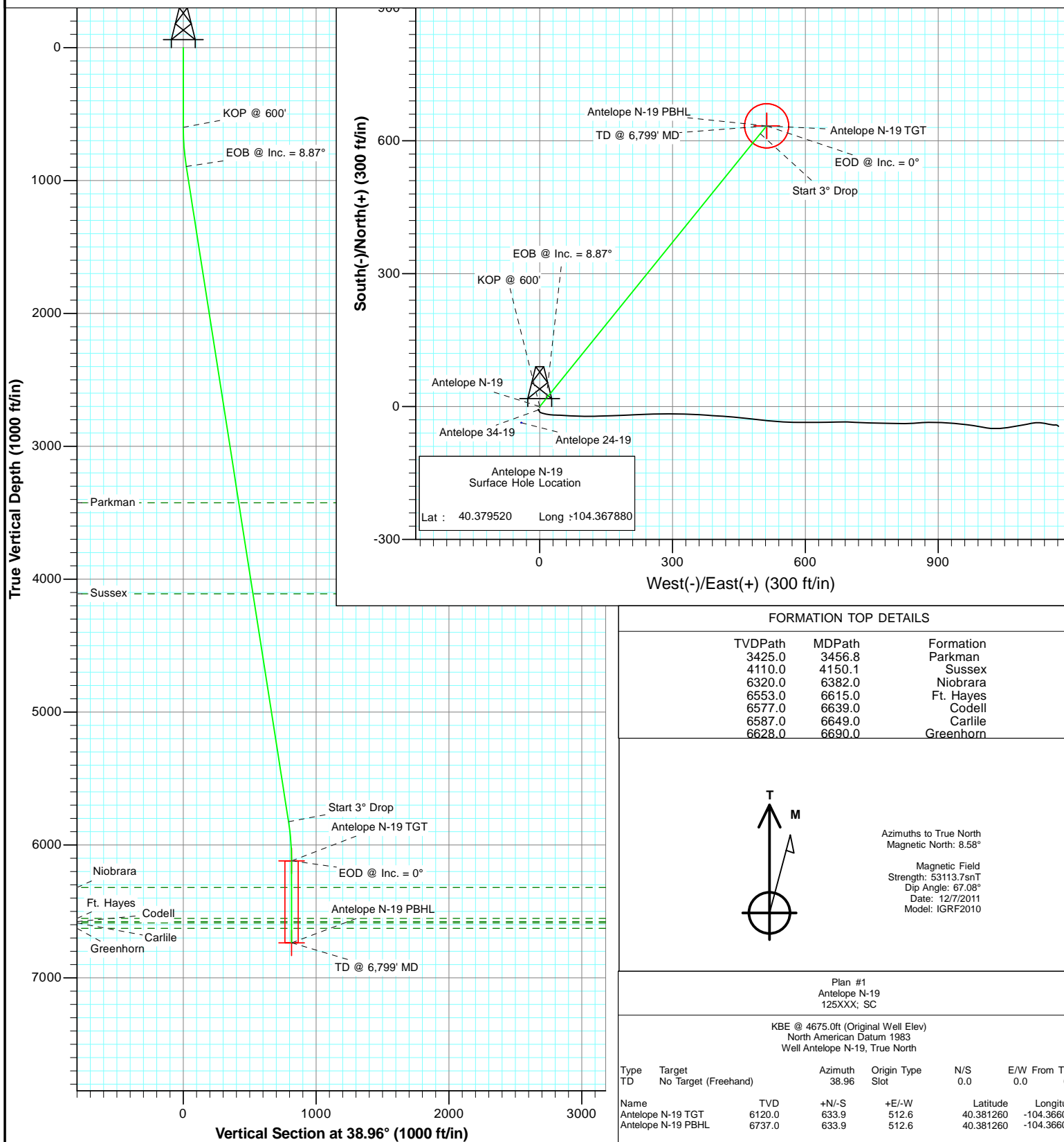
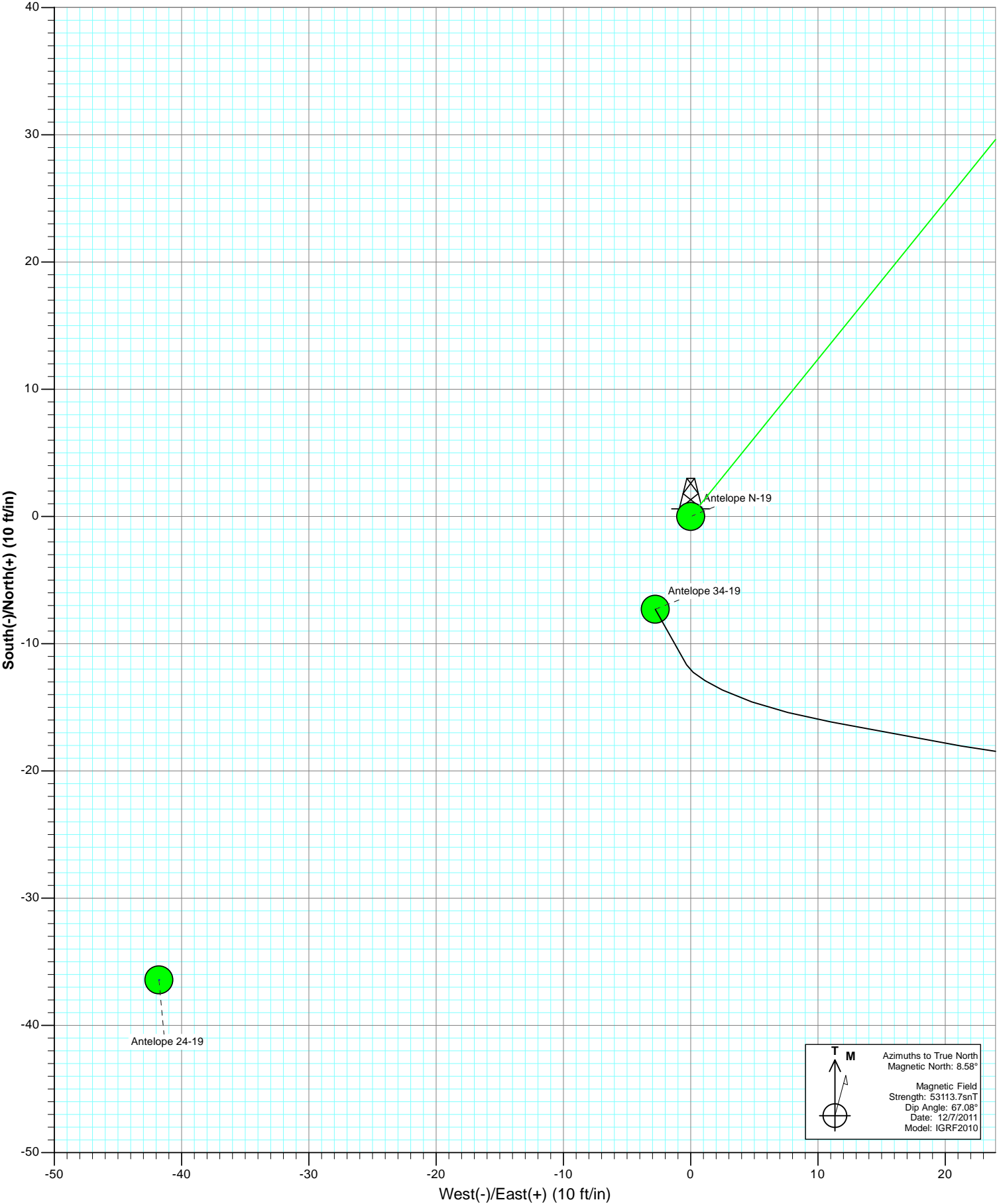


