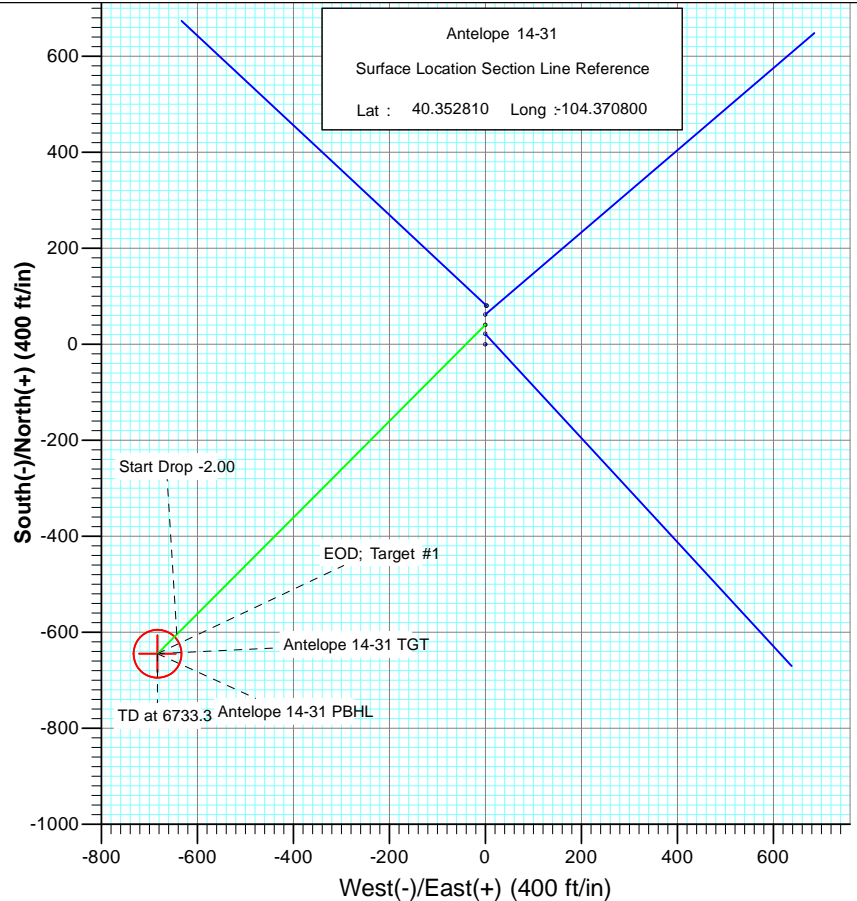


SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	40.1	0.0	0.00	0.00	0.0	
2	600.0	0.00	0.00	600.0	40.1	0.0	0.00	0.00	0.0	
3	1173.7	11.47	224.92	1169.9	-0.5	-40.4	2.00	224.92	57.3	
4	5459.6	11.47	224.92	5370.1	-604.2	-642.4	0.00	0.00	909.9	
5	6033.3	0.00	0.00	5940.0	-644.8	-682.8	2.00	180.00	967.1	Antelope 14-31 TGT
6	6733.3	0.00	0.00	6640.0	-644.8	-682.8	0.00	0.00	967.1	Antelope 14-31 PBHL



FORMATION TOP DETAILS

TVDPath	MDPath	Formation
6150.0	6243.3	Niobrara



Azimuths to True North
Magnetic North: 8.72°
Magnetic Field
Strength: 53206.1nT
Dip Angle: 67.10°
Date: 12/8/2010
Model: IGRF2010

Plan #1
Antelope 14-31

WELL @ 4550.0ft (Original Well Elev)
North American Datum 1983
Site Antelope I-31 Pad (was 31 C), True North

Type	Target	Azimuth	Origin	Type	N/S	E/W	From TVD
TD	No Target (Freehand)	224.92	Slot		40.1	0.0	0.0
Name	TVD	+N/-S	+E/-W	Latitude	Longitude		
Antelope 14-31 TGT	5940.0	-644.8	-682.8	40.350930	-104.373250		
Antelope 14-31 PBHL	6640.0	-644.8	-682.8	40.350930	-104.373250		

