

BONANZA CREEK ENERGY

WELD COUNTY

SEC 2-T5N-R62W

STATE ANTELOPE 13-43-2HN

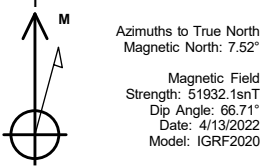
OWB

Plan: PROPOSAL 1

Standard Planning Report

19 April, 2022

Project: WELD COUNTY
Site: SEC 2-T5N-R62W
Well: STATE ANTELOPE 13-43-2HN
Wellbore: OWB
Design: PROPOSAL 1



WELL DETAILS: STATE ANTELOPE 13-43-2HN

4646.00						
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	1402449.79	3334367.81	40.431910°N	104.298840°W	

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	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	782.40	13.65	215.15	775.97	-66.14	-46.57	2.00	215.15	-32.47	
4	5608.74	13.65	215.15	5466.02	-997.31	-702.17	0.00	0.00	-489.51	
5	6590.93	90.00	87.86	6109.00	-1100.22	-130.85	10.00	-126.50	90.86	LP-STATE ANTELOPE 13-43-2HN
6	11276.90	90.00	87.86	6109.00	-924.93	4551.85	0.00	0.00	4644.87	PBHL-STATE ANTELOPE 13-43-2HN

ANNOTATIONS

MD	Inc	Azi	TVD	+N/-S	+E/-W	VSect	Departure	Annotation
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	Start Build 2.00
782.40	13.65	215.15	775.97	-66.14	-46.57	-32.47	80.89	Start 4826.33 hold at 782.40 MD
5608.74	13.65	215.15	5466.02	-997.31	-702.17	-489.51	1219.70	Start DLS 10.00 TFO -126.50
6590.93	90.00	87.86	6109.00	-1100.22	-130.85	90.86	1836.65	Start 4685.97 hold at 6590.93 MD
11276.90	90.00	87.86	6109.00	-924.93	4551.85	4644.87	6522.62	TD at 11276.90

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
LP-STATE ANTELOPE 13-43-2HN - plan hits target center	6109.00	-1100.22	-130.85	1401347.94	3334251.88	40.428890°N	104.299310°W	Point
PBHL-STATE ANTELOPE 13-43-2HN - plan hits target center	6109.00	-924.93	4551.85	1401586.64	3338931.59	40.429370°N	104.282490°W	Point

