

BONANZA CREEK ENERGY OPERATING

Well Name: **State Antelope O-K-24HNB**

Surface Location: State Antelope T-24 Pad Sec.24-T5N-R62W
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone

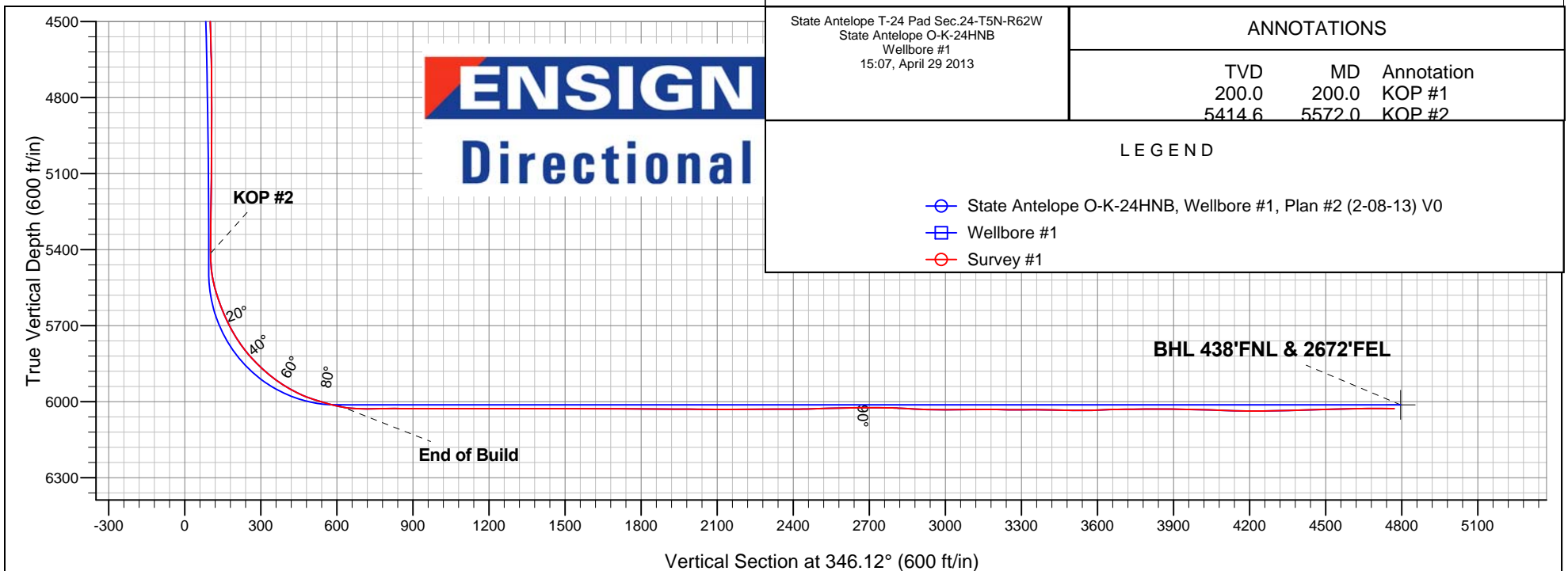
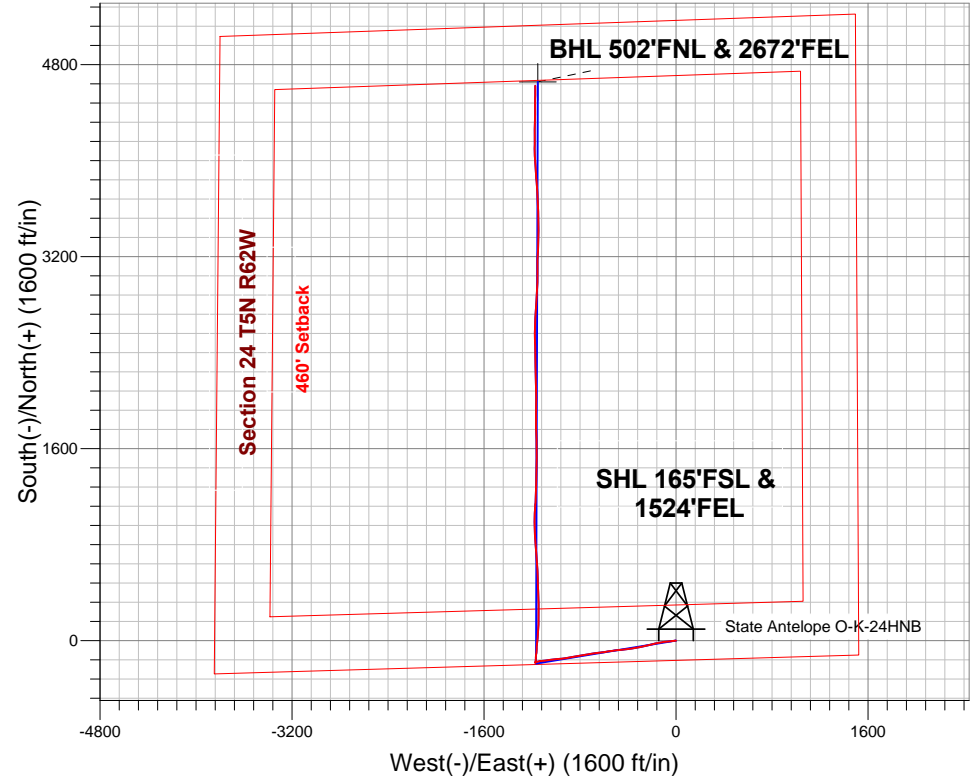
Ground Elevation: 4517.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1383414.31	3343455.17	40.379320	-104.267150	

