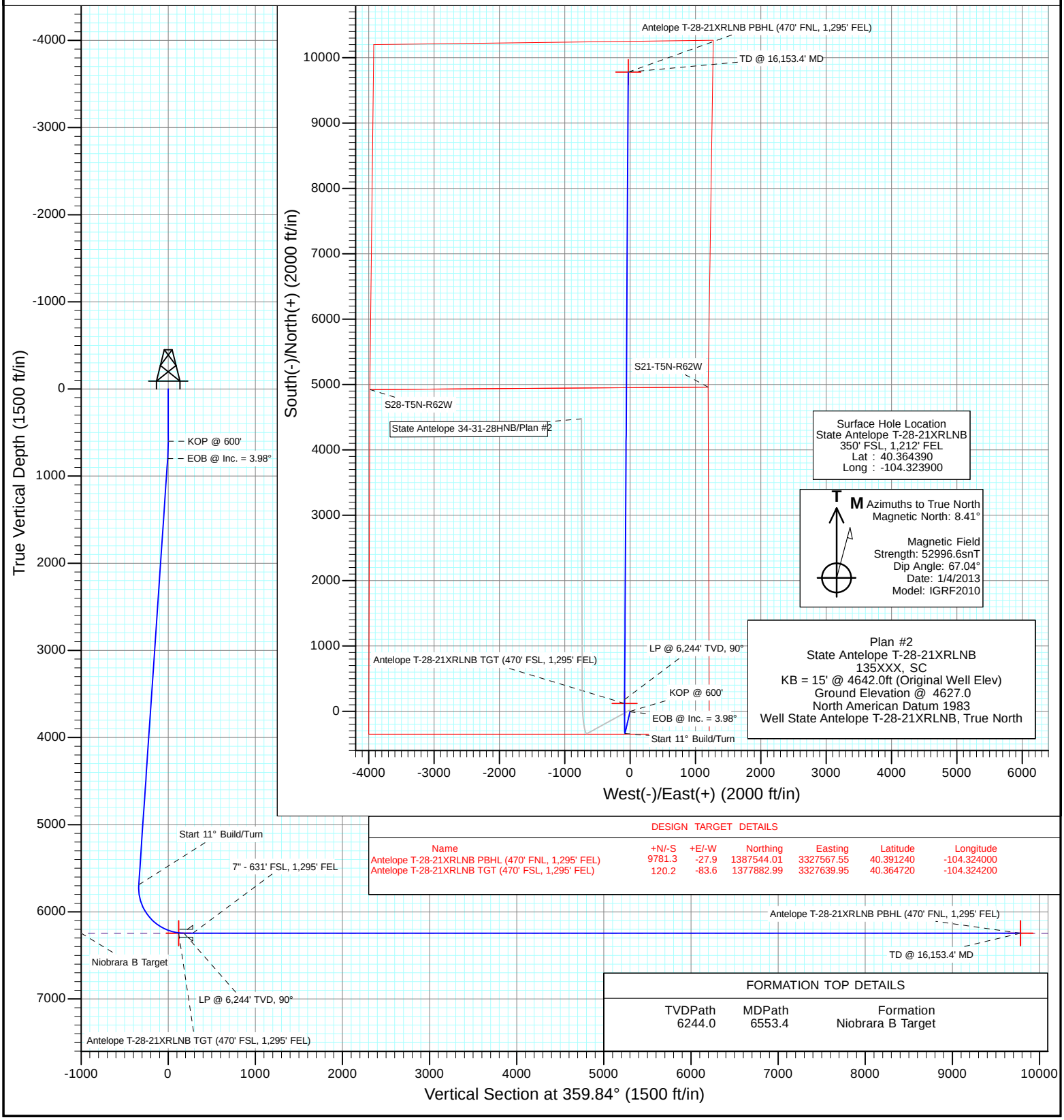
Project: Weld County
Site: State Antelope T-28 Pad
Well: State Antelope T-28-21XRLNB
Wellbore: HZ
Design: Plan #2

CATHEDRAL

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	799.0	3.98	192.95	798.8	-6.7	-1.5	2.00	192.95	-6.7	
4	5699.9	3.98	192.95	5687.9	-338.2	-77.8	0.00	0.00	-338.0	
5	6553.4	90.00	0.33	6244.0	181.5	-83.2	11.00	167.35	181.7	
6	16153.4	90.00	0.33	6244.0	9781.3	-27.9	0.00	0.00	9781.4	Antelope T-28-21XRLNB PBHL (470' FNL, 1,295' FEL)



Surface Hole Location
State Antelope T-28-21XRLNB
350' FSL, 1,212' FEL
Lat : 40.364390
Long : -104.323900

T M Azimuths to True North
Magnetic North: 8.41°

Magnetic Field
Strength: 52996.6snT
Dip Angle: 67.04°
Date: 1/4/2013
Model: IGRF2010

Plan #2
State Antelope T-28-21XRLNB
135XXX, SC
KB = 15' @ 4642.0ft (Original Well Elev)
Ground Elevation @ 4627.0
North American Datum 1983
Well State Antelope T-28-21XRLNB, True North

DESIGN TARGET DETAILS

Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
Antelope T-28-21XRLNB PBHL (470' FNL, 1,295' FEL)	9781.3	-27.9	1387544.01	3327567.55	40.391240	-104.324000
Antelope T-28-21XRLNB TGT (470' FSL, 1,295' FEL)	120.2	-83.6	1377882.99	3327639.95	40.364720	-104.324200

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
6244.0	6553.4	Niobrara B Target

