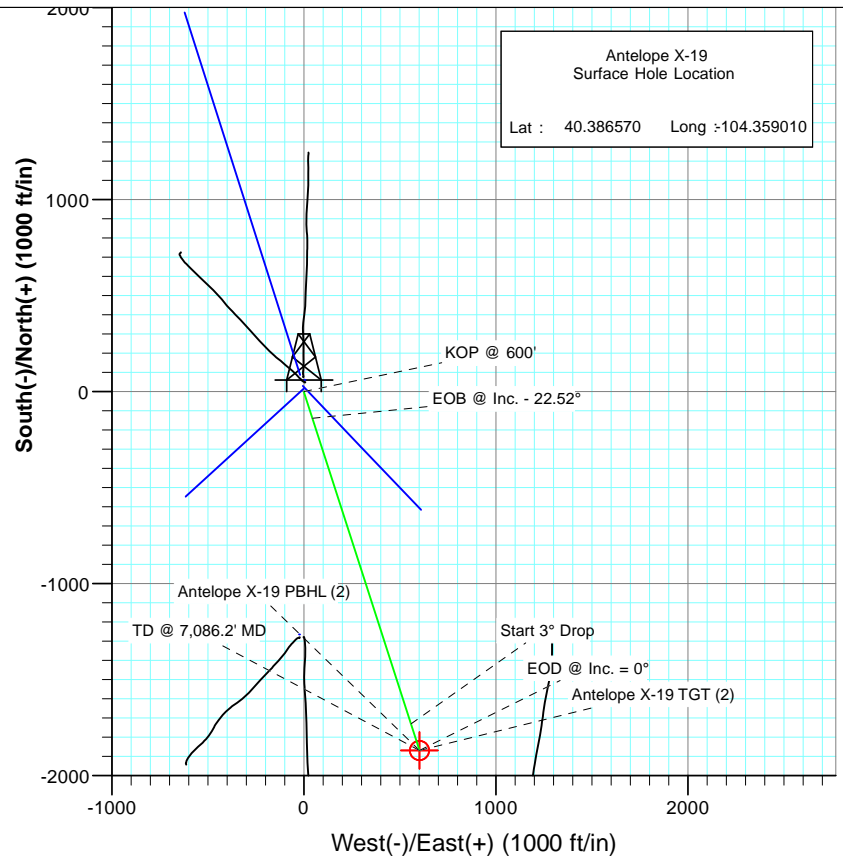
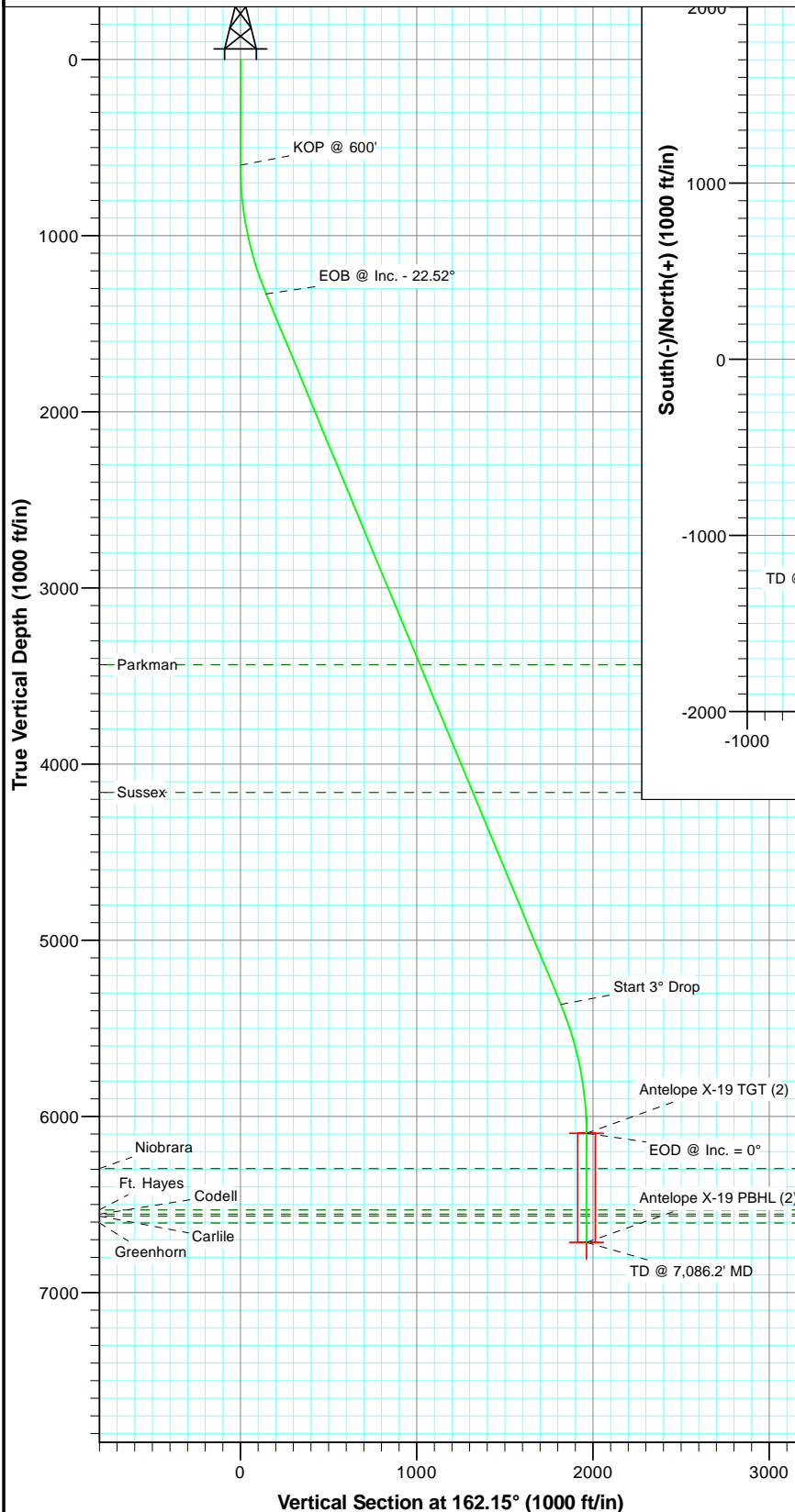


SECTION DETAILS

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	1350.6	22.52	162.15	1331.4	-138.6	44.6	3.00	162.15	145.6	
4	5716.6	22.52	162.15	5364.6	-1730.2	557.1	0.00	0.00	1817.7	
5	6467.2	0.00	0.00	6096.0	-1868.8	601.7	3.00	180.00	1963.3	Antelope X-19 TGT (2)
6	7086.2	0.00	0.00	6715.0	-1868.8	601.7	0.00	0.00	1963.3	Antelope X-19 PBHL (2)



FORMATION TOP DETAILS

TVDPath	MDPath	Formation
3436.0	3628.9	Parkman
4161.0	4413.7	Sussex
6296.0	6667.2	Niobrara
6531.0	6902.2	Ft. Hayes
6555.0	6926.2	Codell
6566.0	6937.2	Carille
6605.0	6976.2	Greenhorn



