

# **BONANZA CREEK ENERGY**

**WELD COUNTY**

**SEC 31-T5N-R62W**

**ORIGAMI STATE A-O31 6S-10-03**

**OWB**

**Plan: PROPOSAL 1**

## **Standard Planning Report**

**08 January, 2025**



# Civitas Resources

## Planning Report

<b>Database:</b>	EDM	<b>Local Co-ordinate Reference:</b>	Well ORIGAMI STATE A-O31 6S-10-03
<b>Company:</b>	BONANZA CREEK ENERGY	<b>TVD Reference:</b>	KB 25' @ 4578.00usft
<b>Project:</b>	WELD COUNTY	<b>MD Reference:</b>	KB 25' @ 4578.00usft
<b>Site:</b>	SEC 31-T5N-R62W	<b>North Reference:</b>	True
<b>Well:</b>	ORIGAMI STATE A-O31 6S-10-03	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OWB		
<b>Design:</b>	PROPOSAL 1		

<b>Project</b>	WELD COUNTY		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	Colorado Northern Zone		Using geodetic scale factor

<b>Site</b>	SEC 31-T5N-R62W				
<b>Site Position:</b>		<b>Northing:</b>	1,377,287.48 usft	<b>Latitude:</b>	40.363420°N
<b>From:</b>	Lat/Long	<b>Easting:</b>	3,318,522.58 usft	<b>Longitude:</b>	104.356920°W
<b>Position Uncertainty:</b>	0.00 usft	<b>Slot Radius:</b>	13.200 in	<b>Grid Convergence:</b>	0.74 °

<b>Well</b>	ORIGAMI STATE A-O31 6S-10-03					
<b>Well Position</b>	<b>+N/-S</b>	-4,691.81 usft	<b>Northing:</b>	1,372,564.24 usft	<b>Latitude:</b>	40.350541°N
	<b>+E/-W</b>	-2,483.16 usft	<b>Easting:</b>	3,316,100.21 usft	<b>Longitude:</b>	104.365829°W
<b>Position Uncertainty</b>		0.00 usft	<b>Wellhead Elevation:</b>		<b>Ground Level:</b>	4,553.00 usft

<b>Wellbore</b>	OWB				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2020	1/8/2025	7.26	66.52	51,594.89557451

<b>Design</b>	PROPOSAL 1			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PROTOTYPE	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>
	0.00	0.00	0.00	189.72

<b>Plan Survey Tool Program</b>	<b>Date</b>	1/8/2025		
<b>Depth From (usft)</b>	<b>Depth To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Remarks</b>
1	0.00	11,791.21	PROPOSAL 1 (OWB)	MWD OWSG OWSG MWD - Standard

<b>Plan Sections</b>										
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	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
668.84	11.07	266.63	666.56	-2.09	-35.44	3.00	3.00	0.00	266.63	
5,707.89	11.07	266.63	5,611.92	-58.90	-1,000.91	0.00	0.00	0.00	0.00	
6,603.57	90.00	178.88	6,170.00	-633.86	-1,098.76	10.00	8.81	-9.80	-87.79	LP-ORIGAMI STATE,
11,791.21	90.00	178.88	6,170.00	-5,820.52	-997.51	0.00	0.00	0.00	0.00	PBHL-ORIGAMI STA