Project: Weld County
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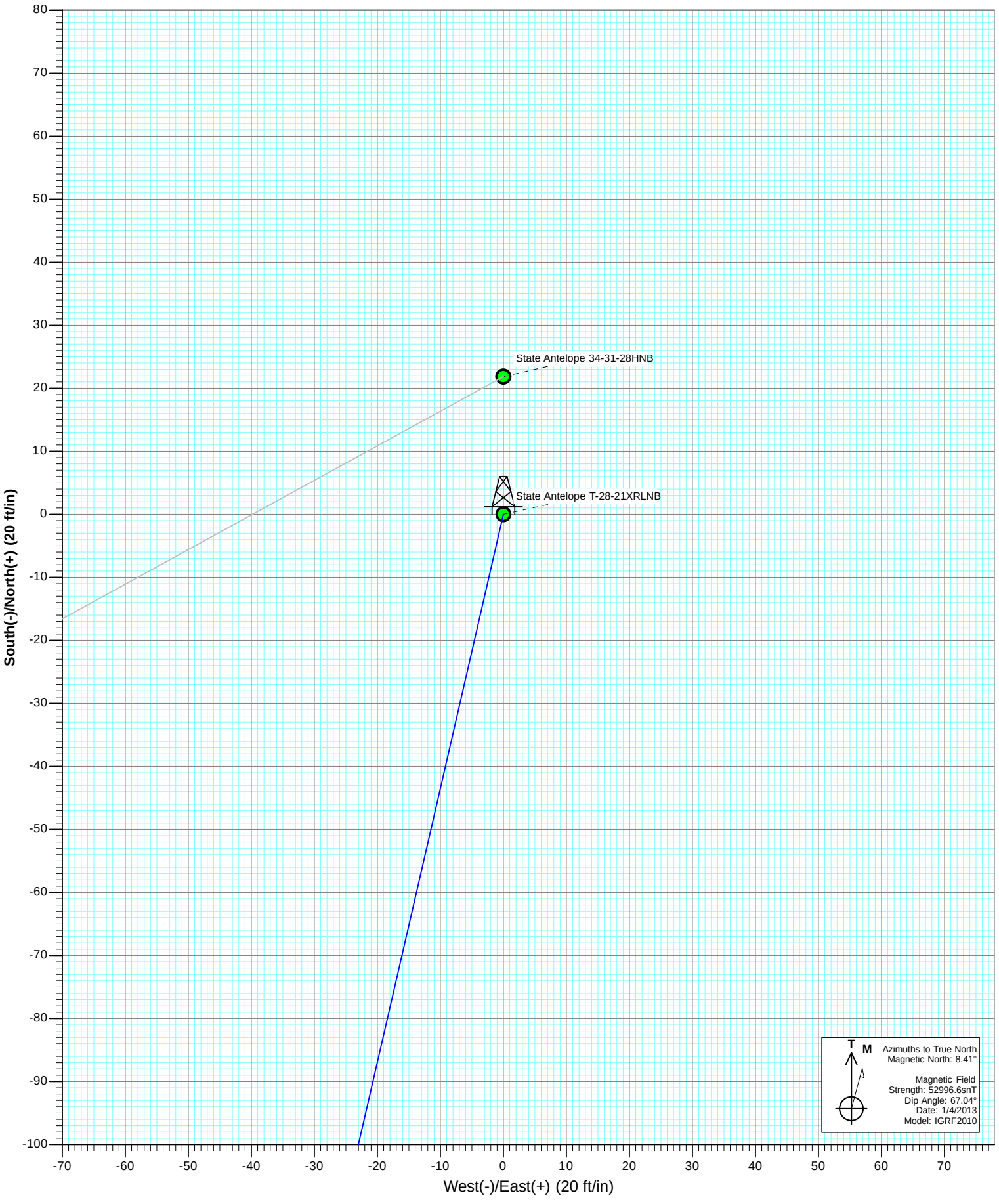
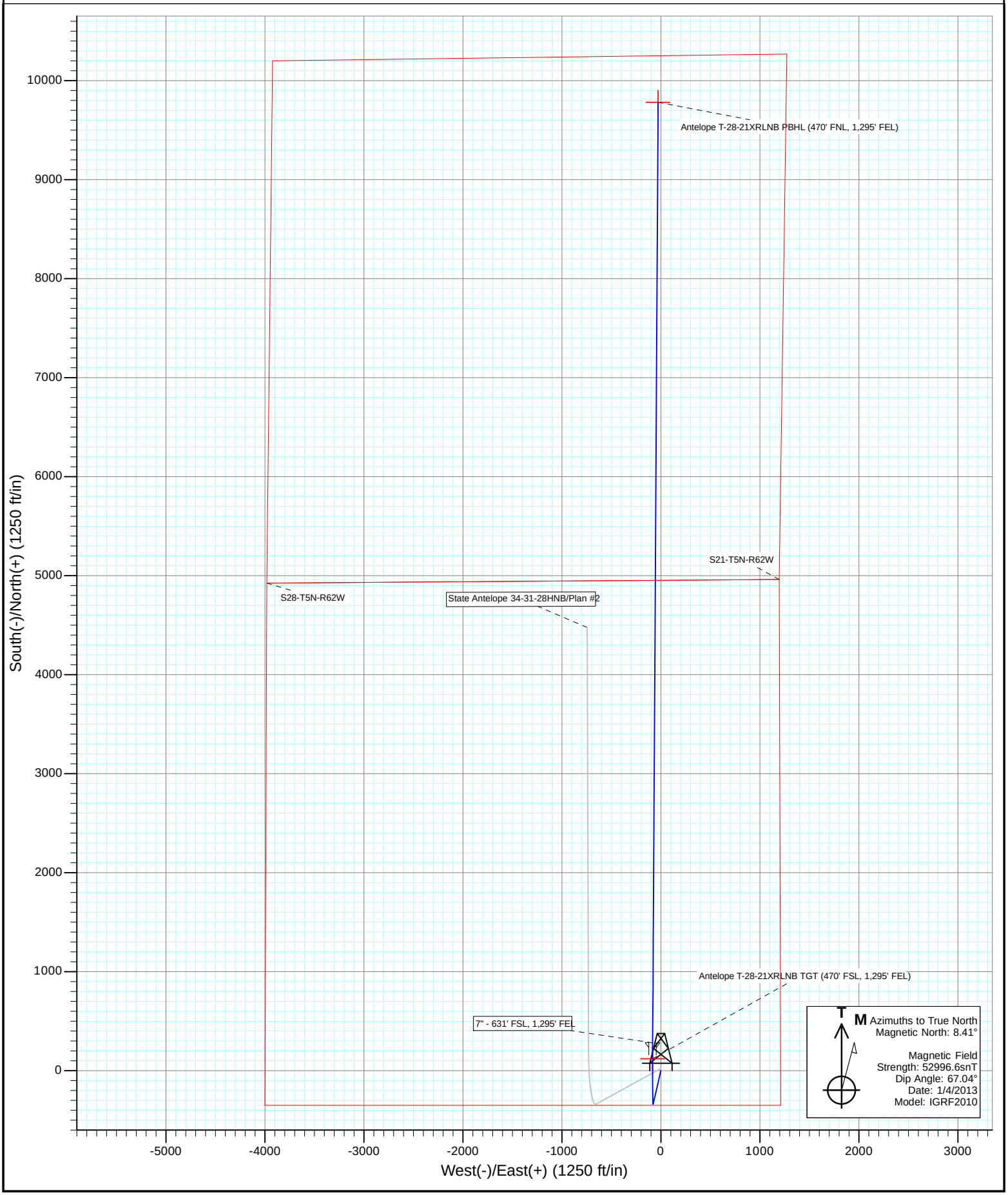


