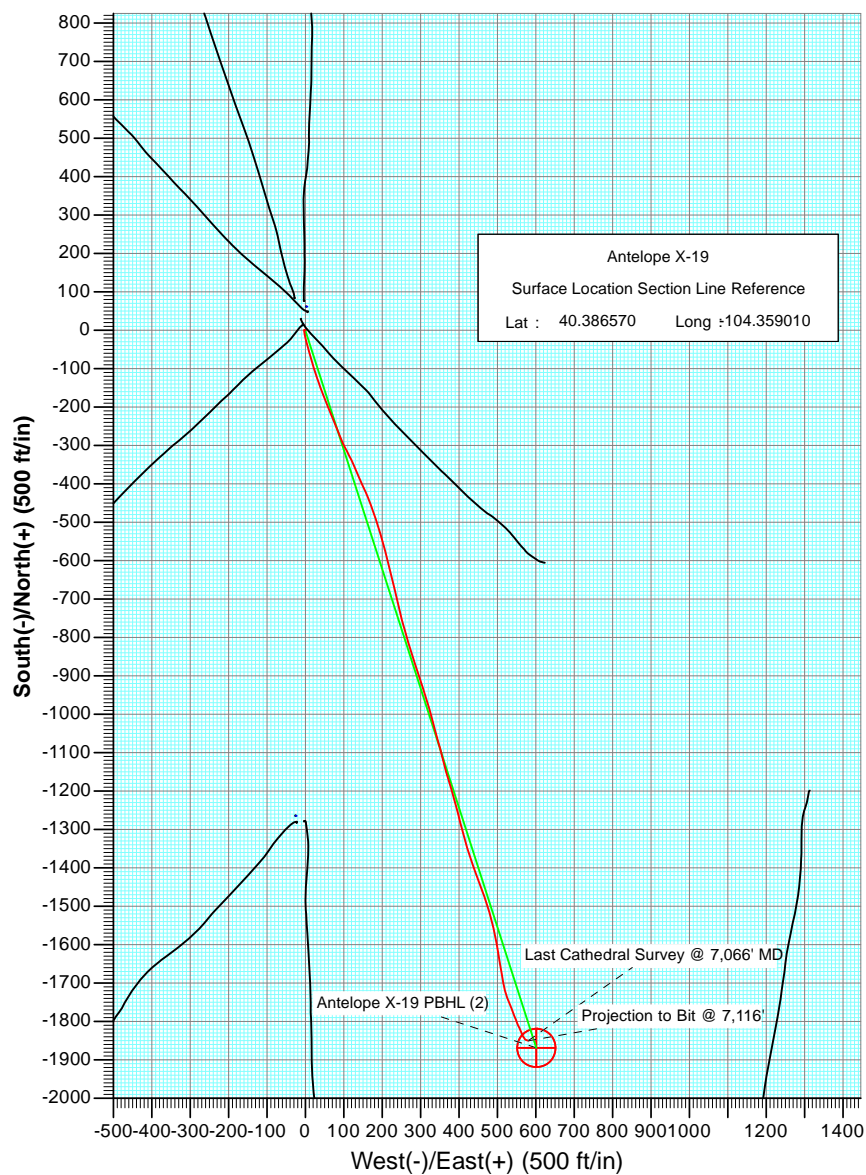
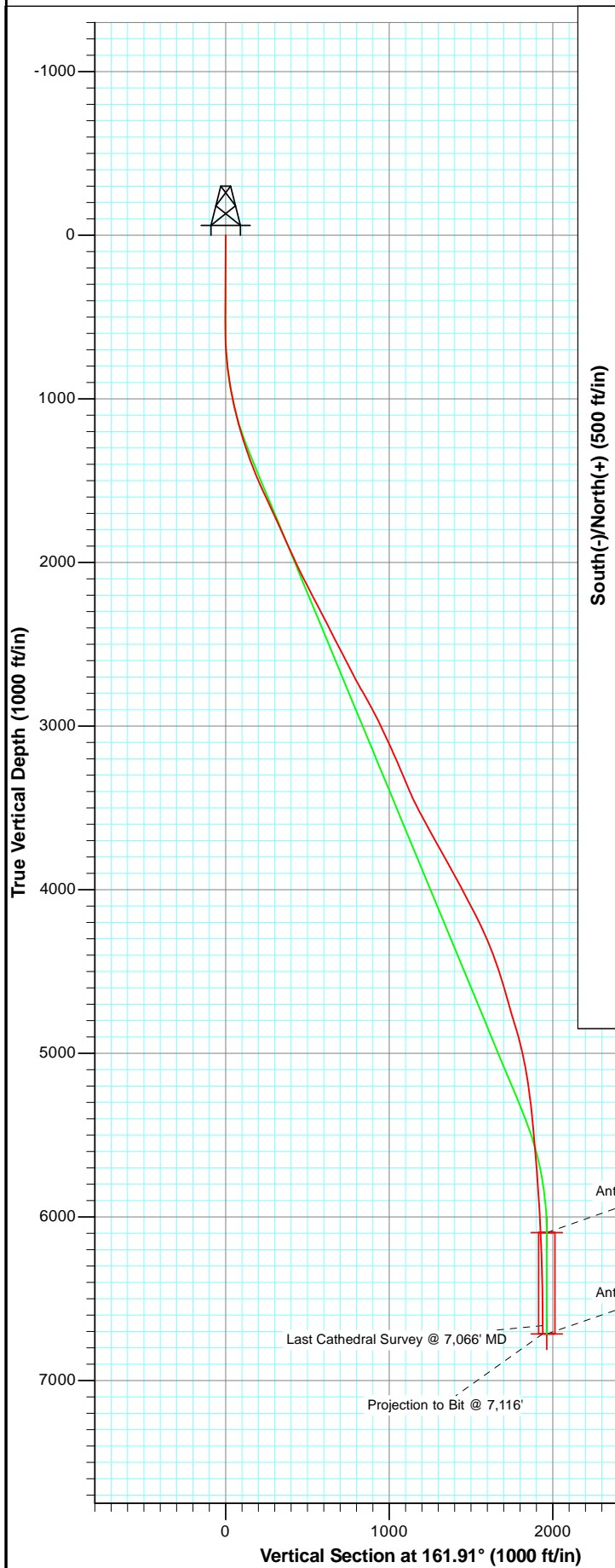