RKB - 16' WELL @ 4533.0ft (RKB - 16')

FINAL SURVEY

Projected Bottom Hole Location
10727' MD 6028' TVD 4624' N & 1173' W of SHL
89.5 degree Incl @ 359.9 degree AZM



State Antelope T-24 Pad Sec.24-T5N-R62W
State Antelope O-K-24HNB
Wellbore #1
15:07, April 29 2013

ANNOTATIONS

TVD	MD	Annotation
200.0	200.0	KOP #1
5414.6	5572.0	KOP #2

LEGEND

- State Antelope O-K-24HNB, Wellbore #1, Plan #2 (2-08-13) V0
- Wellbore #1
- Survey #1



BONANZA CREEK ENERGY OPERATING

SEC.24-T5N-R62W

State Antelope T-24 Pad Sec.24-T5N-R62W

State Antelope O-K-24HNB

Wellbore #1

Survey: Survey #1

Standard Survey Report

29 April, 2013

Company:	BONANZA CREEK ENERGY OPERATING	Local Co-ordinate Reference:	Well State Antelope O-K-24HNB
Project:	SEC.24-T5N-R62W	TVD Reference:	WELL @ 4533.0ft (RKB - 16')
Site:	State Antelope T-24 Pad Sec.24-T5N-R62W	MD Reference:	WELL @ 4533.0ft (RKB - 16')
Well:	State Antelope O-K-24HNB	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Project	SEC.24-T5N-R62W		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		Using Well Reference Point
Map Zone:	Colorado Northern Zone		Using geodetic scale factor

Site		State Antelope T-24 Pad Sec.24-T5N-R62W			
Site Position:		Northing:	1,383,414.32 ft	Latitude:	40.379320
From:	Lat/Long	Easting:	3,343,455.17 ft	Longitude:	-104.267150
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.80 °

Well	State Antelope O-K-24HNB					
Well Position	+N/-S	0.0 ft	Northing:	1,383,414.31 ft	Latitude:	40.379320
	+E/-W	0.0 ft	Easting:	3,343,455.17 ft	Longitude:	-104.267150
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,517.0ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	2/8/2013	8.37	67.06	53,001

Design	Wellbore #1				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.0	0.0	0.0	346.12	

Survey Program		Date	4/29/2013		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
154.0	10,727.0	Survey #1 (Wellbore #1)	MWD	MWD - Standard	

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
154.0	0.30	157.10	154.0	-0.4	0.2	-0.4	0.19	0.19	0.00
200.0	0.82	262.55	200.0	-0.5	-0.1	-0.5	2.05	1.13	229.23
KOP #1									
249.0	1.80	272.40	249.0	-0.5	-1.2	-0.2	2.05	2.01	20.11
344.0	3.30	266.60	343.9	-0.6	-5.5	0.7	1.60	1.58	-6.11
419.0	4.30	260.80	418.7	-1.2	-10.4	1.3	1.43	1.33	-7.73
442.6	4.42	259.91	442.3	-1.5	-12.2	1.4	0.58	0.50	-3.77
9 5/8"									
498.0	4.70	258.00	497.5	-2.4	-16.5	1.7	0.58	0.51	-3.45
625.0	6.80	268.60	623.8	-3.6	-29.1	3.5	1.85	1.65	8.35
752.0	9.70	263.30	749.5	-5.1	-47.2	6.4	2.36	2.28	-4.17
879.0	12.40	263.30	874.1	-7.9	-71.4	9.5	2.13	2.13	0.00