Project: Weld County
Site: State Antelope T-28 Pad
Well: State Antelope T-28-21XRLNB
Wellbore: HZ
Design: Plan #2



Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well State Antelope T-28-21XRLNB
Company:	Bonanza Creek Energy Operating Company, LLC	**TVD Reference:**	KB = 15' @ 4642.0ft (Original Well Elev)
Project:	Weld County	**MD Reference:**	KB = 15' @ 4642.0ft (Original Well Elev)
Site:	State Antelope T-28 Pad	**North Reference:**	True
Well:	State Antelope T-28-21XRLNB	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	HZ		
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 State Antelope T-28 Pad

Site Position:		**Northing:**	1,377,763.89 ft	**Latitude:**	40.364390
From:	Lat/Long	**Easting:**	3,327,725.13 ft	**Longitude:**	-104.323900
Position Uncertainty:	0.0 ft	**Slot Radius:**	13.200 in	**Grid Convergence:**	0.76 °

Well State Antelope T-28-21XRLNB

Well Position	**+N/-S**	0.0 ft	**Northing:**	1,377,763.89 ft	**Latitude:**	40.364390
	+E/-W	0.0 ft	**Easting:**	3,327,725.13 ft	**Longitude:**	-104.323900
Position Uncertainty		0.0 ft	**Wellhead Elevation:**	ft	**Ground Level:**	4,627.0 ft

Wellbore HZ

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	1/4/2013	8.41	67.04	52,997

Design Plan #2

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	0.0	0.0	359.84

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	
799.0	3.98	192.95	798.8	-6.7	-1.5	2.00	2.00	0.00	192.95	
5,699.9	3.98	192.95	5,687.9	-338.2	-77.8	0.00	0.00	0.00	0.00	
6,553.4	90.00	0.33	6,244.0	181.5	-83.2	11.00	10.08	19.61	167.35	
16,153.4	90.00	0.33	6,244.0	9,781.3	-27.9	0.00	0.00	0.00	0.00	Antelope T-28-21XRL

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well State Antelope T-28-21XRLNB
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Project:	Weld County	**MD Reference:**	KB = 15' @ 4642.0ft (Original Well Elev)
Site:	State Antelope T-28 Pad	**North Reference:**	True
Well:	State Antelope T-28-21XRLNB	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	HZ		
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	2.00	192.95	700.0	-1.7	-0.4	-1.7	2.00	2.00	
799.0	3.98	192.95	798.8	-6.7	-1.5	-6.7	2.00	2.00	EOB @ Inc. = 3.98°
800.0	3.98	192.95	799.8	-6.8	-1.6	-6.8	0.00	0.00	
900.0	3.98	192.95	899.6	-13.6	-3.1	-13.6	0.00	0.00	
1,000.0	3.98	192.95	999.4	-20.3	-4.7	-20.3	0.00	0.00	
1,100.0	3.98	192.95	1,099.1	-27.1	-6.2	-27.1	0.00	0.00	
1,200.0	3.98	192.95	1,198.9	-33.9	-7.8	-33.8	0.00	0.00	
1,300.0	3.98	192.95	1,298.6	-40.6	-9.3	-40.6	0.00	0.00	
1,400.0	3.98	192.95	1,398.4	-47.4	-10.9	-47.4	0.00	0.00	
1,500.0	3.98	192.95	1,498.1	-54.1	-12.5	-54.1	0.00	0.00	
1,600.0	3.98	192.95	1,597.9	-60.9	-14.0	-60.9	0.00	0.00	
1,700.0	3.98	192.95	1,697.7	-67.7	-15.6	-67.6	0.00	0.00	
1,800.0	3.98	192.95	1,797.4	-74.4	-17.1	-74.4	0.00	0.00	
1,900.0	3.98	192.95	1,897.2	-81.2	-18.7	-81.1	0.00	0.00	
2,000.0	3.98	192.95	1,996.9	-88.0	-20.2	-87.9	0.00	0.00	
2,100.0	3.98	192.95	2,096.7	-94.7	-21.8	-94.7	0.00	0.00	
2,200.0	3.98	192.95	2,196.5	-101.5	-23.3	-101.4	0.00	0.00	
2,300.0	3.98	192.95	2,296.2	-108.3	-24.9	-108.2	0.00	0.00	
2,400.0	3.98	192.95	2,396.0	-115.0	-26.5	-114.9	0.00	0.00	
2,500.0	3.98	192.95	2,495.7	-121.8	-28.0	-121.7	0.00	0.00	
2,600.0	3.98	192.95	2,595.5	-128.5	-29.6	-128.5	0.00	0.00	
2,700.0	3.98	192.95	2,695.3	-135.3	-31.1	-135.2	0.00	0.00	
2,800.0	3.98	192.95	2,795.0	-142.1	-32.7	-142.0	0.00	0.00	
2,900.0	3.98	192.95	2,894.8	-148.8	-34.2	-148.7	0.00	0.00	
3,000.0	3.98	192.95	2,994.5	-155.6	-35.8	-155.5	0.00	0.00	
3,100.0	3.98	192.95	3,094.3	-162.4	-37.3	-162.3	0.00	0.00	
3,200.0	3.98	192.95	3,194.1	-169.1	-38.9	-169.0	0.00	0.00	
3,300.0	3.98	192.95	3,293.8	-175.9	-40.5	-175.8	0.00	0.00	
3,400.0	3.98	192.95	3,393.6	-182.7	-42.0	-182.5	0.00	0.00	
3,500.0	3.98	192.95	3,493.3	-189.4	-43.6	-189.3	0.00	0.00	
3,600.0	3.98	192.95	3,593.1	-196.2	-45.1	-196.1	0.00	0.00	
3,700.0	3.98	192.95	3,692.8	-202.9	-46.7	-202.8	0.00	0.00	
3,800.0	3.98	192.95	3,792.6	-209.7	-48.2	-209.6	0.00	0.00	
3,900.0	3.98	192.95	3,892.4	-216.5	-49.8	-216.3	0.00	0.00	
4,000.0	3.98	192.95	3,992.1	-223.2	-51.3	-223.1	0.00	0.00	
4,100.0	3.98	192.95	4,091.9	-230.0	-52.9	-229.8	0.00	0.00	
4,200.0	3.98	192.95	4,191.6	-236.8	-54.5	-236.6	0.00	0.00	
4,300.0	3.98	192.95	4,291.4	-243.5	-56.0	-243.4	0.00	0.00	
4,400.0	3.98	192.95	4,391.2	-250.3	-57.6	-250.1	0.00	0.00	
4,500.0	3.98	192.95	4,490.9	-257.1	-59.1	-256.9	0.00	0.00	
4,600.0	3.98	192.95	4,590.7	-263.8	-60.7	-263.6	0.00	0.00	
4,700.0	3.98	192.95	4,690.4	-270.6	-62.2	-270.4	0.00	0.00	
4,800.0	3.98	192.95	4,790.2	-277.3	-63.8	-277.2	0.00	0.00	
4,900.0	3.98	192.95	4,890.0	-284.1	-65.3	-283.9	0.00	0.00	
5,000.0	3.98	192.95	4,989.7	-290.9	-66.9	-290.7	0.00	0.00	