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## Planning Report

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<b>Company:</b>	BONANZA CREEK ENERGY	<b>TVD Reference:</b>	KB 25' @ 4578.00usft
<b>Project:</b>	WELD COUNTY	<b>MD Reference:</b>	KB 25' @ 4578.00usft
<b>Site:</b>	SEC 31-T5N-R62W	<b>North Reference:</b>	True
<b>Well:</b>	ORIGAMI STATE A-O31 6S-10-03	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OWB		
<b>Design:</b>	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	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
120.00	0.00	0.00	120.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Laramie-Fox Hills Formation</b>										
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
210.00	0.00	0.00	210.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Pierre Formation</b>										
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Start Build 3.00</b>										
370.02	2.10	266.63	370.00	-0.08	-1.28	0.29	3.00	3.00	0.00	0.00
<b>Upper Pierre aquifer</b>										
400.00	3.00	266.63	399.95	-0.15	-2.61	0.59	3.00	3.00	0.00	0.00
500.00	6.00	266.63	499.63	-0.61	-10.44	2.37	3.00	3.00	0.00	0.00
600.00	9.00	266.63	598.77	-1.38	-23.47	5.33	3.00	3.00	0.00	0.00
668.84	11.07	266.63	666.56	-2.09	-35.44	8.04	3.00	3.00	0.00	0.00
<b>Start 5039.04 hold at 668.84 MD</b>										
700.00	11.07	266.63	697.13	-2.44	-41.41	9.40	0.00	0.00	0.00	0.00
800.00	11.07	266.63	795.27	-3.56	-60.57	13.75	0.00	0.00	0.00	0.00
900.00	11.07	266.63	893.41	-4.69	-79.73	18.09	0.00	0.00	0.00	0.00
1,000.00	11.07	266.63	991.55	-5.82	-98.89	22.44	0.00	0.00	0.00	0.00
1,100.00	11.07	266.63	1,089.70	-6.95	-118.05	26.79	0.00	0.00	0.00	0.00
1,200.00	11.07	266.63	1,187.84	-8.08	-137.21	31.14	0.00	0.00	0.00	0.00
1,300.00	11.07	266.63	1,285.98	-9.20	-156.37	35.48	0.00	0.00	0.00	0.00
1,385.61	11.07	266.63	1,370.00	-10.17	-172.78	39.21	0.00	0.00	0.00	0.00
<b>Base of Upper Pierre aquifer</b>										
1,400.00	11.07	266.63	1,384.12	-10.33	-175.53	39.83	0.00	0.00	0.00	0.00
1,500.00	11.07	266.63	1,482.26	-11.46	-194.69	44.18	0.00	0.00	0.00	0.00
1,600.00	11.07	266.63	1,580.40	-12.59	-213.85	48.53	0.00	0.00	0.00	0.00
1,700.00	11.07	266.63	1,678.54	-13.71	-233.01	52.88	0.00	0.00	0.00	0.00
1,800.00	11.07	266.63	1,776.68	-14.84	-252.17	57.22	0.00	0.00	0.00	0.00
1,900.00	11.07	266.63	1,874.82	-15.97	-271.33	61.57	0.00	0.00	0.00	0.00
2,000.00	11.07	266.63	1,972.96	-17.10	-290.49	65.92	0.00	0.00	0.00	0.00
2,100.00	11.07	266.63	2,071.10	-18.22	-309.65	70.27	0.00	0.00	0.00	0.00
2,200.00	11.07	266.63	2,169.25	-19.35	-328.81	74.61	0.00	0.00	0.00	0.00
2,300.00	11.07	266.63	2,267.39	-20.48	-347.97	78.96	0.00	0.00	0.00	0.00
2,400.00	11.07	266.63	2,365.53	-21.61	-367.13	83.31	0.00	0.00	0.00	0.00
2,500.00	11.07	266.63	2,463.67	-22.73	-386.29	87.66	0.00	0.00	0.00	0.00
2,600.00	11.07	266.63	2,561.81	-23.86	-405.45	92.00	0.00	0.00	0.00	0.00
2,700.00	11.07	266.63	2,659.95	-24.99	-424.61	96.35	0.00	0.00	0.00	0.00
2,800.00	11.07	266.63	2,758.09	-26.12	-443.77	100.70	0.00	0.00	0.00	0.00
2,900.00	11.07	266.63	2,856.23	-27.24	-462.93	105.05	0.00	0.00	0.00	0.00
3,000.00	11.07	266.63	2,954.37	-28.37	-482.09	109.40	0.00	0.00	0.00	0.00
3,100.00	11.07	266.63	3,052.51	-29.50	-501.25	113.74	0.00	0.00	0.00	0.00
3,200.00	11.07	266.63	3,150.65	-30.63	-520.41	118.09	0.00	0.00	0.00	0.00
3,300.00	11.07	266.63	3,248.80	-31.75	-539.57	122.44	0.00	0.00	0.00	0.00
3,400.00	11.07	266.63	3,346.94	-32.88	-558.73	126.79	0.00	0.00	0.00	0.00
3,413.31	11.07	266.63	3,360.00	-33.03	-561.28	127.37	0.00	0.00	0.00	0.00
<b>Larimer ("Parkman") sandstone</b>										
3,500.00	11.07	266.63	3,445.08	-34.01	-577.89	131.13	0.00	0.00	0.00	0.00
3,600.00	11.07	266.63	3,543.22	-35.14	-597.04	135.48	0.00	0.00	0.00	0.00
3,678.24	11.07	266.63	3,620.00	-36.02	-612.03	138.88	0.00	0.00	0.00	0.00
<b>Pierre Formation</b>										
3,700.00	11.07	266.63	3,641.36	-36.26	-616.20	139.83	0.00	0.00	0.00	0.00