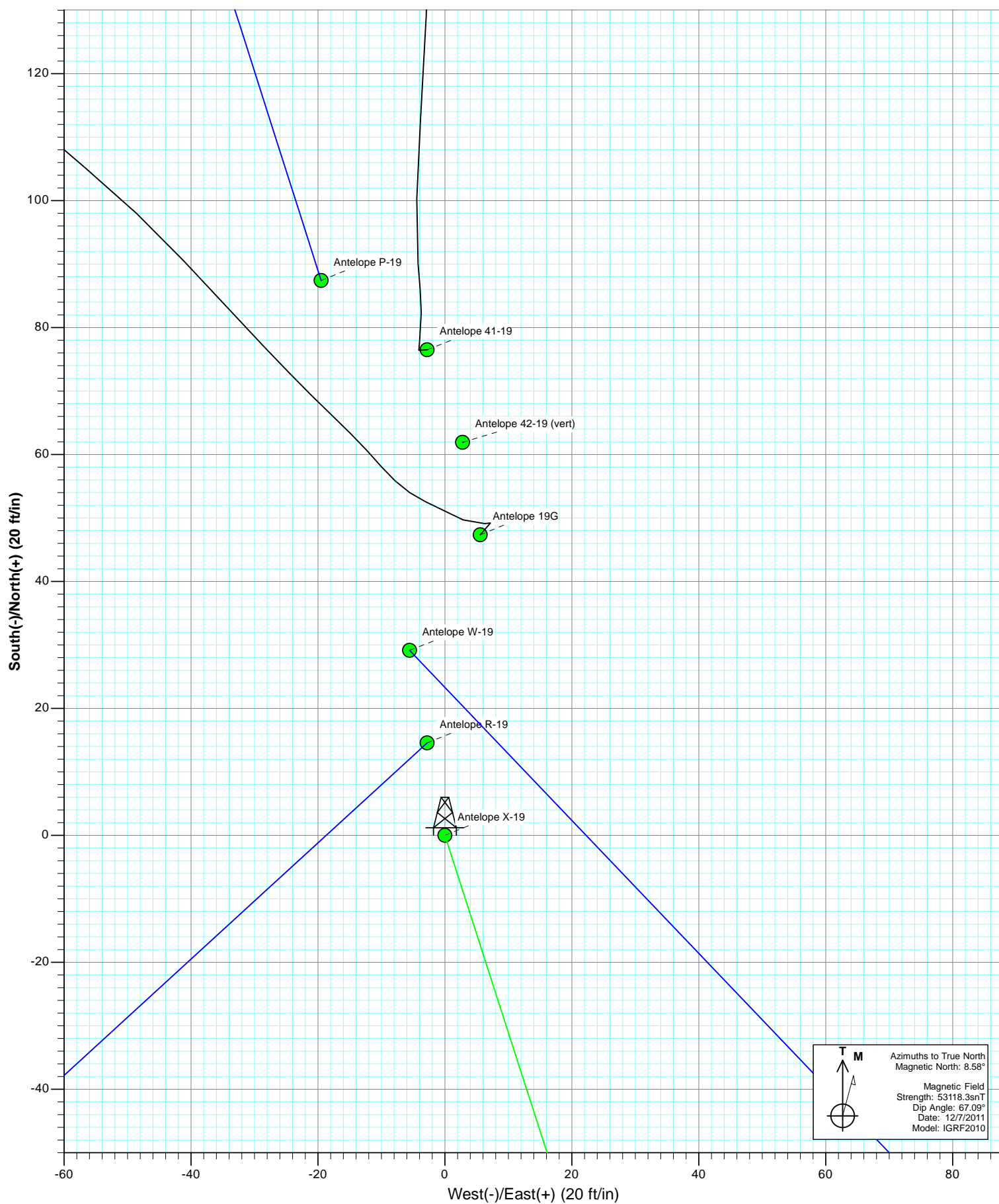
Azimuths to True North
 Magnetic North: 8.58°

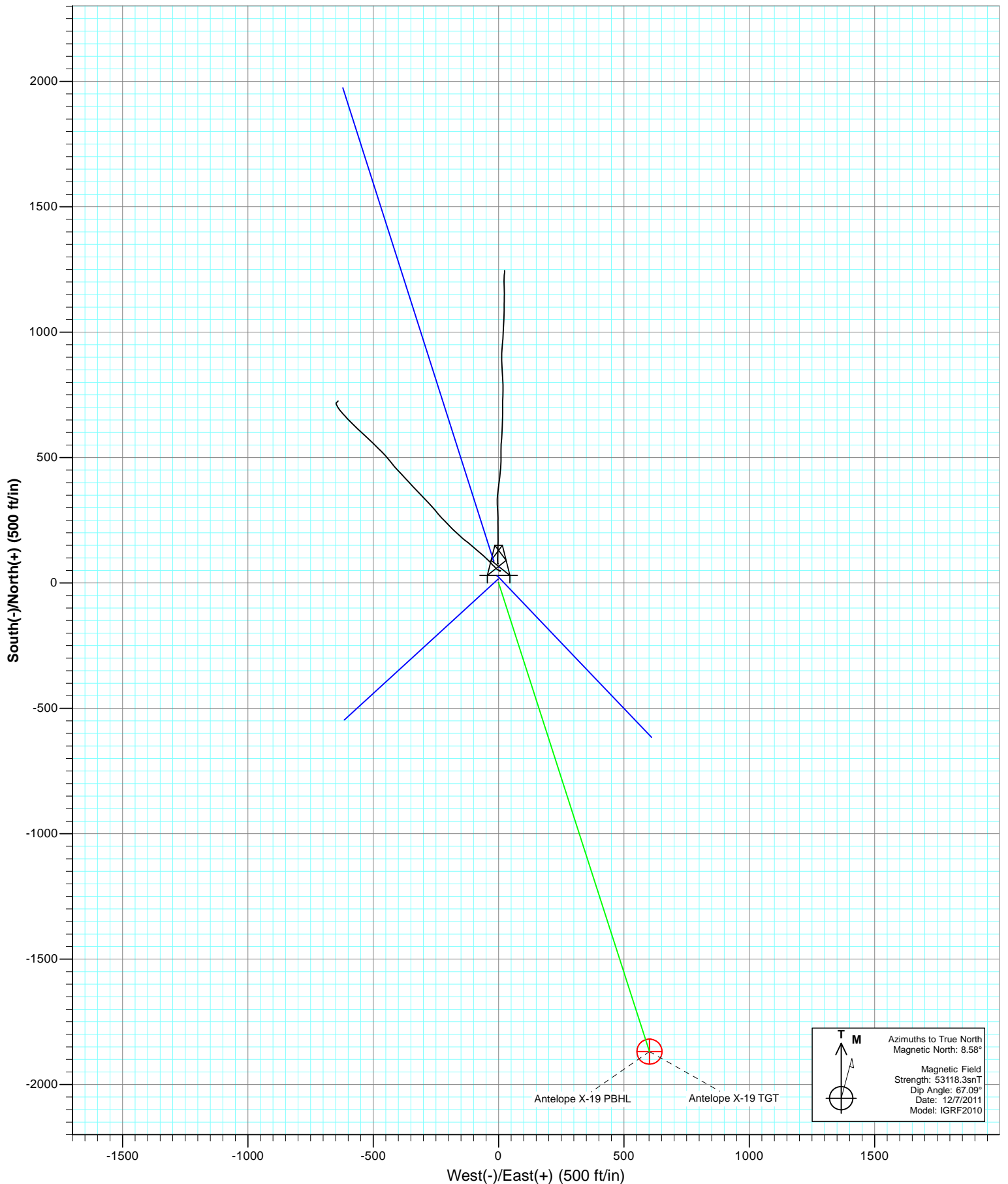
Magnetic Field
 Strength: 53118.4nT
 Dip Angle: 67.09°
 Date: 12/7/2011
 Model: IGRF2010