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Project:	Weld County	**MD Reference:**	KB = 15' @ 4642.0ft (Original Well Elev)
Site:	State Antelope T-28 Pad	**North Reference:**	True
Well:	State Antelope T-28-21XRLNB	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	HZ		
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
5,100.0	3.98	192.95	5,089.5	-297.6	-68.5	-297.4	0.00	0.00	
5,200.0	3.98	192.95	5,189.2	-304.4	-70.0	-304.2	0.00	0.00	
5,300.0	3.98	192.95	5,289.0	-311.2	-71.6	-311.0	0.00	0.00	
5,400.0	3.98	192.95	5,388.7	-317.9	-73.1	-317.7	0.00	0.00	
5,500.0	3.98	192.95	5,488.5	-324.7	-74.7	-324.5	0.00	0.00	
5,600.0	3.98	192.95	5,588.3	-331.5	-76.2	-331.2	0.00	0.00	
5,699.9	3.98	192.95	5,687.9	-338.2	-77.8	-338.0	0.00	0.00	Start 11° Build/Turn
5,750.0	1.85	332.20	5,738.0	-339.2	-78.6	-339.0	11.00	-4.26	
5,800.0	7.18	353.40	5,787.8	-335.4	-79.3	-335.1	11.00	10.67	
5,850.0	12.66	356.45	5,837.1	-326.8	-80.0	-326.6	11.00	10.95	
5,900.0	18.15	357.67	5,885.2	-313.5	-80.6	-313.3	11.00	10.98	
5,950.0	23.64	358.34	5,931.9	-295.7	-81.3	-295.5	11.00	10.99	
6,000.0	29.14	358.77	5,976.7	-273.5	-81.8	-273.3	11.00	10.99	
6,050.0	34.64	359.07	6,019.1	-247.1	-82.3	-246.9	11.00	11.00	
6,100.0	40.14	359.30	6,058.9	-216.8	-82.7	-216.5	11.00	11.00	
6,150.0	45.63	359.48	6,095.5	-182.7	-83.1	-182.5	11.00	11.00	
6,200.0	51.13	359.63	6,128.7	-145.4	-83.4	-145.1	11.00	11.00	
6,250.0	56.63	359.76	6,158.1	-105.0	-83.6	-104.8	11.00	11.00	
6,300.0	62.13	359.87	6,183.6	-62.0	-83.7	-61.8	11.00	11.00	
6,350.0	67.63	359.97	6,204.8	-16.7	-83.8	-16.5	11.00	11.00	
6,400.0	73.13	0.07	6,221.6	30.3	-83.8	30.6	11.00	11.00	
6,450.0	78.63	0.16	6,233.8	78.8	-83.7	79.0	11.00	11.00	
6,500.0	84.13	0.24	6,241.3	128.2	-83.5	128.5	11.00	11.00	
6,553.4	90.00	0.33	6,244.0	181.5	-83.2	181.7	11.00	11.00	LP @ 6,244' TVD, 90° - Niobrara B Target
6,600.0	90.00	0.33	6,244.0	228.1	-83.0	228.4	0.00	0.00	
6,653.4	90.00	0.33	6,244.0	281.5	-82.7	281.8	0.00	0.00	7" - 631' FSL, 1,295' FEL
6,700.0	90.00	0.33	6,244.0	328.1	-82.4	328.4	0.00	0.00	
6,800.0	90.00	0.33	6,244.0	428.1	-81.8	428.4	0.00	0.00	
6,900.0	90.00	0.33	6,244.0	528.1	-81.2	528.4	0.00	0.00	
7,000.0	90.00	0.33	6,244.0	628.1	-80.7	628.3	0.00	0.00	
7,100.0	90.00	0.33	6,244.0	728.1	-80.1	728.3	0.00	0.00	
7,200.0	90.00	0.33	6,244.0	828.1	-79.5	828.3	0.00	0.00	
7,300.0	90.00	0.33	6,244.0	928.1	-78.9	928.3	0.00	0.00	
7,400.0	90.00	0.33	6,244.0	1,028.1	-78.4	1,028.3	0.00	0.00	
7,500.0	90.00	0.33	6,244.0	1,128.1	-77.8	1,128.3	0.00	0.00	
7,600.0	90.00	0.33	6,244.0	1,228.1	-77.2	1,228.3	0.00	0.00	
7,700.0	90.00	0.33	6,244.0	1,328.1	-76.6	1,328.3	0.00	0.00	
7,800.0	90.00	0.33	6,244.0	1,428.1	-76.1	1,428.3	0.00	0.00	
7,900.0	90.00	0.33	6,244.0	1,528.1	-75.5	1,528.3	0.00	0.00	
8,000.0	90.00	0.33	6,244.0	1,628.1	-74.9	1,628.3	0.00	0.00	
8,100.0	90.00	0.33	6,244.0	1,728.1	-74.3	1,728.3	0.00	0.00	
8,200.0	90.00	0.33	6,244.0	1,828.1	-73.7	1,828.3	0.00	0.00	
8,300.0	90.00	0.33	6,244.0	1,928.1	-73.2	1,928.3	0.00	0.00	
8,400.0	90.00	0.33	6,244.0	2,028.1	-72.6	2,028.3	0.00	0.00	
8,500.0	90.00	0.33	6,244.0	2,128.1	-72.0	2,128.3	0.00	0.00	
8,600.0	90.00	0.33	6,244.0	2,228.1	-71.4	2,228.3	0.00	0.00	
8,700.0	90.00	0.33	6,244.0	2,328.1	-70.9	2,328.3	0.00	0.00	
8,800.0	90.00	0.33	6,244.0	2,428.1	-70.3	2,428.3	0.00	0.00	
8,900.0	90.00	0.33	6,244.0	2,528.1	-69.7	2,528.3	0.00	0.00	
9,000.0	90.00	0.33	6,244.0	2,628.1	-69.1	2,628.3	0.00	0.00	
9,100.0	90.00	0.33	6,244.0	2,728.1	-68.6	2,728.3	0.00	0.00	
9,200.0	90.00	0.33	6,244.0	2,828.1	-68.0	2,828.3	0.00	0.00	

