

# Conoco Phillips Company

Arapahoe County, Colorado

Sec. 4-T4S-R64W (B&D Land 4-64 Pad)

B&D Land 4-64 3-1H

Plan A

Plan: Rev A0

## Sperry Drilling Services

### Proposal Report

18 August, 2014

Well Coordinates: 1,691,023.17 N, 3,268,028.34 E (39° 43' 36.49" N, 104° 32' 49.48" W)

Ground Level: 5,617.20 usft

Local Coordinate Origin:

Viewing Datum:

TVDs to System:

North Reference:

Unit System:

Geodetic Scale Factor Applied

Version: 5000.1 Build: 70

Centered on Well B&D Land 4-64 3-1H

KB 24 ft @ 5641.20usft (H&P 280)

N

True

API - US Survey Feet - Custom

**HALLIBURTON**

Project: Arapahoe County, Colorado  
Site: Sec. 4-T4S-R64W (B&D Land 4-64 Pad)  
Well: B&D Land 4-64 3-1H  
Wellbore: Plan A  
Plan: Rev A0

Conoco Phillips Company

HALLIBURTON  
Sperry Drilling

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	1985.00	0.00	0.00	1985.00	0.00	0.00	0.00	0.00	0.00	
3	2305.00	6.40	126.50	2304.33	-10.62	14.35	2.00	126.50	15.10	
4	6441.44	6.40	126.50	6415.00	-284.88	385.00	0.00	0.00	404.99	
5	6761.44	0.00	0.00	6734.33	-295.50	399.35	2.00	-180.00	420.09	
6	7005.34	0.00	0.00	6978.23	-295.50	399.35	0.00	0.00	420.09	
7	7920.02	91.47	91.12	7551.00	-307.01	986.87	10.00	91.12	1006.86	
8	12214.08	91.47	91.12	7441.00	-391.04	5278.70	0.00	0.00	5293.16	B&D Land 4-64 3-1H_Rev A0_BHL Tgt