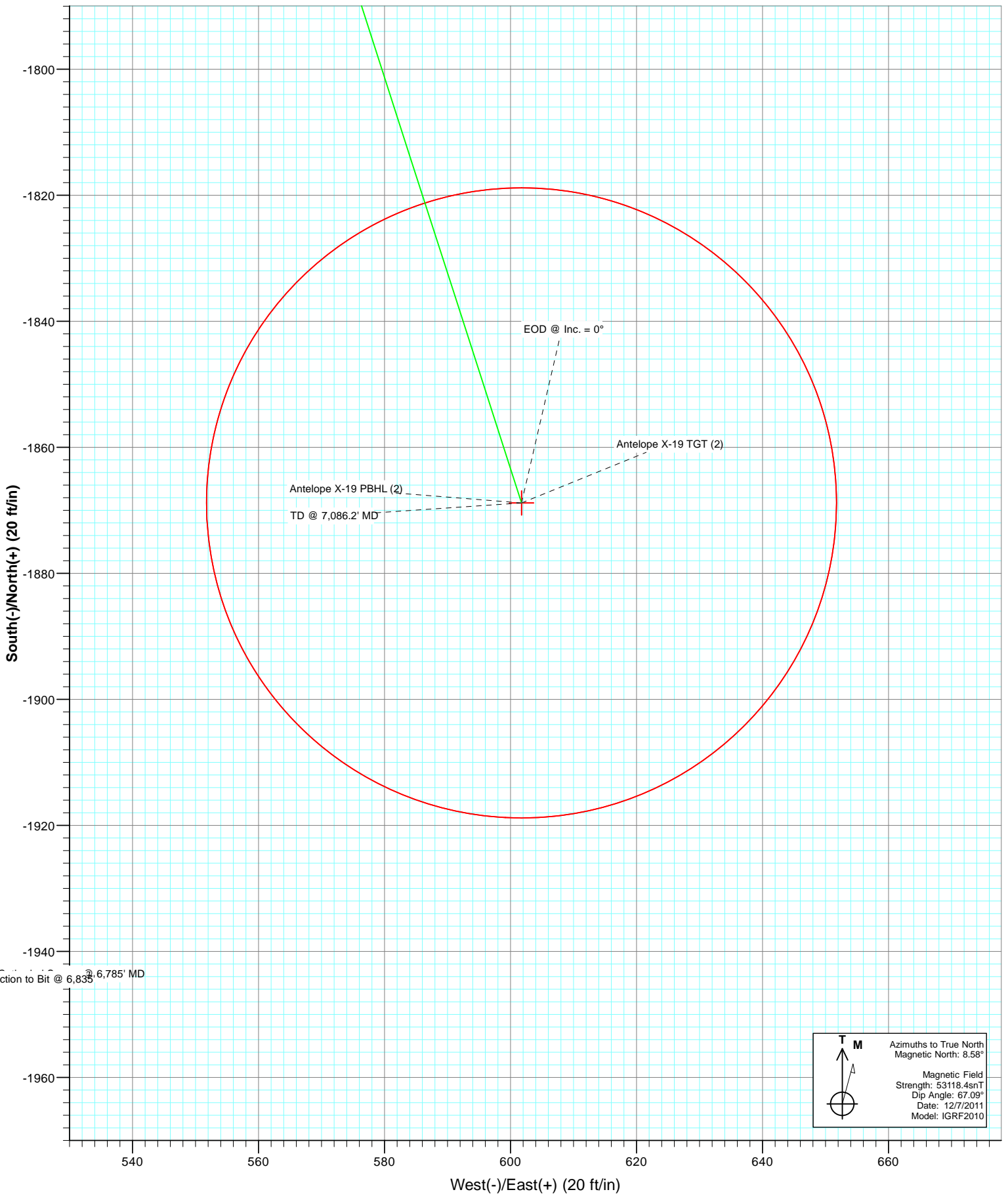
Plan #2
 Antelope X-19
 125XXX; SC

kbe @ 4661.0ft
 North American Datum 1983
 Well Antelope X-19, True North

Type	Target	Azimuth	Origin	Type	N/S	E/W	From	TVD
TD	No Target (Freehand)	162.15	Slot		0.0	0.0		0.0
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		







Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Antelope X-19
Company:	Bonanza Creek Energy Operating Company, LLC	TVD Reference:	kbe @ 4661.0ft
Project:	Weld County	MD Reference:	kbe @ 4661.0ft
Site:	Antelope 42-19 Pad	North Reference:	True
Well:	Antelope X-19	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2		

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:	1,385,715.47 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	OH				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	IGRF2010	12/7/2011	8.58	67.09	53,118

Design	Plan #2				
Audit Notes:					
Version:	Phase:	PLAN		Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction	
	(ft)	(ft)	(ft)	(°)	
	0.0	0.0	0.0	162.15	

Plan Sections										
Measured	Inclination	Azimuth	Vertical	+N/-S	+E/-W	Dogleg	Build	Turn	TFO	Target
Depth	(°)	(°)	Depth	(ft)	(ft)	Rate	Rate	Rate	(°)	
(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	
1,350.6	22.52	162.15	1,331.4	-138.6	44.6	3.00	3.00	0.00	162.15	
5,716.6	22.52	162.15	5,364.6	-1,730.2	557.1	0.00	0.00	0.00	0.00	
6,467.2	0.00	0.00	6,096.0	-1,868.8	601.7	3.00	-3.00	0.00	180.00	Antelope X-19 TGT (2
7,086.2	0.00	0.00	6,715.0	-1,868.8	601.7	0.00	0.00	0.00	0.00	Antelope X-19 PBHL

Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Antelope X-19
Company:	Bonanza Creek Energy Operating Company, LLC	TVD Reference:	kbe @ 4661.0ft
Project:	Weld County	MD Reference:	kbe @ 4661.0ft
Site:	Antelope 42-19 Pad	North Reference:	True
Well:	Antelope X-19	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2		

