

BONANZA CREEK ENERGY OPERATING

Well Name: **State Antelope 44-41-12HNB**

Surface Location: State Antelope 34-12 Pad Sec.12-T5N-R62W
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone

Ground Elevation: 4597.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1394237.41	3342845.16	40.409050	-104.268800	

Cade 22 RKB - 16' WELL @ 4613.0ft (Cade 22 RKB - 16')

WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
BHL 470'FNL, 656'FEL	6117.0	4561.2	1278.0	Point



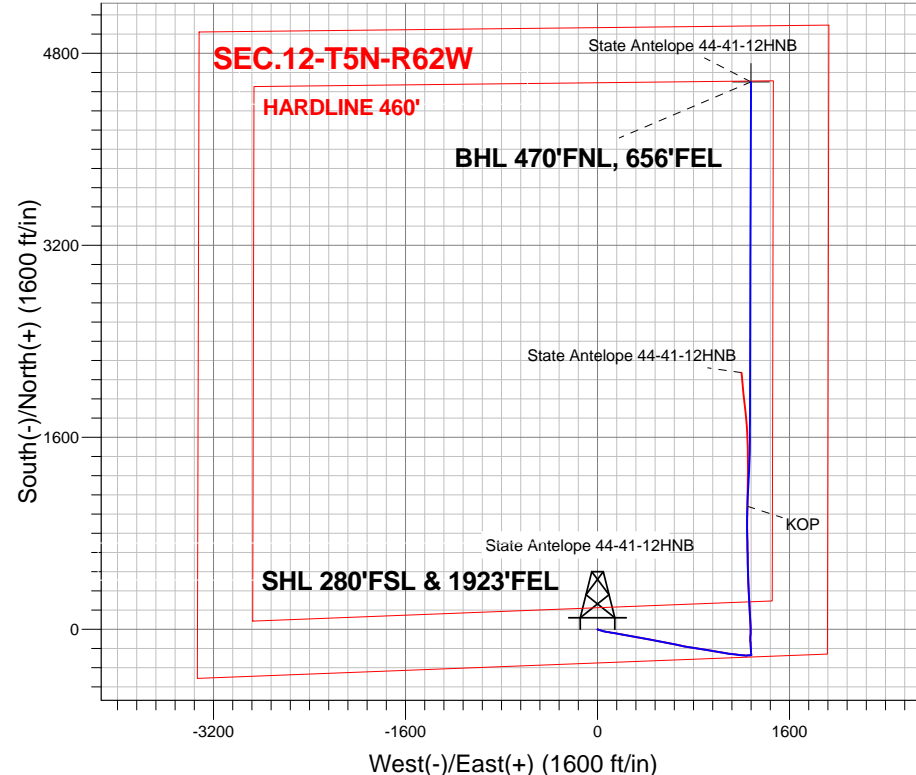
Azimuths to True North
Magnetic North: 8.36°

Magnetic Field
Strength: 53005.5srT
Dip Angle: 67.08°
Date: 3/15/2013
Model: IGRF2010

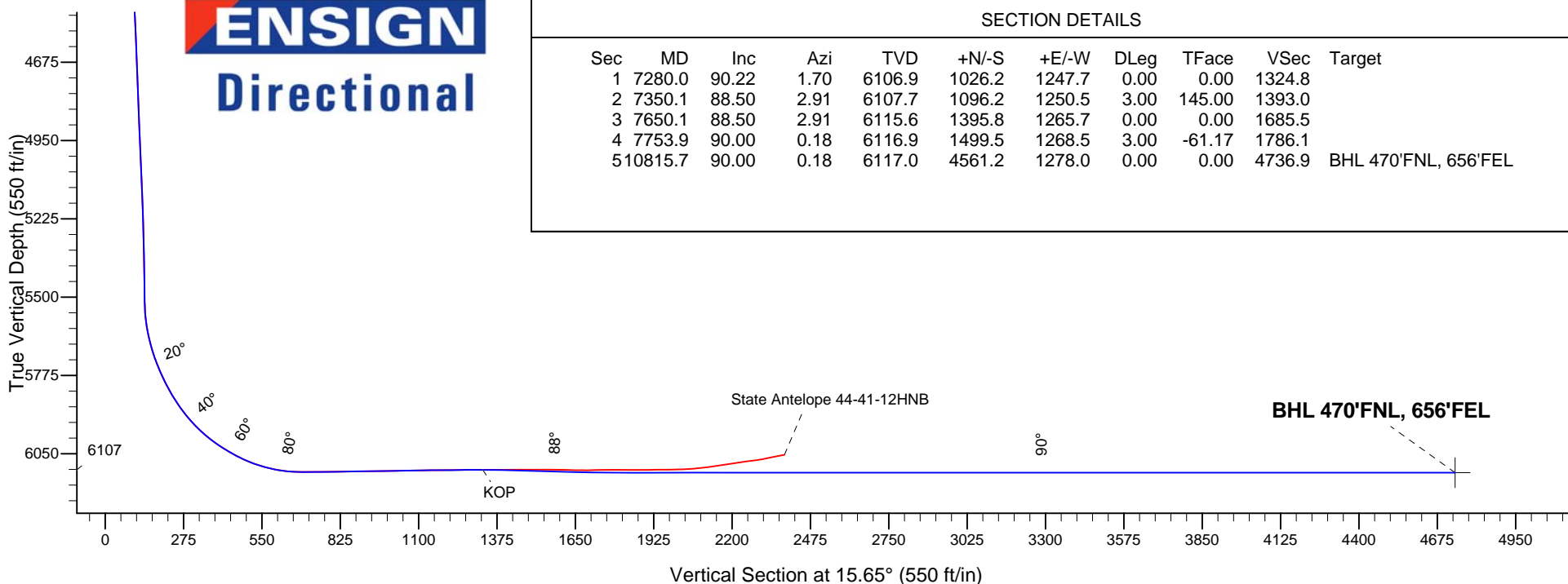
State Antelope 34-12 Pad Sec.12-T5N-R62W
State Antelope 44-41-12HNB
Plan #4 Sidetrack (3-15-13)
16:12, March 15 2013