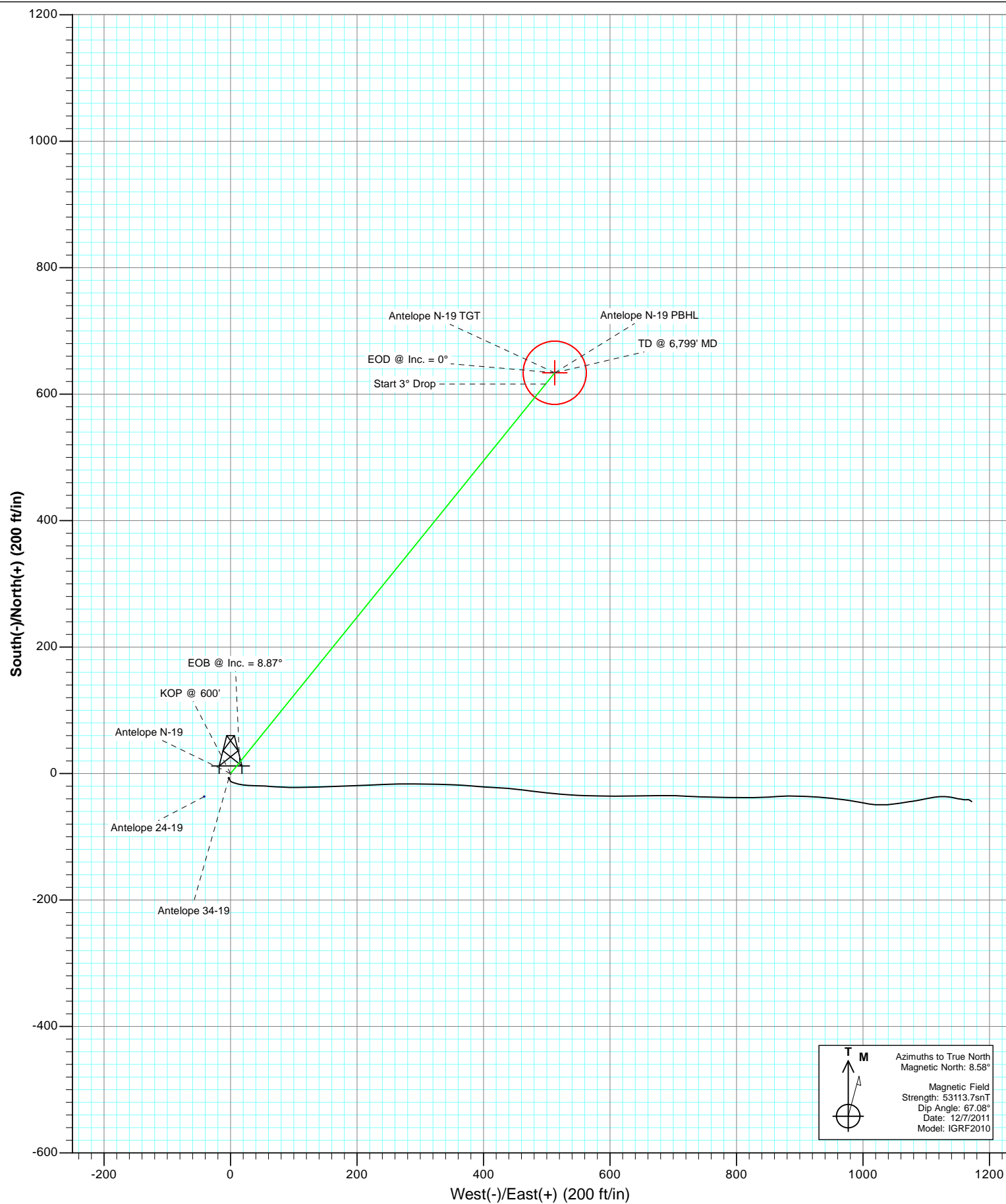
SECTION DETAILS

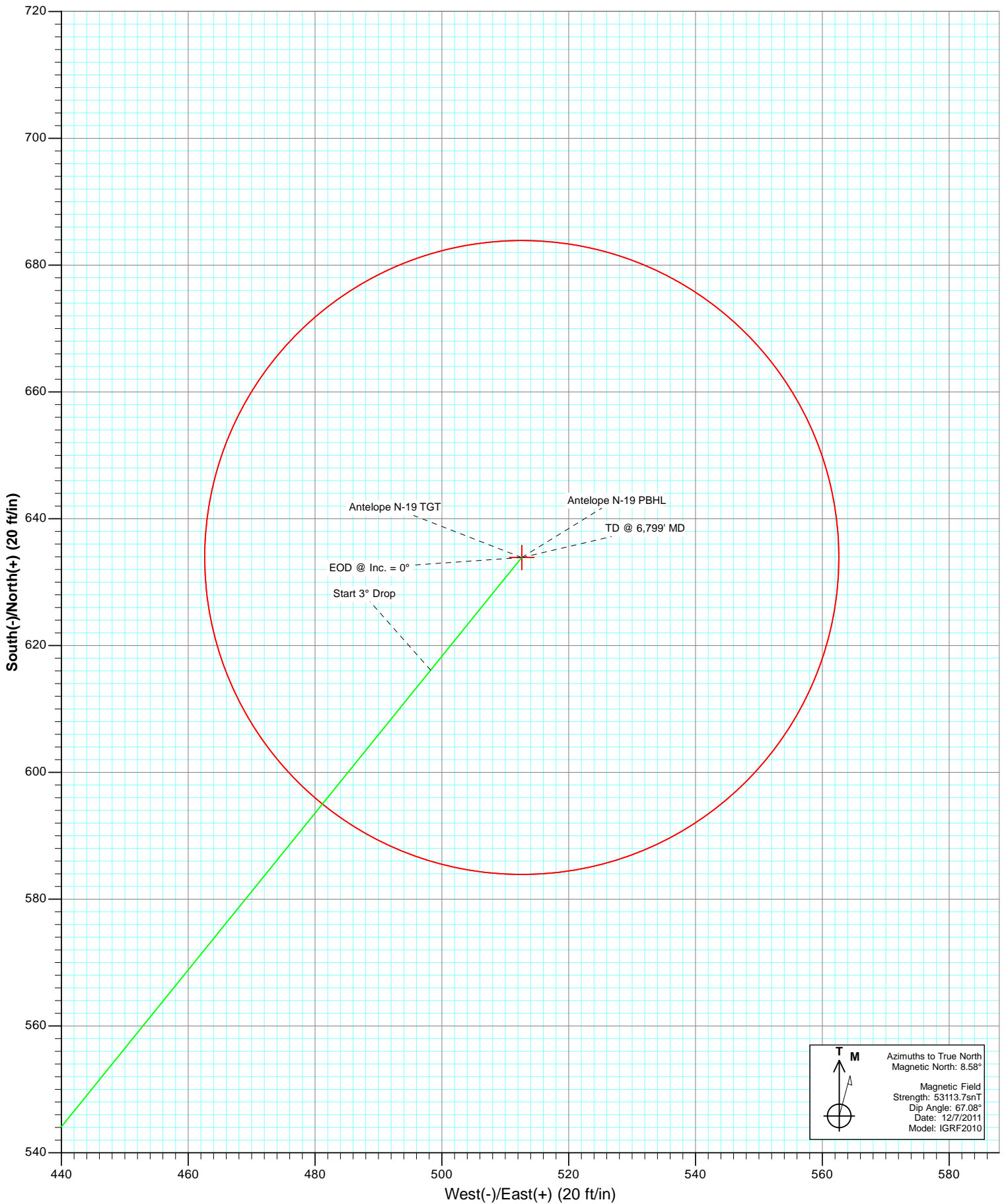
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	600.0	0.00	0.00	600.0	0.0	0.0	0.00	0.00	0.0	
3	895.7	8.87	38.96	894.5	17.8	14.4	3.00	38.96	22.8	
4	5886.4	8.87	38.96	5825.5	616.1	498.2	0.00	0.00	792.4	
5	6182.0	0.00	0.00	6120.0	633.9	512.6	3.00	180.00	815.2	Antelope N-19 TGT
6	6799.0	0.00	0.00	6737.0	633.9	512.6	0.00	0.00	815.2	Antelope N-19 PBHL





T M
Azimuths to True North
Magnetic North: 8.58°
Magnetic Field
Strength: 53113.7nT
Dip Angle: 67.08°
Date: 12/7/2011
Model: IGRF2010





Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Antelope N-19
Company:	Bonanza Creek Energy Operating Company, LLC	TVD Reference:	KBE @ 4675.0ft (Original Well Elev)
Project:	Weld County	MD Reference:	KBE @ 4675.0ft (Original Well Elev)
Site:	Antelope 24-19 Pad	North Reference:	True
Well:	Antelope N-19	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

