

BONANZA CREEK ENERGY

WELD COUNTY

SEC 2-T5N-R62W

STATE ANTELOPE X-D-3HN

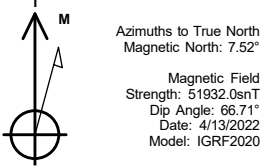
OWB

Plan: PROPOSAL 1

Standard Planning Report

19 April, 2022

Project: WELD COUNTY
Site: SEC 2-T5N-R62W
Well: STATE ANTELOPE X-D-3HN
Wellbore: OWB
Design: PROPOSAL 1



WELL DETAILS: STATE ANTELOPE X-D-3HN

4647.00						
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	1402387.87	3334368.65	40.431740°N	104.298840°W	

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	
3	1237.69	22.75	167.58	1208.02	-217.73	47.97	2.00	167.58	44.10	
4	5931.18	22.75	167.58	5536.24	-1990.53	438.54	0.00	0.00	403.19	
5	6877.35	90.00	269.59	6109.00	-2229.59	-130.86	10.00	101.10	1020.63	LP-STATE ANTELOPE X-D-3HN
6	11875.05	90.00	269.59	6109.00	-2265.49	-5128.43	0.00	0.00	5606.53	PBHL-STATE ANTELOPE X-D-3HN

ANNOTATIONS

MD	Inc	Azi	TVD	+N/-S	+E/-W	VSec	Departure	Annotation
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	Start Build 2.00
1237.69	22.75	167.58	1208.02	-217.73	47.97	44.10	222.95	Start 4693.49 hold at 1237.69 MD
5931.18	22.75	167.58	5536.24	-1990.53	438.54	403.19	2038.27	Start DLS 10.00 TFO 101.10
6877.35	90.00	269.59	6109.00	-2229.59	-130.86	1020.63	2708.84	Start 4997.70 hold at 6877.35 MD
11875.05	90.00	269.59	6109.00	-2265.49	-5128.43	5606.53	7706.54	TD at 11875.05

DESIGN TARGET DETAILS

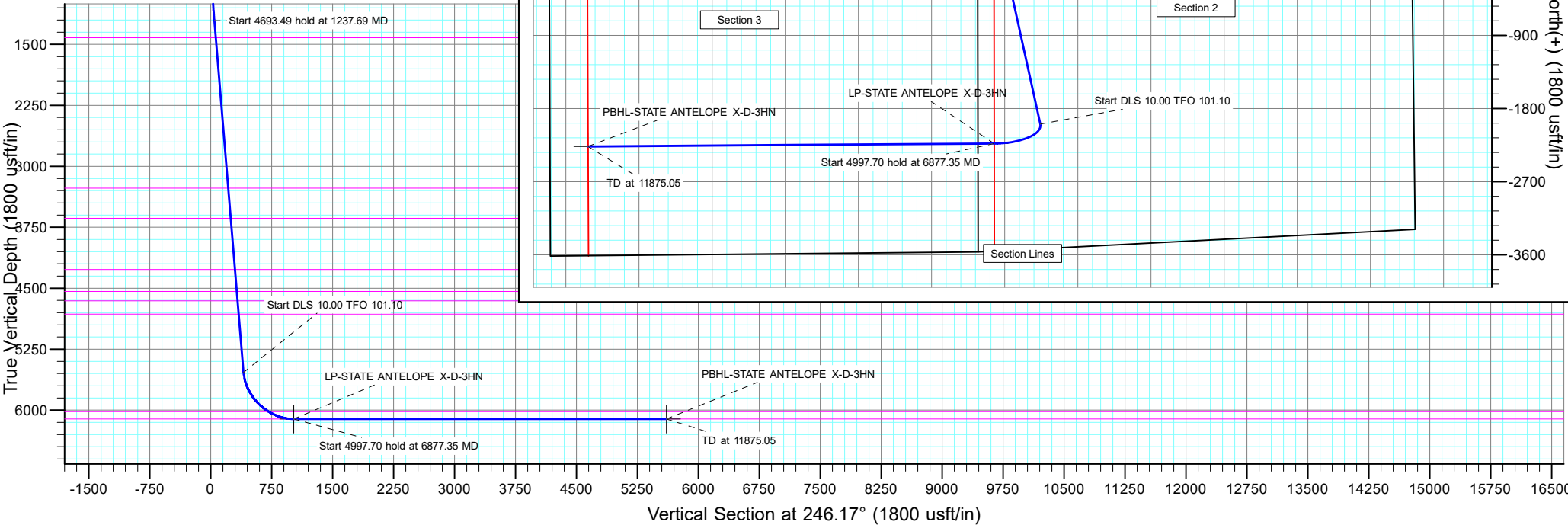
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
LP-STATE ANTELOPE X-D-3HN	6109.00	-2229.59	-130.86	1400156.79	3334268.01	40.425620°N	104.299310°W	Point
- plan hits target center								
PBHL-STATE ANTELOPE X-D-3HN	6109.00	-2265.49	-5128.43	1400053.21	3329271.57	40.425520°N	104.317260°W	Point
- plan hits target center								

