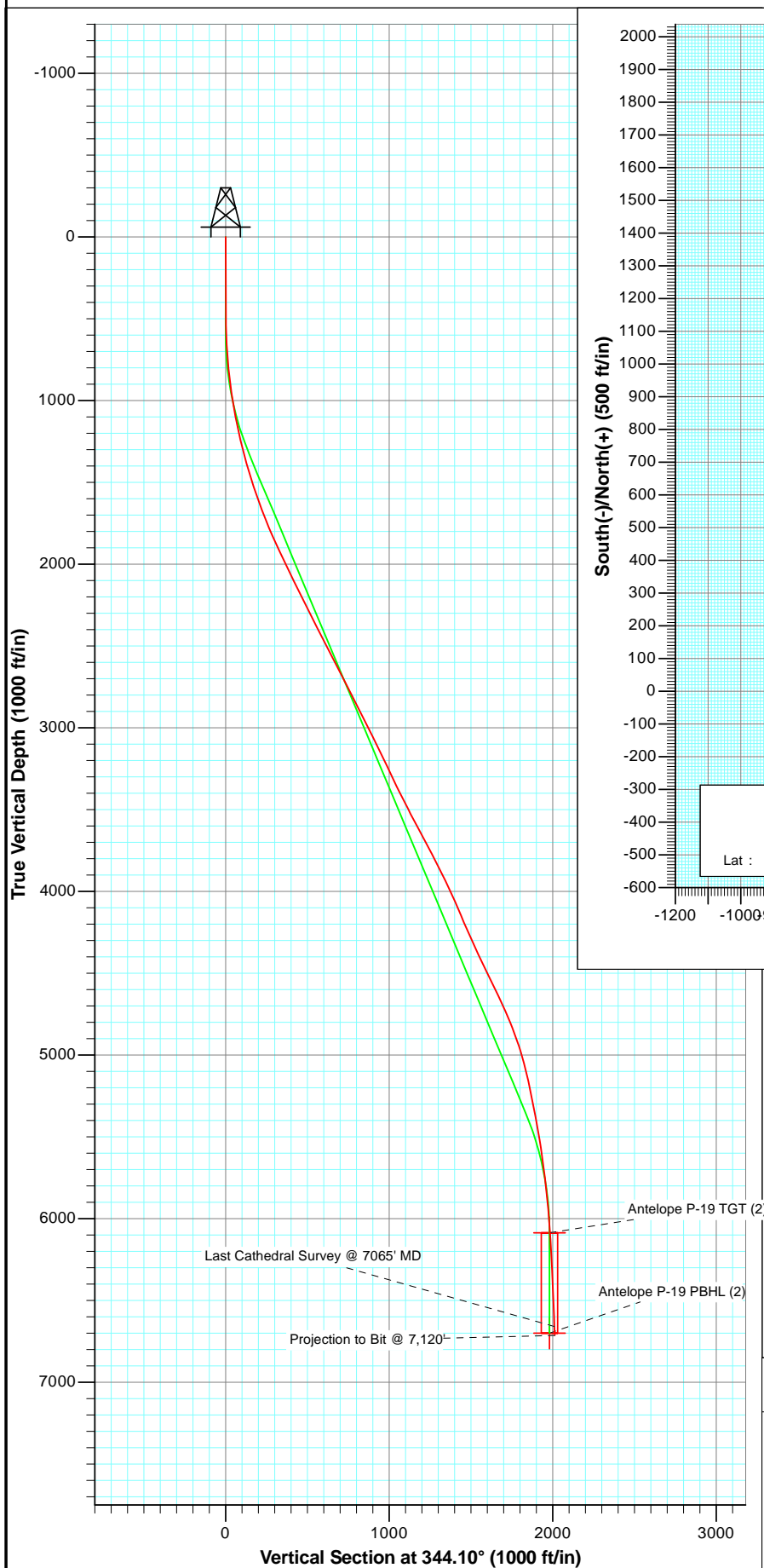




Project: Weld County
Site: Antelope 42-19 Pad
Well: Antelope P-19
Wellbore: OH
Plan: FINAL