Project: Weld County
Site: Antelope 42-19 Pad
Well: Antelope X-19
Wellbore: DD
Plan: FINAL



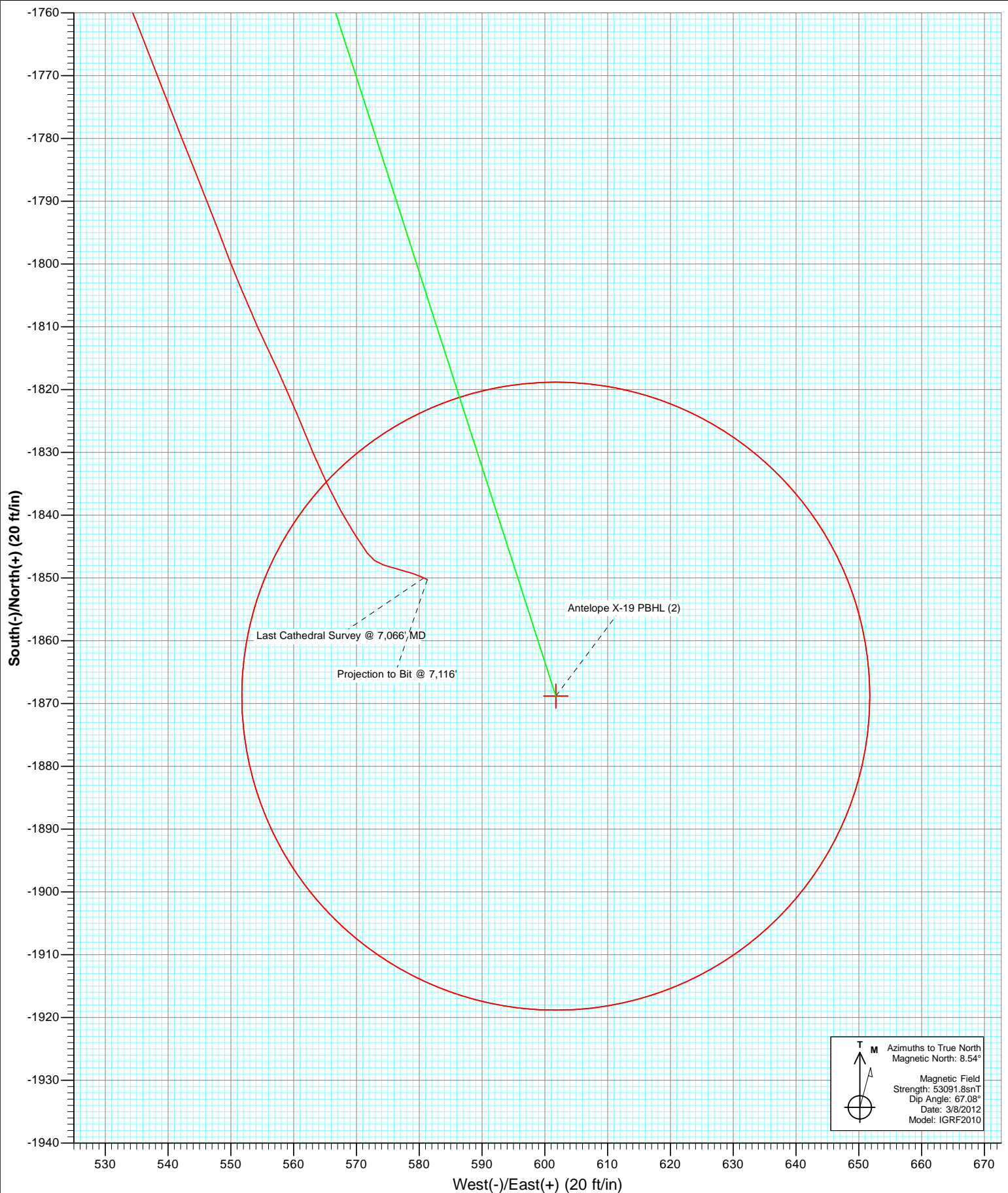
Azimuths to True North
Magnetic North: 8.54°