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<b>Wellbore:</b>	OWB		
<b>Design:</b>	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	11.07	266.63	3,739.50	-37.39	-635.36	144.18	0.00	0.00	0.00	
3,900.00	11.07	266.63	3,837.64	-38.52	-654.52	148.53	0.00	0.00	0.00	
3,902.40	11.07	266.63	3,840.00	-38.55	-654.98	148.63	0.00	0.00	0.00	
<b>Terry ("Sussex") sandstone</b>										
4,000.00	11.07	266.63	3,935.78	-39.65	-673.68	152.87	0.00	0.00	0.00	
4,014.49	11.07	266.63	3,950.00	-39.81	-676.46	153.50	0.00	0.00	0.00	
<b>Pierre Formation</b>										
4,100.00	11.07	266.63	4,033.92	-40.77	-692.84	157.22	0.00	0.00	0.00	
4,200.00	11.07	266.63	4,132.06	-41.90	-712.00	161.57	0.00	0.00	0.00	
4,300.00	11.07	266.63	4,230.20	-43.03	-731.16	165.92	0.00	0.00	0.00	
4,400.00	11.07	266.63	4,328.35	-44.16	-750.32	170.26	0.00	0.00	0.00	
4,500.00	11.07	266.63	4,426.49	-45.28	-769.48	174.61	0.00	0.00	0.00	
4,600.00	11.07	266.63	4,524.63	-46.41	-788.64	178.96	0.00	0.00	0.00	
4,700.00	11.07	266.63	4,622.77	-47.54	-807.80	183.31	0.00	0.00	0.00	
4,717.56	11.07	266.63	4,640.00	-47.74	-811.17	184.07	0.00	0.00	0.00	
<b>Hygiene ("Shannon") sandstone</b>										
4,800.00	11.07	266.63	4,720.91	-48.67	-826.96	187.65	0.00	0.00	0.00	
4,900.00	11.07	266.63	4,819.05	-49.79	-846.12	192.00	0.00	0.00	0.00	
4,911.16	11.07	266.63	4,830.00	-49.92	-848.26	192.49	0.00	0.00	0.00	
<b>Pierre Formation</b>										
5,000.00	11.07	266.63	4,917.19	-50.92	-865.28	196.35	0.00	0.00	0.00	
5,100.00	11.07	266.63	5,015.33	-52.05	-884.44	200.70	0.00	0.00	0.00	
5,200.00	11.07	266.63	5,113.47	-53.18	-903.60	205.05	0.00	0.00	0.00	
5,300.00	11.07	266.63	5,211.61	-54.30	-922.76	209.39	0.00	0.00	0.00	
5,400.00	11.07	266.63	5,309.75	-55.43	-941.92	213.74	0.00	0.00	0.00	
5,500.00	11.07	266.63	5,407.90	-56.56	-961.08	218.09	0.00	0.00	0.00	
5,600.00	11.07	266.63	5,506.04	-57.69	-980.24	222.44	0.00	0.00	0.00	
5,707.89	11.07	266.63	5,611.92	-58.90	-1,000.91	227.13	0.00	0.00	0.00	
<b>Start DLS 10.00 TFO -87.79</b>										
5,750.00	11.98	245.93	5,653.20	-60.93	-1,008.94	230.48	10.00	2.17	-49.16	
5,800.00	14.63	227.34	5,701.87	-67.32	-1,018.33	238.37	10.00	5.30	-37.18	
5,850.00	18.28	215.16	5,749.83	-78.02	-1,027.49	250.46	10.00	7.29	-24.36	
5,900.00	22.43	207.13	5,796.71	-92.93	-1,036.36	266.65	10.00	8.32	-16.06	
5,950.00	26.87	201.57	5,842.15	-111.94	-1,044.87	286.83	10.00	8.87	-11.12	
6,000.00	31.46	197.51	5,885.80	-134.91	-1,052.96	310.83	10.00	9.19	-8.13	
6,050.00	36.15	194.39	5,927.34	-161.65	-1,060.55	338.47	10.00	9.38	-6.22	
6,100.00	40.91	191.91	5,966.44	-191.98	-1,067.60	369.55	10.00	9.51	-4.96	
6,150.00	45.71	189.87	6,002.82	-225.65	-1,074.06	403.83	10.00	9.60	-4.09	
6,200.00	50.54	188.14	6,036.18	-262.41	-1,079.86	441.04	10.00	9.66	-3.47	
6,222.26	52.70	187.44	6,050.00	-279.69	-1,082.22	458.48	10.00	9.70	-3.12	
<b>Sharon Springs Member</b>										
6,250.00	55.39	186.63	6,066.29	-301.98	-1,084.97	480.91	10.00	9.72	-2.93	
6,300.00	60.26	185.29	6,092.90	-344.06	-1,089.35	523.13	10.00	9.74	-2.68	
6,350.00	65.15	184.07	6,115.83	-388.33	-1,092.97	567.37	10.00	9.76	-2.43	
6,400.00	70.04	182.95	6,134.88	-434.46	-1,095.79	613.31	10.00	9.78	-2.25	
6,450.00	74.94	181.90	6,149.92	-482.08	-1,097.80	660.59	10.00	9.80	-2.11	
6,500.00	79.84	180.89	6,160.84	-530.84	-1,098.98	708.85	10.00	9.80	-2.02	
6,550.00	84.74	179.91	6,167.54	-580.38	-1,099.33	757.73	10.00	9.81	-1.95	
6,603.57	90.00	178.88	6,170.00	-633.86	-1,098.76	810.35	10.00	9.81	-1.92	
<b>Start 5187.64 hold at 6603.57 MD - Niobrara Formation</b>										
6,700.00	90.00	178.88	6,170.00	-730.28	-1,096.88	905.07	0.00	0.00	0.00	
6,800.00	90.00	178.88	6,170.00	-830.26	-1,094.93	1,003.28	0.00	0.00	0.00	
6,900.00	90.00	178.88	6,170.00	-930.24	-1,092.98	1,101.49	0.00	0.00	0.00	