Company: BONANZA CREEK ENERGY OPERATING
Project: SEC.24-T5N-R62W
Site: State Antelope T-24 Pad Sec.24-T5N-R62W
Well: State Antelope O-K-24HNB
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well State Antelope O-K-24HNB
TVD Reference: WELL @ 4533.0ft (RKB - 16')
MD Reference: WELL @ 4533.0ft (RKB - 16')
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: Landmark

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
1,007.0	15.40	262.90	998.4	-11.6	-101.9	13.2	2.34	2.34	-0.31
1,136.0	16.50	259.40	1,122.4	-17.1	-136.9	16.3	1.13	0.85	-2.71
1,260.0	17.10	257.50	1,241.1	-24.3	-172.0	17.7	0.66	0.48	-1.53
1,383.0	17.60	255.20	1,358.5	-32.9	-207.7	17.8	0.69	0.41	-1.87
1,507.0	15.40	257.70	1,477.4	-41.2	-241.9	18.0	1.86	-1.77	2.02
1,630.0	15.20	258.00	1,596.1	-48.1	-273.6	19.0	0.17	-0.16	0.24
1,752.0	14.90	258.00	1,713.9	-54.7	-304.6	20.0	0.25	-0.25	0.00
1,877.0	14.30	258.00	1,834.8	-61.2	-335.4	21.0	0.48	-0.48	0.00
1,999.0	14.90	264.50	1,952.9	-65.8	-365.8	23.8	1.43	0.49	5.33
2,123.0	15.60	262.90	2,072.5	-69.4	-398.2	28.1	0.66	0.56	-1.29
2,246.0	16.10	264.90	2,190.9	-73.0	-431.6	32.7	0.60	0.41	1.63
2,367.0	15.70	262.80	2,307.2	-76.5	-464.5	37.1	0.58	-0.33	-1.74
2,489.0	15.70	262.60	2,424.7	-80.7	-497.3	40.9	0.04	0.00	-0.16
2,611.0	16.20	261.90	2,542.0	-85.3	-530.5	44.5	0.44	0.41	-0.57
2,733.0	15.70	260.70	2,659.3	-90.3	-563.6	47.5	0.49	-0.41	-0.98
2,860.0	15.40	260.70	2,781.6	-95.8	-597.2	50.2	0.24	-0.24	0.00
2,989.0	14.20	263.10	2,906.4	-100.5	-629.9	53.5	1.04	-0.93	1.86
3,116.0	13.40	262.10	3,029.7	-104.4	-659.9	57.0	0.66	-0.63	-0.79
3,244.0	13.50	264.70	3,154.2	-107.8	-689.5	60.7	0.48	0.08	2.03
3,372.0	15.90	261.90	3,278.0	-111.7	-721.7	64.7	1.95	1.88	-2.19
3,500.0	18.10	259.80	3,400.4	-117.6	-758.6	67.8	1.78	1.72	-1.64
3,626.0	18.70	258.70	3,519.9	-125.1	-797.7	69.9	0.55	0.48	-0.87
3,751.0	18.60	259.10	3,638.4	-132.8	-836.9	71.9	0.13	-0.08	0.32
3,878.0	17.70	261.00	3,759.1	-139.6	-875.9	74.6	0.85	-0.71	1.50
4,005.0	17.10	262.20	3,880.2	-145.2	-913.5	78.2	0.55	-0.47	0.94
4,133.0	17.10	262.80	4,002.6	-150.1	-950.8	82.4	0.14	0.00	0.47
4,261.0	16.80	264.70	4,125.0	-154.2	-987.9	87.3	0.49	-0.23	1.48
4,389.0	15.70	264.50	4,247.9	-157.5	-1,023.5	92.6	0.86	-0.86	-0.16
4,516.0	15.90	262.10	4,370.1	-161.6	-1,057.9	96.9	0.54	0.16	-1.89
4,644.0	14.10	263.10	4,493.8	-165.8	-1,090.7	100.6	1.42	-1.41	0.78
4,772.0	12.20	262.90	4,618.4	-169.4	-1,119.6	104.1	1.48	-1.48	-0.16
4,900.0	8.80	259.20	4,744.2	-172.9	-1,142.7	106.2	2.71	-2.66	-2.89
5,028.0	5.70	253.60	4,871.2	-176.5	-1,158.4	106.5	2.48	-2.42	-4.38
5,156.0	3.70	255.00	4,998.8	-179.4	-1,168.5	106.1	1.56	-1.56	1.09
5,284.0	1.10	213.50	5,126.6	-181.5	-1,173.1	105.2	2.32	-2.03	-32.42
5,412.0	0.90	132.70	5,254.6	-183.2	-1,173.1	103.6	1.02	-0.16	-63.13
5,540.0	1.00	93.50	5,382.6	-183.9	-1,171.2	102.4	0.50	0.08	-30.63
5,572.0	1.00	83.80	5,414.6	-183.9	-1,170.7	102.3	0.53	0.00	-30.31
KOP #2									
5,604.0	2.80	11.70	5,446.6	-183.1	-1,170.2	102.9	8.34	5.63	-225.31
5,636.0	6.50	5.60	5,478.5	-180.6	-1,169.9	105.3	11.65	11.56	-19.06
5,668.0	10.80	5.20	5,510.1	-175.8	-1,169.4	109.9	13.44	13.44	-1.25
5,700.0	14.40	5.70	5,541.3	-168.8	-1,168.8	116.5	11.26	11.25	1.56
5,732.0	17.60	3.30	5,572.1	-160.0	-1,168.1	124.8	10.21	10.00	-7.50
5,764.0	20.30	2.00	5,602.3	-149.7	-1,167.6	134.8	8.54	8.44	-4.06
5,795.0	22.30	4.00	5,631.2	-138.4	-1,167.0	145.6	6.86	6.45	6.45
5,827.0	24.70	5.60	5,660.6	-125.7	-1,166.0	157.7	7.76	7.50	5.00
5,859.0	27.30	6.60	5,689.3	-111.8	-1,164.5	170.8	8.24	8.13	3.13
5,891.0	30.10	6.00	5,717.4	-96.5	-1,162.8	185.3	8.80	8.75	-1.88
5,921.0	32.90	3.30	5,743.0	-80.9	-1,161.5	200.1	10.45	9.33	-9.00
5,953.0	35.90	1.50	5,769.4	-62.8	-1,160.8	217.5	9.90	9.38	-5.63
5,985.0	39.30	4.20	5,794.7	-43.3	-1,159.8	236.2	11.80	10.63	8.44
6,017.0	42.50	5.60	5,818.9	-22.4	-1,158.0	256.0	10.40	10.00	4.38
6,049.0	45.90	5.20	5,841.9	-0.2	-1,155.9	277.0	10.66	10.63	-1.25