SHL:
1828' FNL, 333' FWL
Sec 2-T5N-R62W

LP:
1321' FSL, 200' FWL
Sec 2-T5N-R62W

BHL:
1344' FSL, 470' FWL
Sec 3-T5N-R62W

PROJECT DETAILS: WELD COUNTY
Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: Colorado Northern Zone
System Datum: Mean Sea Level



Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well STATE ANTELOPE X-D-3HN
Company:	BONANZA CREEK ENERGY	TVD Reference:	KB 24' @ 4671.00usft
Project:	WELD COUNTY	MD Reference:	KB 24' @ 4671.00usft
Site:	SEC 2-T5N-R62W	North Reference:	True
Well:	STATE ANTELOPE X-D-3HN	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PROPOSAL 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		Using geodetic scale factor

Site		SEC 2-T5N-R62W			
Site Position:		Northing:	1,404,201.39 usft	Latitude:	40.436731°N
From:	Lat/Long	Easting:	3,334,009.19 usft	Longitude:	104.300043°W
Position Uncertainty:	0.00 usft	Slot Radius:	13.200 in	Grid Convergence:	0.78 °

Well	STATE ANTELOPE X-D-3HN					
Well Position	+N/-S	-1,818.29 usft	Northing:	1,402,387.87 usft	Latitude:	40.431740°N
	+E/-W	334.90 usft	Easting:	3,334,368.65 usft	Longitude:	104.298840°W
Position Uncertainty		0.00 usft	Wellhead Elevation:		Ground Level:	4,647.00 usft

Wellbore	OWB				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	4/13/2022	7.52	66.71	51,931.97757364

Design	PROPOSAL 1			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	246.17

Plan Survey Tool Program	Date	4/19/2022		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	11,875.05	PROPOSAL 1 (OWB)	MWD OWSG
				OWSG MWD - Standard

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,237.69	22.75	167.58	1,208.02	-217.73	47.97	2.00	2.00	0.00	167.58	
5,931.18	22.75	167.58	5,536.24	-1,990.53	438.54	0.00	0.00	0.00	0.00	
6,877.35	90.00	269.59	6,109.00	-2,229.59	-130.86	10.00	7.11	10.78	101.10	LP-STATE ANTELOP
11,875.05	90.00	269.59	6,109.00	-2,265.49	-5,128.43	0.00	0.00	0.00	0.00	PBHL-STATE ANTELI

Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well STATE ANTELOPE X-D-3HN
Company:	BONANZA CREEK ENERGY	TVD Reference:	KB 24' @ 4671.00usft
Project:	WELD COUNTY	MD Reference:	KB 24' @ 4671.00usft
Site:	SEC 2-T5N-R62W	North Reference:	True
Well:	STATE ANTELOPE X-D-3HN	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PROPOSAL 1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24.00	0.00	0.00	24.00	0.00	0.00	0.00	0.00	0.00	0.00
Laramie-Fox Hills Formation									
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2.00									
200.00	2.00	167.58	199.98	-1.70	0.38	0.35	2.00	2.00	0.00
249.07	2.98	167.58	249.00	-3.79	0.83	0.77	2.00	2.00	0.00
Pierre Formation									
300.00	4.00	167.58	299.84	-6.82	1.50	1.38	2.00	2.00	0.00
400.00	6.00	167.58	399.45	-15.33	3.38	3.10	2.00	2.00	0.00
459.95	7.20	167.58	459.00	-22.05	4.86	4.47	2.00	2.00	0.00
Upper Pierre aquifer									
500.00	8.00	167.58	498.70	-27.23	6.00	5.51	2.00	2.00	0.00
600.00	10.00	167.58	597.47	-42.50	9.36	8.61	2.00	2.00	0.00
700.00	12.00	167.58	695.62	-61.14	13.47	12.38	2.00	2.00	0.00
800.00	14.00	167.58	793.06	-83.10	18.31	16.83	2.00	2.00	0.00
900.00	16.00	167.58	889.64	-108.38	23.88	21.95	2.00	2.00	0.00
1,000.00	18.00	167.58	985.27	-136.93	30.17	27.74	2.00	2.00	0.00
1,100.00	20.00	167.58	1,079.82	-168.72	37.17	34.18	2.00	2.00	0.00
1,200.00	22.00	167.58	1,173.17	-203.72	44.88	41.26	2.00	2.00	0.00
1,237.69	22.75	167.58	1,208.02	-217.73	47.97	44.10	2.00	2.00	0.00
Start 4693.49 hold at 1237.69 MD									
1,300.00	22.75	167.58	1,265.48	-241.27	53.15	48.87	0.00	0.00	0.00
1,400.00	22.75	167.58	1,357.70	-279.04	61.48	56.52	0.00	0.00	0.00
1,466.47	22.75	167.58	1,419.00	-304.15	67.01	61.61	0.00	0.00	0.00
Base of Upper Pierre aquifer									
1,500.00	22.75	167.58	1,449.92	-316.81	69.80	64.17	0.00	0.00	0.00
1,600.00	22.75	167.58	1,542.13	-354.58	78.12	71.82	0.00	0.00	0.00
1,700.00	22.75	167.58	1,634.35	-392.35	86.44	79.47	0.00	0.00	0.00
1,800.00	22.75	167.58	1,726.57	-430.12	94.76	87.12	0.00	0.00	0.00
1,900.00	22.75	167.58	1,818.79	-467.89	103.08	94.77	0.00	0.00	0.00
2,000.00	22.75	167.58	1,911.00	-505.67	111.40	102.43	0.00	0.00	0.00
2,100.00	22.75	167.58	2,003.22	-543.44	119.73	110.08	0.00	0.00	0.00
2,200.00	22.75	167.58	2,095.44	-581.21	128.05	117.73	0.00	0.00	0.00
2,300.00	22.75	167.58	2,187.66	-618.98	136.37	125.38	0.00	0.00	0.00
2,400.00	22.75	167.58	2,279.87	-656.75	144.69	133.03	0.00	0.00	0.00
2,500.00	22.75	167.58	2,372.09	-694.52	153.01	140.68	0.00	0.00	0.00
2,600.00	22.75	167.58	2,464.31	-732.30	161.33	148.33	0.00	0.00	0.00
2,700.00	22.75	167.58	2,556.53	-770.07	169.66	155.98	0.00	0.00	0.00
2,800.00	22.75	167.58	2,648.74	-807.84	177.98	163.63	0.00	0.00	0.00
2,900.00	22.75	167.58	2,740.96	-845.61	186.30	171.28	0.00	0.00	0.00
3,000.00	22.75	167.58	2,833.18	-883.38	194.62	178.93	0.00	0.00	0.00
3,100.00	22.75	167.58	2,925.40	-921.15	202.94	186.58	0.00	0.00	0.00
3,200.00	22.75	167.58	3,017.61	-958.92	211.26	194.24	0.00	0.00	0.00
3,300.00	22.75	167.58	3,109.83	-996.70	219.58	201.89	0.00	0.00	0.00
3,400.00	22.75	167.58	3,202.05	-1,034.47	227.91	209.54	0.00	0.00	0.00
3,472.60	22.75	167.58	3,269.00	-1,061.89	233.95	215.09	0.00	0.00	0.00
Larimer ("Parkman") sandstone									
3,500.00	22.75	167.58	3,294.27	-1,072.24	236.23	217.19	0.00	0.00	0.00
3,600.00	22.75	167.58	3,386.48	-1,110.01	244.55	224.84	0.00	0.00	0.00
3,700.00	22.75	167.58	3,478.70	-1,147.78	252.87	232.49	0.00	0.00	0.00
3,800.00	22.75	167.58	3,570.92	-1,185.55	261.19	240.14	0.00	0.00	0.00
3,873.83	22.75	167.58	3,639.00	-1,213.44	267.34	245.79	0.00	0.00	0.00

Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well STATE ANTELOPE X-D-3HN
Company:	BONANZA CREEK ENERGY	TVD Reference:	KB 24' @ 4671.00usft
Project:	WELD COUNTY	MD Reference:	KB 24' @ 4671.00usft
Site:	SEC 2-T5N-R62W	North Reference:	True
Well:	STATE ANTELOPE X-D-3HN	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PROPOSAL 1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
Pierre Formation									
3,900.00	22.75	167.58	3,663.14	-1,223.33	269.51	247.79	0.00	0.00	0.00
4,000.00	22.75	167.58	3,755.35	-1,261.10	277.84	255.44	0.00	0.00	0.00
4,100.00	22.75	167.58	3,847.57	-1,298.87	286.16	263.09	0.00	0.00	0.00
4,200.00	22.75	167.58	3,939.79	-1,336.64	294.48	270.74	0.00	0.00	0.00
4,300.00	22.75	167.58	4,032.01	-1,374.41	302.80	278.39	0.00	0.00	0.00
4,400.00	22.75	167.58	4,124.22	-1,412.18	311.12	286.05	0.00	0.00	0.00
4,500.00	22.75	167.58	4,216.44	-1,449.95	319.44	293.70	0.00	0.00	0.00
4,557.00	22.75	167.58	4,269.00	-1,471.48	324.19	298.06	0.00	0.00	0.00
Terry ("Sussex") sandstone									
4,600.00	22.75	167.58	4,308.66	-1,487.73	327.76	301.35	0.00	0.00	0.00
4,700.00	22.75	167.58	4,400.88	-1,525.50	336.09	309.00	0.00	0.00	0.00
4,800.00	22.75	167.58	4,493.09	-1,563.27	344.41	316.65	0.00	0.00	0.00
4,849.78	22.75	167.58	4,539.00	-1,582.07	348.55	320.46	0.00	0.00	0.00
Pierre Formation									
4,900.00	22.75	167.58	4,585.31	-1,601.04	352.73	324.30	0.00	0.00	0.00
4,974.49	22.75	167.58	4,654.00	-1,629.17	358.93	330.00	0.00	0.00	0.00
Hygiene ("Shannon") sandstone									
5,000.00	22.75	167.58	4,677.53	-1,638.81	361.05	331.95	0.00	0.00	0.00
5,100.00	22.75	167.58	4,769.75	-1,676.58	369.37	339.60	0.00	0.00	0.00
5,153.41	22.75	167.58	4,819.00	-1,696.76	373.82	343.69	0.00	0.00	0.00
Pierre Formation									
5,200.00	22.75	167.58	4,861.96	-1,714.35	377.69	347.25	0.00	0.00	0.00
5,300.00	22.75	167.58	4,954.18	-1,752.13	386.02	354.90	0.00	0.00	0.00
5,400.00	22.75	167.58	5,046.40	-1,789.90	394.34	362.55	0.00	0.00	0.00
5,500.00	22.75	167.58	5,138.62	-1,827.67	402.66	370.20	0.00	0.00	0.00
5,600.00	22.75	167.58	5,230.83	-1,865.44	410.98	377.86	0.00	0.00	0.00
5,700.00	22.75	167.58	5,323.05	-1,903.21	419.30	385.51	0.00	0.00	0.00
5,800.00	22.75	167.58	5,415.27	-1,940.98	427.62	393.16	0.00	0.00	0.00
5,900.00	22.75	167.58	5,507.49	-1,978.76	435.94	400.81	0.00	0.00	0.00
5,931.18	22.75	167.58	5,536.24	-1,990.53	438.54	403.19	0.00	0.00	0.00
Start DLS 10.00 TFO 101.10									
5,950.00	22.46	172.41	5,553.61	-1,997.65	439.80	404.92	10.00	-1.54	25.71
6,000.00	22.41	185.54	5,599.86	-2,016.62	440.14	412.27	10.00	-0.10	26.25
6,050.00	23.40	198.15	5,645.94	-2,035.55	436.12	423.60	10.00	1.97	25.23
6,100.00	25.30	209.39	5,691.52	-2,054.31	427.78	438.81	10.00	3.80	22.47
6,150.00	27.93	218.90	5,736.23	-2,072.75	415.17	457.79	10.00	5.26	19.02
6,200.00	31.11	226.76	5,779.75	-2,090.72	398.40	480.39	10.00	6.35	15.71
6,250.00	34.68	233.22	5,821.75	-2,108.10	377.59	506.45	10.00	7.14	12.92
6,300.00	38.53	238.57	5,861.89	-2,124.74	352.89	535.77	10.00	7.70	10.71
6,350.00	42.58	243.08	5,899.88	-2,140.53	324.50	568.12	10.00	8.11	9.00
6,400.00	46.79	246.92	5,935.43	-2,155.34	292.64	603.25	10.00	8.41	7.69
6,450.00	51.11	250.26	5,968.26	-2,169.06	257.54	640.90	10.00	8.64	6.69
6,500.00	55.51	253.22	5,998.13	-2,181.59	219.47	680.79	10.00	8.81	5.91
6,538.56	58.95	255.29	6,019.00	-2,190.38	188.26	712.88	10.00	8.92	5.37
Sharon Springs Member									
6,550.00	59.98	255.88	6,024.81	-2,192.83	178.72	722.60	10.00	8.98	5.12
6,600.00	64.50	258.30	6,048.10	-2,202.69	135.61	766.02	10.00	9.03	4.85
6,650.00	69.05	260.55	6,067.81	-2,211.11	90.45	810.73	10.00	9.11	4.50
6,700.00	73.63	262.67	6,083.81	-2,218.00	43.60	856.37	10.00	9.16	4.23
6,750.00	78.23	264.69	6,095.96	-2,223.34	-4.59	902.60	10.00	9.20	4.04
6,800.00	82.85	266.64	6,104.18	-2,227.06	-53.75	949.08	10.00	9.23	3.90
6,850.00	87.47	268.55	6,108.40	-2,229.15	-103.51	995.44	10.00	9.25	3.82

