

BONANZA CREEK ENERGY

WELD COUNTY

SEC 3-T4N-R62W

STATE SEVENTY HOLES Y-E-10HNXRL

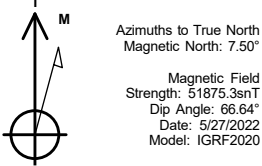
OWB

Plan: PROPOSAL 1

Standard Planning Report

21 March, 2023

Project: WELD COUNTY
Site: SEC 3-T4N-R62W
Well: STATE SEVENTY HOLES Y-E-10HNRXL
Wellbore: OWB
Design: PROPOSAL 1



WELL DETAILS: STATE SEVENTY HOLES Y-E-10HNRXL

+N/-S	+E/-W	Northing	Easting	4549.00	Latitude	Longitude	Slot
0.00	0.00	1371911.91	3331408.63		40.348200°N	104.310940°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	2726.39	52.53	149.23	2373.63	-963.95	574.03	2.00	149.23	57.75	
4	7878.34	52.53	149.23	5507.95	-4477.06	2666.07	0.00	0.00	268.22	
5	9013.71	90.00	269.44	6040.00	-5081.99	2146.70	10.00	109.51	1036.05	LP-SSH Y-E-10HNRXL
6	18919.70	90.00	269.44	6040.00	-5179.23	-7758.81	0.00	0.00	9328.64	PBHL-SSH Y-E-10HNRXL

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
2726.39	52.53	149.23	2373.63	-963.95	574.03	57.75	1121.92	Start 5151.95 hold at 2726.39 MD
7878.34	52.53	149.23	5507.95	-4477.06	2666.07	268.22	5210.76	Start DLS 10.00 TFO 109.51
9013.71	90.00	269.44	6040.00	-5081.99	2146.70	1036.05	6181.48	Start 9905.99 hold at 9013.71 MD
18919.70	90.00	269.44	6040.00	-5179.23	-7758.81	9328.64	16087.47	TD at 18919.70

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
LP-SSH Y-E-10HNRXL	6040.00	-5081.99	2146.70	1366859.37	3333623.19	40.334250°N	104.303240°W	Point
- plan hits target center								
PBHL-SSH Y-E-10HNRXL	6040.00	-5179.23	-7758.81	1366629.33	3323720.28	40.333980°N	104.338770°W	Point
- plan hits target center								