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<b>Wellbore:</b>	OWB		
<b>Design:</b>	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)	
7,000.00	90.00	178.88	6,170.00	-1,030.22	-1,091.03	1,199.71	0.00	0.00	0.00	
7,100.00	90.00	178.88	6,170.00	-1,130.20	-1,089.07	1,297.92	0.00	0.00	0.00	
7,200.00	90.00	178.88	6,170.00	-1,230.18	-1,087.12	1,396.14	0.00	0.00	0.00	
7,300.00	90.00	178.88	6,170.00	-1,330.16	-1,085.17	1,494.35	0.00	0.00	0.00	
7,400.00	90.00	178.88	6,170.00	-1,430.15	-1,083.22	1,592.57	0.00	0.00	0.00	
7,500.00	90.00	178.88	6,170.00	-1,530.13	-1,081.27	1,690.78	0.00	0.00	0.00	
7,600.00	90.00	178.88	6,170.00	-1,630.11	-1,079.31	1,789.00	0.00	0.00	0.00	
7,700.00	90.00	178.88	6,170.00	-1,730.09	-1,077.36	1,887.21	0.00	0.00	0.00	
7,800.00	90.00	178.88	6,170.00	-1,830.07	-1,075.41	1,985.43	0.00	0.00	0.00	
7,900.00	90.00	178.88	6,170.00	-1,930.05	-1,073.46	2,083.64	0.00	0.00	0.00	
8,000.00	90.00	178.88	6,170.00	-2,030.03	-1,071.51	2,181.86	0.00	0.00	0.00	
8,100.00	90.00	178.88	6,170.00	-2,130.01	-1,069.56	2,280.07	0.00	0.00	0.00	
8,200.00	90.00	178.88	6,170.00	-2,229.99	-1,067.60	2,378.28	0.00	0.00	0.00	
8,300.00	90.00	178.88	6,170.00	-2,329.97	-1,065.65	2,476.50	0.00	0.00	0.00	
8,400.00	90.00	178.88	6,170.00	-2,429.95	-1,063.70	2,574.71	0.00	0.00	0.00	
8,500.00	90.00	178.88	6,170.00	-2,529.94	-1,061.75	2,672.93	0.00	0.00	0.00	
8,600.00	90.00	178.88	6,170.00	-2,629.92	-1,059.80	2,771.14	0.00	0.00	0.00	
8,700.00	90.00	178.88	6,170.00	-2,729.90	-1,057.85	2,869.36	0.00	0.00	0.00	
8,800.00	90.00	178.88	6,170.00	-2,829.88	-1,055.89	2,967.57	0.00	0.00	0.00	
8,900.00	90.00	178.88	6,170.00	-2,929.86	-1,053.94	3,065.79	0.00	0.00	0.00	
9,000.00	90.00	178.88	6,170.00	-3,029.84	-1,051.99	3,164.00	0.00	0.00	0.00	
9,100.00	90.00	178.88	6,170.00	-3,129.82	-1,050.04	3,262.22	0.00	0.00	0.00	
9,200.00	90.00	178.88	6,170.00	-3,229.80	-1,048.09	3,360.43	0.00	0.00	0.00	
9,300.00	90.00	178.88	6,170.00	-3,329.78	-1,046.14	3,458.64	0.00	0.00	0.00	