Cathedral Energy

Planning Report

Database:	EDM 5000.1 US Multi Users DB	Local Co-ordinate Reference:	Site Antelope I-31 Pad (was 31 C)
Company:	Bonanza Creek Energy Operating Company, LLC	TVD Reference:	WELL @ 4550.0ft (Original Well Elev)
Project:	Weld County	MD Reference:	WELL @ 4550.0ft (Original Well Elev)
Site:	Antelope I-31 Pad (was 31 C)	North Reference:	True
Well:	Antelope 14-31	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
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 I-31 Pad (was 31 C)			
Site Position:		Northing:	1,373,335.76 ft	Latitude:	40.352700
From:	Lat/Long	Easting:	3,314,711.44 ft	Longitude:	-104.370800
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence:	0.73 °

Well	Antelope 14-31					
Well Position	+N/-S	40.1 ft	Northing:	1,373,375.83 ft	Latitude:	40.352810
	+E/-W	0.0 ft	Easting:	3,314,710.93 ft	Longitude:	-104.370800
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,540.0 ft

Wellbore	DD				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	12/8/2010	8.72	67.10	53,206

Design	Plan #1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	40.1	0.0	224.92

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	40.1	0.0	0.00	0.00	0.00	0.00	
600.0	0.00	0.00	600.0	40.1	0.0	0.00	0.00	0.00	0.00	
1,173.7	11.47	224.92	1,169.9	-0.5	-40.4	2.00	2.00	0.00	224.92	
5,459.6	11.47	224.92	5,370.1	-604.2	-642.4	0.00	0.00	0.00	0.00	
6,033.3	0.00	0.00	5,940.0	-644.8	-682.8	2.00	-2.00	0.00	180.00	Antelope 14-31 TGT
6,733.3	0.00	0.00	6,640.0	-644.8	-682.8	0.00	0.00	0.00	0.00	Antelope 14-31 PBHL

Cathedral Energy

Planning Report

Database: EDM 5000.1 US Multi Users DB
Company: Bonanza Creek Energy Operating Company, LLC
Project: Weld County
Site: Antelope I-31 Pad (was 31 C)
Well: Antelope 14-31
Wellbore: DD
Design: Plan #1

Local Co-ordinate Reference:
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:

Site Antelope I-31 Pad (was 31 C)
 WELL @ 4550.0ft (Original Well Elev)
 WELL @ 4550.0ft (Original Well Elev)
 True
 Minimum Curvature