PROJECT DETAILS: WELD COUNTY

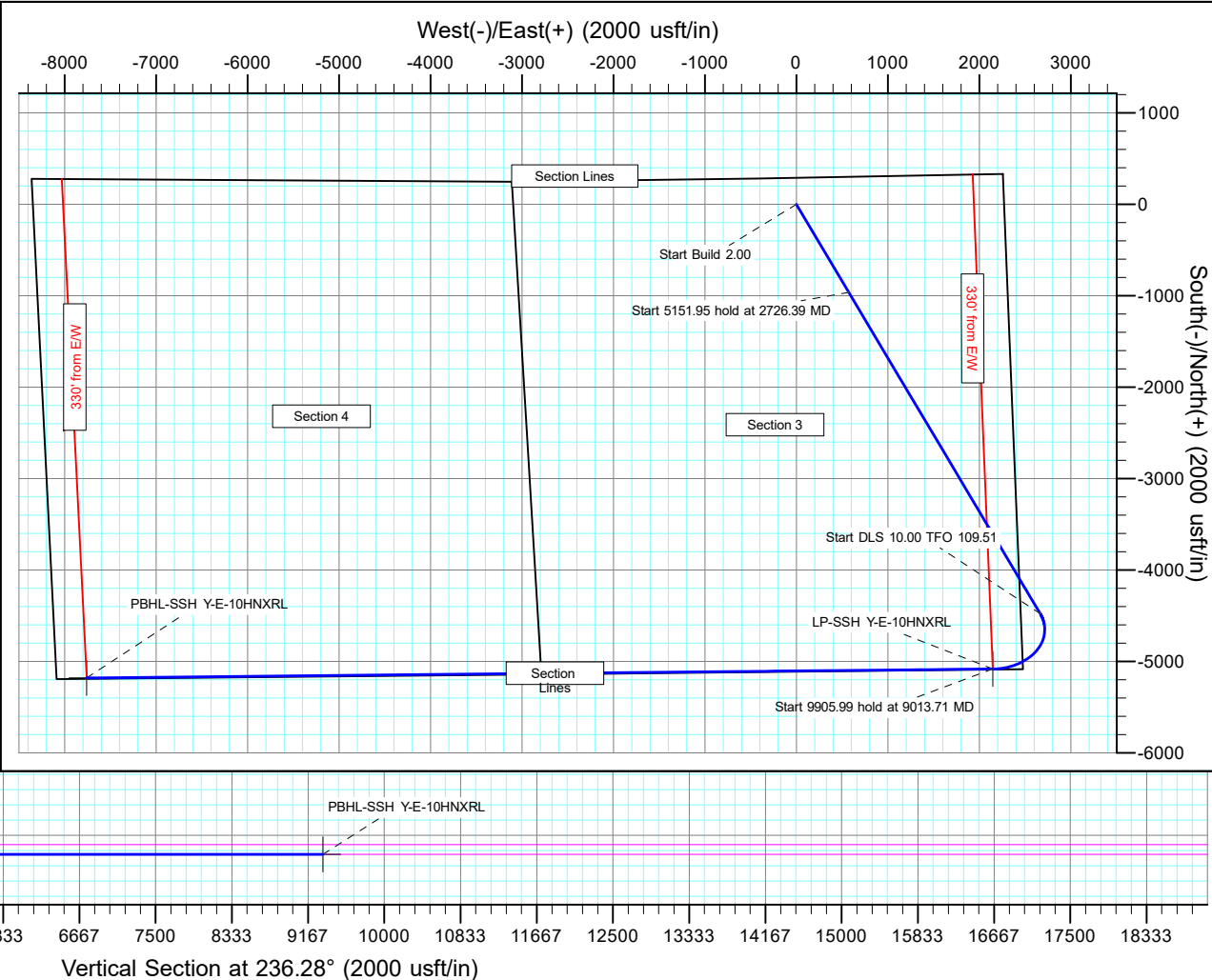
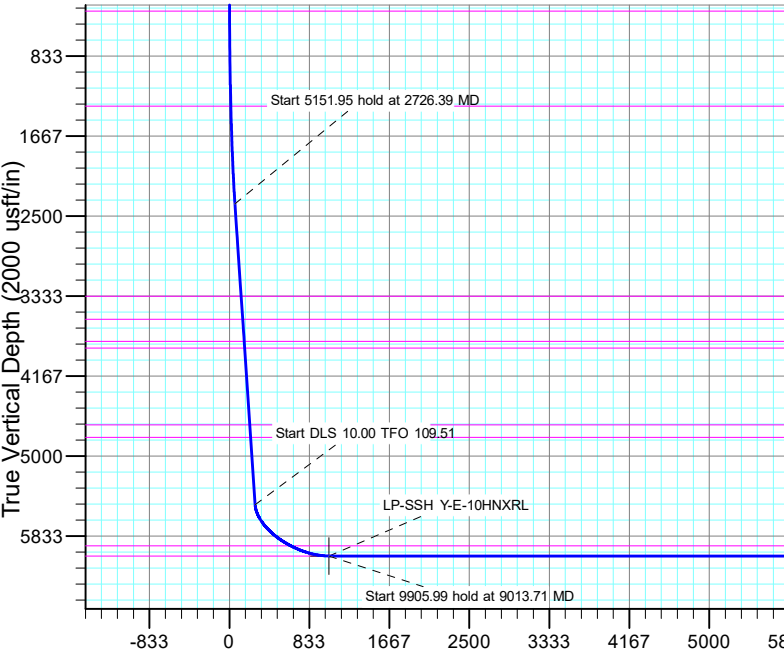
Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: Colorado Northern Zone

System Datum: Mean Sea Level

SHL:
288' FNL, 2269' FEL
Sec 3-T4N-R62W

LP:
10' FSL, 330' FEL
Sec 3-T4N-R62W

BHL:
10' FSL, 330' FWL
Sec 4-T4N-R62W



Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well STATE SEVENTY HOLES Y-E-10HNXRL
Company:	BONANZA CREEK ENERGY	TVD Reference:	KB 25' @ 4574.00usft
Project:	WELD COUNTY	MD Reference:	KB 25' @ 4574.00usft
Site:	SEC 3-T4N-R62W	North Reference:	True
Well:	STATE SEVENTY HOLES Y-E-10HNXRL	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 3-T4N-R62W		
Site Position:		Northing:	1,372,270.09 usft
From:	Lat/Long	Easting:	3,333,658.88 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13.200 in
		Latitude:	40.349100°N
		Longitude:	104.302850°W
		Grid Convergence:	0.77 °

Well	STATE SEVENTY HOLES Y-E-10HNXRL					
Well Position	+N/-S	-327.78 usft	Northing:	1,371,911.91 usft	Latitude:	40.348200°N
	+E/-W	-2,254.96 usft	Easting:	3,331,408.64 usft	Longitude:	104.310940°W
Position Uncertainty		0.00 usft	Wellhead Elevation:		Ground Level:	4,549.00 usft

Wellbore	OWB				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	5/27/2022	7.50	66.64	51,875.26126741

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	236.28	

Plan Survey Tool Program	Date	3/21/2023			
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.00	18,919.53	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	
2,726.39	52.53	149.23	2,373.63	-963.95	574.03	2.00	2.00	0.00	149.23	
7,878.34	52.53	149.23	5,507.95	-4,477.06	2,666.07	0.00	0.00	0.00	0.00	
9,013.71	90.00	269.44	6,040.00	-5,081.99	2,146.70	10.00	3.30	10.59	109.51	LP-SSH Y-E-10HNXF
18,919.70	90.00	269.44	6,040.00	-5,179.23	-7,758.82	0.00	0.00	0.00	0.00	PBHL-SSH Y-E-10HN