9,400.00	90.00	178.88	6,170.00	-3,429.76	-1,044.18	3,556.86	0.00	0.00	0.00	
9,500.00	90.00	178.88	6,170.00	-3,529.75	-1,042.23	3,655.07	0.00	0.00	0.00	
9,600.00	90.00	178.88	6,170.00	-3,629.73	-1,040.28	3,753.29	0.00	0.00	0.00	
9,700.00	90.00	178.88	6,170.00	-3,729.71	-1,038.33	3,851.50	0.00	0.00	0.00	
9,800.00	90.00	178.88	6,170.00	-3,829.69	-1,036.38	3,949.72	0.00	0.00	0.00	
9,900.00	90.00	178.88	6,170.00	-3,929.67	-1,034.42	4,047.93	0.00	0.00	0.00	
10,000.00	90.00	178.88	6,170.00	-4,029.65	-1,032.47	4,146.15	0.00	0.00	0.00	
10,100.00	90.00	178.88	6,170.00	-4,129.63	-1,030.52	4,244.36	0.00	0.00	0.00	
10,200.00	90.00	178.88	6,170.00	-4,229.61	-1,028.57	4,342.58	0.00	0.00	0.00	
10,300.00	90.00	178.88	6,170.00	-4,329.59	-1,026.62	4,440.79	0.00	0.00	0.00	
10,400.00	90.00	178.88	6,170.00	-4,429.57	-1,024.67	4,539.01	0.00	0.00	0.00	
10,500.00	90.00	178.88	6,170.00	-4,529.55	-1,022.71	4,637.22	0.00	0.00	0.00	
10,600.00	90.00	178.88	6,170.00	-4,629.54	-1,020.76	4,735.43	0.00	0.00	0.00	
10,700.00	90.00	178.88	6,170.00	-4,729.52	-1,018.81	4,833.65	0.00	0.00	0.00	
10,800.00	90.00	178.88	6,170.00	-4,829.50	-1,016.86	4,931.86	0.00	0.00	0.00	
10,900.00	90.00	178.88	6,170.00	-4,929.48	-1,014.91	5,030.08	0.00	0.00	0.00	
11,000.00	90.00	178.88	6,170.00	-5,029.46	-1,012.96	5,128.29	0.00	0.00	0.00	
11,100.00	90.00	178.88	6,170.00	-5,129.44	-1,011.00	5,226.51	0.00	0.00	0.00	
11,200.00	90.00	178.88	6,170.00	-5,229.42	-1,009.05	5,324.72	0.00	0.00	0.00	
11,300.00	90.00	178.88	6,170.00	-5,329.40	-1,007.10	5,422.94	0.00	0.00	0.00	
11,400.00	90.00	178.88	6,170.00	-5,429.38	-1,005.15	5,521.15	0.00	0.00	0.00	
11,500.00	90.00	178.88	6,170.00	-5,529.36	-1,003.20	5,619.37	0.00	0.00	0.00	
11,600.00	90.00	178.88	6,170.00	-5,629.35	-1,001.25	5,717.58	0.00	0.00	0.00	
11,700.00	90.00	178.88	6,170.00	-5,729.33	-999.29	5,815.79	0.00	0.00	0.00	
11,791.21	90.00	178.88	6,170.00	-5,829.52	-997.51	5,905.37	0.00	0.00	0.00	
<b>TD at 11791.21</b>										