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	162.15	700.0	-2.5	0.8	2.6	3.00	3.00	
800.0	6.00	162.15	799.6	-10.0	3.2	10.5	3.00	3.00	
900.0	9.00	162.15	898.8	-22.4	7.2	23.5	3.00	3.00	
1,000.0	12.00	162.15	997.1	-39.7	12.8	41.7	3.00	3.00	
1,100.0	15.00	162.15	1,094.3	-61.9	19.9	65.1	3.00	3.00	
1,200.0	18.00	162.15	1,190.2	-89.0	28.6	93.5	3.00	3.00	
1,300.0	21.00	162.15	1,284.4	-120.7	38.9	126.9	3.00	3.00	
1,350.6	22.52	162.15	1,331.4	-138.6	44.6	145.6	3.00	3.00	EOB @ Inc. - 22.52°
1,400.0	22.52	162.15	1,377.1	-156.6	50.4	164.5	0.00	0.00	
1,500.0	22.52	162.15	1,469.4	-193.1	62.2	202.8	0.00	0.00	
1,600.0	22.52	162.15	1,561.8	-229.5	73.9	241.1	0.00	0.00	
1,700.0	22.52	162.15	1,654.2	-266.0	85.6	279.4	0.00	0.00	
1,800.0	22.52	162.15	1,746.6	-302.4	97.4	317.7	0.00	0.00	
1,900.0	22.52	162.15	1,838.9	-338.9	109.1	356.0	0.00	0.00	
2,000.0	22.52	162.15	1,931.3	-375.3	120.9	394.3	0.00	0.00	
2,100.0	22.52	162.15	2,023.7	-411.8	132.6	432.6	0.00	0.00	
2,200.0	22.52	162.15	2,116.1	-448.2	144.3	470.9	0.00	0.00	
2,300.0	22.52	162.15	2,208.4	-484.7	156.1	509.2	0.00	0.00	
2,400.0	22.52	162.15	2,300.8	-521.2	167.8	547.5	0.00	0.00	
2,500.0	22.52	162.15	2,393.2	-557.6	179.5	585.8	0.00	0.00	
2,600.0	22.52	162.15	2,485.6	-594.1	191.3	624.1	0.00	0.00	
2,700.0	22.52	162.15	2,577.9	-630.5	203.0	662.4	0.00	0.00	
2,800.0	22.52	162.15	2,670.3	-667.0	214.8	700.7	0.00	0.00	
2,900.0	22.52	162.15	2,762.7	-703.4	226.5	739.0	0.00	0.00	
3,000.0	22.52	162.15	2,855.1	-739.9	238.2	777.3	0.00	0.00	
3,100.0	22.52	162.15	2,947.4	-776.3	250.0	815.6	0.00	0.00	
3,200.0	22.52	162.15	3,039.8	-812.8	261.7	853.9	0.00	0.00	
3,300.0	22.52	162.15	3,132.2	-849.2	273.5	892.2	0.00	0.00	
3,400.0	22.52	162.15	3,224.6	-885.7	285.2	930.5	0.00	0.00	
3,500.0	22.52	162.15	3,316.9	-922.2	296.9	968.8	0.00	0.00	
3,600.0	22.52	162.15	3,409.3	-958.6	308.7	1,007.1	0.00	0.00	
3,628.9	22.52	162.15	3,436.0	-969.1	312.1	1,018.1	0.00	0.00	Parkman
3,700.0	22.52	162.15	3,501.7	-995.1	320.4	1,045.4	0.00	0.00	
3,800.0	22.52	162.15	3,594.1	-1,031.5	332.1	1,083.7	0.00	0.00	
3,900.0	22.52	162.15	3,686.5	-1,068.0	343.9	1,122.0	0.00	0.00	
4,000.0	22.52	162.15	3,778.8	-1,104.4	355.6	1,160.3	0.00	0.00	
4,100.0	22.52	162.15	3,871.2	-1,140.9	367.4	1,198.6	0.00	0.00	
4,200.0	22.52	162.15	3,963.6	-1,177.3	379.1	1,236.9	0.00	0.00	
4,300.0	22.52	162.15	4,056.0	-1,213.8	390.8	1,275.2	0.00	0.00	
4,400.0	22.52	162.15	4,148.3	-1,250.2	402.6	1,313.5	0.00	0.00	
4,413.7	22.52	162.15	4,161.0	-1,255.2	404.2	1,318.7	0.00	0.00	Sussex
4,500.0	22.52	162.15	4,240.7	-1,286.7	414.3	1,351.8	0.00	0.00	
4,600.0	22.52	162.15	4,333.1	-1,323.2	426.0	1,390.1	0.00	0.00	
4,700.0	22.52	162.15	4,425.5	-1,359.6	437.8	1,428.4	0.00	0.00	
4,800.0	22.52	162.15	4,517.8	-1,396.1	449.5	1,466.7	0.00	0.00	

Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Antelope X-19
Company:	Bonanza Creek Energy Operating Company, LLC	TVD Reference:	kbe @ 4661.0ft
Project:	Weld County	MD Reference:	kbe @ 4661.0ft
Site:	Antelope 42-19 Pad	North Reference:	True
Well:	Antelope X-19	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2		

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	22.52	162.15	4,610.2	-1,432.5	461.3	1,505.0	0.00	0.00	
5,000.0	22.52	162.15	4,702.6	-1,469.0	473.0	1,543.3	0.00	0.00	
5,100.0	22.52	162.15	4,795.0	-1,505.4	484.7	1,581.5	0.00	0.00	
5,200.0	22.52	162.15	4,887.3	-1,541.9	496.5	1,619.8	0.00	0.00	
5,300.0	22.52	162.15	4,979.7	-1,578.3	508.2	1,658.1	0.00	0.00	
5,400.0	22.52	162.15	5,072.1	-1,614.8	520.0	1,696.4	0.00	0.00	
5,500.0	22.52	162.15	5,164.5	-1,651.2	531.7	1,734.7	0.00	0.00	
5,600.0	22.52	162.15	5,256.8	-1,687.7	543.4	1,773.0	0.00	0.00	
5,700.0	22.52	162.15	5,349.2	-1,724.2	555.2	1,811.3	0.00	0.00	
5,716.6	22.52	162.15	5,364.6	-1,730.2	557.1	1,817.7	0.00	0.00	Start 3° Drop
5,800.0	20.02	162.15	5,442.3	-1,759.0	566.4	1,847.9	3.00	-3.00	
5,900.0	17.02	162.15	5,537.1	-1,789.2	576.1	1,879.7	3.00	-3.00	
6,000.0	14.02	162.15	5,633.4	-1,814.7	584.3	1,906.4	3.00	-3.00	
6,100.0	11.02	162.15	5,731.0	-1,835.3	591.0	1,928.1	3.00	-3.00	
6,200.0	8.02	162.15	5,829.6	-1,851.1	596.0	1,944.6	3.00	-3.00	
6,300.0	5.02	162.15	5,929.0	-1,861.9	599.5	1,956.0	3.00	-3.00	
6,400.0	2.02	162.15	6,028.8	-1,867.7	601.4	1,962.1	3.00	-3.00	
6,467.2	0.00	0.00	6,096.0	-1,868.8	601.7	1,963.3	3.00	-3.00	EOD @ Inc. = 0°
6,500.0	0.00	0.00	6,128.8	-1,868.8	601.7	1,963.3	0.00	0.00	
6,600.0	0.00	0.00	6,228.8	-1,868.8	601.7	1,963.3	0.00	0.00	
6,667.2	0.00	0.00	6,296.0	-1,868.8	601.7	1,963.3	0.00	0.00	Niobrara
6,700.0	0.00	0.00	6,328.8	-1,868.8	601.7	1,963.3	0.00	0.00	
6,800.0	0.00	0.00	6,428.8	-1,868.8	601.7	1,963.3	0.00	0.00	
6,900.0	0.00	0.00	6,528.8	-1,868.8	601.7	1,963.3	0.00	0.00	
6,902.2	0.00	0.00	6,531.0	-1,868.8	601.7	1,963.3	0.00	0.00	Ft. Hayes
6,926.2	0.00	0.00	6,555.0	-1,868.8	601.7	1,963.3	0.00	0.00	Codell
6,937.2	0.00	0.00	6,566.0	-1,868.8	601.7	1,963.3	0.00	0.00	Carlile
6,976.2	0.00	0.00	6,605.0	-1,868.8	601.7	1,963.3	0.00	0.00	Greenhorn
7,000.0	0.00	0.00	6,628.8	-1,868.8	601.7	1,963.3	0.00	0.00	
7,086.2	0.00	0.00	6,715.0	-1,868.8	601.7	1,963.3	0.00	0.00	TD @ 7,086.2' 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									
Antelope X-19 PBHL (2)	0.00	0.00	6,715.0	-1,868.8	601.7	1,383,854.55	3,318,464.09	40.381440	-104.356850
- plan hits target center									
- Circle (radius 50.0)									
Antelope X-19 TGT (2)	0.00	0.00	6,096.0	-1,868.8	601.7	1,383,854.55	3,318,464.09	40.381440	-104.356850
- plan hits target center									
- Point									

Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Antelope X-19
Company:	Bonanza Creek Energy Operating Company, LLC	TVD Reference:	kbe @ 4661.0ft
Project:	Weld County	MD Reference:	kbe @ 4661.0ft
Site:	Antelope 42-19 Pad	North Reference:	True
Well:	Antelope X-19	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
3,628.9	3,436.0	Parkman				
4,413.7	4,161.0	Sussex				
6,667.2	6,296.0	Niobrara				
6,902.2	6,531.0	Ft. Hayes				
6,926.2	6,555.0	Codell				
6,937.2	6,566.0	Carlile				
6,976.2	6,605.0	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'	
1,350.6	1,331.4	-138.6	44.6	EOB @ Inc. - 22.52°	
5,716.6	5,364.6	-1,730.2	557.1	Start 3° Drop	
6,467.2	6,096.0	-1,868.8	601.7	EOD @ Inc. = 0°	
7,086.2	6,715.0	-1,868.8	601.7	TD @ 7,086.2' MD	

Bonanza Creek Energy Operating Company, LLC

Weld County

Antelope 42-19 Pad

Antelope X-19

OH

Plan #2

Anticollision Report

13 December, 2011

Cathedral Energy Services

Anticollision Report

Company:	Bonanza Creek Energy Operating Company, LLC	Local Co-ordinate Reference:	Well Antelope X-19
Project:	Weld County	TVD Reference:	kbe @ 4661.0ft
Reference Site:	Antelope 42-19 Pad	MD Reference:	kbe @ 4661.0ft
Site Error:	0.0ft	North Reference:	True
Reference Well:	Antelope X-19	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Reference	Plan #2		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
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	12/13/2011		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.0	7,086.2	Plan #2 (OH)	MWD	Geolink MWD	

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Antelope 14-20 Pad						
Antelope 13-20 - DD - DD						Out of range
Antelope 13-20 - DD - Plan #1						Out of range
Antelope 14-20 (vert) - V - Plan #1						Out of range
Antelope 42-19 Pad						
Antelope 19G - DD - DD	0.0	0.0	47.7			
Antelope 41-19 - DD - DD	0.0	0.0	76.6			
Antelope 41-19 - DD - DD	503.5	503.5	76.5	76.5	10,000.000	CC, ES
Antelope 42-19 (vert) - DD - Plan #1	0.0	0.0	62.0			
Antelope 42-19 (vert) - DD - Plan #1	600.0	600.0	62.0	62.0	10,000.000	CC, ES
Antelope P-19 - OH - Plan #2	0.0	1.0	89.6			
Antelope P-19 - OH - Plan #2	566.3	567.3	89.6	89.6	10,000.000	CC, ES
Antelope R-19 - OH - Plan #1	0.0	0.0	16.0			
Antelope R-19 - OH - Plan #1	600.0	594.0	14.8	14.8	10,000.000	CC, ES
Antelope W-19 - OH - Plan #1	0.0	19.0	29.7			
Antelope W-19 - OH - Plan #1	694.7	715.1	29.2	29.2	10,000.000	CC, ES
Antelope 43-19 Pad						
Antelope 19I - DD - DD						Out of range
Antelope 19I - DD - Plan #4						Out of range
Antelope 43-19 - DD - Plan #1						Out of range
Antelope 43-19 - DD - Plan #1	4,092.2	3,880.0	411.3	411.3	10,000.000	CC, ES
Antelope 44-19 - DD - DD						Out of range
Antelope 44-19 - DD - Plan #2						Out of range

Cathedral Energy Services

Anticollision Report

Company:	Bonanza Creek Energy Operating Company, LLC	Local Co-ordinate Reference:	Well Antelope X-19
Project:	Weld County	TVD Reference:	kbe @ 4661.0ft
Reference Site:	Antelope 42-19 Pad	MD Reference:	kbe @ 4661.0ft
Site Error:	0.0ft	North Reference:	True
Reference Well:	Antelope X-19	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design Antelope 42-19 Pad - Antelope 19G - DD - DD													Offset Site Error: 0.0 ft
Survey Program: 467-MWD													Offset Well Error: 0.0 ft
Reference		Offset		Semi Major Axis			Distance						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	Separation Factor	
0.0	0.0	0.0	0.0	0.0	0.0	6.71	47.4	5.6	47.7				
100.0	100.0	99.9	99.9	0.2	0.2	6.78	47.4	5.6	47.8	47.8	0.00	N/A	
200.0	200.0	199.8	199.8	0.3	0.3	7.01	47.7	5.9	48.1	48.1	0.00	N/A	
300.0	300.0	299.7	299.7	0.5	0.5	7.38	48.1	6.2	48.5	48.5	0.00	N/A	
400.0	400.0	399.6	399.6	0.7	0.7	7.89	48.7	6.7	49.2	49.2	0.00	N/A	
500.0	500.0	499.9	499.9	0.9	0.9	8.32	49.4	7.2	49.9	49.9	0.00	N/A	
600.0	600.0	600.1	600.0	1.0	1.0	5.95	49.0	5.1	49.3	49.3	0.00	N/A	
600.5	600.5	600.5	600.5	1.0	1.0	-156.22	49.0	5.1	49.3	49.3	0.00	N/A	
700.0	700.0	698.5	698.4	1.2	1.2	-162.32	50.8	0.6	53.3	53.3	0.00	N/A	
800.0	799.6	795.7	795.2	1.4	1.4	-170.59	54.7	-6.5	65.6	65.6	0.00	N/A	
900.0	898.8	890.8	889.8	1.6	1.6	-175.75	61.7	-13.3	87.1	87.1	0.00	N/A	
1,000.0	997.1	982.7	980.8	2.0	1.9	-179.80	70.6	-22.3	117.0	117.0	0.00	N/A	
1,100.0	1,094.3	1,069.9	1,066.6	2.3	2.1	177.46	81.6	-32.8	155.4	155.4	0.00	N/A	
1,200.0	1,190.2	1,153.9	1,148.8	2.8	2.4	175.47	94.5	-45.0	202.0	202.0	0.00	N/A	
1,300.0	1,284.4	1,239.7	1,232.4	3.4	2.8	173.66	107.4	-59.3	253.8	253.8	0.00	N/A	
1,400.0	1,377.1	1,322.5	1,313.0	4.0	3.1	172.50	119.7	-73.6	309.6	309.6	0.00	N/A	
1,500.0	1,469.4	1,406.0	1,394.3	4.7	3.4	171.80	132.0	-87.9	365.8	365.8	0.00	N/A	
1,600.0	1,561.8	1,490.3	1,476.6	5.3	3.8	171.30	144.3	-102.0	421.9	421.9	0.00	N/A	
1,700.0	1,654.2	1,573.9	1,558.1	6.0	4.1	170.93	156.2	-116.0	477.7	477.7	0.00	N/A	