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 24-19 Pad			
Site Position:		Northing:	1,383,096.99 ft	Latitude:	40.379470
From:	Lat/Long	Easting:	3,315,358.91 ft	Longitude:	-104.368030
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence:	0.73 °

Well	Antelope N-19					
Well Position	+N/-S	0.0 ft	Northing:	1,383,115.72 ft	Latitude:	40.379520
	+E/-W	0.0 ft	Easting:	3,315,400.46 ft	Longitude:	-104.367880
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,665.0 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	IGRF2010	12/7/2011	8.58	67.08	53,114

Design	Plan #1				
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	38.96	

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
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	
895.7	8.87	38.96	894.5	17.8	14.4	3.00	3.00	0.00	38.96	
5,886.4	8.87	38.96	5,825.5	616.1	498.2	0.00	0.00	0.00	0.00	
6,182.0	0.00	0.00	6,120.0	633.9	512.6	3.00	-3.00	0.00	180.00	Antelope N-19 TGT
6,799.0	0.00	0.00	6,737.0	633.9	512.6	0.00	0.00	0.00	0.00	Antelope N-19 PBHL

Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Antelope N-19
Company:	Bonanza Creek Energy Operating Company, LLC	TVD Reference:	KBE @ 4675.0ft (Original Well Elev)
Project:	Weld County	MD Reference:	KBE @ 4675.0ft (Original Well Elev)
Site:	Antelope 24-19 Pad	North Reference:	True
Well:	Antelope N-19	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

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	38.96	700.0	2.0	1.6	2.6	3.00	3.00	
800.0	6.00	38.96	799.6	8.1	6.6	10.5	3.00	3.00	
895.7	8.87	38.96	894.5	17.8	14.4	22.8	3.00	3.00	EOB @ Inc. = 8.87°
900.0	8.87	38.96	898.8	18.3	14.8	23.5	0.00	0.00	
1,000.0	8.87	38.96	997.6	30.3	24.5	38.9	0.00	0.00	
1,100.0	8.87	38.96	1,096.4	42.3	34.2	54.3	0.00	0.00	
1,200.0	8.87	38.96	1,195.2	54.2	43.9	69.8	0.00	0.00	
1,300.0	8.87	38.96	1,294.0	66.2	53.6	85.2	0.00	0.00	
1,400.0	8.87	38.96	1,392.8	78.2	63.3	100.6	0.00	0.00	
1,500.0	8.87	38.96	1,491.6	90.2	73.0	116.0	0.00	0.00	
1,600.0	8.87	38.96	1,590.4	102.2	82.7	131.4	0.00	0.00	
1,700.0	8.87	38.96	1,689.2	114.2	92.3	146.9	0.00	0.00	
1,800.0	8.87	38.96	1,788.0	126.2	102.0	162.3	0.00	0.00	
1,900.0	8.87	38.96	1,886.8	138.2	111.7	177.7	0.00	0.00	
2,000.0	8.87	38.96	1,985.6	150.2	121.4	193.1	0.00	0.00	
2,100.0	8.87	38.96	2,084.4	162.2	131.1	208.5	0.00	0.00	
2,200.0	8.87	38.96	2,183.2	174.1	140.8	224.0	0.00	0.00	
2,300.0	8.87	38.96	2,282.0	186.1	150.5	239.4	0.00	0.00	
2,400.0	8.87	38.96	2,380.8	198.1	160.2	254.8	0.00	0.00	
2,500.0	8.87	38.96	2,479.6	210.1	169.9	270.2	0.00	0.00	
2,600.0	8.87	38.96	2,578.4	222.1	179.6	285.6	0.00	0.00	
2,700.0	8.87	38.96	2,677.2	234.1	189.3	301.1	0.00	0.00	
2,800.0	8.87	38.96	2,776.0	246.1	199.0	316.5	0.00	0.00	
2,900.0	8.87	38.96	2,874.8	258.1	208.7	331.9	0.00	0.00	
3,000.0	8.87	38.96	2,973.7	270.1	218.4	347.3	0.00	0.00	
3,100.0	8.87	38.96	3,072.5	282.1	228.1	362.7	0.00	0.00	
3,200.0	8.87	38.96	3,171.3	294.0	237.8	378.2	0.00	0.00	
3,300.0	8.87	38.96	3,270.1	306.0	247.5	393.6	0.00	0.00	
3,400.0	8.87	38.96	3,368.9	318.0	257.2	409.0	0.00	0.00	
3,456.8	8.87	38.96	3,425.0	324.8	262.7	417.8	0.00	0.00	Parkman
3,500.0	8.87	38.96	3,467.7	330.0	266.9	424.4	0.00	0.00	
3,600.0	8.87	38.96	3,566.5	342.0	276.6	439.8	0.00	0.00	
3,700.0	8.87	38.96	3,665.3	354.0	286.3	455.3	0.00	0.00	
3,800.0	8.87	38.96	3,764.1	366.0	296.0	470.7	0.00	0.00	
3,900.0	8.87	38.96	3,862.9	378.0	305.6	486.1	0.00	0.00	
4,000.0	8.87	38.96	3,961.7	390.0	315.3	501.5	0.00	0.00	
4,100.0	8.87	38.96	4,060.5	402.0	325.0	516.9	0.00	0.00	
4,150.1	8.87	38.96	4,110.0	408.0	329.9	524.7	0.00	0.00	Sussex
4,200.0	8.87	38.96	4,159.3	413.9	334.7	532.3	0.00	0.00	
4,300.0	8.87	38.96	4,258.1	425.9	344.4	547.8	0.00	0.00	
4,400.0	8.87	38.96	4,356.9	437.9	354.1	563.2	0.00	0.00	
4,500.0	8.87	38.96	4,455.7	449.9	363.8	578.6	0.00	0.00	
4,600.0	8.87	38.96	4,554.5	461.9	373.5	594.0	0.00	0.00	
4,700.0	8.87	38.96	4,653.3	473.9	383.2	609.4	0.00	0.00	
4,800.0	8.87	38.96	4,752.1	485.9	392.9	624.9	0.00	0.00	

Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Antelope N-19
Company:	Bonanza Creek Energy Operating Company, LLC	TVD Reference:	KBE @ 4675.0ft (Original Well Elev)
Project:	Weld County	MD Reference:	KBE @ 4675.0ft (Original Well Elev)
Site:	Antelope 24-19 Pad	North Reference:	True
Well:	Antelope N-19	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

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	8.87	38.96	4,850.9	497.9	402.6	640.3	0.00	0.00	
5,000.0	8.87	38.96	4,949.7	509.9	412.3	655.7	0.00	0.00	
5,100.0	8.87	38.96	5,048.5	521.8	422.0	671.1	0.00	0.00	
5,200.0	8.87	38.96	5,147.3	533.8	431.7	686.5	0.00	0.00	
5,300.0	8.87	38.96	5,246.1	545.8	441.4	702.0	0.00	0.00	
5,400.0	8.87	38.96	5,345.0	557.8	451.1	717.4	0.00	0.00	
5,500.0	8.87	38.96	5,443.8	569.8	460.8	732.8	0.00	0.00	
5,600.0	8.87	38.96	5,542.6	581.8	470.5	748.2	0.00	0.00	
5,700.0	8.87	38.96	5,641.4	593.8	480.2	763.6	0.00	0.00	
5,800.0	8.87	38.96	5,740.2	605.8	489.9	779.1	0.00	0.00	
5,886.4	8.87	38.96	5,825.5	616.1	498.2	792.4	0.00	0.00	Start 3° Drop
5,900.0	8.46	38.96	5,839.0	617.7	499.5	794.4	3.00	-3.00	
6,000.0	5.46	38.96	5,938.2	627.2	507.2	806.5	3.00	-3.00	
6,100.0	2.46	38.96	6,038.0	632.5	511.5	813.5	3.00	-3.00	
6,182.0	0.00	0.00	6,120.0	633.9	512.6	815.2	3.00	-3.00	EOD @ Inc. = 0°
6,200.0	0.00	0.00	6,138.0	633.9	512.6	815.2	0.00	0.00	
6,300.0	0.00	0.00	6,238.0	633.9	512.6	815.2	0.00	0.00	
6,382.0	0.00	0.00	6,320.0	633.9	512.6	815.2	0.00	0.00	Niobrara
6,400.0	0.00	0.00	6,338.0	633.9	512.6	815.2	0.00	0.00	
6,500.0	0.00	0.00	6,438.0	633.9	512.6	815.2	0.00	0.00	
6,600.0	0.00	0.00	6,538.0	633.9	512.6	815.2	0.00	0.00	
6,615.0	0.00	0.00	6,553.0	633.9	512.6	815.2	0.00	0.00	Ft. Hayes
6,639.0	0.00	0.00	6,577.0	633.9	512.6	815.2	0.00	0.00	Codell
6,649.0	0.00	0.00	6,587.0	633.9	512.6	815.2	0.00	0.00	Carlile
6,690.0	0.00	0.00	6,628.0	633.9	512.6	815.2	0.00	0.00	Greenhorn
6,700.0	0.00	0.00	6,638.0	633.9	512.6	815.2	0.00	0.00	
6,799.0	0.00	0.00	6,737.0	633.9	512.6	815.2	0.00	0.00	TD @ 6,799' 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 N-19 PBHL	0.00	0.00	6,737.0	633.9	512.6	1,383,756.11	3,315,904.93	40.381260	-104.366040
- plan hits target center									
- Circle (radius 50.0)									
Antelope N-19 TGT	0.00	0.00	6,120.0	633.9	512.6	1,383,756.11	3,315,904.93	40.381260	-104.366040
- plan hits target center									
- Point									

Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Antelope N-19
Company:	Bonanza Creek Energy Operating Company, LLC	TVD Reference:	KBE @ 4675.0ft (Original Well Elev)
Project:	Weld County	MD Reference:	KBE @ 4675.0ft (Original Well Elev)
Site:	Antelope 24-19 Pad	North Reference:	True
Well:	Antelope N-19	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
3,456.8	3,425.0	Parkman				
4,150.1	4,110.0	Sussex				
6,382.0	6,320.0	Niobrara				
6,615.0	6,553.0	Ft. Hayes				
6,639.0	6,577.0	Codell				
6,649.0	6,587.0	Carlile				
6,690.0	6,628.0	Greenhorn				

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
600.0	600.0	0.0	0.0	KOP @ 600'
895.7	894.5	17.8	14.4	EOB @ Inc. = 8.87°
5,886.4	5,825.5	616.1	498.2	Start 3° Drop
6,182.0	6,120.0	633.9	512.6	EOD @ Inc. = 0°
6,799.0	6,737.0	633.9	512.6	TD @ 6,799' MD