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Project:	Weld County	**MD Reference:**	KB = 15' @ 4642.0ft (Original Well Elev)
Site:	State Antelope T-28 Pad	**North Reference:**	True
Well:	State Antelope T-28-21XRLNB	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	HZ		
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
9,300.0	90.00	0.33	6,244.0	2,928.1	-67.4	2,928.3	0.00	0.00	
9,400.0	90.00	0.33	6,244.0	3,028.1	-66.8	3,028.3	0.00	0.00	
9,500.0	90.00	0.33	6,244.0	3,128.1	-66.2	3,128.3	0.00	0.00	
9,600.0	90.00	0.33	6,244.0	3,228.1	-65.7	3,228.3	0.00	0.00	
9,700.0	90.00	0.33	6,244.0	3,328.1	-65.1	3,328.2	0.00	0.00	
9,800.0	90.00	0.33	6,244.0	3,428.1	-64.5	3,428.2	0.00	0.00	
9,900.0	90.00	0.33	6,244.0	3,528.1	-63.9	3,528.2	0.00	0.00	
10,000.0	90.00	0.33	6,244.0	3,628.1	-63.4	3,628.2	0.00	0.00	
10,100.0	90.00	0.33	6,244.0	3,728.1	-62.8	3,728.2	0.00	0.00	
10,200.0	90.00	0.33	6,244.0	3,828.1	-62.2	3,828.2	0.00	0.00	
10,300.0	90.00	0.33	6,244.0	3,928.1	-61.6	3,928.2	0.00	0.00	
10,400.0	90.00	0.33	6,244.0	4,028.1	-61.0	4,028.2	0.00	0.00	
10,500.0	90.00	0.33	6,244.0	4,128.1	-60.5	4,128.2	0.00	0.00	
10,600.0	90.00	0.33	6,244.0	4,228.1	-59.9	4,228.2	0.00	0.00	
10,700.0	90.00	0.33	6,244.0	4,328.1	-59.3	4,328.2	0.00	0.00	
10,800.0	90.00	0.33	6,244.0	4,428.1	-58.7	4,428.2	0.00	0.00	
10,900.0	90.00	0.33	6,244.0	4,528.1	-58.2	4,528.2	0.00	0.00	
11,000.0	90.00	0.33	6,244.0	4,628.1	-57.6	4,628.2	0.00	0.00	
11,100.0	90.00	0.33	6,244.0	4,728.1	-57.0	4,728.2	0.00	0.00	
11,200.0	90.00	0.33	6,244.0	4,828.1	-56.4	4,828.2	0.00	0.00	
11,300.0	90.00	0.33	6,244.0	4,928.0	-55.9	4,928.2	0.00	0.00	
11,400.0	90.00	0.33	6,244.0	5,028.0	-55.3	5,028.2	0.00	0.00	
11,500.0	90.00	0.33	6,244.0	5,128.0	-54.7	5,128.2	0.00	0.00	
11,600.0	90.00	0.33	6,244.0	5,228.0	-54.1	5,228.2	0.00	0.00	
11,700.0	90.00	0.33	6,244.0	5,328.0	-53.5	5,328.2	0.00	0.00	
11,800.0	90.00	0.33	6,244.0	5,428.0	-53.0	5,428.2	0.00	0.00	
11,900.0	90.00	0.33	6,244.0	5,528.0	-52.4	5,528.2	0.00	0.00	
12,000.0	90.00	0.33	6,244.0	5,628.0	-51.8	5,628.2	0.00	0.00	
12,100.0	90.00	0.33	6,244.0	5,728.0	-51.2	5,728.2	0.00	0.00	
12,200.0	90.00	0.33	6,244.0	5,828.0	-50.7	5,828.2	0.00	0.00	
12,300.0	90.00	0.33	6,244.0	5,928.0	-50.1	5,928.2	0.00	0.00	
12,400.0	90.00	0.33	6,244.0	6,028.0	-49.5	6,028.1	0.00	0.00	
12,500.0	90.00	0.33	6,244.0	6,128.0	-48.9	6,128.1	0.00	0.00	
12,600.0	90.00	0.33	6,244.0	6,228.0	-48.4	6,228.1	0.00	0.00	
12,700.0	90.00	0.33	6,244.0	6,328.0	-47.8	6,328.1	0.00	0.00	
12,800.0	90.00	0.33	6,244.0	6,428.0	-47.2	6,428.1	0.00	0.00	
12,900.0	90.00	0.33	6,244.0	6,528.0	-46.6	6,528.1	0.00	0.00	
13,000.0	90.00	0.33	6,244.0	6,628.0	-46.0	6,628.1	0.00	0.00	
13,100.0	90.00	0.33	6,244.0	6,728.0	-45.5	6,728.1	0.00	0.00	
13,200.0	90.00	0.33	6,244.0	6,828.0	-44.9	6,828.1	0.00	0.00	
13,300.0	90.00	0.33	6,244.0	6,928.0	-44.3	6,928.1	0.00	0.00	
13,400.0	90.00	0.33	6,244.0	7,028.0	-43.7	7,028.1	0.00	0.00	
13,500.0	90.00	0.33	6,244.0	7,128.0	-43.2	7,128.1	0.00	0.00	
13,600.0	90.00	0.33	6,244.0	7,228.0	-42.6	7,228.1	0.00	0.00	
13,700.0	90.00	0.33	6,244.0	7,328.0	-42.0	7,328.1	0.00	0.00	
13,800.0	90.00	0.33	6,244.0	7,428.0	-41.4	7,428.1	0.00	0.00	
13,900.0	90.00	0.33	6,244.0	7,528.0	-40.9	7,528.1	0.00	0.00	
14,000.0	90.00	0.33	6,244.0	7,628.0	-40.3	7,628.1	0.00	0.00	
14,100.0	90.00	0.33	6,244.0	7,728.0	-39.7	7,728.1	0.00	0.00	
14,200.0	90.00	0.33	6,244.0	7,828.0	-39.1	7,828.1	0.00	0.00	
14,300.0	90.00	0.33	6,244.0	7,928.0	-38.5	7,928.1	0.00	0.00	
14,400.0	90.00	0.33	6,244.0	8,028.0	-38.0	8,028.1	0.00	0.00	