# Civitas Resources

## Planning Report

<b>Database:</b>	EDM	<b>Local Co-ordinate Reference:</b>	Well ORIGAMI STATE A-O31 6S-10-03
<b>Company:</b>	BONANZA CREEK ENERGY	<b>TVD Reference:</b>	KB 25' @ 4578.00usft
<b>Project:</b>	WELD COUNTY	<b>MD Reference:</b>	KB 25' @ 4578.00usft
<b>Site:</b>	SEC 31-T5N-R62W	<b>North Reference:</b>	True
<b>Well:</b>	ORIGAMI STATE A-O31 6S-10-03	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OWB		
<b>Design:</b>	PROPOSAL 1		

Design Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
- Shape									
LP-ORIGAMI STATE A-( - plan hits target center - Point	0.00	0.00	6,170.00	-633.86	-1,098.76	1,371,916.41	3,315,009.68	40.348801°N	104.369771°W
PBHL-ORIGAMI STATE - plan hits target center - Point	0.00	0.00	6,170.00	-5,820.52	-997.51	1,366,731.69	3,315,177.26	40.334564°N	104.369407°W

Formations						
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction	
(usft)	(usft)			(°)	(°)	
120.00	120.00	Laramie-Fox Hills Formation				
210.00	210.00	Pierre Formation				
370.02	370.00	Upper Pierre aquifer				
1,385.61	1,370.00	Base of Upper Pierre aquifer				
3,413.31	3,360.00	Larimer ("Parkman") sandstone				
3,678.24	3,620.00	Pierre Formation				
3,902.40	3,840.00	Terry ("Sussex") sandstone				
4,014.49	3,950.00	Pierre Formation				
4,717.56	4,640.00	Hygiene ("Shannon") sandstone				
4,911.16	4,830.00	Pierre Formation				
6,222.26	6,050.00	Sharon Springs Member				
6,603.57	6,170.00	Niobrara Formation				

Plan Annotations					
Measured Depth	Vertical Depth	Local Coordinates		Comment	
(usft)	(usft)	+N/-S	+E/-W		
		(usft)	(usft)		
300.00	300.00	0.00	0.00	Start Build 3.00	
668.84	666.56	-2.09	-35.44	Start 5039.04 hold at 668.84 MD	
5,707.89	5,611.92	-58.90	-1,000.91	Start DLS 10.00 TFO -87.79	
6,603.57	6,170.00	-633.86	-1,098.76	Start 5187.64 hold at 6603.57 MD	
11,791.21	6,170.00	-5,820.52	-997.51	TD at 11791.21	