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Site:	State Antelope T-24 Pad Sec.24-T5N-R62W	MD Reference:	WELL @ 4533.0ft (RKB - 16')
Well:	State Antelope O-K-24HNB	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
6,081.0	47.80	5.40	5,863.7	23.0	-1,153.7	299.1	5.95	5.94	0.63
6,113.0	50.60	5.20	5,884.6	47.1	-1,151.5	322.0	8.76	8.75	-0.63
6,144.0	53.70	4.30	5,903.7	71.5	-1,149.5	345.2	10.26	10.00	-2.90
6,175.0	56.90	4.00	5,921.3	96.9	-1,147.6	369.4	10.35	10.32	-0.97
6,206.0	59.60	2.90	5,937.6	123.3	-1,146.1	394.6	9.22	8.71	-3.55
6,237.0	61.60	2.20	5,952.8	150.2	-1,144.9	420.5	6.74	6.45	-2.26
6,268.0	64.70	0.40	5,966.8	177.9	-1,144.2	447.2	11.26	10.00	-5.81
6,299.0	68.30	359.10	5,979.2	206.3	-1,144.4	474.8	12.23	11.61	-4.19
6,332.0	73.10	359.10	5,990.1	237.4	-1,144.8	505.1	14.55	14.55	0.00
6,363.0	73.80	358.40	5,998.9	267.1	-1,145.5	534.1	3.13	2.26	-2.26
6,396.0	74.10	359.60	6,008.1	298.8	-1,146.0	565.0	3.61	0.91	3.64
6,427.0	76.70	359.20	6,015.9	328.8	-1,146.4	594.2	8.48	8.39	-1.29
6,458.0	80.20	358.70	6,022.1	359.2	-1,146.9	623.8	11.40	11.29	-1.61
6,490.0	84.30	358.40	6,026.4	390.9	-1,147.7	654.8	12.85	12.81	-0.94
6,522.0	88.60	358.50	6,028.4	422.8	-1,148.6	686.0	13.44	13.44	0.31
6,553.0	90.00	357.10	6,028.7	453.8	-1,149.8	716.3	6.39	4.52	-4.52
6,571.0	90.17	357.62	6,028.7	471.8	-1,150.6	734.0	3.06	0.97	2.90
4-1/2"									
6,584.0	90.30	358.00	6,028.7	484.8	-1,151.1	746.7	3.06	0.97	2.90
6,607.0	90.40	358.90	6,028.5	507.8	-1,151.7	769.2	3.94	0.43	3.91
6,630.5	90.37	358.34	6,028.4	531.2	-1,152.3	792.1	2.39	-0.11	-2.39
7"									
6,695.0	90.30	356.80	6,028.0	595.7	-1,155.0	855.4	2.39	-0.11	-2.39
6,727.0	89.90	356.20	6,027.9	627.6	-1,157.0	886.8	2.25	-1.25	-1.88
6,759.0	89.80	356.20	6,028.0	659.6	-1,159.1	918.3	0.31	-0.31	0.00
6,790.0	90.00	355.70	6,028.1	690.5	-1,161.3	948.9	1.74	0.65	-1.61
6,823.0	89.90	356.20	6,028.1	723.4	-1,163.6	981.4	1.55	-0.30	1.52
6,854.0	89.90	356.10	6,028.2	754.3	-1,165.7	1,011.9	0.32	0.00	-0.32
6,886.0	90.10	354.00	6,028.2	786.2	-1,168.5	1,043.5	6.59	0.63	-6.56
6,917.0	90.20	355.90	6,028.1	817.1	-1,171.2	1,074.2	6.14	0.32	6.13
6,949.0	89.80	357.50	6,028.1	849.0	-1,173.0	1,105.6	5.15	-1.25	5.00
6,980.0	89.50	356.90	6,028.3	880.0	-1,174.5	1,136.0	2.16	-0.97	-1.94
7,012.0	89.70	356.80	6,028.5	911.9	-1,176.3	1,167.5	0.70	0.63	-0.31
7,043.0	89.90	358.00	6,028.6	942.9	-1,177.7	1,197.9	3.92	0.65	3.87
7,075.0	89.70	359.90	6,028.7	974.9	-1,178.3	1,229.1	5.97	-0.63	5.94
7,106.0	90.00	2.60	6,028.8	1,005.9	-1,177.6	1,259.0	8.76	0.97	8.71
7,138.0	91.00	2.00	6,028.5	1,037.9	-1,176.3	1,289.7	3.64	3.13	-1.88
7,170.0	91.50	3.10	6,027.8	1,069.8	-1,174.9	1,320.4	3.78	1.56	3.44
7,201.0	90.70	2.70	6,027.2	1,100.8	-1,173.3	1,350.1	2.89	-2.58	-1.29
7,233.0	90.50	2.70	6,026.9	1,132.7	-1,171.8	1,380.8	0.63	-0.63	0.00
7,264.0	89.80	3.80	6,026.8	1,163.7	-1,170.1	1,410.4	4.21	-2.26	3.55
7,296.0	89.20	2.70	6,027.1	1,195.6	-1,168.3	1,441.0	3.92	-1.88	-3.44
7,327.0	89.70	2.90	6,027.4	1,226.6	-1,166.8	1,470.7	1.74	1.61	0.65
7,359.0	89.60	2.20	6,027.6	1,258.6	-1,165.3	1,501.4	2.21	-0.31	-2.19
7,391.0	89.70	1.00	6,027.8	1,290.6	-1,164.4	1,532.2	3.76	0.31	-3.75
7,422.0	89.70	0.80	6,027.9	1,321.5	-1,163.9	1,562.2	0.65	0.00	-0.65
7,453.0	89.70	0.60	6,028.1	1,352.5	-1,163.6	1,592.2	0.65	0.00	-0.65
7,484.0	90.00	0.30	6,028.2	1,383.5	-1,163.3	1,622.2	1.37	0.97	-0.97
7,515.0	89.90	2.00	6,028.2	1,414.5	-1,162.7	1,652.1	5.49	-0.32	5.48
7,547.0	89.30	0.60	6,028.4	1,446.5	-1,162.0	1,683.0	4.76	-1.88	-4.38
7,579.0	89.30	0.10	6,028.8	1,478.5	-1,161.8	1,714.0	1.56	0.00	-1.56
7,611.0	90.00	1.70	6,029.0	1,510.5	-1,161.3	1,745.0	5.46	2.19	5.00
7,643.0	90.00	1.00	6,029.0	1,542.5	-1,160.5	1,775.9	2.19	0.00	-2.19
7,675.0	89.60	358.90	6,029.1	1,574.5	-1,160.6	1,806.9	6.68	-1.25	-6.56