Planning Report

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Company:	BONANZA CREEK ENERGY	TVD Reference:	KB 24' @ 4671.00usft
Project:	WELD COUNTY	MD Reference:	KB 24' @ 4671.00usft
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Well:	STATE ANTELOPE X-D-3HN	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PROPOSAL 1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
6,877.35	90.00	269.59	6,109.00	-2,229.59	-130.86	1,020.63	10.00	9.25	3.80	
Start 4997.70 hold at 6877.35 MD - Niobrara Formation										
6,900.00	90.00	269.59	6,109.00	-2,229.75	-153.50	1,041.41	0.00	0.00	0.00	
7,000.00	90.00	269.59	6,109.00	-2,230.47	-253.50	1,133.17	0.00	0.00	0.00	
7,100.00	90.00	269.59	6,109.00	-2,231.19	-353.50	1,224.93	0.00	0.00	0.00	
7,200.00	90.00	269.59	6,109.00	-2,231.91	-453.49	1,316.69	0.00	0.00	0.00	
7,300.00	90.00	269.59	6,109.00	-2,232.63	-553.49	1,408.45	0.00	0.00	0.00	
7,400.00	90.00	269.59	6,109.00	-2,233.35	-653.49	1,500.21	0.00	0.00	0.00	
7,500.00	90.00	269.59	6,109.00	-2,234.06	-753.49	1,591.97	0.00	0.00	0.00	
7,600.00	90.00	269.59	6,109.00	-2,234.78	-853.48	1,683.73	0.00	0.00	0.00	
7,700.00	90.00	269.59	6,109.00	-2,235.50	-953.48	1,775.49	0.00	0.00	0.00	
7,800.00	90.00	269.59	6,109.00	-2,236.22	-1,053.48	1,867.25	0.00	0.00	0.00	
7,900.00	90.00	269.59	6,109.00	-2,236.94	-1,153.48	1,959.01	0.00	0.00	0.00	
8,000.00	90.00	269.59	6,109.00	-2,237.66	-1,253.47	2,050.77	0.00	0.00	0.00	
8,100.00	90.00	269.59	6,109.00	-2,238.37	-1,353.47	2,142.53	0.00	0.00	0.00	
8,200.00	90.00	269.59	6,109.00	-2,239.09	-1,453.47	2,234.29	0.00	0.00	0.00	
8,300.00	90.00	269.59	6,109.00	-2,239.81	-1,553.46	2,326.05	0.00	0.00	0.00	
8,400.00	90.00	269.59	6,109.00	-2,240.53	-1,653.46	2,417.82	0.00	0.00	0.00	
8,500.00	90.00	269.59	6,109.00	-2,241.25	-1,753.46	2,509.58	0.00	0.00	0.00	
8,600.00	90.00	269.59	6,109.00	-2,241.97	-1,853.46	2,601.34	0.00	0.00	0.00	
8,700.00	90.00	269.59	6,109.00	-2,242.68	-1,953.45	2,693.10	0.00	0.00	0.00	
8,800.00	90.00	269.59	6,109.00	-2,243.40	-2,053.45	2,784.86	0.00	0.00	0.00	
8,900.00	90.00	269.59	6,109.00	-2,244.12	-2,153.45	2,876.62	0.00	0.00	0.00	
9,000.00	90.00	269.59	6,109.00	-2,244.84	-2,253.45	2,968.38	0.00	0.00	0.00	