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well State Antelope T-28-21XRLNB
Company:	Bonanza Creek Energy Operating Company, LLC	**TVD Reference:**	KB = 15' @ 4642.0ft (Original Well Elev)
Project:	Weld County	**MD Reference:**	KB = 15' @ 4642.0ft (Original Well Elev)
Site:	State Antelope T-28 Pad	**North Reference:**	True
Well:	State Antelope T-28-21XRLNB	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	HZ		
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
14,500.0	90.00	0.33	6,244.0	8,128.0	-37.4	8,128.1	0.00	0.00	
14,600.0	90.00	0.33	6,244.0	8,228.0	-36.8	8,228.1	0.00	0.00	
14,700.0	90.00	0.33	6,244.0	8,328.0	-36.2	8,328.1	0.00	0.00	
14,800.0	90.00	0.33	6,244.0	8,428.0	-35.7	8,428.1	0.00	0.00	
14,900.0	90.00	0.33	6,244.0	8,528.0	-35.1	8,528.1	0.00	0.00	
15,000.0	90.00	0.33	6,244.0	8,628.0	-34.5	8,628.1	0.00	0.00	
15,100.0	90.00	0.33	6,244.0	8,728.0	-33.9	8,728.0	0.00	0.00	
15,200.0	90.00	0.33	6,244.0	8,828.0	-33.4	8,828.0	0.00	0.00	
15,300.0	90.00	0.33	6,244.0	8,928.0	-32.8	8,928.0	0.00	0.00	
15,400.0	90.00	0.33	6,244.0	9,028.0	-32.2	9,028.0	0.00	0.00	
15,500.0	90.00	0.33	6,244.0	9,128.0	-31.6	9,128.0	0.00	0.00	
15,600.0	90.00	0.33	6,244.0	9,228.0	-31.0	9,228.0	0.00	0.00	
15,700.0	90.00	0.33	6,244.0	9,328.0	-30.5	9,328.0	0.00	0.00	
15,800.0	90.00	0.33	6,244.0	9,428.0	-29.9	9,428.0	0.00	0.00	
15,900.0	90.00	0.33	6,244.0	9,528.0	-29.3	9,528.0	0.00	0.00	
16,000.0	90.00	0.33	6,244.0	9,628.0	-28.7	9,628.0	0.00	0.00	
16,100.0	90.00	0.33	6,244.0	9,728.0	-28.2	9,728.0	0.00	0.00	
16,153.4	90.00	0.33	6,244.0	9,781.3	-27.9	9,781.4	0.00	0.00	TD @ 16,153.4' MD

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 T-28-21XRLNE - plan misses target center by 3.6ft at 6492.5ft MD (6240.4 TVD, 120.8 N, -83.5 E) - Point	0.00	0.00	6,244.0	120.2	-83.6	1,377,882.99	3,327,639.95	40.364720	-104.324200
Antelope T-28-21XRLNE - plan hits target center - Point	0.00	0.00	6,244.0	9,781.3	-27.9	1,387,544.01	3,327,567.55	40.391240	-104.324000

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)
6,653.4	6,244.0	7" - 631' FSL, 1,295' FEL		

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
6,553.4	6,244.0	Niobrara B Target		0.00	

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well State Antelope T-28-21XRLNB
Company:	Bonanza Creek Energy Operating Company, LLC	**TVD Reference:**	KB = 15' @ 4642.0ft (Original Well Elev)
Project:	Weld County	**MD Reference:**	KB = 15' @ 4642.0ft (Original Well Elev)
Site:	State Antelope T-28 Pad	**North Reference:**	True
Well:	State Antelope T-28-21XRLNB	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	HZ		
Design:	Plan #2		

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
600.0	600.0	0.0	0.0	KOP @ 600'
799.0	798.8	-6.7	-1.5	EOB @ Inc. = 3.98°
5,699.9	5,687.9	-338.2	-77.8	Start 11° Build/Turn
6,553.4	6,244.0	181.5	-83.2	LP @ 6,244' TVD, 90°
16,153.4	6,244.0	9,781.3	-27.9	TD @ 16,153.4' MD

Bonanza Creek Energy Operating Company, LLC

Weld County
State Antelope T-28 Pad
State Antelope T-28-21XRLNB
HZ
Plan #2

Anticollision Report

24 January, 2013

Cathedral Energy Services

Anticollision Report

Company:	Bonanza Creek Energy Operating Company, LLC	**Local Co-ordinate Reference:**	Well State Antelope T-28-21XRLNB
Project:	Weld County	**TVD Reference:**	KB = 15' @ 4642.0ft (Original Well Elev)
Reference Site:	State Antelope T-28 Pad	**MD Reference:**	KB = 15' @ 4642.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	State Antelope T-28-21XRLNB	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	HZ	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	**Offset TVD Reference:**	Offset Datum

Reference Plan #2

Filter type:	GLOBAL FILTER APPLIED: All wellpaths within 200'+ 100/1000 of reference		
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** 1/24/2013

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.0	16,153.4	Plan #2 (HZ)	MWD	Geolink MWD

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
State Antelope T-28 Pad						
State Antelope 34-31-28HNB - HZ - Plan #2	0.0	0.0	21.9			
State Antelope 34-31-28HNB - HZ - Plan #2	654.4	654.8	20.7	20.7	10,000.000	CC, ES