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Wellbore: Wellbore #1
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Local Co-ordinate Reference: Well State Antelope O-K-24HNB
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North Reference: True
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Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
7,707.0	90.00	359.60	6,029.2	1,606.5	-1,161.0	1,838.1	2.52	1.25	2.19
7,738.0	89.90	359.40	6,029.3	1,637.5	-1,161.2	1,868.2	0.72	-0.32	-0.65
7,770.0	89.70	358.40	6,029.4	1,669.5	-1,161.9	1,899.5	3.19	-0.63	-3.13
7,800.0	89.40	358.20	6,029.6	1,699.5	-1,162.7	1,928.8	1.20	-1.00	-0.67
7,831.0	90.00	357.10	6,029.8	1,730.5	-1,164.0	1,959.1	4.04	1.94	-3.55
7,863.0	89.50	358.70	6,029.9	1,762.4	-1,165.2	1,990.5	5.24	-1.56	5.00
7,895.0	89.60	358.50	6,030.2	1,794.4	-1,166.0	2,021.7	0.70	0.31	-0.63
7,927.0	89.40	0.30	6,030.4	1,826.4	-1,166.3	2,052.9	5.66	-0.63	5.63
7,959.0	89.60	0.60	6,030.7	1,858.4	-1,166.1	2,083.9	1.13	0.63	0.94
7,991.0	90.40	1.20	6,030.7	1,890.4	-1,165.6	2,114.8	3.12	2.50	1.88
8,022.0	89.90	359.90	6,030.6	1,921.4	-1,165.3	2,144.8	4.49	-1.61	-4.19
8,054.0	89.90	359.60	6,030.7	1,953.4	-1,165.4	2,175.9	0.94	0.00	-0.94
8,086.0	90.40	0.30	6,030.6	1,985.4	-1,165.4	2,207.0	2.69	1.56	2.19
8,118.0	90.70	1.50	6,030.3	2,017.4	-1,164.9	2,237.9	3.87	0.94	3.75
8,150.0	90.30	0.30	6,030.0	2,049.4	-1,164.4	2,268.9	3.95	-1.25	-3.75
8,182.0	89.90	358.20	6,030.0	2,081.4	-1,164.8	2,300.0	6.68	-1.25	-6.56
8,213.0	90.20	358.40	6,029.9	2,112.4	-1,165.8	2,330.3	1.16	0.97	0.65
8,245.0	90.80	359.60	6,029.7	2,144.4	-1,166.3	2,361.5	4.19	1.88	3.75
8,277.0	90.00	358.00	6,029.4	2,176.4	-1,167.0	2,392.7	5.59	-2.50	-5.00
8,309.0	90.00	357.60	6,029.4	2,208.3	-1,168.2	2,424.1	1.25	0.00	-1.25
8,341.0	91.30	357.50	6,029.1	2,240.3	-1,169.6	2,455.4	4.07	4.06	-0.31
8,372.0	91.50	0.30	6,028.3	2,271.3	-1,170.2	2,485.7	9.05	0.65	9.03
8,404.0	91.60	358.20	6,027.5	2,303.3	-1,170.6	2,516.8	6.57	0.31	-6.56
8,435.0	92.00	359.20	6,026.5	2,334.2	-1,171.3	2,547.1	3.47	1.29	3.23