Magnetic Field
Strength: 53091.8snT
Dip Angle: 67.08°
Date: 3/8/2012
Model: IGRF2010

DD Antelope X-19 125219 743444; SC						
kbe @ 4661.0ft North American Datum 1983 Well Antelope X-19, True North						
Type	Target	Azimuth	Origin	N/S	E/W	From
User	No Target (Freehand)	161.91	Type Slot	0.0	0.0	TVD
Name	TVD	+N/-S	+E/-W	Latitude	Longitude	
Antelope X-19 TGT (2)	6096.0	-1868.8	601.7	40.381440	-104.356850	
Antelope X-19 PBHL (2)	6715.0	-1868.8	601.7	40.381440	-104.356850	



Project: Weld County
Site: Antelope 42-19 Pad
Well: Antelope X-19
Wellbore: DD
Plan: FINAL



Cathedral Energy Services

Survey Report

Company:	Bonanza Creek Energy Operating Company, LLC	Local Co-ordinate Reference:	Well Antelope X-19
Project:	Weld County	TVD Reference:	kbe @ 4661.0ft
Site:	Antelope 42-19 Pad	MD Reference:	kbe @ 4661.0ft
Well:	Antelope X-19	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 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 X-19					
Well Position	+N/-S	0.0 ft	Northing:	1,385,715.46 ft	Latitude:	40.386570
	+E/-W	0.0 ft	Easting:	3,317,838.35 ft	Longitude:	-104.359010
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,651.0 ft

Wellbore	DD				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	3/8/2012	8.55	67.08	53,092

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	161.91	

Survey Program	Date	3/20/2012			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
524.0	7,116.0	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		
524.0	0.60	301.40	524.0	1.4	-2.3	-2.1	0.11	0.11		
618.0	1.60	191.50	618.0	0.4	-3.0	-1.3	2.01	1.06		
713.0	3.90	171.40	712.9	-4.1	-2.8	3.0	2.59	2.42		
807.0	6.80	167.20	806.4	-12.7	-1.1	11.7	3.11	3.09		
902.0	9.00	167.60	900.5	-25.4	1.7	24.7	2.32	2.32		
996.0	11.30	162.50	993.1	-41.4	6.1	41.2	2.62	2.45		
1,091.0	13.80	167.30	1,085.8	-61.3	11.4	61.8	2.85	2.63		
1,185.0	15.80	161.80	1,176.7	-84.4	17.9	85.8	2.60	2.13		
1,279.0	17.40	161.40	1,266.7	-109.9	26.3	112.6	1.71	1.70		
1,374.0	19.60	161.80	1,356.8	-138.5	35.8	142.8	2.32	2.32		
1,468.0	22.30	158.40	1,444.6	-170.1	47.3	176.4	3.15	2.87		
1,563.0	24.30	158.10	1,531.9	-205.0	61.3	213.9	2.11	2.11		