Bonanza Creek Energy Operating Company, LLC

Weld County

Antelope 24-19 Pad

Antelope N-19

OH

Plan #1

Anticollision Report

07 December, 2011

Cathedral Energy Services

Anticollision Report

Company:	Bonanza Creek Energy Operating Company, LLC	Local Co-ordinate Reference:	Well Antelope N-19
Project:	Weld County	TVD Reference:	KBE @ 4675.0ft (Original Well Elev)
Reference Site:	Antelope 24-19 Pad	MD Reference:	KBE @ 4675.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Antelope N-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 #1	Offset TVD Reference:	Offset Datum

Reference	Plan #1		
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	12/7/2011		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.0	6,799.0	Plan #1 (OH)	MWD	Geolink MWD	

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Antelope 23-19 Pad						
Antelope 23-19 (vert) - DD - Plan #1						Out of range
Antelope 32-19 - DD - Plan #1						Out of range
Antelope 33-19 - DD - DD						Out of range
Antelope 24-19 Pad						
Antelope 24-19 - DD - Plan #1	0.0	0.0	70.8			
Antelope 24-19 - DD - Plan #1	600.0	556.0	55.4	55.4	10,000.000	CC, ES
Antelope 34-19 - DD - DD	0.0	0.0	44.7			
Antelope 34-19 - DD - DD	100.0	56.0	7.8	7.8	10,000.000	CC, ES

Cathedral Energy Services

Anticollision Report

Company:	Bonanza Creek Energy Operating Company, LLC	Local Co-ordinate Reference:	Well Antelope N-19
Project:	Weld County	TVD Reference:	KBE @ 4675.0ft (Original Well Elev)
Reference Site:	Antelope 24-19 Pad	MD Reference:	KBE @ 4675.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Antelope N-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 #1	Offset TVD Reference:	Offset Datum

Offset Design Antelope 24-19 Pad - Antelope 24-19 - DD - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Total Uncertainty Axis	Separation Factor	Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)						
0.0	0.0	0.0	0.0	0.0	0.0	-131.08	-36.4	-41.8	70.8					
100.0	100.0	56.0	56.0	0.2	0.1	-131.08	-36.4	-41.8	55.4	55.4	0.00	N/A		
200.0	200.0	156.0	156.0	0.3	0.3	-131.08	-36.4	-41.8	55.4	55.4	0.00	N/A		
300.0	300.0	256.0	256.0	0.5	0.4	-131.08	-36.4	-41.8	55.4	55.4	0.00	N/A		
400.0	400.0	356.0	356.0	0.7	0.6	-131.08	-36.4	-41.8	55.4	55.4	0.00	N/A		
500.0	500.0	456.0	456.0	0.9	0.8	-131.08	-36.4	-41.8	55.4	55.4	0.00	N/A		
600.0	600.0	556.0	556.0	1.0	1.0	-131.08	-36.4	-41.8	55.4	55.4	0.00	N/A CC, ES		
700.0	700.0	656.0	656.0	1.2	1.1	-170.47	-36.4	-41.8	58.0	58.0	0.00	N/A		
800.0	799.6	755.6	755.6	1.4	1.3	-171.57	-36.4	-41.8	65.8	65.8	0.00	N/A		
900.0	898.8	854.8	854.8	1.6	1.5	-172.92	-36.4	-41.8	78.7	78.7	0.00	N/A		
1,000.0	997.6	953.6	953.6	1.9	1.6	-174.08	-36.4	-41.8	94.0	94.0	0.00	N/A		
1,100.0	1,096.4	1,052.4	1,052.4	2.2	1.8	-174.91	-36.4	-41.8	109.4	109.4	0.00	N/A		
1,200.0	1,195.2	1,151.2	1,151.2	2.5	2.0	-175.54	-36.4	-41.8	124.7	124.7	0.00	N/A		
1,300.0	1,294.0	1,250.0	1,250.0	2.8	2.2	-176.03	-36.4	-41.8	140.1	140.1	0.00	N/A		
1,400.0	1,392.8	1,348.8	1,348.8	3.1	2.3	-176.42	-36.4	-41.8	155.5	155.5	0.00	N/A		
1,500.0	1,491.6	1,447.6	1,447.6	3.4	2.5	-176.74	-36.4	-41.8	170.9	170.9	0.00	N/A		
1,600.0	1,590.4	1,546.4	1,546.4	3.7	2.7	-177.01	-36.4	-41.8	186.3	186.3	0.00	N/A		
1,700.0	1,689.2	1,645.2	1,645.2	4.0	2.9	-177.24	-36.4	-41.8	201.7	201.7	0.00	N/A		
1,800.0	1,788.0	1,744.0	1,744.0	4.3	3.0	-177.44	-36.4	-41.8	217.1	217.1	0.00	N/A		
1,900.0	1,886.8	1,842.8	1,842.8	4.6	3.2	-177.61	-36.4	-41.8	232.5	232.5	0.00	N/A		
2,000.0	1,985.6	1,941.6	1,941.6	4.9	3.4	-177.76	-36.4	-41.8	247.9	247.9	0.00	N/A		
2,100.0	2,084.4	2,040.4	2,040.4	5.3	3.5	-177.89	-36.4	-41.8	263.3	263.3	0.00	N/A		
2,200.0	2,183.2	2,139.2	2,139.2	5.6	3.7	-178.00	-36.4	-41.8	278.7	278.7	0.00	N/A		
2,300.0	2,282.0	2,238.0	2,238.0	5.9	3.9	-178.11	-36.4	-41.8	294.1	294.1	0.00	N/A		
2,400.0	2,380.8	2,336.8	2,336.8	6.2	4.1	-178.20	-36.4	-41.8	309.5	309.5	0.00	N/A		
2,500.0	2,479.6	2,435.6	2,435.6	6.5	4.2	-178.29	-36.4	-41.8	325.0	325.0	0.00	N/A		
2,600.0	2,578.4	2,534.4	2,534.4	6.8	4.4	-178.37	-36.4	-41.8	340.4	340.4	0.00	N/A		
2,700.0	2,677.2	2,633.2	2,633.2	7.2	4.6	-178.44	-36.4	-41.8	355.8	355.8	0.00	N/A		
2,800.0	2,776.0	2,732.0	2,732.0	7.5	4.8	-178.50	-36.4	-41.8	371.2	371.2	0.00	N/A		
2,900.0	2,874.8	2,830.8	2,830.8	7.8	4.9	-178.56	-36.4	-41.8	386.6	386.6	0.00	N/A		
3,000.0	2,973.7	2,929.7	2,929.7	8.1	5.1	-178.62	-36.4	-41.8	402.0	402.0	0.00	N/A		
3,100.0	3,072.5	3,028.5	3,028.5	8.4	5.3	-178.67	-36.4	-41.8	417.4	417.4	0.00	N/A		
3,200.0	3,171.3	3,127.3	3,127.3	8.8	5.4	-178.72	-36.4	-41.8	432.9	432.9	0.00	N/A		
3,300.0	3,270.1	3,226.1	3,226.1	9.1	5.6	-178.76	-36.4	-41.8	448.3	448.3	0.00	N/A		
3,400.0	3,368.9	3,324.9	3,324.9	9.4	5.8	-178.80	-36.4	-41.8	463.7	463.7	0.00	N/A		
3,500.0	3,467.7	3,423.7	3,423.7	9.7	6.0	-178.84	-36.4	-41.8	479.1	479.1	0.00	N/A		
3,600.0	3,566.5	3,522.5	3,522.5	10.0	6.1	-178.88	-36.4	-41.8	494.5	494.5	0.00	N/A		