Azimuths to True North
Magnetic North: 8.54°

Magnetic Field
Strength: 53087.8snT
Dip Angle: 67.08°
Date: 3/22/2012
Model: IGRF2010

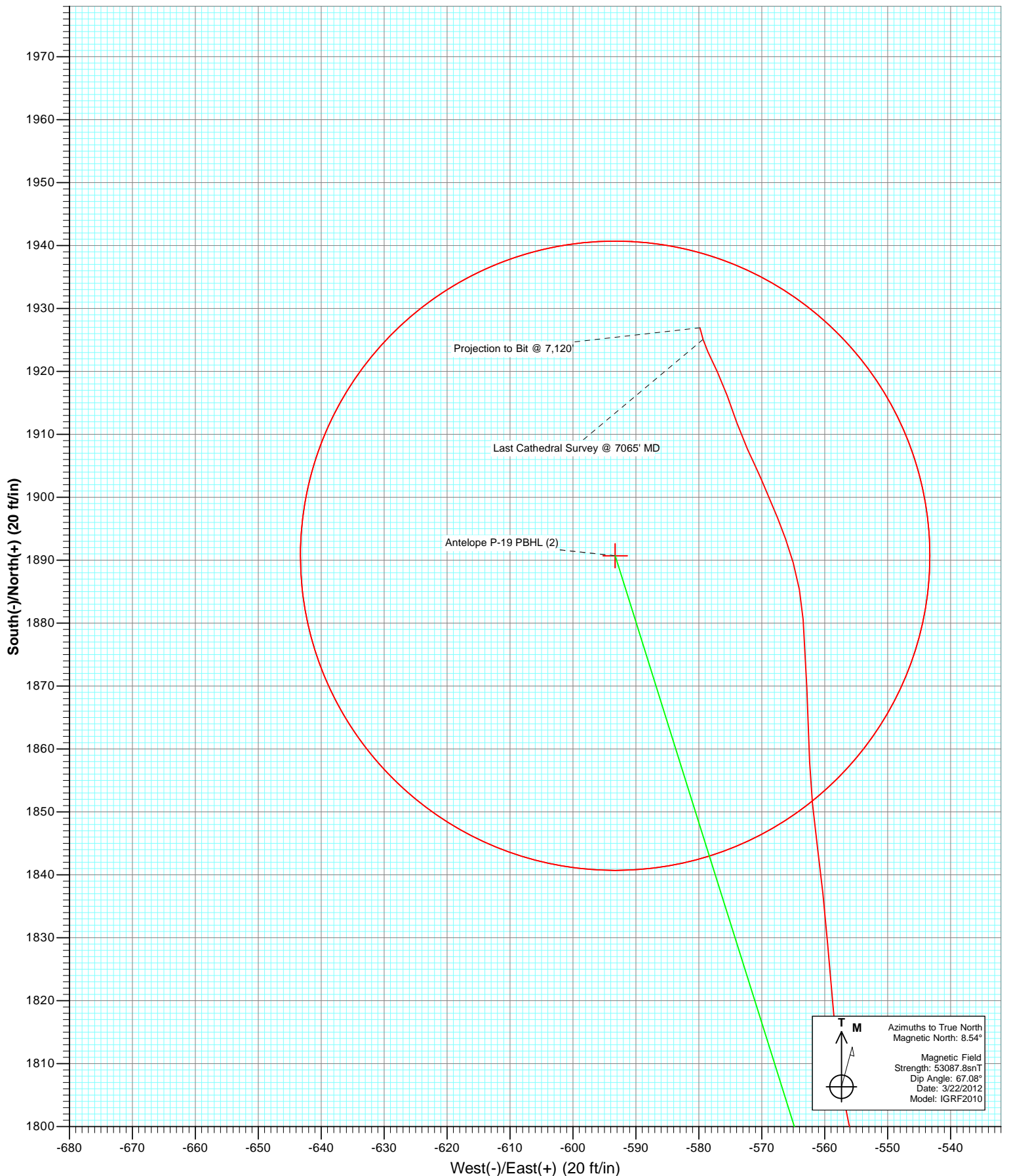
OH
Antelope P-19
125228/152955; SC

kbe @ 4662.0ft
North American Datum 1983
Well Antelope P-19, True North

Type	Target	Azimuth	Origin	Type	N/S	E/W	From	TVD
User	No	344.10	Slot	Type	0.0	0.0		0.0
Name								
Antelope P-19 TGT (2)	TVD	+N/-S	+E/-W	Latitude	Longitude			
Antelope P-19 PBHL (2)	6087.0	1890.7	-593.3	40.391990	-104.361240			
	6700.0	1890.7	-593.3	40.391990	-104.361240			



Project: Weld County
Site: Antelope 42-19 Pad
Well: Antelope P-19
Wellbore: OH
Plan: FINAL



Cathedral Energy Services

Survey Report

Company:	Bonanza Creek Energy Operating Company, LLC	Local Co-ordinate Reference:	Well Antelope P-19
Project:	Weld County	TVD Reference:	kbe @ 4662.0ft
Site:	Antelope 42-19 Pad	MD Reference:	kbe @ 4662.0ft
Well:	Antelope P-19	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		Antelope 42-19 Pad			
Site Position:		Northing:	1,385,777.44 ft	Latitude:	40.386740
From:	Lat/Long	Easting:	3,317,840.34 ft	Longitude:	-104.359000
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence:	0.74 °

Well	Antelope P-19					
Well Position	+N/-S	0.0 ft	Northing:	1,385,798.90 ft	Latitude:	40.386800
	+E/-W	0.0 ft	Easting:	3,317,809.42 ft	Longitude:	-104.359110