Cathedral Energy Services

Survey Report

Company:	Bonanza Creek Energy Operating Company, LLC	Local Co-ordinate Reference:	Well Antelope X-19
Project:	Weld County	TVD Reference:	kbe @ 4661.0ft
Site:	Antelope 42-19 Pad	MD Reference:	kbe @ 4661.0ft
Well:	Antelope X-19	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
1,657.0	25.30	157.30	1,617.2	-241.4	76.2	253.2	1.12	1.06	
1,751.0	24.80	158.70	1,702.4	-278.3	91.1	292.9	0.82	-0.53	
1,845.0	24.80	151.20	1,787.7	-314.0	107.8	332.0	3.34	0.00	
1,939.0	24.60	156.00	1,873.1	-349.2	125.3	370.8	2.14	-0.21	
2,034.0	24.40	157.00	1,959.6	-385.3	141.0	410.0	0.48	-0.21	
2,128.0	26.00	155.80	2,044.6	-421.9	157.0	449.8	1.79	1.70	
2,223.0	27.20	159.80	2,129.6	-461.3	173.0	492.2	2.27	1.26	
2,318.0	27.60	162.80	2,213.9	-502.7	187.0	536.0	1.51	0.42	
2,412.0	27.40	164.90	2,297.3	-544.4	199.1	579.3	1.05	-0.21	
2,506.0	27.50	164.50	2,380.7	-586.2	210.5	622.6	0.22	0.11	
2,601.0	26.90	166.20	2,465.2	-628.2	221.5	665.9	1.03	-0.63	
2,695.0	27.20	166.50	2,548.9	-669.7	231.6	708.6	0.35	0.32	
2,789.0	27.60	166.90	2,632.4	-711.8	241.6	751.7	0.47	0.43	
2,884.0	28.00	166.00	2,716.4	-754.9	252.0	795.8	0.61	0.42	
2,978.0	29.80	163.80	2,798.7	-798.8	263.8	841.2	2.22	1.91	
3,072.0	29.10	162.30	2,880.6	-843.0	277.3	887.4	1.08	-0.74	
3,167.0	25.60	161.20	2,964.9	-884.4	290.9	931.0	3.72	-3.68	
3,262.0	25.20	162.50	3,050.7	-923.1	303.6	971.8	0.72	-0.42	
3,356.0	24.80	163.40	3,135.9	-961.1	315.3	1,011.5	0.59	-0.43	
3,450.0	23.60	163.90	3,221.7	-998.1	326.1	1,050.0	1.30	-1.28	
3,545.0	22.50	165.80	3,309.1	-1,034.0	335.9	1,087.2	1.40	-1.16	
3,639.0	23.10	163.90	3,395.7	-1,069.1	345.4	1,123.5	1.01	0.64	
3,734.0	26.70	166.10	3,481.9	-1,107.8	355.7	1,163.5	3.91	3.79	
3,828.0	28.40	163.90	3,565.2	-1,149.8	366.9	1,206.9	2.11	1.81	
3,923.0	29.20	164.10	3,648.5	-1,193.7	379.6	1,252.6	0.85	0.84	
4,018.0	29.70	164.50	3,731.2	-1,238.7	392.2	1,299.3	0.57	0.53	
4,112.0	28.50	166.00	3,813.3	-1,282.9	403.9	1,344.9	1.49	-1.28	
4,207.0	28.50	164.20	3,896.8	-1,326.7	415.5	1,390.2	0.90	0.00	
4,301.0	28.60	161.90	3,979.4	-1,369.7	428.6	1,435.1	1.17	0.11	
4,396.0	27.80	160.60	4,063.1	-1,412.2	443.0	1,480.0	1.06	-0.84	
4,490.0	27.40	159.10	4,146.4	-1,453.1	458.0	1,523.5	0.85	-0.43	
4,584.0	25.00	161.70	4,230.8	-1,492.1	472.0	1,564.9	2.83	-2.55	
4,678.0	22.80	164.40	4,316.7	-1,528.6	483.1	1,603.0	2.61	-2.34	
4,773.0	20.80	169.00	4,404.9	-1,562.8	491.3	1,638.1	2.77	-2.11	
4,868.0	18.20	169.90	4,494.5	-1,594.0	497.1	1,669.6	2.75	-2.74	
4,961.0	16.80	169.20	4,583.2	-1,621.5	502.2	1,697.3	1.52	-1.51	
5,055.0	16.00	170.40	4,673.3	-1,647.6	506.9	1,723.6	0.92	-0.85	
5,150.0	16.60	171.10	4,764.5	-1,674.0	511.2	1,749.9	0.66	0.63	
5,246.0	16.90	168.90	4,856.4	-1,701.2	516.0	1,777.3	0.73	0.31	
5,340.0	14.00	163.80	4,947.0	-1,725.5	521.8	1,802.2	3.40	-3.09	
5,435.0	11.70	158.10	5,039.7	-1,745.5	528.6	1,823.3	2.76	-2.42	
5,529.0	9.60	158.30	5,132.0	-1,761.6	535.0	1,840.7	2.23	-2.23	
5,623.0	7.70	159.10	5,225.0	-1,774.8	540.2	1,854.8	2.03	-2.02	
5,718.0	6.20	157.40	5,319.3	-1,785.5	544.4	1,866.3	1.59	-1.58	
5,812.0	6.00	159.80	5,412.7	-1,794.8	548.1	1,876.2	0.34	-0.21	
5,906.0	4.90	157.60	5,506.3	-1,803.1	551.3	1,885.1	1.19	-1.17	
6,001.0	4.30	155.80	5,601.0	-1,810.1	554.3	1,892.7	0.65	-0.63	
6,094.0	5.20	154.30	5,693.7	-1,817.1	557.5	1,900.4	0.98	0.97	
6,189.0	4.30	158.80	5,788.4	-1,824.3	560.7	1,908.2	1.02	-0.95	
6,284.0	3.50	156.10	5,883.1	-1,830.2	563.2	1,914.6	0.86	-0.84	
6,377.0	3.10	154.90	5,976.0	-1,835.1	565.4	1,920.0	0.44	-0.43	
6,472.0	2.50	150.70	6,070.9	-1,839.3	567.5	1,924.5	0.67	-0.63	
6,565.0	2.50	148.40	6,163.8	-1,842.7	569.5	1,928.5	0.11	0.00	