Planning Report

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Company:	BONANZA CREEK ENERGY	TVD Reference:	KB 25' @ 4574.00usft
Project:	WELD COUNTY	MD Reference:	KB 25' @ 4574.00usft
Site:	SEC 3-T4N-R62W	North Reference:	True
Well:	STATE SEVENTY HOLES Y-E-10HNXRL	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
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2.00									
109.00	0.18	149.23	109.00	-0.01	0.01	0.00	2.00	2.00	0.00
Laramie-Fox Hills Formation									
200.00	2.00	149.23	199.98	-1.50	0.89	0.09	2.00	2.00	0.00
225.04	2.50	149.23	225.00	-2.34	1.40	0.14	2.00	2.00	0.00
Pierre Formation									
300.00	4.00	149.23	299.84	-6.00	3.57	0.36	2.00	2.00	0.00
365.38	5.31	149.23	365.00	-10.55	6.28	0.63	2.00	2.00	0.00
Upper Pierre aquifer									
400.00	6.00	149.23	399.45	-13.48	8.03	0.81	2.00	2.00	0.00
500.00	8.00	149.23	498.70	-23.95	14.26	1.44	2.00	2.00	0.00
600.00	10.00	149.23	597.47	-37.39	22.27	2.24	2.00	2.00	0.00
700.00	12.00	149.23	695.62	-53.79	32.03	3.22	2.00	2.00	0.00
800.00	14.00	149.23	793.06	-73.11	43.54	4.38	2.00	2.00	0.00
900.00	16.00	149.23	889.64	-95.35	56.78	5.71	2.00	2.00	0.00
1,000.00	18.00	149.23	985.27	-120.47	71.74	7.22	2.00	2.00	0.00
1,100.00	20.00	149.23	1,079.82	-148.44	88.40	8.89	2.00	2.00	0.00
1,200.00	22.00	149.23	1,173.17	-179.23	106.73	10.74	2.00	2.00	0.00
1,300.00	24.00	149.23	1,265.21	-212.80	126.72	12.75	2.00	2.00	0.00
1,399.06	25.98	149.23	1,355.00	-248.76	148.13	14.90	2.00	2.00	0.00
Base of Upper Pierre aquifer									
1,400.00	26.00	149.23	1,355.84	-249.11	148.34	14.92	2.00	2.00	0.00
1,500.00	28.00	149.23	1,444.94	-288.11	171.57	17.26	2.00	2.00	0.00
1,600.00	30.00	149.23	1,532.39	-329.77	196.38	19.76	2.00	2.00	0.00
1,700.00	32.00	149.23	1,618.11	-374.02	222.73	22.41	2.00	2.00	0.00
1,800.00	34.00	149.23	1,701.97	-420.81	250.59	25.21	2.00	2.00	0.00
1,900.00	36.00	149.23	1,783.88	-470.09	279.94	28.16	2.00	2.00	0.00
2,000.00	38.00	149.23	1,863.74	-521.79	310.73	31.26	2.00	2.00	0.00
2,100.00	40.00	149.23	1,941.45	-575.86	342.92	34.50	2.00	2.00	0.00
2,200.00	42.00	149.23	2,016.92	-632.23	376.49	37.88	2.00	2.00	0.00
2,300.00	44.00	149.23	2,090.05	-690.82	411.38	41.39	2.00	2.00	0.00
2,400.00	46.00	149.23	2,160.76	-751.57	447.56	45.03	2.00	2.00	0.00
2,500.00	48.00	149.23	2,228.95	-814.41	484.98	48.79	2.00	2.00	0.00
2,600.00	50.00	149.23	2,294.55	-879.25	523.59	52.68	2.00	2.00	0.00
2,700.00	52.00	149.23	2,357.48	-946.02	563.35	56.68	2.00	2.00	0.00
2,726.39	52.53	149.23	2,373.63	-963.95	574.03	57.75	2.00	2.00	0.00
Start 5151.95 hold at 2726.39 MD									
2,800.00	52.53	149.23	2,418.42	-1,014.14	603.92	60.76	0.00	0.00	0.00
2,900.00	52.53	149.23	2,479.25	-1,082.33	644.53	64.84	0.00	0.00	0.00
3,000.00	52.53	149.23	2,540.09	-1,150.52	685.13	68.93	0.00	0.00	0.00
3,100.00	52.53	149.23	2,600.93	-1,218.71	725.74	73.01	0.00	0.00	0.00
3,200.00	52.53	149.23	2,661.77	-1,286.90	766.35	77.10	0.00	0.00	0.00
3,300.00	52.53	149.23	2,722.61	-1,355.09	806.95	81.18	0.00	0.00	0.00
3,400.00	52.53	149.23	2,783.44	-1,423.28	847.56	85.27	0.00	0.00	0.00
3,500.00	52.53	149.23	2,844.28	-1,491.47	888.17	89.36	0.00	0.00	0.00
3,600.00	52.53	149.23	2,905.12	-1,559.66	928.77	93.44	0.00	0.00	0.00
3,700.00	52.53	149.23	2,965.96	-1,627.85	969.38	97.53	0.00	0.00	0.00
3,800.00	52.53	149.23	3,026.79	-1,696.04	1,009.99	101.61	0.00	0.00	0.00
3,900.00	52.53	149.23	3,087.63	-1,764.23	1,050.59	105.70	0.00	0.00	0.00
4,000.00	52.53	149.23	3,148.47	-1,832.42	1,091.20	109.78	0.00	0.00	0.00

Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well STATE SEVENTY HOLES Y-E-10HNRXL
Company:	BONANZA CREEK ENERGY	TVD Reference:	KB 25' @ 4574.00usft
Project:	WELD COUNTY	MD Reference:	KB 25' @ 4574.00usft
Site:	SEC 3-T4N-R62W	North Reference:	True
Well:	STATE SEVENTY HOLES Y-E-10HNRXL	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)
4,100.00	52.53	149.23	3,209.31	-1,900.61	1,131.81	113.87	0.00	0.00	0.00
4,200.00	52.53	149.23	3,270.14	-1,968.80	1,172.41	117.95	0.00	0.00	0.00
4,300.00	52.53	149.23	3,330.98	-2,036.99	1,213.02	122.04	0.00	0.00	0.00
4,306.61	52.53	149.23	3,335.00	-2,041.50	1,215.70	122.31	0.00	0.00	0.00
Larimer ("Parkman") sandstone									
4,400.00	52.53	149.23	3,391.82	-2,105.18	1,253.63	126.12	0.00	0.00	0.00
4,500.00	52.53	149.23	3,452.66	-2,173.37	1,294.23	130.21	0.00	0.00	0.00
4,600.00	52.53	149.23	3,513.49	-2,241.56	1,334.84	134.29	0.00	0.00	0.00
4,700.00	52.53	149.23	3,574.33	-2,309.75	1,375.45	138.38	0.00	0.00	0.00
4,701.10	52.53	149.23	3,575.00	-2,310.50	1,375.90	138.42	0.00	0.00	0.00
Pierre Formation									
4,800.00	52.53	149.23	3,635.17	-2,377.94	1,416.06	142.46	0.00	0.00	0.00
4,900.00	52.53	149.23	3,696.01	-2,446.13	1,456.66	146.55	0.00	0.00	0.00
5,000.00	52.53	149.23	3,756.84	-2,514.32	1,497.27	150.64	0.00	0.00	0.00
5,079.16	52.53	149.23	3,805.00	-2,568.30	1,529.41	153.87	0.00	0.00	0.00
Terry ("Sussex") sandstone									
5,100.00	52.53	149.23	3,817.68	-2,582.51	1,537.88	154.72	0.00	0.00	0.00
5,194.22	52.53	149.23	3,875.00	-2,646.76	1,576.13	158.57	0.00	0.00	0.00
Pierre Formation									
5,200.00	52.53	149.23	3,878.52	-2,650.70	1,578.48	158.81	0.00	0.00	0.00
5,300.00	52.53	149.23	3,939.36	-2,718.89	1,619.09	162.89	0.00	0.00	0.00
5,400.00	52.53	149.23	4,000.19	-2,787.08	1,659.70	166.98	0.00	0.00	0.00
5,500.00	52.53	149.23	4,061.03	-2,855.27	1,700.30	171.06	0.00	0.00	0.00
5,600.00	52.53	149.23	4,121.87	-2,923.46	1,740.91	175.15	0.00	0.00	0.00
5,700.00	52.53	149.23	4,182.71	-2,991.65	1,781.52	179.23	0.00	0.00	0.00
5,800.00	52.53	149.23	4,243.54	-3,059.84	1,822.12	183.32	0.00	0.00	0.00
5,900.00	52.53	149.23	4,304.38	-3,128.03	1,862.73	187.40	0.00	0.00	0.00
6,000.00	52.53	149.23	4,365.22	-3,196.22	1,903.34	191.49	0.00	0.00	0.00
6,100.00	52.53	149.23	4,426.06	-3,264.41	1,943.94	195.57	0.00	0.00	0.00
6,200.00	52.53	149.23	4,486.90	-3,332.60	1,984.55	199.66	0.00	0.00	0.00
6,300.00	52.53	149.23	4,547.73	-3,400.79	2,025.16	203.74	0.00	0.00	0.00
6,400.00	52.53	149.23	4,608.57	-3,468.98	2,065.76	207.83	0.00	0.00	0.00
6,500.00	52.53	149.23	4,669.41	-3,537.17	2,106.37	211.91	0.00	0.00	0.00
6,509.19	52.53	149.23	4,675.00	-3,543.44	2,110.10	212.29	0.00	0.00	0.00
Hygiene ("Shannon") sandstone									
6,600.00	52.53	149.23	4,730.25	-3,605.36	2,146.98	216.00	0.00	0.00	0.00
6,700.00	52.53	149.23	4,791.08	-3,673.55	2,187.59	220.09	0.00	0.00	0.00
6,722.88	52.53	149.23	4,805.00	-3,689.15	2,196.87	221.02	0.00	0.00	0.00
Pierre Formation									
6,800.00	52.53	149.23	4,851.92	-3,741.74	2,228.19	224.17	0.00	0.00	0.00
6,900.00	52.53	149.23	4,912.76	-3,809.93	2,268.80	228.26	0.00	0.00	0.00
7,000.00	52.53	149.23	4,973.60	-3,878.12	2,309.41	232.34	0.00	0.00	0.00
7,100.00	52.53	149.23	5,034.43	-3,946.31	2,350.01	236.43	0.00	0.00	0.00
7,200.00	52.53	149.23	5,095.27	-4,014.50	2,390.62	240.51	0.00	0.00	0.00
7,300.00	52.53	149.23	5,156.11	-4,082.69	2,431.23	244.60	0.00	0.00	0.00
7,400.00	52.53	149.23	5,216.95	-4,150.88	2,471.83	248.68	0.00	0.00	0.00
7,500.00	52.53	149.23	5,277.78	-4,219.07	2,512.44	252.77	0.00	0.00	0.00
7,600.00	52.53	149.23	5,338.62	-4,287.26	2,553.05	256.85	0.00	0.00	0.00
7,700.00	52.53	149.23	5,399.46	-4,355.45	2,593.65	260.94	0.00	0.00	0.00
7,800.00	52.53	149.23	5,460.30	-4,423.64	2,634.26	265.02	0.00	0.00	0.00
7,878.34	52.53	149.23	5,507.95	-4,477.06	2,666.07	268.22	0.00	0.00	0.00
Start DLS 10.00 TFO 109.51									