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,652.0 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	3/22/2012	8.54	67.08	53,088

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	344.10	

Survey Program	Date	5/8/2012			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
492.0	7,120.0	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		
492.0	0.30	341.80	492.0	1.2	-0.4	1.3	0.06	0.06		
587.0	1.90	354.20	587.0	3.0	-0.6	3.1	1.69	1.68		
681.0	3.40	348.10	680.9	7.3	-1.4	7.4	1.62	1.60		
776.0	5.30	346.30	775.6	14.3	-3.0	14.6	2.00	2.00		
870.0	7.40	337.70	869.0	24.1	-6.3	25.0	2.45	2.23		
965.0	8.10	337.30	963.1	36.0	-11.2	37.7	0.74	0.74		
1,059.0	10.20	342.90	1,055.9	50.0	-16.2	52.6	2.42	2.23		
1,154.0	11.40	343.80	1,149.3	67.1	-21.3	70.4	1.28	1.26		
1,248.0	13.00	345.00	1,241.1	86.2	-26.6	90.2	1.72	1.70		
1,342.0	15.10	346.00	1,332.3	108.3	-32.3	113.0	2.25	2.23		
1,437.0	16.60	348.80	1,423.7	133.7	-38.0	138.9	1.77	1.58		
1,531.0	18.20	346.80	1,513.4	161.1	-43.9	167.0	1.82	1.70		

Cathedral Energy Services

Survey Report

Company:	Bonanza Creek Energy Operating Company, LLC	Local Co-ordinate Reference:	Well Antelope P-19
Project:	Weld County	TVD Reference:	kbe @ 4662.0ft
Site:	Antelope 42-19 Pad	MD Reference:	kbe @ 4662.0ft
Well:	Antelope P-19	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	USA EDM 5000 Multi Users DB