SHL:
1768' FNL, 333' FWL
Sec 2-T5N-R62W

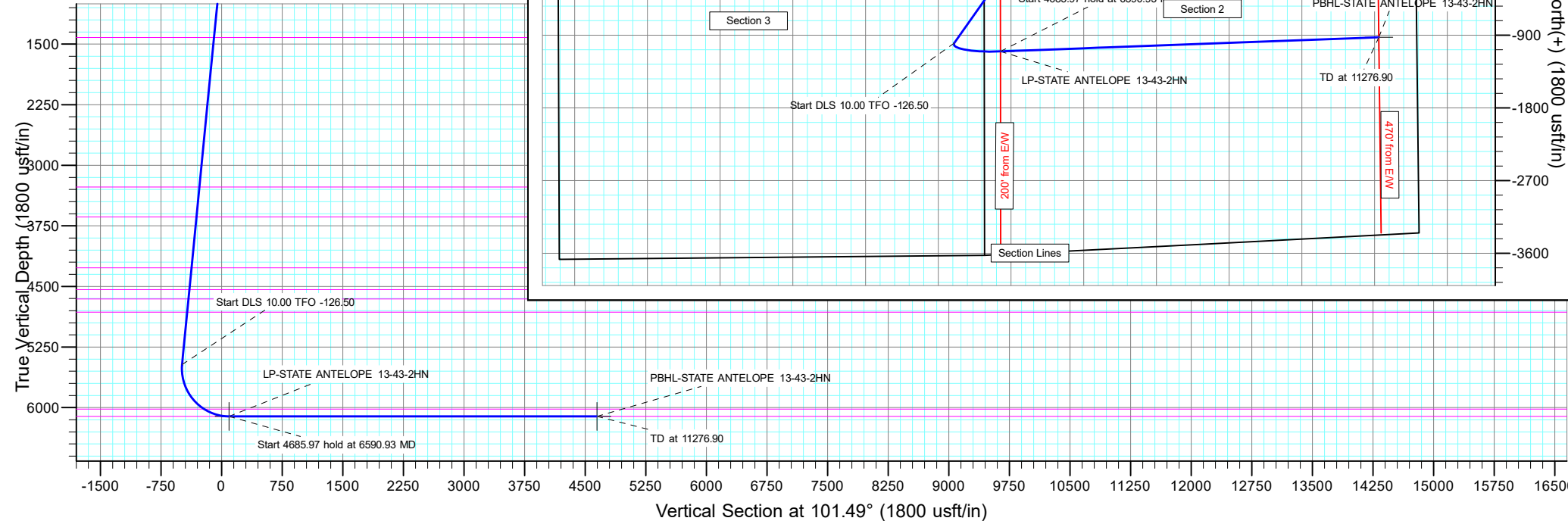
LP:
2512' FSL, 200' FWL
Sec 2-T5N-R62W

BHL:
2446' FSL, 470' FEL
Sec 2-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 13-43-2HN
Company:	BONANZA CREEK ENERGY	TVD Reference:	KB 24' @ 4670.00usft
Project:	WELD COUNTY	MD Reference:	KB 24' @ 4670.00usft
Site:	SEC 2-T5N-R62W	North Reference:	True
Well:	STATE ANTELOPE 13-43-2HN	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 13-43-2HN					
Well Position	+N/-S	-1,756.36 usft	Northing:	1,402,449.80 usft	Latitude:	40.431910°N
	+E/-W	334.90 usft	Easting:	3,334,367.81 usft	Longitude:	104.298840°W
Position Uncertainty		0.00 usft	Wellhead Elevation:		Ground Level:	4,646.00 usft

Wellbore	OWB				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	4/13/2022	7.52	66.71	51,932.07405231

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	101.49

Plan Survey Tool Program	Date	4/19/2022		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	11,276.90	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	
782.40	13.65	215.15	775.97	-66.14	-46.57	2.00	2.00	0.00	215.15	
5,608.74	13.65	215.15	5,466.02	-997.31	-702.17	0.00	0.00	0.00	0.00	
6,590.93	90.00	87.86	6,109.00	-1,100.22	-130.85	10.00	7.77	-12.96	-126.50	LP-STATE ANTELOP
11,276.90	90.00	87.86	6,109.00	-924.93	4,551.85	0.00	0.00	0.00	0.00	PBHL-STATE ANTELI

Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well STATE ANTELOPE 13-43-2HN
Company:	BONANZA CREEK ENERGY	TVD Reference:	KB 24' @ 4670.00usft
Project:	WELD COUNTY	MD Reference:	KB 24' @ 4670.00usft
Site:	SEC 2-T5N-R62W	North Reference:	True
Well:	STATE ANTELOPE 13-43-2HN	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	215.15	199.98	-1.43	-1.00	-0.70	2.00	2.00	0.00
249.07	2.98	215.15	249.00	-3.17	-2.23	-1.56	2.00	2.00	0.00
Pierre Formation									
300.00	4.00	215.15	299.84	-5.71	-4.02	-2.80	2.00	2.00	0.00
400.00	6.00	215.15	399.45	-12.83	-9.03	-6.30	2.00	2.00	0.00
459.95	7.20	215.15	459.00	-18.47	-13.00	-9.06	2.00	2.00	0.00
Upper Pierre aquifer									
500.00	8.00	215.15	498.70	-22.80	-16.05	-11.19	2.00	2.00	0.00
600.00	10.00	215.15	597.47	-35.59	-25.06	-17.47	2.00	2.00	0.00
700.00	12.00	215.15	695.62	-51.19	-36.04	-25.12	2.00	2.00	0.00
782.40	13.65	215.15	775.97	-66.14	-46.57	-32.47	2.00	2.00	0.00
Start 4826.33 hold at 782.40 MD									
800.00	13.65	215.15	793.07	-69.54	-48.96	-34.13	0.00	0.00	0.00
900.00	13.65	215.15	890.24	-88.83	-62.54	-43.60	0.00	0.00	0.00
1,000.00	13.65	215.15	987.42	-108.13	-76.13	-53.07	0.00	0.00	0.00
1,100.00	13.65	215.15	1,084.60	-127.42	-89.71	-62.54	0.00	0.00	0.00
1,200.00	13.65	215.15	1,181.77	-146.71	-103.29	-72.01	0.00	0.00	0.00
1,300.00	13.65	215.15	1,278.95	-166.01	-116.88	-81.48	0.00	0.00	0.00
1,400.00	13.65	215.15	1,376.13	-185.30	-130.46	-90.95	0.00	0.00	0.00
1,444.12	13.65	215.15	1,419.00	-193.81	-136.46	-95.13	0.00	0.00	0.00
Base of Upper Pierre aquifer									
1,500.00	13.65	215.15	1,473.30	-204.59	-144.05	-100.42	0.00	0.00	0.00
1,600.00	13.65	215.15	1,570.48	-223.89	-157.63	-109.89	0.00	0.00	0.00
1,700.00	13.65	215.15	1,667.65	-243.18	-171.21	-119.36	0.00	0.00	0.00
1,800.00	13.65	215.15	1,764.83	-262.47	-184.80	-128.83	0.00	0.00	0.00
1,900.00	13.65	215.15	1,862.01	-281.77	-198.38	-138.30	0.00	0.00	0.00
2,000.00	13.65	215.15	1,959.18	-301.06	-211.97	-147.77	0.00	0.00	0.00
2,100.00	13.65	215.15	2,056.36	-320.35	-225.55	-157.24	0.00	0.00	0.00
2,200.00	13.65	215.15	2,153.54	-339.65	-239.13	-166.71	0.00	0.00	0.00
2,300.00	13.65	215.15	2,250.71	-358.94	-252.72	-176.18	0.00	0.00	0.00
2,400.00	13.65	215.15	2,347.89	-378.23	-266.30	-185.65	0.00	0.00	0.00
2,500.00	13.65	215.15	2,445.07	-397.53	-279.88	-195.12	0.00	0.00	0.00
2,600.00	13.65	215.15	2,542.24	-416.82	-293.47	-204.59	0.00	0.00	0.00
2,700.00	13.65	215.15	2,639.42	-436.12	-307.05	-214.06	0.00	0.00	0.00
2,800.00	13.65	215.15	2,736.59	-455.41	-320.64	-223.53	0.00	0.00	0.00
2,900.00	13.65	215.15	2,833.77	-474.70	-334.22	-233.00	0.00	0.00	0.00
3,000.00	13.65	215.15	2,930.95	-494.00	-347.80	-242.47	0.00	0.00	0.00
3,100.00	13.65	215.15	3,028.12	-513.29	-361.39	-251.94	0.00	0.00	0.00
3,200.00	13.65	215.15	3,125.30	-532.58	-374.97	-261.41	0.00	0.00	0.00
3,300.00	13.65	215.15	3,222.48	-551.88	-388.55	-270.88	0.00	0.00	0.00
3,347.88	13.65	215.15	3,269.00	-561.11	-395.06	-275.41	0.00	0.00	0.00
Larimer ("Parkman") sandstone									
3,400.00	13.65	215.15	3,319.65	-571.17	-402.14	-280.35	0.00	0.00	0.00
3,500.00	13.65	215.15	3,416.83	-590.46	-415.72	-289.82	0.00	0.00	0.00
3,600.00	13.65	215.15	3,514.01	-609.76	-429.31	-299.29	0.00	0.00	0.00
3,700.00	13.65	215.15	3,611.18	-629.05	-442.89	-308.76	0.00	0.00	0.00
3,728.63	13.65	215.15	3,639.00	-634.57	-446.78	-311.47	0.00	0.00	0.00
Pierre Formation									