9,100.00	90.00	269.59	6,109.00	-2,245.56	-2,353.44	3,060.14	0.00	0.00	0.00	
9,200.00	90.00	269.59	6,109.00	-2,246.28	-2,453.44	3,151.90	0.00	0.00	0.00	
9,300.00	90.00	269.59	6,109.00	-2,246.99	-2,553.44	3,243.66	0.00	0.00	0.00	
9,400.00	90.00	269.59	6,109.00	-2,247.71	-2,653.44	3,335.42	0.00	0.00	0.00	
9,500.00	90.00	269.59	6,109.00	-2,248.43	-2,753.43	3,427.18	0.00	0.00	0.00	
9,600.00	90.00	269.59	6,109.00	-2,249.15	-2,853.43	3,518.94	0.00	0.00	0.00	
9,700.00	90.00	269.59	6,109.00	-2,249.87	-2,953.43	3,610.70	0.00	0.00	0.00	
9,800.00	90.00	269.59	6,109.00	-2,250.59	-3,053.43	3,702.46	0.00	0.00	0.00	
9,900.00	90.00	269.59	6,109.00	-2,251.30	-3,153.42	3,794.22	0.00	0.00	0.00	
10,000.00	90.00	269.59	6,109.00	-2,252.02	-3,253.42	3,885.98	0.00	0.00	0.00	
10,100.00	90.00	269.59	6,109.00	-2,252.74	-3,353.42	3,977.74	0.00	0.00	0.00	
10,200.00	90.00	269.59	6,109.00	-2,253.46	-3,453.42	4,069.50	0.00	0.00	0.00	
10,300.00	90.00	269.59	6,109.00	-2,254.18	-3,553.41	4,161.26	0.00	0.00	0.00	
10,400.00	90.00	269.59	6,109.00	-2,254.90	-3,653.41	4,253.02	0.00	0.00	0.00	
10,500.00	90.00	269.59	6,109.00	-2,255.61	-3,753.41	4,344.78	0.00	0.00	0.00	
10,600.00	90.00	269.59	6,109.00	-2,256.33	-3,853.41	4,436.54	0.00	0.00	0.00	
10,700.00	90.00	269.59	6,109.00	-2,257.05	-3,953.40	4,528.30	0.00	0.00	0.00	
10,800.00	90.00	269.59	6,109.00	-2,257.77	-4,053.40	4,620.06	0.00	0.00	0.00	
10,900.00	90.00	269.59	6,109.00	-2,258.49	-4,153.40	4,711.82	0.00	0.00	0.00	
11,000.00	90.00	269.59	6,109.00	-2,259.21	-4,253.40	4,803.58	0.00	0.00	0.00	
11,100.00	90.00	269.59	6,109.00	-2,259.92	-4,353.39	4,895.34	0.00	0.00	0.00	
11,200.00	90.00	269.59	6,109.00	-2,260.64	-4,453.39	4,987.10	0.00	0.00	0.00	
11,300.00	90.00	269.59	6,109.00	-2,261.36	-4,553.39	5,078.86	0.00	0.00	0.00	
11,400.00	90.00	269.59	6,109.00	-2,262.08	-4,653.38	5,170.62	0.00	0.00	0.00	
11,500.00	90.00	269.59	6,109.00	-2,262.80	-4,753.38	5,262.38	0.00	0.00	0.00	
11,600.00	90.00	269.59	6,109.00	-2,263.52	-4,853.38	5,354.14	0.00	0.00	0.00	
11,700.00	90.00	269.59	6,109.00	-2,264.23	-4,953.38	5,445.90	0.00	0.00	0.00	
11,800.00	90.00	269.59	6,109.00	-2,264.95	-5,053.37	5,537.66	0.00	0.00	0.00	
11,875.05	90.00	269.59	6,109.00	-2,265.49	-5,128.43	5,606.53	0.00	0.00	0.00	
TD at 11875.05										

Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well STATE ANTELOPE X-D-3HN
Company:	BONANZA CREEK ENERGY	TVD Reference:	KB 24' @ 4671.00usft
Project:	WELD COUNTY	MD Reference:	KB 24' @ 4671.00usft
Site:	SEC 2-T5N-R62W	North Reference:	True
Well:	STATE ANTELOPE X-D-3HN	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PROPOSAL 1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)

Design Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
PBHL-STATE ANTELOPE - plan hits target center - Point	0.00	0.00	6,109.00	-2,265.49	-5,128.43	1,400,053.21	3,329,271.58	40.425520°N	104.317260°W
LP-STATE ANTELOPE - plan hits target center - Point	0.00	0.00	6,109.00	-2,229.59	-130.86	1,400,156.80	3,334,268.01	40.425620°N	104.299310°W

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
24.00	24.00	Laramie-Fox Hills Formation				
249.07	249.00	Pierre Formation				
459.95	459.00	Upper Pierre aquifer				
1,466.47	1,419.00	Base of Upper Pierre aquifer				
3,472.60	3,269.00	Larimer ("Parkman") sandstone				
3,873.83	3,639.00	Pierre Formation				
4,557.00	4,269.00	Terry ("Sussex") sandstone				
4,849.78	4,539.00	Pierre Formation				
4,974.49	4,654.00	Hygiene ("Shannon") sandstone				
5,153.41	4,819.00	Pierre Formation				
6,538.56	6,019.00	Sharon Springs Member				
6,877.35	6,109.00	Niobrara Formation				

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
100.00	100.00	0.00	0.00	Start Build 2.00
1,237.69	1,208.02	-217.73	47.97	Start 4693.49 hold at 1237.69 MD
5,931.18	5,536.24	-1,990.53	438.54	Start DLS 10.00 TFO 101.10
6,877.35	6,109.00	-2,229.59	-130.86	Start 4997.70 hold at 6877.35 MD
11,875.05	6,109.00	-2,265.49	-5,128.43	TD at 11875.05