Cathedral Energy Services

Anticollision Report

Company:	Bonanza Creek Energy Operating Company, LLC	Local Co-ordinate Reference:	Well Antelope X-19
Project:	Weld County	TVD Reference:	kbe @ 4661.0ft
Reference Site:	Antelope 42-19 Pad	MD Reference:	kbe @ 4661.0ft
Site Error:	0.0ft	North Reference:	True
Reference Well:	Antelope X-19	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design Antelope 42-19 Pad - Antelope 41-19 - DD - DD													Offset Site Error:	0.0 ft
Survey Program: 504-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	-2.09	76.5	-2.8	76.6					
100.0	100.0	100.0	100.0	0.2	0.2	-2.12	76.5	-2.8	76.6	76.6	0.00	N/A		
200.0	200.0	200.0	200.0	0.3	0.3	-2.24	76.5	-3.0	76.6	76.6	0.00	N/A		
300.0	300.0	300.0	300.0	0.5	0.5	-2.44	76.5	-3.3	76.5	76.5	0.00	N/A		
400.0	400.0	400.0	400.0	0.7	0.7	-2.71	76.5	-3.6	76.5	76.5	0.00	N/A		
500.0	500.0	500.0	500.0	0.9	0.9	-3.06	76.4	-4.1	76.5	76.5	0.00	N/A		
503.5	503.5	503.5	503.5	0.9	0.9	-3.07	76.4	-4.1	76.5	76.5	0.00	N/A CC, ES		
600.0	600.0	597.7	597.6	1.0	1.0	-2.92	77.8	-4.0	78.0	78.0	0.00	N/A		
700.0	700.0	693.3	693.1	1.2	1.2	-165.11	83.2	-3.8	86.1	86.1	0.00	N/A		
800.0	799.6	789.3	788.7	1.4	1.4	-166.18	92.1	-4.4	103.0	103.0	0.00	N/A		
900.0	898.8	882.8	881.5	1.6	1.6	-166.95	103.4	-4.3	127.5	127.5	0.00	N/A		
1,000.0	997.1	971.9	969.5	2.0	1.9	-167.39	117.2	-3.6	160.2	160.2	0.00	N/A		
1,100.0	1,094.3	1,057.1	1,053.1	2.3	2.2	-167.70	133.5	-2.7	201.1	201.1	0.00	N/A		
1,200.0	1,190.2	1,138.7	1,132.8	2.8	2.5	-168.07	151.4	-2.4	249.1	249.1	0.00	N/A		
1,300.0	1,284.4	1,214.0	1,205.7	3.4	2.8	-168.32	170.1	-2.2	304.1	304.1	0.00	N/A		
1,400.0	1,377.1	1,287.0	1,276.0	4.0	3.1	-168.68	189.9	-2.1	364.7	364.7	0.00	N/A		
1,500.0	1,469.4	1,364.1	1,349.9	4.7	3.5	-169.18	211.7	-2.2	426.9	426.9	0.00	N/A		
1,600.0	1,561.8	1,445.1	1,427.7	5.3	3.9	-169.58	234.4	-2.4	488.9	488.9	0.00	N/A		

Cathedral Energy Services

Anticollision Report

Company:	Bonanza Creek Energy Operating Company, LLC	Local Co-ordinate Reference:	Well Antelope X-19
Project:	Weld County	TVD Reference:	kbe @ 4661.0ft
Reference Site:	Antelope 42-19 Pad	MD Reference:	kbe @ 4661.0ft
Site Error:	0.0ft	North Reference:	True
Reference Well:	Antelope X-19	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design Antelope 42-19 Pad - Antelope 42-19 (vert) - DD - 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	2.58	61.9	2.8	62.0					
100.0	100.0	100.0	100.0	0.2	0.2	2.58	61.9	2.8	62.0	62.0	0.00	N/A		
200.0	200.0	200.0	200.0	0.3	0.3	2.58	61.9	2.8	62.0	62.0	0.00	N/A		
300.0	300.0	300.0	300.0	0.5	0.5	2.58	61.9	2.8	62.0	62.0	0.00	N/A		
400.0	400.0	400.0	400.0	0.7	0.7	2.58	61.9	2.8	62.0	62.0	0.00	N/A		
500.0	500.0	500.0	500.0	0.9	0.9	2.58	61.9	2.8	62.0	62.0	0.00	N/A		
600.0	600.0	600.0	600.0	1.0	1.0	2.58	61.9	2.8	62.0	62.0	0.00	N/A CC, ES		
700.0	700.0	700.0	700.0	1.2	1.2	-160.36	61.9	2.8	64.5	64.5	0.00	N/A		
800.0	799.6	799.6	799.6	1.4	1.4	-162.40	61.9	2.8	71.9	71.9	0.00	N/A		
900.0	898.8	898.8	898.8	1.6	1.6	-164.98	61.9	2.8	84.4	84.4	0.00	N/A		
1,000.0	997.1	997.1	997.1	2.0	1.7	-167.51	61.9	2.8	102.1	102.1	0.00	N/A		
1,100.0	1,094.3	1,094.3	1,094.3	2.3	1.9	-169.69	61.9	2.8	125.1	125.1	0.00	N/A		
1,200.0	1,190.2	1,190.2	1,190.2	2.8	2.1	-171.47	61.9	2.8	153.1	153.1	0.00	N/A		
1,300.0	1,284.4	1,284.4	1,284.4	3.4	2.2	-172.86	61.9	2.8	186.2	186.2	0.00	N/A		
1,400.0	1,377.1	1,377.1	1,377.1	4.0	2.4	-173.99	61.9	2.8	223.7	223.7	0.00	N/A		
1,500.0	1,469.4	1,469.4	1,469.4	4.7	2.5	-174.87	61.9	2.8	261.8	261.8	0.00	N/A		
1,600.0	1,561.8	1,561.8	1,561.8	5.3	2.7	-175.52	61.9	2.8	300.0	300.0	0.00	N/A		
1,700.0	1,654.2	1,654.2	1,654.2	6.0	2.9	-176.03	61.9	2.8	338.2	338.2	0.00	N/A		
1,800.0	1,746.6	1,746.6	1,746.6	6.7	3.0	-176.43	61.9	2.8	376.4	376.4	0.00	N/A		
1,900.0	1,838.9	1,838.9	1,838.9	7.4	3.2	-176.76	61.9	2.8	414.7	414.7	0.00	N/A		
2,000.0	1,931.3	1,931.3	1,931.3	8.0	3.4	-177.04	61.9	2.8	452.9	452.9	0.00	N/A		
2,100.0	2,023.7	2,023.7	2,023.7	8.7	3.5	-177.27	61.9	2.8	491.2	491.2	0.00	N/A		