Planning Report

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Company:	BONANZA CREEK ENERGY	TVD Reference:	KB 25' @ 4574.00usft
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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)
7,900.00	51.83	151.82	5,521.24	-4,491.96	2,674.49	269.49	10.00	-3.21	11.99
7,950.00	50.46	158.00	5,552.63	-4,527.18	2,691.01	275.31	10.00	-2.76	12.35
8,000.00	49.42	164.39	5,584.83	-4,563.36	2,703.34	285.14	10.00	-2.08	12.78
8,050.00	48.74	170.95	5,617.60	-4,600.23	2,711.42	298.89	10.00	-1.35	13.12
8,100.00	48.44	177.60	5,650.69	-4,637.50	2,715.16	316.48	10.00	-0.60	13.31
8,150.00	48.53	184.28	5,683.85	-4,674.90	2,714.54	337.75	10.00	0.17	13.36
8,200.00	49.00	190.90	5,716.83	-4,712.13	2,709.57	362.55	10.00	0.94	13.24
8,250.00	49.84	197.39	5,749.38	-4,748.91	2,700.28	390.70	10.00	1.69	12.98
8,300.00	51.04	203.69	5,781.24	-4,784.96	2,686.75	421.97	10.00	2.39	12.60
8,350.00	52.56	209.76	5,812.18	-4,820.02	2,669.07	456.13	10.00	3.04	12.13
8,400.00	54.38	215.55	5,841.96	-4,853.80	2,647.39	492.93	10.00	3.64	11.60
8,450.00	56.46	221.08	5,870.35	-4,886.07	2,621.87	532.07	10.00	4.17	11.04
8,500.00	58.77	226.33	5,897.14	-4,916.56	2,592.70	573.26	10.00	4.63	10.50
8,550.00	61.29	231.31	5,922.13	-4,945.04	2,560.10	616.19	10.00	5.04	9.97
8,577.43	62.75	233.94	5,935.00	-4,959.74	2,540.84	640.36	10.00	5.31	9.59
Sharon Springs Member									
8,600.00	63.99	236.06	5,945.12	-4,971.31	2,524.32	660.53	10.00	5.47	9.36
8,650.00	66.83	240.58	5,965.93	-4,995.16	2,485.64	705.94	10.00	5.68	9.05
8,700.00	69.79	244.92	5,984.42	-5,016.40	2,444.34	752.08	10.00	5.93	8.67
8,750.00	72.86	249.09	6,000.43	-5,034.89	2,400.75	798.60	10.00	6.13	8.34
8,800.00	76.01	253.12	6,013.86	-5,050.47	2,355.19	845.14	10.00	6.30	8.06
8,850.00	79.22	257.04	6,024.58	-5,063.03	2,308.02	891.35	10.00	6.43	7.84
8,900.00	82.48	260.88	6,032.54	-5,072.47	2,259.58	936.88	10.00	6.52	7.68
8,950.00	85.78	264.66	6,037.65	-5,078.72	2,210.25	981.38	10.00	6.59	7.56
9,000.00	89.09	268.41	6,039.89	-5,081.73	2,160.41	1,024.50	10.00	6.63	7.50
9,013.71	90.00	269.44	6,040.00	-5,081.99	2,146.70	1,036.05	10.00	6.64	7.48
Start 9905.99 hold at 9013.71 MD - Niobrara Formation									
9,100.00	90.00	269.44	6,040.00	-5,082.84	2,060.42	1,108.28	0.00	0.00	0.00
9,200.00	90.00	269.44	6,040.00	-5,083.82	1,960.42	1,192.00	0.00	0.00	0.00
9,300.00	90.00	269.44	6,040.00	-5,084.80	1,860.43	1,275.71	0.00	0.00	0.00
9,400.00	90.00	269.44	6,040.00	-5,085.78	1,760.43	1,359.42	0.00	0.00	0.00
9,500.00	90.00	269.44	6,040.00	-5,086.76	1,660.44	1,443.14	0.00	0.00	0.00
9,600.00	90.00	269.44	6,040.00	-5,087.74	1,560.44	1,526.85	0.00	0.00	0.00
9,700.00	90.00	269.44	6,040.00	-5,088.73	1,460.45	1,610.56	0.00	0.00	0.00
9,800.00	90.00	269.44	6,040.00	-5,089.71	1,360.45	1,694.27	0.00	0.00	0.00
9,900.00	90.00	269.44	6,040.00	-5,090.69	1,260.45	1,777.99	0.00	0.00	0.00
10,000.00	90.00	269.44	6,040.00	-5,091.67	1,160.46	1,861.70	0.00	0.00	0.00
10,100.00	90.00	269.44	6,040.00	-5,092.65	1,060.46	1,945.41	0.00	0.00	0.00
10,200.00	90.00	269.44	6,040.00	-5,093.63	960.47	2,029.13	0.00	0.00	0.00
10,300.00	90.00	269.44	6,040.00	-5,094.62	860.47	2,112.84	0.00	0.00	0.00
10,400.00	90.00	269.44	6,040.00	-5,095.60	760.48	2,196.55	0.00	0.00	0.00
10,500.00	90.00	269.44	6,040.00	-5,096.58	660.48	2,280.26	0.00	0.00	0.00
10,600.00	90.00	269.44	6,040.00	-5,097.56	560.49	2,363.98	0.00	0.00	0.00
10,700.00	90.00	269.44	6,040.00	-5,098.54	460.49	2,447.69	0.00	0.00	0.00
10,800.00	90.00	269.44	6,040.00	-5,099.52	360.50	2,531.40	0.00	0.00	0.00
10,900.00	90.00	269.44	6,040.00	-5,100.51	260.50	2,615.12	0.00	0.00	0.00
11,000.00	90.00	269.44	6,040.00	-5,101.49	160.51	2,698.83	0.00	0.00	0.00
11,100.00	90.00	269.44	6,040.00	-5,102.47	60.51	2,782.54	0.00	0.00	0.00
11,200.00	90.00	269.44	6,040.00	-5,103.45	-39.48	2,866.25	0.00	0.00	0.00
11,300.00	90.00	269.44	6,040.00	-5,104.43	-139.48	2,949.97	0.00	0.00	0.00
11,400.00	90.00	269.44	6,040.00	-5,105.41	-239.47	3,033.68	0.00	0.00	0.00
11,500.00	90.00	269.44	6,040.00	-5,106.40	-339.47	3,117.39	0.00	0.00	0.00
11,600.00	90.00	269.44	6,040.00	-5,107.38	-439.46	3,201.11	0.00	0.00	0.00

Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well STATE SEVENTY HOLES Y-E-10HNXRL
Company:	BONANZA CREEK ENERGY	TVD Reference:	KB 25' @ 4574.00usft
Project:	WELD COUNTY	MD Reference:	KB 25' @ 4574.00usft
Site:	SEC 3-T4N-R62W	North Reference:	True
Well:	STATE SEVENTY HOLES Y-E-10HNXRL	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)
11,700.00	90.00	269.44	6,040.00	-5,108.36	-539.46	3,284.82	0.00	0.00	0.00
11,800.00	90.00	269.44	6,040.00	-5,109.34	-639.45	3,368.53	0.00	0.00	0.00
11,900.00	90.00	269.44	6,040.00	-5,110.32	-739.45	3,452.25	0.00	0.00	0.00
12,000.00	90.00	269.44	6,040.00	-5,111.30	-839.44	3,535.96	0.00	0.00	0.00
12,100.00	90.00	269.44	6,040.00	-5,112.28	-939.44	3,619.67	0.00	0.00	0.00
12,200.00	90.00	269.44	6,040.00	-5,113.27	-1,039.43	3,703.38	0.00	0.00	0.00
12,300.00	90.00	269.44	6,040.00	-5,114.25	-1,139.43	3,787.10	0.00	0.00	0.00
12,400.00	90.00	269.44	6,040.00	-5,115.23	-1,239.42	3,870.81	0.00	0.00	0.00
12,500.00	90.00	269.44	6,040.00	-5,116.21	-1,339.42	3,954.52	0.00	0.00	0.00
12,600.00	90.00	269.44	6,040.00	-5,117.19	-1,439.42	4,038.24	0.00	0.00	0.00
12,700.00	90.00	269.44	6,040.00	-5,118.17	-1,539.41	4,121.95	0.00	0.00	0.00
12,800.00	90.00	269.44	6,040.00	-5,119.16	-1,639.41	4,205.66	0.00	0.00	0.00
12,900.00	90.00	269.44	6,040.00	-5,120.14	-1,739.40	4,289.37	0.00	0.00	0.00
13,000.00	90.00	269.44	6,040.00	-5,121.12	-1,839.40	4,373.09	0.00	0.00	0.00
13,100.00	90.00	269.44	6,040.00	-5,122.10	-1,939.39	4,456.80	0.00	0.00	0.00
13,200.00	90.00	269.44	6,040.00	-5,123.08	-2,039.39	4,540.51	0.00	0.00	0.00
13,300.00	90.00	269.44	6,040.00	-5,124.06	-2,139.38	4,624.23	0.00	0.00	0.00
13,400.00	90.00	269.44	6,040.00	-5,125.05	-2,239.38	4,707.94	0.00	0.00	0.00
13,500.00	90.00	269.44	6,040.00	-5,126.03	-2,339.37	4,791.65	0.00	0.00	0.00
13,600.00	90.00	269.44	6,040.00	-5,127.01	-2,439.37	4,875.36	0.00	0.00	0.00
13,700.00	90.00	269.44	6,040.00	-5,127.99	-2,539.36	4,959.08	0.00	0.00	0.00
13,800.00	90.00	269.44	6,040.00	-5,128.97	-2,639.36	5,042.79	0.00	0.00	0.00
13,900.00	90.00	269.44	6,040.00	-5,129.95	-2,739.35	5,126.50	0.00	0.00	0.00
14,000.00	90.00	269.44	6,040.00	-5,130.94	-2,839.35	5,210.22	0.00	0.00	0.00
14,100.00	90.00	269.44	6,040.00	-5,131.92	-2,939.34	5,293.93	0.00	0.00	0.00
14,200.00	90.00	269.44	6,040.00	-5,132.90	-3,039.34	5,377.64	0.00	0.00	0.00
14,300.00	90.00	269.44	6,040.00	-5,133.88	-3,139.33	5,461.36	0.00	0.00	0.00
14,400.00	90.00	269.44	6,040.00	-5,134.86	-3,239.33	5,545.07	0.00	0.00	0.00
14,500.00	90.00	269.44	6,040.00	-5,135.84	-3,339.32	5,628.78	0.00	0.00	0.00
14,600.00	90.00	269.44	6,040.00	-5,136.83	-3,439.32	5,712.49	0.00	0.00	0.00
14,700.00	90.00	269.44	6,040.00	-5,137.81	-3,539.31	5,796.21	0.00	0.00	0.00
14,800.00	90.00	269.44	6,040.00	-5,138.79	-3,639.31	5,879.92	0.00	0.00	0.00
14,900.00	90.00	269.44	6,040.00	-5,139.77	-3,739.30	5,963.63	0.00	0.00	0.00
15,000.00	90.00	269.44	6,040.00	-5,140.75	-3,839.30	6,047.35	0.00	0.00	0.00
15,100.00	90.00	269.44	6,040.00	-5,141.73	-3,939.29	6,131.06	0.00	0.00	0.00
15,200.00	90.00	269.44	6,040.00	-5,142.72	-4,039.29	6,214.77	0.00	0.00	0.00
15,300.00	90.00	269.44	6,040.00	-5,143.70	-4,139.29	6,298.48	0.00	0.00	0.00
15,400.00	90.00	269.44	6,040.00	-5,144.68	-4,239.28	6,382.20	0.00	0.00	0.00
15,500.00	90.00	269.44	6,040.00	-5,145.66	-4,339.28	6,465.91	0.00	0.00	0.00
15,600.00	90.00	269.44	6,040.00	-5,146.64	-4,439.27	6,549.62	0.00	0.00	0.00
15,700.00	90.00	269.44	6,040.00	-5,147.62	-4,539.27	6,633.34	0.00	0.00	0.00
15,800.00	90.00	269.44	6,040.00	-5,148.60	-4,639.26	6,717.05	0.00	0.00	0.00
15,900.00	90.00	269.44	6,040.00	-5,149.59	-4,739.26	6,800.76	0.00	0.00	0.00
16,000.00	90.00	269.44	6,040.00	-5,150.57	-4,839.25	6,884.48	0.00	0.00	0.00
16,100.00	90.00	269.44	6,040.00	-5,151.55	-4,939.25	6,968.19	0.00	0.00	0.00
16,200.00	90.00	269.44	6,040.00	-5,152.53	-5,039.24	7,051.90	0.00	0.00	0.00
16,300.00	90.00	269.44	6,040.00	-5,153.51	-5,139.24	7,135.61	0.00	0.00	0.00
16,400.00	90.00	269.44	6,040.00	-5,154.49	-5,239.23	7,219.33	0.00	0.00	0.00
16,500.00	90.00	269.44	6,040.00	-5,155.48	-5,339.23	7,303.04	0.00	0.00	0.00
16,600.00	90.00	269.44	6,040.00	-5,156.46	-5,439.22	7,386.75	0.00	0.00	0.00
16,700.00	90.00	269.44	6,040.00	-5,157.44	-5,539.22	7,470.47	0.00	0.00	0.00
16,800.00	90.00	269.44	6,040.00	-5,158.42	-5,639.21	7,554.18	0.00	0.00	0.00
16,900.00	90.00	269.44	6,040.00	-5,159.40	-5,739.21	7,637.89	0.00	0.00	0.00

Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well STATE SEVENTY HOLES Y-E-10HNXRL
Company:	BONANZA CREEK ENERGY	TVD Reference:	KB 25' @ 4574.00usft
Project:	WELD COUNTY	MD Reference:	KB 25' @ 4574.00usft
Site:	SEC 3-T4N-R62W	North Reference:	True
Well:	STATE SEVENTY HOLES Y-E-10HNXRL	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)
17,000.00	90.00	269.44	6,040.00	-5,160.38	-5,839.20	7,721.60	0.00	0.00	0.00
17,100.00	90.00	269.44	6,040.00	-5,161.37	-5,939.20	7,805.32	0.00	0.00	0.00
17,200.00	90.00	269.44	6,040.00	-5,162.35	-6,039.19	7,889.03	0.00	0.00	0.00
17,300.00	90.00	269.44	6,040.00	-5,163.33	-6,139.19	7,972.74	0.00	0.00	0.00
17,400.00	90.00	269.44	6,040.00	-5,164.31	-6,239.18	8,056.46	0.00	0.00	0.00
17,500.00	90.00	269.44	6,040.00	-5,165.29	-6,339.18	8,140.17	0.00	0.00	0.00
17,600.00	90.00	269.44	6,040.00	-5,166.27	-6,439.17	8,223.88	0.00	0.00	0.00
17,700.00	90.00	269.44	6,040.00	-5,167.26	-6,539.17	8,307.59	0.00	0.00	0.00
17,800.00	90.00	269.44	6,040.00	-5,168.24	-6,639.16	8,391.31	0.00	0.00	0.00
17,900.00	90.00	269.44	6,040.00	-5,169.22	-6,739.16	8,475.02	0.00	0.00	0.00
18,000.00	90.00	269.44	6,040.00	-5,170.20	-6,839.16	8,558.73	0.00	0.00	0.00
18,100.00	90.00	269.44	6,040.00	-5,171.18	-6,939.15	8,642.45	0.00	0.00	0.00
18,200.00	90.00	269.44	6,040.00	-5,172.16	-7,039.15	8,726.16	0.00	0.00	0.00
18,300.00	90.00	269.44	6,040.00	-5,173.15	-7,139.14	8,809.87	0.00	0.00	0.00
18,400.00	90.00	269.44	6,040.00	-5,174.13	-7,239.14	8,893.59	0.00	0.00	0.00
18,500.00	90.00	269.44	6,040.00	-5,175.11	-7,339.13	8,977.30	0.00	0.00	0.00
18,600.00	90.00	269.44	6,040.00	-5,176.09	-7,439.13	9,061.01	0.00	0.00	0.00
18,700.00	90.00	269.44	6,040.00	-5,177.07	-7,539.12	9,144.72	0.00	0.00	0.00
18,800.00	90.00	269.44	6,040.00	-5,178.05	-7,639.12	9,228.44	0.00	0.00	0.00
18,900.00	90.00	269.44	6,040.00	-5,179.03	-7,739.11	9,312.15	0.00	0.00	0.00
18,919.70	90.00	269.44	6,040.00	-5,179.23	-7,758.82	9,328.64	0.00	0.00	0.00
TD at 18919.70									