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Formations / Comments
1,625.0	19.80	342.90	1,602.3	190.6	-52.0	197.6	2.17	1.70	
1,720.0	20.90	341.20	1,691.4	222.1	-62.2	230.6	1.31	1.16	
1,813.0	22.40	343.40	1,777.8	254.7	-72.6	264.9	1.83	1.61	
1,907.0	24.00	344.00	1,864.2	290.3	-83.0	301.9	1.72	1.70	
2,002.0	25.50	342.50	1,950.5	328.4	-94.4	341.7	1.71	1.58	
2,097.0	27.00	342.50	2,035.7	368.4	-107.1	383.7	1.58	1.58	
2,191.0	26.00	341.60	2,119.8	408.3	-120.0	425.6	1.15	-1.06	
2,286.0	26.50	340.00	2,205.0	448.0	-133.8	467.5	0.91	0.53	
2,380.0	27.40	340.60	2,288.8	488.1	-148.2	510.0	1.00	0.96	
2,475.0	25.90	339.40	2,373.7	528.2	-162.7	552.5	1.68	-1.58	
2,569.0	26.60	341.20	2,458.0	567.3	-176.7	594.0	1.13	0.74	
2,663.0	28.10	341.50	2,541.5	608.2	-190.5	637.1	1.60	1.60	
2,757.0	26.60	340.80	2,625.0	649.1	-204.5	680.3	1.63	-1.60	
2,852.0	27.70	341.90	2,709.5	690.2	-218.3	723.6	1.27	1.16	
2,946.0	27.50	341.50	2,792.8	731.5	-232.0	767.1	0.29	-0.21	
3,041.0	26.10	340.80	2,877.6	772.0	-245.8	809.9	1.51	-1.47	
3,135.0	26.60	342.60	2,961.8	811.7	-258.9	851.5	1.00	0.53	
3,230.0	27.60	345.00	3,046.4	853.2	-271.0	894.8	1.56	1.05	
3,324.0	25.80	345.20	3,130.4	894.0	-281.9	937.0	1.92	-1.91	
3,418.0	24.80	342.90	3,215.4	932.6	-292.9	977.2	1.49	-1.06	
3,513.0	25.30	342.50	3,301.4	971.0	-304.8	1,017.4	0.56	0.53	
3,608.0	27.40	344.30	3,386.6	1,011.5	-316.9	1,059.6	2.36	2.21	
3,702.0	26.50	345.10	3,470.3	1,052.5	-328.1	1,102.2	1.03	-0.96	
3,797.0	28.00	342.20	3,554.8	1,094.3	-340.4	1,145.6	2.11	1.58	
3,891.0	27.90	341.70	3,637.8	1,136.2	-354.0	1,189.7	0.27	-0.11	
3,986.0	28.00	341.30	3,721.8	1,178.4	-368.2	1,234.2	0.22	0.11	
4,081.0	27.70	340.90	3,805.8	1,220.4	-382.5	1,278.5	0.37	-0.32	
4,175.0	26.50	341.50	3,889.4	1,260.9	-396.3	1,321.2	1.31	-1.28	
4,269.0	24.90	341.60	3,974.1	1,299.6	-409.2	1,362.0	1.70	-1.70	
4,364.0	23.70	343.10	4,060.7	1,336.8	-421.1	1,401.0	1.42	-1.26	
4,458.0	22.90	344.10	4,147.0	1,372.5	-431.6	1,438.2	0.95	-0.85	
4,553.0	24.30	343.30	4,234.1	1,409.0	-442.3	1,476.2	1.51	1.47	
4,647.0	25.00	342.70	4,319.5	1,446.5	-453.8	1,515.4	0.79	0.74	
4,741.0	24.50	345.00	4,404.9	1,484.3	-464.7	1,554.8	1.15	-0.53	
4,836.0	25.80	344.40	4,490.9	1,523.2	-475.4	1,595.2	1.39	1.37	
4,930.0	26.90	344.10	4,575.1	1,563.4	-486.7	1,636.9	1.18	1.17	
5,023.0	24.60	344.30	4,658.9	1,602.2	-497.7	1,677.3	2.47	-2.47	
5,118.0	23.30	345.20	4,745.7	1,639.4	-507.8	1,715.8	1.42	-1.37	
5,213.0	21.70	345.20	4,833.5	1,674.6	-517.1	1,752.2	1.68	-1.68	
5,309.0	19.10	344.40	4,923.5	1,706.9	-525.9	1,785.6	2.72	-2.71	
5,403.0	15.90	343.10	5,013.1	1,734.0	-533.8	1,813.9	3.43	-3.40	
5,497.0	13.40	341.20	5,104.0	1,756.6	-541.0	1,837.7	2.71	-2.66	
5,591.0	12.00	338.50	5,195.7	1,776.1	-548.1	1,858.3	1.62	-1.49	
5,687.0	11.40	343.00	5,289.7	1,794.4	-554.5	1,877.7	1.14	-0.62	
5,781.0	10.80	354.80	5,382.0	1,812.1	-558.1	1,895.6	2.49	-0.64	
5,875.0	10.20	355.30	5,474.4	1,829.1	-559.5	1,912.4	0.65	-0.64	
5,969.0	8.70	352.40	5,567.1	1,844.5	-561.2	1,927.6	1.67	-1.60	
6,063.0	7.80	357.50	5,660.2	1,857.9	-562.4	1,940.9	1.23	-0.96	
6,157.0	6.80	358.00	5,753.4	1,869.8	-562.9	1,952.5	1.07	-1.06	
6,252.0	6.20	355.70	5,847.8	1,880.6	-563.4	1,963.0	0.69	-0.63	
6,346.0	5.10	343.40	5,941.3	1,889.6	-565.0	1,972.1	1.73	-1.17	
6,440.0	4.10	337.60	6,035.0	1,896.7	-567.5	1,979.6	1.17	-1.06	
6,534.0	3.90	336.40	6,128.8	1,902.8	-570.0	1,986.2	0.23	-0.21	