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	40.1	0.0	0.0	0.00	0.00	
100.0	0.00	0.00	100.0	40.1	0.0	0.0	0.00	0.00	
200.0	0.00	0.00	200.0	40.1	0.0	0.0	0.00	0.00	
300.0	0.00	0.00	300.0	40.1	0.0	0.0	0.00	0.00	
400.0	0.00	0.00	400.0	40.1	0.0	0.0	0.00	0.00	
500.0	0.00	0.00	500.0	40.1	0.0	0.0	0.00	0.00	
600.0	0.00	0.00	600.0	40.1	0.0	0.0	0.00	0.00	KOP @ 600'
700.0	2.00	224.92	700.0	38.8	-1.2	1.7	2.00	2.00	
800.0	4.00	224.92	799.8	35.1	-4.9	7.0	2.00	2.00	
900.0	6.00	224.92	899.5	29.0	-11.1	15.7	2.00	2.00	
1,000.0	8.00	224.92	998.7	20.3	-19.7	27.9	2.00	2.00	
1,100.0	10.00	224.92	1,097.5	9.2	-30.7	43.5	2.00	2.00	
1,173.7	11.47	224.92	1,169.9	-0.5	-40.4	57.3	2.00	2.00	EOB @ Inc. = 11.47°
1,200.0	11.47	224.92	1,195.6	-4.2	-44.1	62.5	0.00	0.00	
1,300.0	11.47	224.92	1,293.6	-18.3	-58.2	82.4	0.00	0.00	
1,400.0	11.47	224.92	1,391.7	-32.4	-72.2	102.3	0.00	0.00	
1,500.0	11.47	224.92	1,489.7	-46.4	-86.3	122.2	0.00	0.00	
1,600.0	11.47	224.92	1,587.7	-60.5	-100.3	142.1	0.00	0.00	
1,700.0	11.47	224.92	1,685.7	-74.6	-114.3	162.0	0.00	0.00	
1,800.0	11.47	224.92	1,783.7	-88.7	-128.4	181.8	0.00	0.00	
1,900.0	11.47	224.92	1,881.7	-102.8	-142.4	201.7	0.00	0.00	
2,000.0	11.47	224.92	1,979.7	-116.9	-156.5	221.6	0.00	0.00	
2,100.0	11.47	224.92	2,077.7	-131.0	-170.5	241.5	0.00	0.00	
2,200.0	11.47	224.92	2,175.7	-145.1	-184.6	261.4	0.00	0.00	
2,300.0	11.47	224.92	2,273.7	-159.1	-198.6	281.3	0.00	0.00	
2,400.0	11.47	224.92	2,371.7	-173.2	-212.7	301.2	0.00	0.00	
2,500.0	11.47	224.92	2,469.7	-187.3	-226.7	321.1	0.00	0.00	
2,600.0	11.47	224.92	2,567.7	-201.4	-240.8	341.0	0.00	0.00	
2,700.0	11.47	224.92	2,665.7	-215.5	-254.8	360.9	0.00	0.00	
2,800.0	11.47	224.92	2,763.7	-229.6	-268.9	380.8	0.00	0.00	
2,900.0	11.47	224.92	2,861.7	-243.7	-282.9	400.7	0.00	0.00	
3,000.0	11.47	224.92	2,959.7	-257.8	-296.9	420.6	0.00	0.00	
3,100.0	11.47	224.92	3,057.7	-271.8	-311.0	440.5	0.00	0.00	
3,200.0	11.47	224.92	3,155.7	-285.9	-325.0	460.4	0.00	0.00	
3,300.0	11.47	224.92	3,253.7	-300.0	-339.1	480.2	0.00	0.00	
3,400.0	11.47	224.92	3,351.7	-314.1	-353.1	500.1	0.00	0.00	
3,500.0	11.47	224.92	3,449.7	-328.2	-367.2	520.0	0.00	0.00	
3,600.0	11.47	224.92	3,547.7	-342.3	-381.2	539.9	0.00	0.00	
3,700.0	11.47	224.92	3,645.7	-356.4	-395.3	559.8	0.00	0.00	
3,800.0	11.47	224.92	3,743.7	-370.5	-409.3	579.7	0.00	0.00	
3,900.0	11.47	224.92	3,841.7	-384.5	-423.4	599.6	0.00	0.00	
4,000.0	11.47	224.92	3,939.7	-398.6	-437.4	619.5	0.00	0.00	
4,100.0	11.47	224.92	4,037.7	-412.7	-451.5	639.4	0.00	0.00	
4,200.0	11.47	224.92	4,135.7	-426.8	-465.5	659.3	0.00	0.00	
4,300.0	11.47	224.92	4,233.7	-440.9	-479.5	679.2	0.00	0.00	
4,400.0	11.47	224.92	4,331.7	-455.0	-493.6	699.1	0.00	0.00	
4,500.0	11.47	224.92	4,429.7	-469.1	-507.6	719.0	0.00	0.00	
4,600.0	11.47	224.92	4,527.7	-483.2	-521.7	738.9	0.00	0.00	
4,700.0	11.47	224.92	4,625.7	-497.2	-535.7	758.7	0.00	0.00	
4,800.0	11.47	224.92	4,723.7	-511.3	-549.8	778.6	0.00	0.00	
4,900.0	11.47	224.92	4,821.7	-525.4	-563.8	798.5	0.00	0.00	
5,000.0	11.47	224.92	4,919.7	-539.5	-577.9	818.4	0.00	0.00	