ANNOTATIONS

TVD	MD	Annotation
6106.9	7280.0	KOP



ENSIGN
Directional



SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	7280.0	90.22	1.70	6106.9	1026.2	1247.7	0.00	0.00	1324.8	
2	7350.1	88.50	2.91	6107.7	1096.2	1250.5	3.00	145.00	1393.0	
3	7650.1	88.50	2.91	6115.6	1395.8	1265.7	0.00	0.00	1685.5	
4	7753.9	90.00	0.18	6116.9	1499.5	1268.5	3.00	-61.17	1786.1	
5	10815.7	90.00	0.18	6117.0	4561.2	1278.0	0.00	0.00	4736.9	BHL 470'FNL, 656'FEL



BONANZA CREEK ENERGY OPERATING

SEC.12-T5N-R62W

State Antelope 34-12 Pad Sec.12-T5N-R62W

State Antelope 44-41-12HNB

Wellbore #2

Plan: Plan #4 Sidetrack (3-15-13)

Standard Planning Report

15 March, 2013

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
7,280.0	90.22	1.70	6,106.9	1,026.2	1,247.7	0.00	0.00	0.00	0.00	
7,350.1	88.50	2.91	6,107.7	1,096.2	1,250.5	3.00	-2.46	1.72	145.00	
7,650.1	88.50	2.91	6,115.6	1,395.8	1,265.7	0.00	0.00	0.00	0.00	
7,753.9	90.00	0.18	6,116.9	1,499.5	1,268.5	3.00	1.45	-2.63	-61.17	
10,815.7	90.00	0.18	6,117.0	4,561.2	1,278.0	0.00	0.00	0.00	0.00	BHL 470'FNL, 656'

Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N-S	+E-W	Northing	Easting		
- Shape	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)	Latitude	Longitude
BHL 470'FNL, 656'FE	0.00	0.00	6,117.0	4,561.2	1,278.0	1,398,815.77	3,344,059.67	40.421570	-104.264210
- plan hits target center									
- Point									

Database:	Landmark	Local Co-ordinate Reference:	Well State Antelope 44-41-12HNB
Company:	BONANZA CREEK ENERGY OPERATING	TVD Reference:	WELL @ 4613.0ft (Cade 22 RKB - 16')
Project:	SEC.12-T5N-R62W	MD Reference:	WELL @ 4613.0ft (Cade 22 RKB - 16')
Site:	State Antelope 34-12 Pad Sec.12-T5N-R62W	North Reference:	True
Well:	State Antelope 44-41-12HNB	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #2		
Design:	Plan #4 Sidetrack (3-15-13)		

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
+N/-S (ft)	+E/-W (ft)			
7,280.0	6,106.9	1,026.2	1,247.7	KOP



BONANZA CREEK ENERGY OPERATING

SEC.12-T5N-R62W

State Antelope 34-12 Pad Sec.12-T5N-R62W

State Antelope 44-41-12HNB

Wellbore #2

Plan #4 Sidetrack (3-15-13)