Planning Report

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Company:	BONANZA CREEK ENERGY	TVD Reference:	KB 24' @ 4670.00usft
Project:	WELD COUNTY	MD Reference:	KB 24' @ 4670.00usft
Site:	SEC 2-T5N-R62W	North Reference:	True
Well:	STATE ANTELOPE 13-43-2HN	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)	
3,800.00	13.65	215.15	3,708.36	-648.34	-456.47	-318.23	0.00	0.00	0.00	
3,900.00	13.65	215.15	3,805.53	-667.64	-470.06	-327.70	0.00	0.00	0.00	
4,000.00	13.65	215.15	3,902.71	-686.93	-483.64	-337.17	0.00	0.00	0.00	
4,100.00	13.65	215.15	3,999.89	-706.23	-497.23	-346.64	0.00	0.00	0.00	
4,200.00	13.65	215.15	4,097.06	-725.52	-510.81	-356.11	0.00	0.00	0.00	
4,300.00	13.65	215.15	4,194.24	-744.81	-524.39	-365.58	0.00	0.00	0.00	
4,376.93	13.65	215.15	4,269.00	-759.66	-534.84	-372.86	0.00	0.00	0.00	
Terry ("Sussex") sandstone										
4,400.00	13.65	215.15	4,291.42	-764.11	-537.98	-375.05	0.00	0.00	0.00	
4,500.00	13.65	215.15	4,388.59	-783.40	-551.56	-384.52	0.00	0.00	0.00	
4,600.00	13.65	215.15	4,485.77	-802.69	-565.14	-393.99	0.00	0.00	0.00	
4,654.78	13.65	215.15	4,539.00	-813.26	-572.59	-399.17	0.00	0.00	0.00	
Pierre Formation										
4,700.00	13.65	215.15	4,582.94	-821.99	-578.73	-403.46	0.00	0.00	0.00	
4,773.12	13.65	215.15	4,654.00	-836.09	-588.66	-410.38	0.00	0.00	0.00	
Hygiene ("Shannon") sandstone										
4,800.00	13.65	215.15	4,680.12	-841.28	-592.31	-412.93	0.00	0.00	0.00	
4,900.00	13.65	215.15	4,777.30	-860.57	-605.90	-422.40	0.00	0.00	0.00	
4,942.91	13.65	215.15	4,819.00	-868.85	-611.73	-426.46	0.00	0.00	0.00	
Pierre Formation										
5,000.00	13.65	215.15	4,874.47	-879.87	-619.48	-431.87	0.00	0.00	0.00	
5,100.00	13.65	215.15	4,971.65	-899.16	-633.06	-441.34	0.00	0.00	0.00	
5,200.00	13.65	215.15	5,068.83	-918.45	-646.65	-450.81	0.00	0.00	0.00	
5,300.00	13.65	215.15	5,166.00	-937.75	-660.23	-460.28	0.00	0.00	0.00	
5,400.00	13.65	215.15	5,263.18	-957.04	-673.82	-469.75	0.00	0.00	0.00	
5,500.00	13.65	215.15	5,360.36	-976.34	-687.40	-479.22	0.00	0.00	0.00	
5,608.74	13.65	215.15	5,466.02	-997.31	-702.17	-489.51	0.00	0.00	0.00	
Start DLS 10.00 TFO -126.50										
5,650.00	11.67	198.53	5,506.29	-1,005.25	-706.30	-491.98	10.00	-4.80	-40.28	
5,700.00	10.97	173.08	5,555.35	-1,014.78	-707.33	-491.10	10.00	-1.39	-50.88	
5,750.00	12.41	149.24	5,604.34	-1,024.12	-704.01	-485.98	10.00	2.88	-47.68	
5,800.00	15.40	132.40	5,652.89	-1,033.22	-696.36	-476.67	10.00	5.97	-33.68	
5,850.00	19.22	121.50	5,700.63	-1,042.00	-684.43	-463.23	10.00	7.65	-21.80	
5,900.00	23.48	114.26	5,747.20	-1,050.40	-668.32	-445.77	10.00	8.51	-14.48	
5,950.00	27.97	109.19	5,792.23	-1,058.35	-648.15	-424.42	10.00	8.99	-10.15	
6,000.00	32.60	105.44	5,835.40	-1,065.80	-624.08	-399.35	10.00	9.26	-7.50	
6,050.00	37.32	102.53	5,876.37	-1,072.67	-596.28	-370.74	10.00	9.43	-5.80	
6,100.00	42.09	100.20	5,914.83	-1,078.94	-564.97	-338.81	10.00	9.55	-4.66	
6,150.00	46.91	98.27	5,950.48	-1,084.53	-530.39	-303.81	10.00	9.63	-3.87	
6,200.00	51.75	96.62	5,983.06	-1,089.43	-492.80	-265.99	10.00	9.68	-3.30	
6,250.00	56.61	95.17	6,012.32	-1,093.57	-452.48	-225.66	10.00	9.72	-2.89	
6,262.34	57.81	94.84	6,019.00	-1,094.48	-442.15	-215.35	10.00	9.74	-2.68	
Sharon Springs Member										
6,300.00	61.48	93.88	6,038.03	-1,096.94	-409.75	-183.11	10.00	9.76	-2.55	
6,350.00	66.37	92.70	6,059.99	-1,099.51	-364.93	-138.67	10.00	9.77	-2.35	
6,400.00	71.27	91.61	6,078.05	-1,101.26	-318.35	-92.68	10.00	9.79	-2.18	
6,450.00	76.17	90.58	6,092.07	-1,102.17	-270.38	-45.49	10.00	9.80	-2.06	
6,500.00	81.07	89.59	6,101.93	-1,102.24	-221.38	2.54	10.00	9.81	-1.97	
6,550.00	85.98	88.63	6,107.57	-1,101.47	-171.72	51.05	10.00	9.82	-1.92	
6,590.93	90.00	87.86	6,109.00	-1,100.22	-130.85	90.86	10.00	9.82	-1.90	
Start 4685.97 hold at 6590.93 MD - Niobrara Formation										
6,600.00	90.00	87.86	6,109.00	-1,099.88	-121.78	99.68	0.00	0.00	0.00	
6,700.00	90.00	87.86	6,109.00	-1,096.14	-21.85	196.86	0.00	0.00	0.00	

Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well STATE ANTELOPE 13-43-2HN
Company:	BONANZA CREEK ENERGY	TVD Reference:	KB 24' @ 4670.00usft
Project:	WELD COUNTY	MD Reference:	KB 24' @ 4670.00usft
Site:	SEC 2-T5N-R62W	North Reference:	True
Well:	STATE ANTELOPE 13-43-2HN	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)	
6,800.00	90.00	87.86	6,109.00	-1,092.40	78.08	294.05	0.00	0.00	0.00	
6,900.00	90.00	87.86	6,109.00	-1,088.66	178.01	391.23	0.00	0.00	0.00	
7,000.00	90.00	87.86	6,109.00	-1,084.92	277.94	488.41	0.00	0.00	0.00	
7,100.00	90.00	87.86	6,109.00	-1,081.18	377.87	585.60	0.00	0.00	0.00	
7,200.00	90.00	87.86	6,109.00	-1,077.44	477.80	682.78	0.00	0.00	0.00	
7,300.00	90.00	87.86	6,109.00	-1,073.70	577.73	779.96	0.00	0.00	0.00	
7,400.00	90.00	87.86	6,109.00	-1,069.96	677.66	877.15	0.00	0.00	0.00	
7,500.00	90.00	87.86	6,109.00	-1,066.22	777.59	974.33	0.00	0.00	0.00	
7,600.00	90.00	87.86	6,109.00	-1,062.47	877.52	1,071.52	0.00	0.00	0.00	
7,700.00	90.00	87.86	6,109.00	-1,058.73	977.45	1,168.70	0.00	0.00	0.00	
7,800.00	90.00	87.86	6,109.00	-1,054.99	1,077.38	1,265.88	0.00	0.00	0.00	
7,900.00	90.00	87.86	6,109.00	-1,051.25	1,177.31	1,363.07	0.00	0.00	0.00	
8,000.00	90.00	87.86	6,109.00	-1,047.51	1,277.24	1,460.25	0.00	0.00	0.00	
8,100.00	90.00	87.86	6,109.00	-1,043.77	1,377.17	1,557.44	0.00	0.00	0.00	
8,200.00	90.00	87.86	6,109.00	-1,040.03	1,477.10	1,654.62	0.00	0.00	0.00	
8,300.00	90.00	87.86	6,109.00	-1,036.29	1,577.03	1,751.80	0.00	0.00	0.00	
8,400.00	90.00	87.86	6,109.00	-1,032.55	1,676.96	1,848.99	0.00	0.00	0.00	
8,500.00	90.00	87.86	6,109.00	-1,028.81	1,776.89	1,946.17	0.00	0.00	0.00	
8,600.00	90.00	87.86	6,109.00	-1,025.07	1,876.82	2,043.35	0.00	0.00	0.00	
8,700.00	90.00	87.86	6,109.00	-1,021.33	1,976.75	2,140.54	0.00	0.00	0.00	
8,800.00	90.00	87.86	6,109.00	-1,017.59	2,076.68	2,237.72	0.00	0.00	0.00	
8,900.00	90.00	87.86	6,109.00	-1,013.85	2,176.61	2,334.91	0.00	0.00	0.00	
9,000.00	90.00	87.86	6,109.00	-1,010.10	2,276.54	2,432.09	0.00	0.00	0.00	
9,100.00	90.00	87.86	6,109.00	-1,006.36	2,376.47	2,529.27	0.00	0.00	0.00	
9,200.00	90.00	87.86	6,109.00	-1,002.62	2,476.40	2,626.46	0.00	0.00	0.00	
9,300.00	90.00	87.86	6,109.00	-998.88	2,576.33	2,723.64	0.00	0.00	0.00	
9,400.00	90.00	87.86	6,109.00	-995.14	2,676.26	2,820.82	0.00	0.00	0.00	
9,500.00	90.00	87.86	6,109.00	-991.40	2,776.19	2,918.01	0.00	0.00	0.00	
9,600.00	90.00	87.86	6,109.00	-987.66	2,876.12	3,015.19	0.00	0.00	0.00	
9,700.00	90.00	87.86	6,109.00	-983.92	2,976.05	3,112.38	0.00	0.00	0.00	
9,800.00	90.00	87.86	6,109.00	-980.18	3,075.98	3,209.56	0.00	0.00	0.00	
9,900.00	90.00	87.86	6,109.00	-976.44	3,175.91	3,306.74	0.00	0.00	0.00	
10,000.00	90.00	87.86	6,109.00	-972.70	3,275.84	3,403.93	0.00	0.00	0.00	
10,100.00	90.00	87.86	6,109.00	-968.96	3,375.77	3,501.11	0.00	0.00	0.00	
10,200.00	90.00	87.86	6,109.00	-965.22	3,475.70	3,598.30	0.00	0.00	0.00	
10,300.00	90.00	87.86	6,109.00	-961.48	3,575.63	3,695.48	0.00	0.00	0.00	
10,400.00	90.00	87.86	6,109.00	-957.73	3,675.56	3,792.66	0.00	0.00	0.00	
10,500.00	90.00	87.86	6,109.00	-953.99	3,775.49	3,889.85	0.00	0.00	0.00	
10,600.00	90.00	87.86	6,109.00	-950.25	3,875.42	3,987.03	0.00	0.00	0.00	
10,700.00	90.00	87.86	6,109.00	-946.51	3,975.35	4,084.21	0.00	0.00	0.00	
10,800.00	90.00	87.86	6,109.00	-942.77	4,075.28	4,181.40	0.00	0.00	0.00	
10,900.00	90.00	87.86	6,109.00	-939.03	4,175.21	4,278.58	0.00	0.00	0.00	
11,000.00	90.00	87.86	6,109.00	-935.29	4,275.14	4,375.77	0.00	0.00	0.00	
11,100.00	90.00	87.86	6,109.00	-931.55	4,375.07	4,472.95	0.00	0.00	0.00	
11,200.00	90.00	87.86	6,109.00	-927.81	4,475.00	4,570.13	0.00	0.00	0.00	
11,276.90	90.00	87.86	6,109.00	-924.93	4,551.85	4,644.87	0.00	0.00	0.00	
TD at 11276.90										

Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well STATE ANTELOPE 13-43-2HN
Company:	BONANZA CREEK ENERGY	TVD Reference:	KB 24' @ 4670.00usft
Project:	WELD COUNTY	MD Reference:	KB 24' @ 4670.00usft
Site:	SEC 2-T5N-R62W	North Reference:	True
Well:	STATE ANTELOPE 13-43-2HN	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PROPOSAL 1		

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 ANTELOP - plan hits target center - Point	0.00	0.00	6,109.00	-924.93	4,551.85	1,401,586.64	3,338,931.60	40.429370°N	104.282490°W
LP-STATE ANTELOPE 1 - plan hits target center - Point	0.00	0.00	6,109.00	-1,100.22	-130.85	1,401,347.95	3,334,251.88	40.428890°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			
1,444.12	1,419.00	Base of Upper Pierre aquifer			
3,347.88	3,269.00	Larimer ("Parkman") sandstone			
3,728.63	3,639.00	Pierre Formation			
4,376.93	4,269.00	Terry ("Sussex") sandstone			
4,654.78	4,539.00	Pierre Formation			
4,773.12	4,654.00	Hygiene ("Shannon") sandstone			
4,942.91	4,819.00	Pierre Formation			
6,262.34	6,019.00	Sharon Springs Member			
6,590.93	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
782.40	775.97	-66.14	-46.57	Start 4826.33 hold at 782.40 MD
5,608.74	5,466.02	-997.31	-702.17	Start DLS 10.00 TFO -126.50
6,590.93	6,109.00	-1,100.22	-130.85	Start 4685.97 hold at 6590.93 MD
11,276.90	6,109.00	-924.93	4,551.85	TD at 11276.90