Cathedral Energy Services

Anticollision Report

Company:	Bonanza Creek Energy Operating Company, LLC	Local Co-ordinate Reference:	Well Antelope N-19
Project:	Weld County	TVD Reference:	KBE @ 4675.0ft (Original Well Elev)
Reference Site:	Antelope 24-19 Pad	MD Reference:	KBE @ 4675.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Antelope N-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 #1	Offset TVD Reference:	Offset Datum

Offset Design Antelope 24-19 Pad - Antelope 34-19 - DD - DD												Offset Site Error: 0.0 ft	
Survey Program: 479-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	-159.06	-7.3	-2.8	44.7				
100.0	100.0	56.0	56.0	0.2	0.1	-159.45	-7.3	-2.8	7.8	7.8	0.00	N/A	CC, ES
200.0	200.0	156.0	156.0	0.3	0.3	-161.94	-7.7	-2.5	8.1	8.1	0.00	N/A	
300.0	300.0	255.9	255.9	0.5	0.4	-166.28	-8.5	-2.1	8.8	8.8	0.00	N/A	
400.0	400.0	355.9	355.9	0.7	0.6	-171.63	-9.7	-1.4	9.8	9.8	0.00	N/A	
500.0	500.0	455.8	455.8	0.9	0.8	-177.17	-11.2	-0.6	11.3	11.3	0.00	N/A	
600.0	600.0	555.7	555.6	1.0	1.0	172.26	-13.3	1.8	13.4	13.4	0.00	N/A	
700.0	700.0	655.4	655.1	1.2	1.2	120.50	-15.5	8.2	18.8	18.8	0.00	N/A	
800.0	799.6	754.4	753.5	1.4	1.4	115.85	-17.5	18.3	28.3	28.3	0.00	N/A	
900.0	898.8	853.2	851.1	1.6	1.7	113.25	-19.1	33.7	42.1	42.1	0.00	N/A	
1,000.0	997.6	949.5	945.2	1.9	2.1	108.88	-19.8	54.3	58.9	58.9	0.00	N/A	
1,100.0	1,096.4	1,044.9	1,036.9	2.2	2.5	103.22	-21.4	80.3	80.1	80.1	0.00	N/A	
1,200.0	1,195.2	1,142.1	1,129.3	2.5	3.1	97.87	-21.8	110.4	103.4	103.4	0.00	N/A	
1,300.0	1,294.0	1,240.1	1,222.5	2.8	3.6	94.02	-21.2	140.9	126.6	126.6	0.00	N/A	
1,400.0	1,392.8	1,337.8	1,315.5	3.1	4.1	91.50	-20.3	170.8	149.6	149.6	0.00	N/A	
1,500.0	1,491.6	1,435.8	1,408.8	3.4	4.7	89.56	-19.1	200.6	172.4	172.4	0.00	N/A	
1,600.0	1,590.4	1,535.7	1,504.4	3.7	5.2	88.30	-17.9	229.8	194.6	194.6	0.00	N/A	
1,700.0	1,689.2	1,632.4	1,597.2	4.0	5.7	87.49	-16.7	257.1	215.8	215.8	0.00	N/A	
1,800.0	1,788.0	1,726.5	1,687.1	4.3	6.2	86.88	-16.4	284.5	238.4	238.4	0.00	N/A	
1,900.0	1,886.8	1,827.1	1,783.4	4.6	6.8	86.51	-16.8	313.7	261.4	261.4	0.00	N/A	
2,000.0	1,985.6	1,921.8	1,874.2	4.9	7.3	86.29	-17.3	340.5	283.8	283.8	0.00	N/A	
2,100.0	2,084.4	2,024.5	1,973.1	5.3	7.8	86.39	-18.7	368.4	305.8	305.8	0.00	N/A	
2,200.0	2,183.2	2,113.9	2,058.9	5.6	8.3	86.48	-20.5	393.1	328.7	328.7	0.00	N/A	
2,300.0	2,282.0	2,216.2	2,157.1	5.9	8.8	86.51	-22.3	421.7	351.5	351.5	0.00	N/A	
2,400.0	2,380.8	2,311.4	2,248.6	6.2	9.3	86.62	-24.2	447.9	374.1	374.1	0.00	N/A	
2,500.0	2,479.6	2,404.7	2,338.4	6.5	9.8	86.86	-27.4	473.4	397.5	397.5	0.00	N/A	
2,600.0	2,578.4	2,502.9	2,432.4	6.8	10.4	86.97	-30.5	501.6	421.8	421.8	0.00	N/A	
2,700.0	2,677.2	2,604.4	2,529.9	7.2	10.9	87.10	-33.1	529.4	444.7	444.7	0.00	N/A	
2,800.0	2,776.0	2,705.8	2,627.4	7.5	11.4	87.10	-34.7	557.4	467.1	467.1	0.00	N/A	
2,900.0	2,874.8	2,812.7	2,730.5	7.8	12.0	87.12	-35.5	585.6	488.2	488.2	0.00	N/A	