Cathedral Energy Services

Anticollision Report

Company:	Bonanza Creek Energy Operating Company, LLC	Local Co-ordinate Reference:	Well Antelope X-19
Project:	Weld County	TVD Reference:	kbe @ 4661.0ft
Reference Site:	Antelope 42-19 Pad	MD Reference:	kbe @ 4661.0ft
Site Error:	0.0ft	North Reference:	True
Reference Well:	Antelope X-19	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design Antelope 42-19 Pad - Antelope P-19 - OH - Plan #2													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 (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		
0.0	0.0	1.0	1.0	0.0	0.0	-12.57	87.4	-19.5	89.6					
100.0	100.0	101.0	101.0	0.2	0.2	-12.57	87.4	-19.5	89.6	89.6	0.00	N/A		
200.0	200.0	201.0	201.0	0.3	0.3	-12.57	87.4	-19.5	89.6	89.6	0.00	N/A		
300.0	300.0	301.0	301.0	0.5	0.5	-12.57	87.4	-19.5	89.6	89.6	0.00	N/A		
400.0	400.0	401.0	401.0	0.7	0.7	-12.57	87.4	-19.5	89.6	89.6	0.00	N/A		
500.0	500.0	501.0	501.0	0.9	0.9	-12.57	87.4	-19.5	89.6	89.6	0.00	N/A		
566.3	566.3	567.3	567.3	1.0	1.0	-12.57	87.4	-19.5	89.6	89.6	0.00	N/A CC, ES		
600.0	600.0	600.0	600.0	1.0	1.0	-12.57	87.4	-19.5	89.6	89.6	0.00	N/A		
700.0	700.0	696.2	696.2	1.2	1.2	-174.98	89.7	-20.2	94.7	94.7	0.00	N/A		
800.0	799.6	790.1	789.7	1.4	1.4	-175.60	96.4	-22.4	110.0	110.0	0.00	N/A		
900.0	898.8	881.0	880.0	1.6	1.6	-176.31	107.1	-25.8	135.1	135.1	0.00	N/A		
1,000.0	997.1	967.9	965.6	2.0	1.9	-176.94	121.1	-30.2	169.6	169.6	0.00	N/A		
1,100.0	1,094.3	1,049.8	1,045.6	2.3	2.1	-177.43	137.7	-35.5	213.0	213.0	0.00	N/A		
1,200.0	1,190.2	1,125.9	1,119.2	2.8	2.5	-177.80	156.0	-41.4	264.7	264.7	0.00	N/A		
1,300.0	1,284.4	1,200.0	1,190.2	3.4	2.8	-178.09	176.5	-47.9	324.0	324.0	0.00	N/A		
1,400.0	1,377.1	1,259.3	1,246.3	4.0	3.2	-178.30	194.8	-53.7	389.5	389.5	0.00	N/A		
1,500.0	1,469.4	1,319.0	1,302.1	4.7	3.5	-178.50	214.8	-60.1	457.9	457.9	0.00	N/A		

Cathedral Energy Services

Anticollision Report

Company:	Bonanza Creek Energy Operating Company, LLC	Local Co-ordinate Reference:	Well Antelope X-19
Project:	Weld County	TVD Reference:	kbe @ 4661.0ft
Reference Site:	Antelope 42-19 Pad	MD Reference:	kbe @ 4661.0ft
Site Error:	0.0ft	North Reference:	True
Reference Well:	Antelope X-19	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design Antelope 42-19 Pad - Antelope R-19 - 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	0.0	0.0	0.0	0.0	-10.82	14.6	-2.8	16.0					
100.0	100.0	94.0	94.0	0.2	0.1	-10.82	14.6	-2.8	14.8	14.8	0.00	N/A		
200.0	200.0	194.0	194.0	0.3	0.3	-10.82	14.6	-2.8	14.8	14.8	0.00	N/A		
300.0	300.0	294.0	294.0	0.5	0.5	-10.82	14.6	-2.8	14.8	14.8	0.00	N/A		
400.0	400.0	394.0	394.0	0.7	0.7	-10.82	14.6	-2.8	14.8	14.8	0.00	N/A		
500.0	500.0	494.0	494.0	0.9	0.8	-10.82	14.6	-2.8	14.8	14.8	0.00	N/A		
600.0	600.0	594.0	594.0	1.0	1.0	-10.82	14.6	-2.8	14.8	14.8	0.00	N/A CC, ES		
700.0	700.0	694.3	694.3	1.2	1.2	178.95	13.0	-4.5	16.4	16.4	0.00	N/A		
800.0	799.6	794.2	793.9	1.4	1.4	161.18	7.9	-10.1	22.3	22.3	0.00	N/A		
900.0	898.8	893.2	892.0	1.6	1.6	146.79	-0.6	-19.3	34.4	34.4	0.00	N/A		
1,000.0	997.1	991.4	989.0	2.0	1.9	140.29	-11.0	-30.8	52.2	52.2	0.00	N/A		
1,100.0	1,094.3	1,089.0	1,085.4	2.3	2.2	139.62	-21.4	-42.1	74.2	74.2	0.00	N/A		
1,200.0	1,190.2	1,185.5	1,180.7	2.8	2.5	140.98	-31.7	-53.4	100.1	100.1	0.00	N/A		
1,300.0	1,284.4	1,280.8	1,274.8	3.4	2.7	142.98	-41.9	-64.4	130.0	130.0	0.00	N/A		
1,400.0	1,377.1	1,374.7	1,367.5	4.0	3.0	145.25	-51.9	-75.4	163.7	163.7	0.00	N/A		
1,500.0	1,469.4	1,468.4	1,460.1	4.7	3.3	147.07	-61.9	-86.3	198.2	198.2	0.00	N/A		
1,600.0	1,561.8	1,562.2	1,552.7	5.3	3.6	148.36	-71.8	-97.2	232.7	232.7	0.00	N/A		
1,700.0	1,654.2	1,655.9	1,645.2	6.0	3.9	149.31	-81.8	-108.1	267.3	267.3	0.00	N/A		
1,800.0	1,746.6	1,749.7	1,737.8	6.7	4.2	150.04	-91.8	-119.0	302.0	302.0	0.00	N/A		
1,900.0	1,838.9	1,843.4	1,830.3	7.4	4.5	150.63	-101.8	-129.9	336.7	336.7	0.00	N/A		
2,000.0	1,931.3	1,937.1	1,922.9	8.0	4.8	151.10	-111.8	-140.8	371.4	371.4	0.00	N/A		
2,100.0	2,023.7	2,030.9	2,015.5	8.7	5.1	151.49	-121.8	-151.7	406.2	406.2	0.00	N/A		
2,200.0	2,116.1	2,124.6	2,108.0	9.4	5.4	151.82	-131.8	-162.7	440.9	440.9	0.00	N/A		
2,300.0	2,208.4	2,218.3	2,200.6	10.1	5.7	152.11	-141.8	-173.6	475.7	475.7	0.00	N/A		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Cathedral Energy Services