Anticollision Report

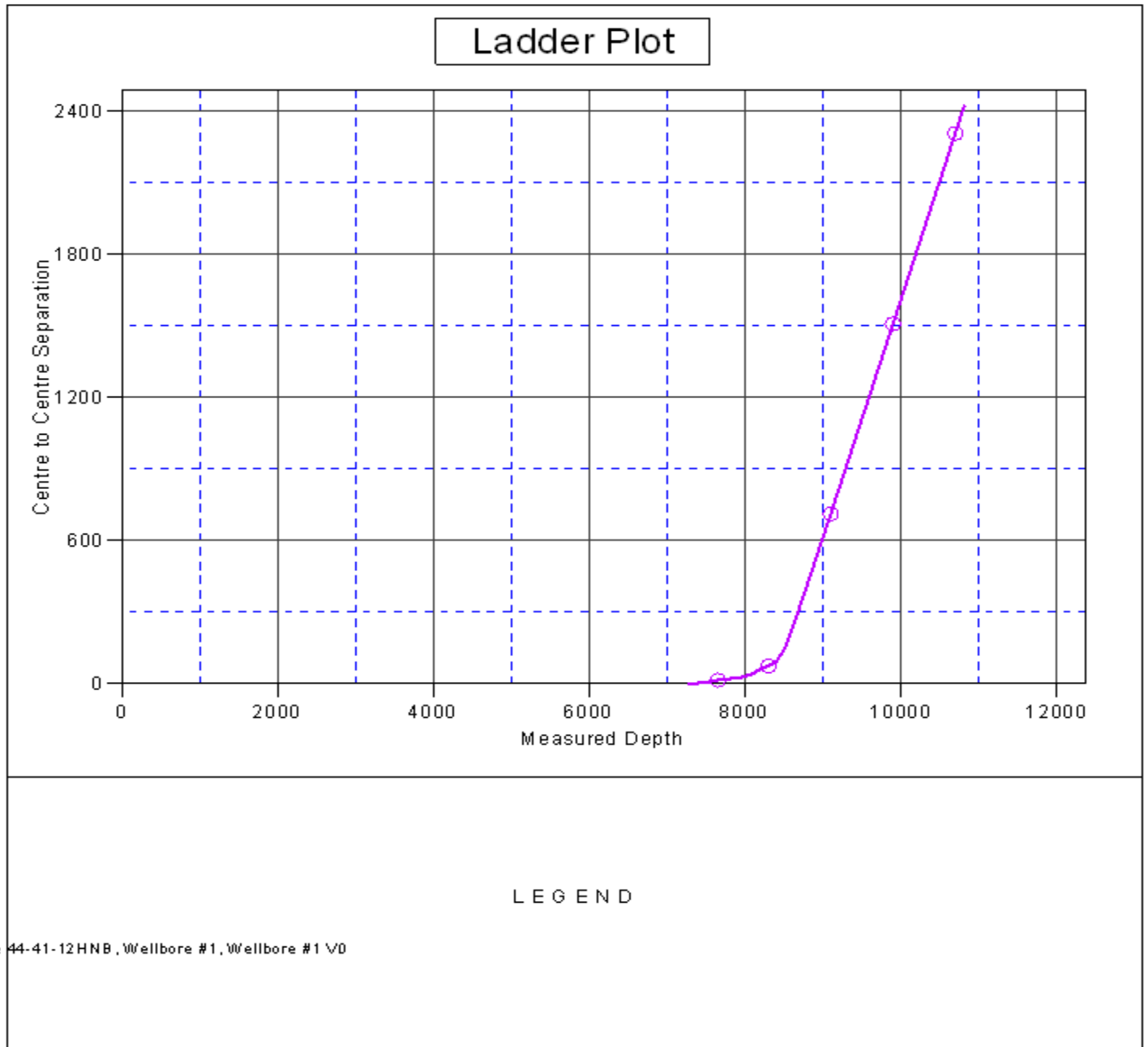
15 March, 2013

Company:	BONANZA CREEK ENERGY OPERATING	Local Co-ordinate Reference:	Well State Antelope 44-41-12HNB
Project:	SEC.12-T5N-R62W	TVD Reference:	WELL @ 4613.0ft (Cade 22 RKB - 16')
Reference Site:	State Antelope 34-12 Pad Sec.12-T5N-R62W	MD Reference:	WELL @ 4613.0ft (Cade 22 RKB - 16')
Site Error:	0.0ft	North Reference:	True
Reference Well:	State Antelope 44-41-12HNB	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #2	Database:	Landmark
Reference Design:	Plan #4 Sidetrack (3-15-13)	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 95-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)	Minimum Separation (ft)	Separation Factor		
9,200.0	6,117.0	8,399.0	6,053.9	33.4	18.0	-48.16	2,139.0	1,200.1	812.3	773.0	39.30	20.667		
9,300.0	6,117.0	8,399.0	6,053.9	35.2	18.0	-48.16	2,139.0	1,200.1	911.7	871.0	40.75	22.375		
9,400.0	6,117.0	8,399.0	6,053.9	37.1	18.0	-48.16	2,139.0	1,200.1	1,011.2	969.0	42.19	23.967		
9,500.0	6,117.0	8,399.0	6,053.9	38.9	18.0	-48.16	2,139.0	1,200.1	1,110.8	1,067.2	43.64	25.453		
9,600.0	6,117.0	8,399.0	6,053.9	40.8	18.0	-48.16	2,139.0	1,200.1	1,210.5	1,165.4	45.09	26.844		
9,700.0	6,117.0	8,399.0	6,053.9	42.7	18.0	-48.16	2,139.0	1,200.1	1,310.2	1,263.7	46.55	28.147		
9,800.0	6,117.0	8,399.0	6,053.9	44.5	18.0	-48.16	2,139.0	1,200.1	1,410.0	1,362.0	48.01	29.370		
9,900.0	6,117.0	8,399.0	6,053.9	46.4	18.0	-48.16	2,139.0	1,200.1	1,509.7	1,460.3	49.47	30.520		
10,000.0	6,117.0	8,399.0	6,053.9	48.3	18.0	-48.16	2,139.0	1,200.1	1,609.6	1,558.6	50.93	31.603		
10,100.0	6,117.0	8,399.0	6,053.9	50.1	18.0	-48.16	2,139.0	1,200.1	1,709.4	1,657.0	52.40	32.625		
10,200.0	6,117.0	8,399.0	6,053.9	52.0	18.0	-48.16	2,139.0	1,200.1	1,809.3	1,755.4	53.86	33.590		
10,300.0	6,117.0	8,399.0	6,053.9	53.9	18.0	-48.16	2,139.0	1,200.1	1,909.1	1,853.8	55.33	34.503		
10,400.0	6,117.0	8,399.0	6,053.9	55.8	18.0	-48.16	2,139.0	1,200.1	2,009.0	1,952.2	56.80	35.369		