Cathedral Energy Services

Survey Report

Company:	Bonanza Creek Energy Operating Company, LLC	Local Co-ordinate Reference:	Well Antelope X-19
Project:	Weld County	TVD Reference:	kbe @ 4661.0ft
Site:	Antelope 42-19 Pad	MD Reference:	kbe @ 4661.0ft
Well:	Antelope X-19	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
6,660.0	2.20	144.50	6,258.7	-1,846.0	571.7	1,932.3	0.36	-0.32	
6,754.0	2.00	106.20	6,352.6	-1,847.9	574.3	1,934.9	1.48	-0.21	
6,848.0	1.40	106.60	6,446.6	-1,848.7	577.0	1,936.5	0.64	-0.64	
6,941.0	1.10	105.20	6,539.6	-1,849.3	578.9	1,937.6	0.32	-0.32	
7,066.0	0.70	120.30	6,664.6	-1,850.0	580.8	1,938.9	0.37	-0.32	Last Cathedral Survey @ 7,066' MD Projection to Bit @ 7,116'
7,116.0	0.70	120.30	6,714.5	-1,850.3	581.3	1,939.3	0.00	0.00	

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 X-19 PBHL (2) - actual wellpath misses target center by 27.6ft at 7116.0ft MD (6714.5 TVD, -1850.3 N, 581.3 E) - Circle (radius 50.0)	0.00	0.00	6,715.0	-1,868.8	601.7	1,383,854.55	3,318,464.09	40.381440	-104.356850
Antelope X-19 TGT (2) - actual wellpath misses target center by 44.2ft at 6499.0ft MD (6097.8 TVD, -1840.3 N, 568.1 E) - Point	0.00	0.00	6,096.0	-1,868.8	601.7	1,383,854.55	3,318,464.09	40.381440	-104.356850

Design Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
7,066.0	6,664.6	-1,850.0	580.8	Last Cathedral Survey @ 7,066' MD
7,116.0	6,714.5	-1,850.3	581.3	Projection to Bit @ 7,116'

Checked By: _____ Approved By: _____ Date: _____