Cathedral Energy Services

Survey Report

Company:	Bonanza Creek Energy Operating Company, LLC	Local Co-ordinate Reference:	Well Antelope P-19
Project:	Weld County	TVD Reference:	kbe @ 4662.0ft
Site:	Antelope 42-19 Pad	MD Reference:	kbe @ 4662.0ft
Well:	Antelope P-19	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	USA EDM 5000 Multi Users DB

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Formations / Comments
6,628.0	2.60	333.60	6,222.6	1,907.6	-572.3	1,991.4	1.39	-1.38	
6,723.0	2.90	342.30	6,317.5	1,911.8	-574.0	1,995.9	0.54	0.32	
6,817.0	2.70	338.70	6,411.4	1,916.2	-575.5	2,000.5	0.28	-0.21	
6,909.0	2.40	335.90	6,503.3	1,919.9	-577.1	2,004.6	0.35	-0.33	
7,003.0	1.90	333.10	6,597.3	1,923.1	-578.6	2,008.1	0.54	-0.53	
7,065.0	2.00	344.50	6,659.2	1,925.1	-579.3	2,010.2	0.64	0.16	Last Cathedral Survey @ 7065' MD Projection to Bit @ 7,120'
7,120.0	2.00	344.50	6,714.2	1,926.9	-579.8	2,012.1	0.00	0.00	

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									
Antelope P-19 PBHL (2)	0.00	0.00	6,700.0	1,890.7	-593.3	1,387,681.82	3,317,191.84	40.391990	-104.361240
- actual wellpath misses target center by 38.2ft at 7104.7ft MD (6698.9 TVD, 1926.4 N, -579.7 E)									
- Circle (radius 50.0)									
Antelope P-19 TGT (2)	0.00	0.00	6,087.0	1,890.7	-593.3	1,387,681.82	3,317,191.84	40.391990	-104.361240
- actual wellpath misses target center by 26.1ft at 6492.2ft MD (6087.1 TVD, 1900.1 N, -568.9 E)									
- Point									

Design Annotations

Measured Depth (ft)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Comment
7,065.0	6,659.2	1,925.1	-579.3	Last Cathedral Survey @ 7065' MD
7,120.0	6,714.2	1,926.9	-579.8	Projection to Bit @ 7,120'

Checked By: _____ Approved By: _____ Date: _____