Cathedral Energy

Planning Report

Database:	EDM 5000.1 US Multi Users DB	Local Co-ordinate Reference:	Site Antelope I-31 Pad (was 31 C)
Company:	Bonanza Creek Energy Operating Company, LLC	TVD Reference:	WELL @ 4550.0ft (Original Well Elev)
Project:	Weld County	MD Reference:	WELL @ 4550.0ft (Original Well Elev)
Site:	Antelope I-31 Pad (was 31 C)	North Reference:	True
Well:	Antelope 14-31	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
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
5,100.0	11.47	224.92	5,017.7	-553.6	-591.9	838.3	0.00	0.00	
5,200.0	11.47	224.92	5,115.7	-567.7	-606.0	858.2	0.00	0.00	
5,300.0	11.47	224.92	5,213.7	-581.8	-620.0	878.1	0.00	0.00	
5,400.0	11.47	224.92	5,311.7	-595.8	-634.0	898.0	0.00	0.00	
5,459.6	11.47	224.92	5,370.1	-604.2	-642.4	909.9	0.00	0.00	Start Drop -2.00
5,500.0	10.67	224.92	5,409.8	-609.7	-647.9	917.6	2.00	-2.00	
5,600.0	8.67	224.92	5,508.3	-621.6	-659.8	934.4	2.00	-2.00	
5,700.0	6.67	224.92	5,607.4	-631.1	-669.2	947.7	2.00	-2.00	
5,800.0	4.67	224.92	5,706.9	-638.1	-676.1	957.6	2.00	-2.00	
5,900.0	2.67	224.92	5,806.7	-642.6	-680.7	964.0	2.00	-2.00	
6,000.0	0.67	224.92	5,906.7	-644.7	-682.7	966.9	2.00	-2.00	
6,033.3	0.00	0.00	5,940.0	-644.8	-682.8	967.1	2.00	-2.00	EOD; Target #1 - Antelope 14-31 TGT
6,100.0	0.00	0.00	6,006.7	-644.8	-682.8	967.1	0.00	0.00	
6,200.0	0.00	0.00	6,106.7	-644.8	-682.8	967.1	0.00	0.00	
6,243.3	0.00	0.00	6,150.0	-644.8	-682.8	967.1	0.00	0.00	Niobrara
6,300.0	0.00	0.00	6,206.7	-644.8	-682.8	967.1	0.00	0.00	
6,400.0	0.00	0.00	6,306.7	-644.8	-682.8	967.1	0.00	0.00	
6,500.0	0.00	0.00	6,406.7	-644.8	-682.8	967.1	0.00	0.00	
6,600.0	0.00	0.00	6,506.7	-644.8	-682.8	967.1	0.00	0.00	
6,700.0	0.00	0.00	6,606.7	-644.8	-682.8	967.1	0.00	0.00	
6,733.3	0.00	0.00	6,640.0	-644.8	-682.8	967.1	0.00	0.00	TD at 6733.3 - Antelope 14-31 PBHL

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 14-31 PBHL	0.00	0.00	6,640.0	-644.8	-682.8	1,372,682.33	3,314,036.86	40.350930	-104.373250
- plan hits target center									
- Circle (radius 50.0)									
Antelope 14-31 TGT	0.00	0.00	5,940.0	-644.8	-682.8	1,372,682.33	3,314,036.86	40.350930	-104.373250
- plan hits target center									
- Point									

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
6,243.3	6,150.0	Niobrara		0.00		

Cathedral Energy

Planning Report

Database:	EDM 5000.1 US Multi Users DB	Local Co-ordinate Reference:	Site Antelope I-31 Pad (was 31 C)
Company:	Bonanza Creek Energy Operating Company, LLC	TVD Reference:	WELL @ 4550.0ft (Original Well Elev)
Project:	Weld County	MD Reference:	WELL @ 4550.0ft (Original Well Elev)
Site:	Antelope I-31 Pad (was 31 C)	North Reference:	True
Well:	Antelope 14-31	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	Plan #1		

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
600.0	600.0	40.1	0.0	KOP @ 600'
1,173.7	1,169.9	-0.5	-40.4	EOB @ Inc. = 11.47°
5,459.6	5,370.1	-604.2	-642.4	Start Drop -2.00
6,033.3	5,940.0	-644.8	-682.8	EOD; Target #1
6,733.3	6,640.0	-644.8	-682.8	TD at 6733.3