Cathedral Energy Services

Anticollision Report

Company:	Bonanza Creek Energy Operating Company, LLC	Local Co-ordinate Reference:	Well Antelope N-19
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Reference Site:	Antelope 24-19 Pad	MD Reference:	KBE @ 4675.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Antelope N-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 #1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to KBE @ 4675.0ft (Original Well Elev)

Offset Depths are relative to Offset Datum

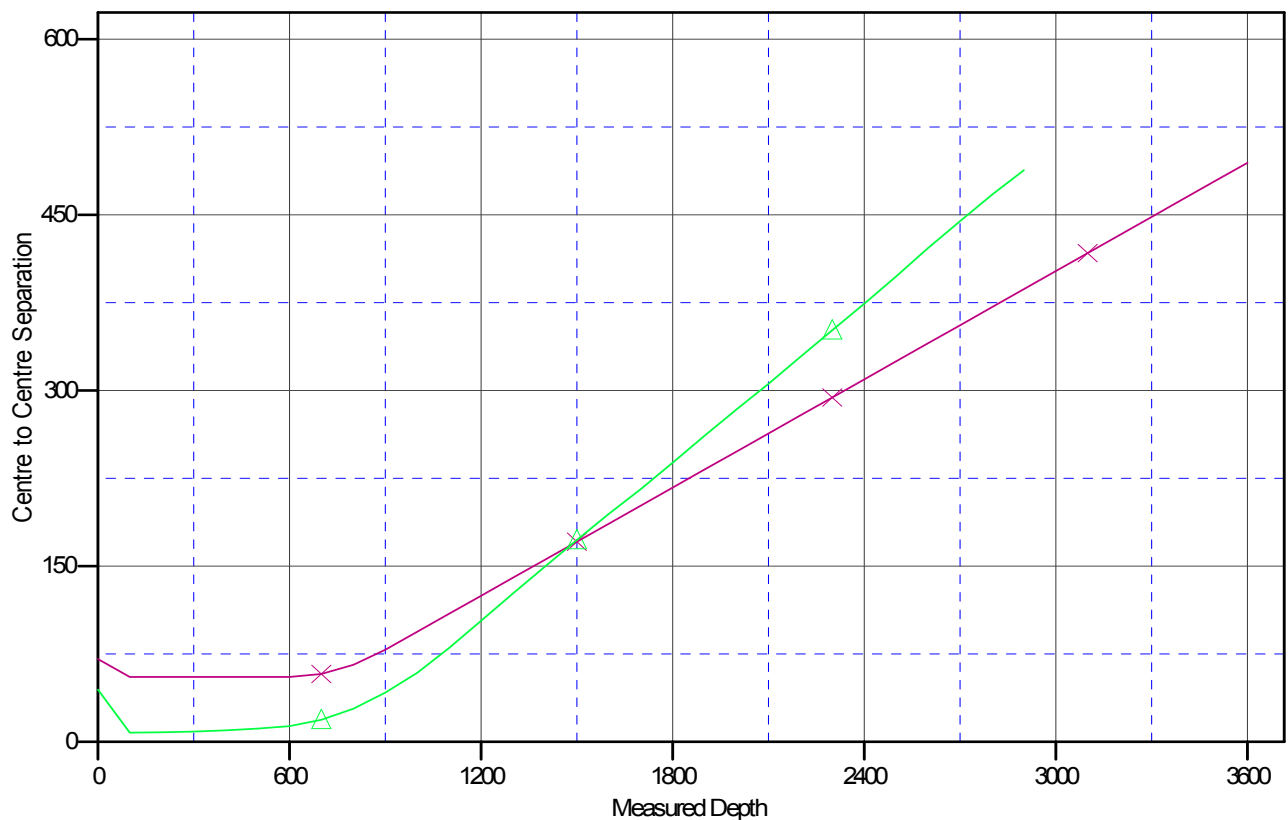
Central Meridian is -105.500000 °

Coordinates are relative to: Antelope N-19

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 0.73°

Ladder Plot



LEGEND

✕ Antelope 24-19, DD, Plan #1 V0 ▲ Antelope 34-19, DD, DD V0