10,500.0	6,117.0	8,399.0	6,053.9	57.6	18.0	-48.16	2,139.0	1,200.1	2,108.9	2,050.6	58.27	36.189		
10,600.0	6,117.0	8,399.0	6,053.9	59.5	18.0	-48.16	2,139.0	1,200.1	2,208.8	2,149.1	59.75	36.968		
10,700.0	6,117.0	8,399.0	6,053.9	61.4	18.0	-48.16	2,139.0	1,200.1	2,308.7	2,247.5	61.22	37.709		
10,800.0	6,117.0	8,399.0	6,053.9	63.3	18.0	-48.16	2,139.0	1,200.1	2,408.6	2,345.9	62.70	38.415		
10,815.7	6,117.0	8,399.0	6,053.9	63.6	18.0	-48.16	2,139.0	1,200.1	2,424.3	2,361.4	62.93	38.522		

Company:	BONANZA CREEK ENERGY OPERATING	Local Co-ordinate Reference:	Well State Antelope 44-41-12HNB
Project:	SEC.12-T5N-R62W	TVD Reference:	WELL @ 4613.0ft (Cade 22 RKB - 16')
Reference Site:	State Antelope 34-12 Pad Sec.12-T5N-R62W	MD Reference:	WELL @ 4613.0ft (Cade 22 RKB - 16')
Site Error:	0.0ft	North Reference:	True
Reference Well:	State Antelope 44-41-12HNB	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #2	Database:	Landmark
Reference Design:	Plan #4 Sidetrack (3-15-13)	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 4613.0ft (Cade 22 RKB - 16 Coordinates are relative to: State Antelope 44-41-12HNB
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000 °
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.80°



Company:	BONANZA CREEK ENERGY OPERATING	Local Co-ordinate Reference:	Well State Antelope 44-41-12HNB
Project:	SEC.12-T5N-R62W	TVD Reference:	WELL @ 4613.0ft (Cade 22 RKB - 16')
Reference Site:	State Antelope 34-12 Pad Sec.12-T5N-R62W	MD Reference:	WELL @ 4613.0ft (Cade 22 RKB - 16')
Site Error:	0.0ft	North Reference:	True
Reference Well:	State Antelope 44-41-12HNB	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #2	Database:	Landmark
Reference Design:	Plan #4 Sidetrack (3-15-13)	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 4613.0ft (Cade 22 RKB - 16 Coordinates are relative to: State Antelope 44-41-12HNB
Offset Depths are relative to Offset Datum Coordinate System is US State Plane 1983, Colorado Northern Zone
Central Meridian is -105.500000 ° Grid Convergence at Surface is: 0.80°