Company:	Bonanza Creek Energy Operating Company, LLC	**Local Co-ordinate Reference:**	Well State Antelope T-28-21XRLNB
Project:	Weld County	**TVD Reference:**	KB = 15' @ 4642.0ft (Original Well Elev)
Reference Site:	State Antelope T-28 Pad	**MD Reference:**	KB = 15' @ 4642.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	State Antelope T-28-21XRLNB	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	HZ	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	**Offset TVD Reference:**	Offset Datum

Offset Design State Antelope T-28 Pad - State Antelope 34-31-28HNB - HZ - Plan #2

Offset Site Error: 0.0 ft

Survey Program: 0-MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	0.00	21.9	0.0	21.9				
100.0	100.0	100.0	100.0	0.1	0.1	0.00	21.9	0.0	21.9	21.9	0.00	N/A	
200.0	200.0	200.0	200.0	0.3	0.3	0.00	21.9	0.0	21.9	21.9	0.00	N/A	
300.0	300.0	300.0	300.0	0.5	0.5	0.00	21.9	0.0	21.9	21.9	0.00	N/A	
400.0	400.0	400.0	400.0	0.7	0.7	0.00	21.9	0.0	21.9	21.9	0.00	N/A	
500.0	500.0	500.0	500.0	0.8	0.8	0.00	21.9	0.0	21.9	21.9	0.00	N/A	
600.0	600.0	600.3	600.3	1.0	1.0	-4.19	21.0	-1.5	21.1	21.1	0.00	N/A	
654.4	654.4	654.8	654.7	1.1	1.1	157.16	19.8	-3.7	20.7	20.7	0.00	N/A	CC, ES
700.0	700.0	700.5	700.3	1.2	1.2	151.13	18.5	-6.1	21.0	21.0	0.00	N/A	
800.0	799.8	800.3	799.8	1.4	1.4	136.88	14.3	-13.8	24.4	24.4	0.00	N/A	
900.0	899.6	899.8	898.5	1.6	1.7	122.83	8.5	-24.4	30.7	30.7	0.00	N/A	
1,000.0	999.4	999.0	996.6	1.8	1.9	110.53	1.4	-37.2	39.2	39.2	0.00	N/A	
1,100.0	1,099.1	1,098.4	1,094.9	2.0	2.2	102.72	-5.7	-50.1	49.0	49.0	0.00	N/A	
1,200.0	1,198.9	1,197.7	1,193.1	2.2	2.5	97.56	-12.7	-63.0	59.4	59.4	0.00	N/A	
1,300.0	1,298.6	1,297.0	1,291.4	2.4	2.8	93.96	-19.8	-75.9	70.1	70.1	0.00	N/A	
1,400.0	1,398.4	1,396.4	1,389.6	2.6	3.1	91.32	-26.9	-88.9	81.1	81.1	0.00	N/A	
1,500.0	1,498.1	1,495.7	1,487.9	2.8	3.4	89.31	-34.0	-101.8	92.1	92.1	0.00	N/A	
1,600.0	1,597.9	1,595.1	1,586.1	3.0	3.7	87.73	-41.1	-114.7	103.3	103.3	0.00	N/A	
1,700.0	1,697.7	1,694.4	1,684.3	3.2	4.0	86.46	-48.2	-127.6	114.5	114.5	0.00	N/A	
1,800.0	1,797.4	1,793.8	1,782.6	3.4	4.3	85.42	-55.3	-140.5	125.8	125.8	0.00	N/A	
1,900.0	1,897.2	1,893.1	1,880.8	3.6	4.6	84.55	-62.4	-153.4	137.0	137.0	0.00	N/A	
2,000.0	1,996.9	1,992.4	1,979.1	3.8	4.9	83.81	-69.4	-166.3	148.4	148.4	0.00	N/A	
2,100.0	2,096.7	2,091.8	2,077.3	4.0	5.2	83.17	-76.5	-179.3	159.7	159.7	0.00	N/A	
2,200.0	2,196.5	2,191.1	2,175.6	4.3	5.5	82.62	-83.6	-192.2	171.0	171.0	0.00	N/A	
2,300.0	2,296.2	2,290.5	2,273.8	4.5	5.8	82.14	-90.7	-205.1	182.4	182.4	0.00	N/A	
2,400.0	2,396.0	2,389.8	2,372.0	4.7	6.1	81.71	-97.8	-218.0	193.8	193.8	0.00	N/A	
2,500.0	2,495.7	2,489.1	2,470.3	4.9	6.4	81.34	-104.9	-230.9	205.2	205.2	0.00	N/A	
2,600.0	2,595.5	2,588.5	2,568.5	5.1	6.7	81.00	-112.0	-243.8	216.6	216.6	0.00	N/A	
2,700.0	2,695.3	2,687.8	2,666.8	5.3	7.0	80.69	-119.1	-256.7	228.0	228.0	0.00	N/A	
2,800.0	2,795.0	2,787.2	2,765.0	5.5	7.4	80.42	-126.1	-269.6	239.4	239.4	0.00	N/A	
2,900.0	2,894.8	2,886.5	2,863.3	5.7	7.7	80.17	-133.2	-282.6	250.8	250.8	0.00	N/A	
3,000.0	2,994.5	2,985.8	2,961.5	5.9	8.0	79.94	-140.3	-295.5	262.2	262.2	0.00	N/A	
3,100.0	3,094.3	3,085.2	3,059.7	6.1	8.3	79.73	-147.4	-308.4	273.6	273.6	0.00	N/A	
3,200.0	3,194.1	3,184.5	3,158.0	6.4	8.6	79.54	-154.5	-321.3	285.1	285.1	0.00	N/A	
3,300.0	3,293.8	3,283.9	3,256.2	6.6	8.9	79.36	-161.6	-334.2	296.5	296.5	0.00	N/A	
3,400.0	3,393.6	3,383.2	3,354.5	6.8	9.2	79.20	-168.7	-347.1	307.9	307.9	0.00	N/A	
3,500.0	3,493.3	3,482.5	3,452.7	7.0	9.5	79.04	-175.8	-360.0	319.4	319.4	0.00	N/A	
3,600.0	3,593.1	3,581.9	3,551.0	7.2	9.8	78.90	-182.8	-372.9	330.8	330.8	0.00	N/A	
3,700.0	3,692.8	3,681.2	3,649.2	7.4	10.1	78.77	-189.9	-385.9	342.2	342.2	0.00	N/A	
3,800.0	3,792.6	3,780.6	3,747.4	7.6	10.5	78.64	-197.0	-398.8	353.7	353.7	0.00	N/A	
3,900.0	3,892.4	3,879.9	3,845.7	7.8	10.8	78.53	-204.1	-411.7	365.1	365.1	0.00	N/A	
4,000.0	3,992.1	3,979.3	3,943.9	8.1	11.1	78.42	-211.2	-424.6	376.5	376.5	0.00	N/A	
4,100.0	4,091.9	4,078.6	4,042.2	8.3	11.4	78.32	-218.3	-437.5	388.0	388.0	0.00	N/A	
4,200.0	4,191.6	4,177.9	4,140.4	8.5	11.7	78.22	-225.4	-450.4	399.4	399.4	0.00	N/A	
4,300.0	4,291.4	4,277.3	4,238.7	8.7	12.0	78.13	-232.5	-463.3	410.9	410.9	0.00	N/A	
4,400.0	4,391.2	4,376.6	4,336.9	8.9	12.3	78.04	-239.5	-476.3	422.3	422.3	0.00	N/A	
4,500.0	4,490.9	4,476.0	4,435.1	9.1	12.6	77.96	-246.6	-489.2	433.8	433.8	0.00	N/A	
4,600.0	4,590.7	4,575.3	4,533.4	9.3	12.9	77.88	-253.7	-502.1	445.2	445.2	0.00	N/A	
4,700.0	4,690.4	4,674.6	4,631.6	9.5	13.3	77.81	-260.8	-515.0	456.7	456.7	0.00	N/A	
4,800.0	4,790.2	4,774.0	4,729.9	9.7	13.6	77.74	-267.9	-527.9	468.1	468.1	0.00	N/A	
4,900.0	4,890.0	4,873.3	4,828.1	10.0	13.9	77.67	-275.0	-540.8	479.6	479.6	0.00	N/A	
5,000.0	4,989.7	4,972.7	4,926.4	10.2	14.2	77.60	-282.1	-553.7	491.0	491.0	0.00	N/A	