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-SSH Y-E-10HNXf - plan hits target center - Point	0.00	0.00	6,040.00	-5,179.23	-7,758.82	1,366,629.33	3,323,720.29	40.333980°N	104.338770°W
LP-SSH Y-E-10HNXRL - plan hits target center - Point	0.00	0.00	6,040.00	-5,081.99	2,146.70	1,366,859.37	3,333,623.19	40.334250°N	104.303240°W

Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well STATE SEVENTY HOLES Y-E-10HNXRL
Company:	BONANZA CREEK ENERGY	TVD Reference:	KB 25' @ 4574.00usft
Project:	WELD COUNTY	MD Reference:	KB 25' @ 4574.00usft
Site:	SEC 3-T4N-R62W	North Reference:	True
Well:	STATE SEVENTY HOLES Y-E-10HNXRL	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PROPOSAL 1		

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
109.00	109.00	Laramie-Fox Hills Formation				
225.04	225.00	Pierre Formation				
365.38	365.00	Upper Pierre aquifer				
1,399.06	1,355.00	Base of Upper Pierre aquifer				
4,306.61	3,335.00	Larimer ("Parkman") sandstone				
4,701.10	3,575.00	Pierre Formation				
5,079.16	3,805.00	Terry ("Sussex") sandstone				
5,194.22	3,875.00	Pierre Formation				
6,509.19	4,675.00	Hygiene ("Shannon") sandstone				
6,722.88	4,805.00	Pierre Formation				
8,577.43	5,935.00	Sharon Springs Member				
9,013.71	6,040.00	Niobrara Formation				

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
100.00	100.00	0.00	0.00	Start Build 2.00	
2,726.39	2,373.63	-963.95	574.03	Start 5151.95 hold at 2726.39 MD	
7,878.34	5,507.95	-4,477.06	2,666.07	Start DLS 10.00 TFO 109.51	
9,013.71	6,040.00	-5,081.99	2,146.70	Start 9905.99 hold at 9013.71 MD	
18,919.70	6,040.00	-5,179.23	-7,758.82	TD at 18919.70	