8,466.0	91.00	359.60	6,025.7	2,365.2	-1,171.6	2,577.2	3.47	-3.23	1.29
8,498.0	91.30	0.30	6,025.0	2,397.2	-1,171.7	2,608.3	2.38	0.94	2.19
8,530.0	91.20	359.60	6,024.3	2,429.2	-1,171.7	2,639.4	2.21	-0.31	-2.19
8,561.0	89.30	358.40	6,024.2	2,460.2	-1,172.2	2,669.6	7.25	-6.13	-3.87
8,592.0	89.90	358.20	6,024.4	2,491.2	-1,173.1	2,699.9	2.04	1.94	-0.65
8,624.0	90.00	357.60	6,024.4	2,523.2	-1,174.3	2,731.2	1.90	0.31	-1.88
8,655.0	89.50	358.40	6,024.6	2,554.2	-1,175.4	2,761.5	3.04	-1.61	2.58
8,687.0	88.50	359.40	6,025.1	2,586.1	-1,176.0	2,792.7	4.42	-3.13	3.13
8,719.0	87.10	2.70	6,026.4	2,618.1	-1,175.4	2,823.6	11.19	-4.38	10.31
8,750.0	86.70	4.00	6,028.0	2,649.0	-1,173.6	2,853.2	4.38	-1.29	4.19
8,782.0	87.50	3.60	6,029.7	2,680.9	-1,171.5	2,883.6	2.79	2.50	-1.25
8,813.0	88.30	3.60	6,030.8	2,711.8	-1,169.6	2,913.2	2.58	2.58	0.00
8,845.0	88.90	3.40	6,031.6	2,743.7	-1,167.6	2,943.7	1.98	1.88	-0.63
8,877.0	89.50	3.60	6,032.0	2,775.7	-1,165.6	2,974.3	1.98	1.88	0.63
8,909.0	90.30	2.60	6,032.1	2,807.6	-1,163.9	3,004.9	4.00	2.50	-3.13
8,940.0	90.70	3.80	6,031.8	2,838.6	-1,162.2	3,034.5	4.08	1.29	3.87
8,972.0	90.80	3.60	6,031.4	2,870.5	-1,160.1	3,065.0	0.70	0.31	-0.63
9,003.0	90.00	3.30	6,031.2	2,901.5	-1,158.3	3,094.6	2.76	-2.58	-0.97
9,034.0	89.90	2.00	6,031.2	2,932.4	-1,156.8	3,124.3	4.21	-0.32	-4.19
9,066.0	89.90	1.70	6,031.3	2,964.4	-1,155.8	3,155.1	0.94	0.00	-0.94
9,098.0	89.60	0.50	6,031.4	2,996.4	-1,155.2	3,186.0	3.87	-0.94	-3.75
9,130.0	89.30	0.10	6,031.7	3,028.4	-1,155.0	3,217.0	1.56	-0.94	-1.25
9,162.0	89.50	359.80	6,032.0	3,060.4	-1,155.0	3,248.1	1.13	0.63	-0.94
9,194.0	89.70	0.50	6,032.3	3,092.4	-1,155.0	3,279.2	2.27	0.63	2.19
9,226.0	90.00	0.50	6,032.3	3,124.4	-1,154.7	3,310.2	0.94	0.94	0.00
9,258.0	90.40	0.60	6,032.2	3,156.4	-1,154.4	3,341.1	1.29	1.25	0.31
9,290.0	90.00	1.90	6,032.1	3,188.4	-1,153.7	3,372.0	4.25	-1.25	4.06
9,322.0	89.30	2.20	6,032.3	3,220.4	-1,152.5	3,402.8	2.38	-2.19	0.94
9,354.0	88.50	2.20	6,032.9	3,252.3	-1,151.3	3,433.5	2.50	-2.50	0.00
9,386.0	88.20	2.60	6,033.8	3,284.3	-1,150.0	3,464.2	1.56	-0.94	1.25