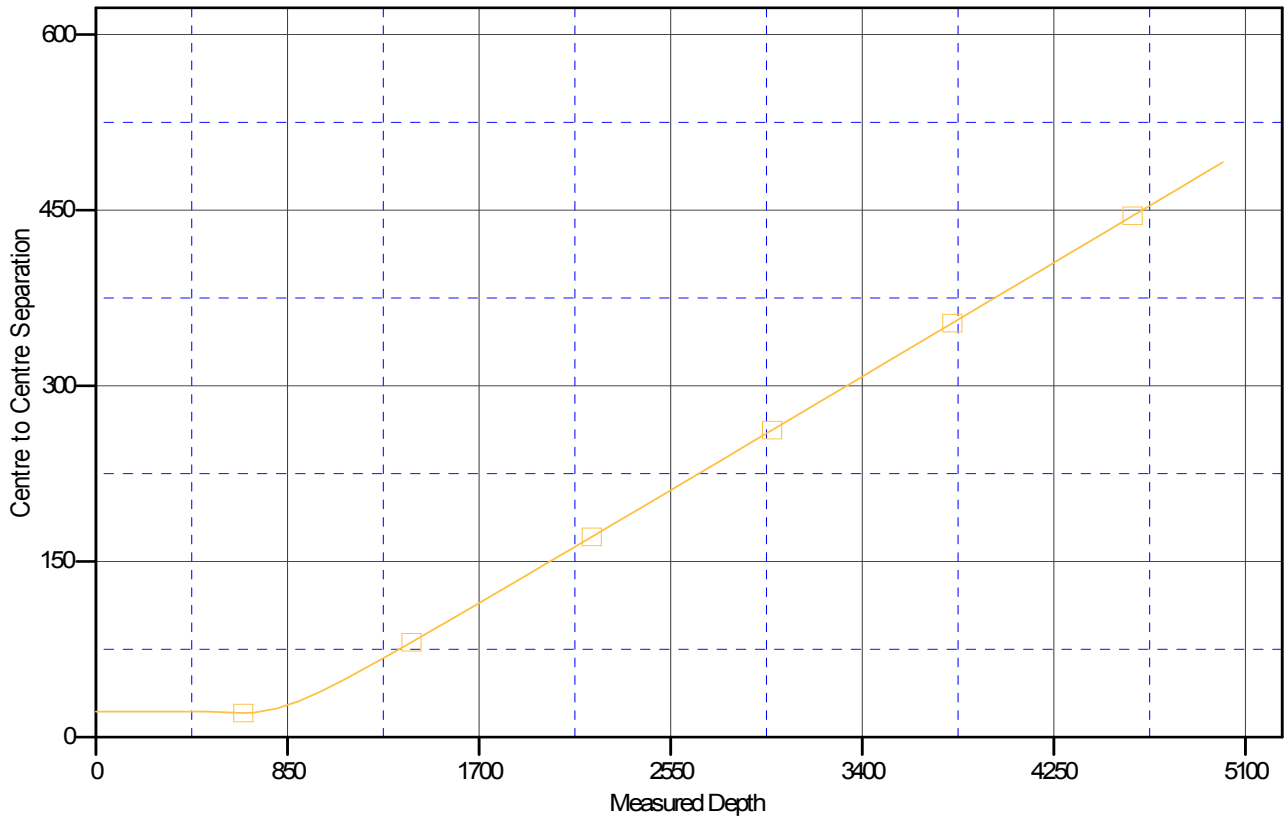
CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Company:	Bonanza Creek Energy Operating Company, LLC	**Local Co-ordinate Reference:**	Well State Antelope T-28-21XRLNB
Project:	Weld County	**TVD Reference:**	KB = 15' @ 4642.0ft (Original Well Elev)
Reference Site:	State Antelope T-28 Pad	**MD Reference:**	KB = 15' @ 4642.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	State Antelope T-28-21XRLNB	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	HZ	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	**Offset TVD Reference:**	Offset Datum

Reference Depths are relative to KB = 15' @ 4642.0ft (Original Well Ele
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000 °

Coordinates are relative to: State Antelope T-28-21XRLNB
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.76°

Ladder Plot



LEGEND

State Antelope 34-31-28HNB, HZ, Plan #2 V0