Anticollision Report

Company:	Bonanza Creek Energy Operating Company, LLC	Local Co-ordinate Reference:	Well Antelope X-19
Project:	Weld County	TVD Reference:	kbe @ 4661.0ft
Reference Site:	Antelope 42-19 Pad	MD Reference:	kbe @ 4661.0ft
Site Error:	0.0ft	North Reference:	True
Reference Well:	Antelope X-19	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design Antelope 42-19 Pad - Antelope W-19 - 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	19.0	19.0	0.0	0.0	-10.82	29.1	-5.6	29.7					
100.0	100.0	119.0	119.0	0.2	0.2	-10.82	29.1	-5.6	29.7	29.7	0.00	N/A		
200.0	200.0	219.0	219.0	0.3	0.3	-10.82	29.1	-5.6	29.7	29.7	0.00	N/A		
300.0	300.0	319.0	319.0	0.5	0.5	-10.82	29.1	-5.6	29.7	29.7	0.00	N/A		
400.0	400.0	419.0	419.0	0.7	0.7	-10.82	29.1	-5.6	29.7	29.7	0.00	N/A		
500.0	500.0	519.0	519.0	0.9	0.9	-10.82	29.1	-5.6	29.7	29.7	0.00	N/A		
600.0	600.0	619.3	619.3	1.0	1.0	-10.72	29.1	-5.5	29.6	29.6	0.00	N/A		
694.7	694.6	715.1	715.0	1.2	1.2	-169.85	26.6	-3.2	29.2	29.2	0.00	N/A CC, ES		
700.0	700.0	720.5	720.4	1.2	1.2	-169.56	26.4	-2.9	29.2	29.2	0.00	N/A		
800.0	799.6	821.6	821.1	1.4	1.4	-162.04	19.9	3.3	29.9	29.9	0.00	N/A		
900.0	898.8	922.5	921.0	1.6	1.7	-151.65	9.5	13.2	32.6	32.6	0.00	N/A		
1,000.0	997.1	1,022.2	1,019.3	2.0	2.0	-144.11	-2.7	24.8	39.1	39.1	0.00	N/A		
1,100.0	1,094.3	1,121.6	1,117.2	2.3	2.3	-142.60	-14.9	36.4	50.0	50.0	0.00	N/A		
1,200.0	1,190.2	1,220.4	1,214.6	2.8	2.6	-144.36	-26.9	48.0	65.2	65.2	0.00	N/A		
1,300.0	1,284.4	1,318.4	1,311.2	3.4	2.9	-147.32	-38.9	59.4	84.7	84.7	0.00	N/A		
1,400.0	1,377.1	1,415.4	1,406.8	4.0	3.2	-150.46	-50.8	70.8	108.3	108.3	0.00	N/A		
1,500.0	1,469.4	1,512.3	1,502.3	4.7	3.5	-152.73	-62.7	82.1	132.6	132.6	0.00	N/A		
1,600.0	1,561.8	1,609.2	1,597.7	5.3	3.8	-154.30	-74.5	93.4	157.1	157.1	0.00	N/A		
1,700.0	1,654.2	1,706.0	1,693.2	6.0	4.2	-155.44	-86.4	104.7	181.7	181.7	0.00	N/A		
1,800.0	1,746.6	1,802.9	1,788.7	6.7	4.5	-156.31	-98.2	116.0	206.4	206.4	0.00	N/A		
1,900.0	1,838.9	1,899.8	1,884.2	7.4	4.8	-157.00	-110.1	127.3	231.0	231.0	0.00	N/A		
2,000.0	1,931.3	1,996.7	1,979.7	8.0	5.1	-157.55	-121.9	138.7	255.7	255.7	0.00	N/A		
2,100.0	2,023.7	2,093.5	2,075.1	8.7	5.5	-158.01	-133.8	150.0	280.5	280.5	0.00	N/A		
2,200.0	2,116.1	2,190.4	2,170.6	9.4	5.8	-158.39	-145.6	161.3	305.2	305.2	0.00	N/A		
2,300.0	2,208.4	2,287.3	2,266.1	10.1	6.1	-158.72	-157.5	172.6	329.9	329.9	0.00	N/A		
2,400.0	2,300.8	2,384.2	2,361.6	10.8	6.4	-159.00	-169.3	183.9	354.7	354.7	0.00	N/A		
2,500.0	2,393.2	2,481.0	2,457.1	11.5	6.8	-159.24	-181.2	195.2	379.4	379.4	0.00	N/A		
2,600.0	2,485.6	2,577.9	2,552.5	12.2	7.1	-159.45	-193.0	206.6	404.2	404.2	0.00	N/A		
2,700.0	2,577.9	2,674.8	2,648.0	12.8	7.4	-159.64	-204.9	217.9	429.0	429.0	0.00	N/A		
2,800.0	2,670.3	2,771.7	2,743.5	13.5	7.8	-159.81	-216.7	229.2	453.7	453.7	0.00	N/A		
2,900.0	2,762.7	2,868.5	2,839.0	14.2	8.1	-159.96	-228.6	240.5	478.5	478.5	0.00	N/A		

Cathedral Energy Services

Anticollision Report

Company:	Bonanza Creek Energy Operating Company, LLC	Local Co-ordinate Reference:	Well Antelope X-19
Project:	Weld County	TVD Reference:	kbe @ 4661.0ft
Reference Site:	Antelope 42-19 Pad	MD Reference:	kbe @ 4661.0ft
Site Error:	0.0ft	North Reference:	True
Reference Well:	Antelope X-19	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design Antelope 43-19 Pad - Antelope 43-19 - DD - 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 (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		
3,400.0	3,224.6	3,240.6	3,240.6	17.7	5.6	59.23	-1,264.1	-25.1	489.3	489.3	0.00	N/A		
3,500.0	3,316.9	3,332.9	3,332.9	18.4	5.8	63.01	-1,264.1	-25.1	469.7	469.7	0.00	N/A		
3,600.0	3,409.3	3,425.3	3,425.3	19.1	6.0	67.05	-1,264.1	-25.1	452.4	452.4	0.00	N/A		
3,700.0	3,501.7	3,517.7	3,517.7	19.8	6.1	71.36	-1,264.1	-25.1	437.9	437.9	0.00	N/A		
3,800.0	3,594.1	3,610.1	3,610.1	20.5	6.3	75.89	-1,264.1	-25.1	426.3	426.3	0.00	N/A		
3,900.0	3,686.5	3,702.5	3,702.5	21.2	6.4	80.61	-1,264.1	-25.1	417.8	417.8	0.00	N/A		
4,000.0	3,778.8	3,794.8	3,794.8	21.8	6.6	85.47	-1,264.1	-25.1	412.8	412.8	0.00	N/A		
4,092.2	3,864.0	3,880.0	3,880.0	22.5	6.8	90.00	-1,264.1	-25.1	411.3	411.3	0.00	N/A CC, ES		
4,100.0	3,871.2	3,887.2	3,887.2	22.5	6.8	90.38	-1,264.1	-25.1	411.3	411.3	0.00	N/A		
4,200.0	3,963.6	3,979.6	3,979.6	23.2	6.9	95.30	-1,264.1	-25.1	413.4	413.4	0.00	N/A		
4,300.0	4,056.0	4,072.0	4,072.0	23.9	7.1	100.13	-1,264.1	-25.1	418.9	418.9	0.00	N/A		
4,400.0	4,148.3	4,164.3	4,164.3	24.6	7.3	104.83	-1,264.1	-25.1	427.9	427.9	0.00	N/A		
4,500.0	4,240.7	4,256.7	4,256.7	25.3	7.4	109.33	-1,264.1	-25.1	440.0	440.0	0.00	N/A		
4,600.0	4,333.1	4,349.1	4,349.1	26.0	7.6	113.59	-1,264.1	-25.1	455.0	455.0	0.00	N/A		
4,700.0	4,425.5	4,441.5	4,441.5	26.7	7.7	117.60	-1,264.1	-25.1	472.6	472.6	0.00	N/A		
4,800.0	4,517.8	4,533.8	4,533.8	27.4	7.9	121.33	-1,264.1	-25.1	492.6	492.6	0.00	N/A		

Cathedral Energy Services

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Reference Well:	Antelope X-19	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Reference Depths are relative to kbe @ 4661.0ft
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000 °

Coordinates are relative to: Antelope X-19
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.74°