Company:	BONANZA CREEK ENERGY OPERATING	Local Co-ordinate Reference:	Well State Antelope O-K-24HNB
Project:	SEC.24-T5N-R62W	TVD Reference:	WELL @ 4533.0ft (RKB - 16')
Site:	State Antelope T-24 Pad Sec.24-T5N-R62W	MD Reference:	WELL @ 4533.0ft (RKB - 16')
Well:	State Antelope O-K-24HNB	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
9,418.0	88.70	3.10	6,034.7	3,316.2	-1,148.4	3,494.9	2.21	1.56	1.56
9,450.0	90.20	2.40	6,035.0	3,348.2	-1,146.8	3,525.5	5.17	4.69	-2.19
9,482.0	91.60	0.60	6,034.5	3,380.2	-1,146.0	3,556.4	7.13	4.38	-5.63
9,514.0	91.90	0.60	6,033.5	3,412.2	-1,145.7	3,587.4	0.94	0.94	0.00
9,545.0	92.00	359.40	6,032.5	3,443.2	-1,145.7	3,617.4	3.88	0.32	-3.87
9,577.0	91.10	359.20	6,031.6	3,475.1	-1,146.0	3,648.6	2.88	-2.81	-0.63
9,609.0	91.00	359.60	6,031.0	3,507.1	-1,146.4	3,679.7	1.29	-0.31	1.25
9,641.0	91.00	358.00	6,030.5	3,539.1	-1,147.1	3,710.9	5.00	0.00	-5.00
9,672.0	90.30	357.30	6,030.1	3,570.1	-1,148.3	3,741.3	3.19	-2.26	-2.26
9,703.0	90.10	358.50	6,030.0	3,601.1	-1,149.5	3,771.7	3.92	-0.65	3.87
9,734.0	90.20	358.20	6,029.9	3,632.1	-1,150.4	3,802.0	1.02	0.32	-0.97
9,764.0	90.60	356.80	6,029.7	3,662.0	-1,151.7	3,831.4	4.85	1.33	-4.67
9,795.0	90.70	356.20	6,029.4	3,693.0	-1,153.6	3,861.9	1.96	0.32	-1.94
9,827.0	89.30	357.60	6,029.4	3,724.9	-1,155.3	3,893.3	6.19	-4.38	4.38
9,858.0	89.00	356.80	6,029.8	3,755.9	-1,156.8	3,923.7	2.76	-0.97	-2.58
9,890.0	88.60	355.90	6,030.5	3,787.8	-1,158.8	3,955.2	3.08	-1.25	-2.81
9,922.0	88.00	355.20	6,031.5	3,819.7	-1,161.3	3,986.7	2.88	-1.88	-2.19
9,954.0	88.50	356.90	6,032.4	3,851.6	-1,163.5	4,018.2	5.54	1.56	5.31
9,984.0	88.70	357.10	6,033.2	3,881.5	-1,165.1	4,047.7	0.94	0.67	0.67
10,016.0	88.50	356.20	6,033.9	3,913.5	-1,167.0	4,079.1	2.88	-0.63	-2.81
10,047.0	87.70	355.50	6,035.0	3,944.4	-1,169.2	4,109.7	3.43	-2.58	-2.26
10,078.0	88.20	354.70	6,036.1	3,975.3	-1,171.8	4,140.3	3.04	1.61	-2.58
10,109.0	88.80	356.40	6,036.9	4,006.1	-1,174.2	4,170.9	5.81	1.94	5.48
10,140.0	89.80	356.90	6,037.3	4,037.1	-1,176.1	4,201.3	3.61	3.23	1.61
10,172.0	90.30	359.90	6,037.2	4,069.1	-1,177.0	4,232.6	9.50	1.56	9.38
10,204.0	90.70	0.10	6,037.0	4,101.1	-1,177.0	4,263.7	1.40	1.25	0.63
10,235.0	91.50	0.50	6,036.4	4,132.1	-1,176.8	4,293.7	2.89	2.58	1.29
10,267.0	91.30	359.90	6,035.6	4,164.1	-1,176.7	4,324.7	1.98	-0.63	-1.88
10,299.0	91.30	359.20	6,034.9	4,196.0	-1,176.9	4,355.9	2.19	0.00	-2.19
10,332.0	91.80	0.10	6,034.0	4,229.0	-1,177.1	4,387.9	3.12	1.52	2.73
10,363.0	91.60	0.60	6,033.0	4,260.0	-1,176.9	4,418.0	1.74	-0.65	1.61
10,395.0	91.50	1.90	6,032.2	4,292.0	-1,176.2	4,448.8	4.07	-0.31	4.06
10,427.0	91.40	1.70	6,031.4	4,324.0	-1,175.2	4,479.6	0.70	-0.31	-0.63
10,459.0	91.50	1.50	6,030.6	4,356.0	-1,174.3	4,510.5	0.70	0.31	-0.63
10,491.0	91.30	1.00	6,029.8	4,387.9	-1,173.7	4,541.4	1.68	-0.63	-1.56
10,523.0	91.60	359.90	6,029.0	4,419.9	-1,173.4	4,572.3	3.56	0.94	-3.44
10,555.0	90.70	0.50	6,028.3	4,451.9	-1,173.3	4,603.4	3.38	-2.81	1.88
10,587.0	90.80	0.30	6,027.9	4,483.9	-1,173.1	4,634.4	0.70	0.31	-0.63
10,619.0	90.70	0.30	6,027.5	4,515.9	-1,172.9	4,665.4	0.31	-0.31	0.00
10,651.0	90.10	0.60	6,027.3	4,547.9	-1,172.6	4,696.4	2.10	-1.88	0.94
10,675.0	89.50	359.90	6,027.4	4,571.9	-1,172.5	4,719.7	3.84	-2.50	-2.92
10,727.0	89.50	359.90	6,027.8	4,623.9	-1,172.6	4,770.2	0.00	0.00	0.00
TD at 10727' - 4-1/2" - BHL 470'FNL & 2650'FEL									

Design 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									
BHL 470'FNL & 2650'	0.00	0.00	6,013.0	4,655.9	-1,150.4	1,388,053.61	3,342,240.17	40.392100	-104.271280
- survey misses target center by 41.7ft at 10727.0ft MD (6027.8 TVD, 4623.9 N, -1172.6 E)									
- Point									

Company:	BONANZA CREEK ENERGY OPERATING	Local Co-ordinate Reference:	Well State Antelope O-K-24HNB
Project:	SEC.24-T5N-R62W	TVD Reference:	WELL @ 4533.0ft (RKB - 16')
Site:	State Antelope T-24 Pad Sec.24-T5N-R62W	MD Reference:	WELL @ 4533.0ft (RKB - 16')
Well:	State Antelope O-K-24HNB	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name		Casing Diameter (")	Hole Diameter (")
442.6	442.3	9 5/8"		9-5/8	12-1/4
6,630.5	6,028.4	7"		7	7-1/2
6,571.0	6,028.7	4-1/2"		4-1/2	6
10,727.0	6,027.8	4-1/2"		4-1/2	6

Survey Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N/-S (ft)	+E/-W (ft)		
200.0	200.0	-0.5	-0.1	KOP #1	
5,572.0	5,414.6	-183.9	-1,170.7	KOP #2	
10,727.0	6,027.8	4,623.9	-1,172.6	TD at 10727'	

Checked By: _____	Approved By: _____	Date: _____
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