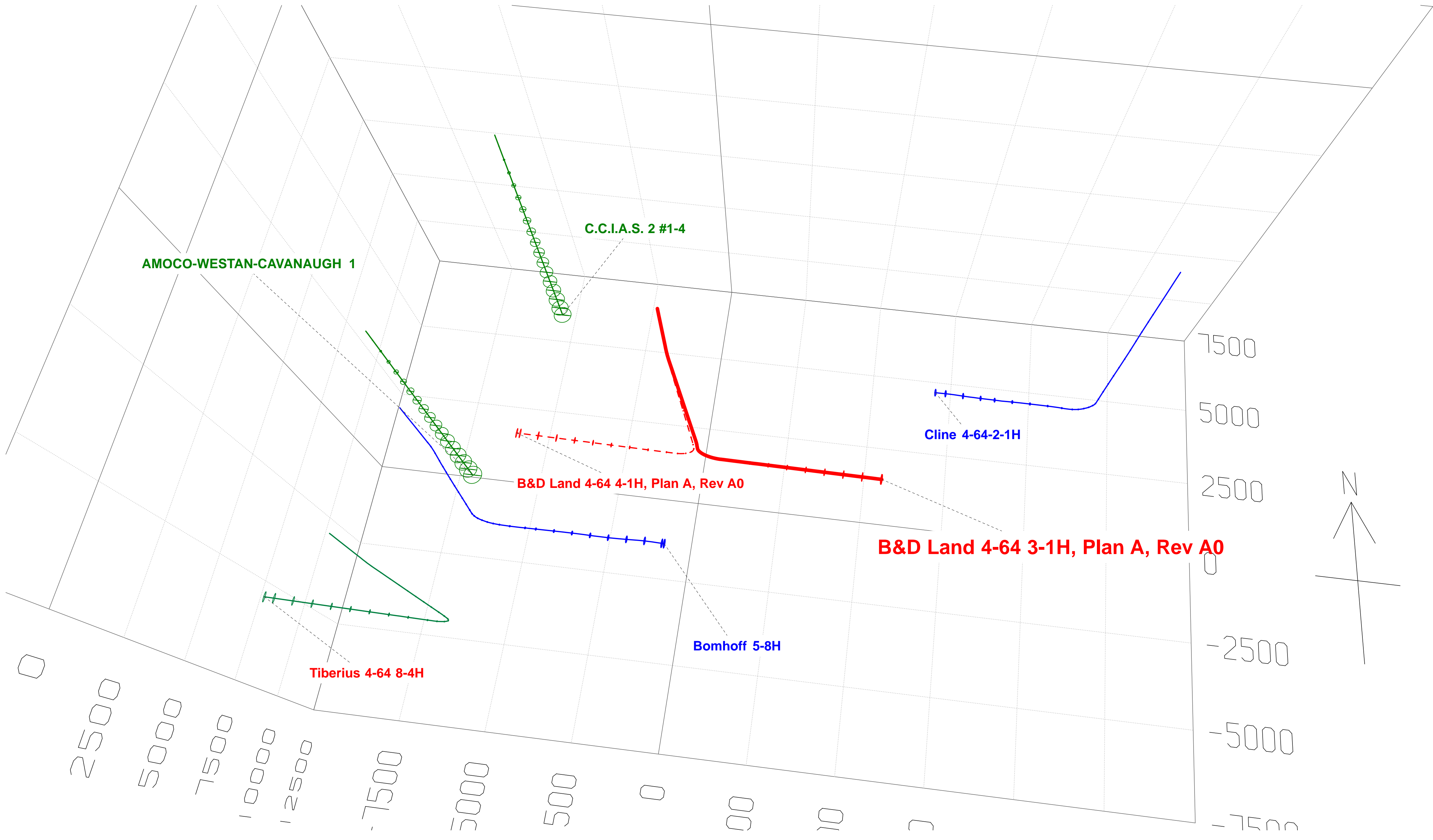
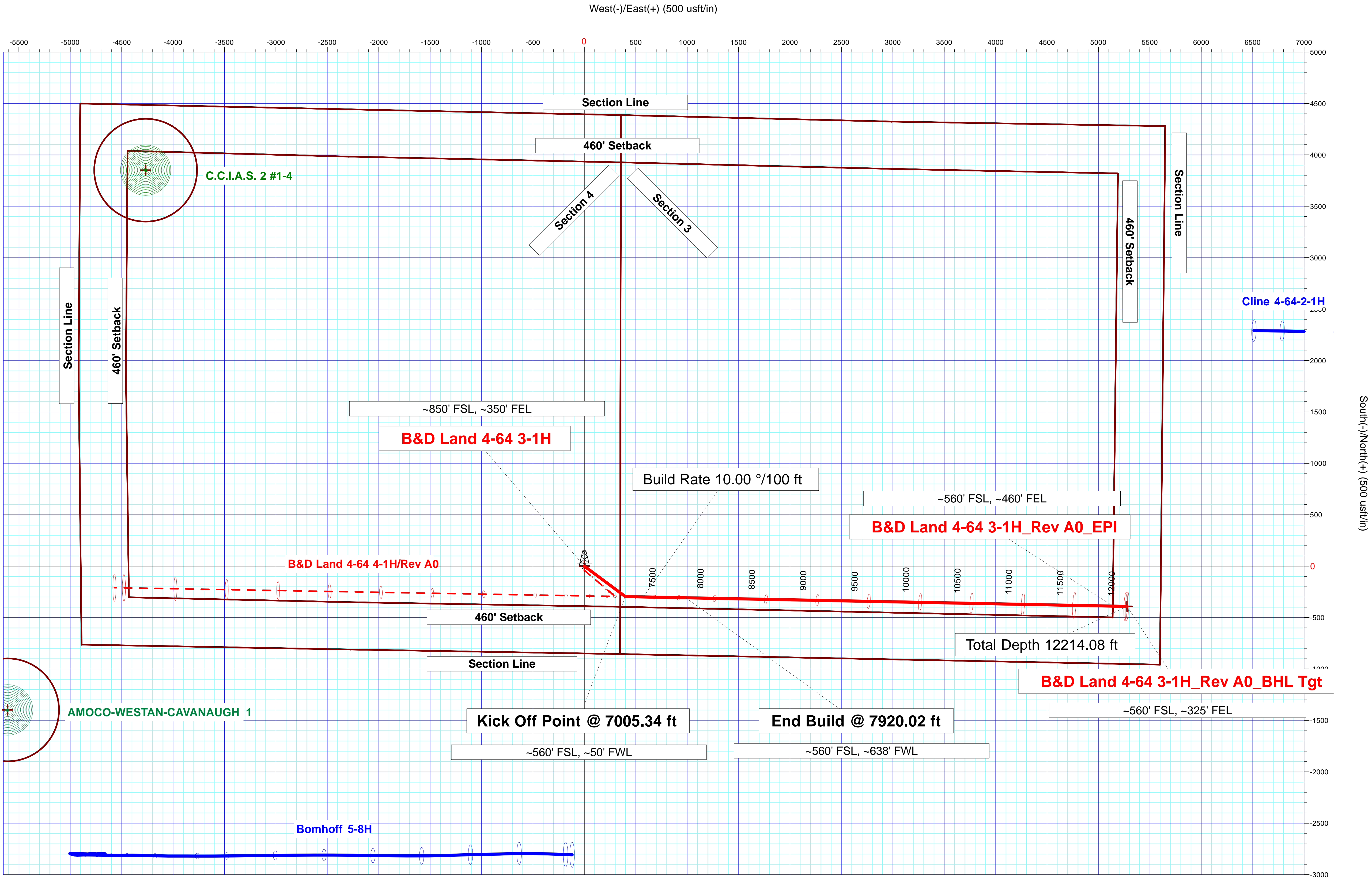
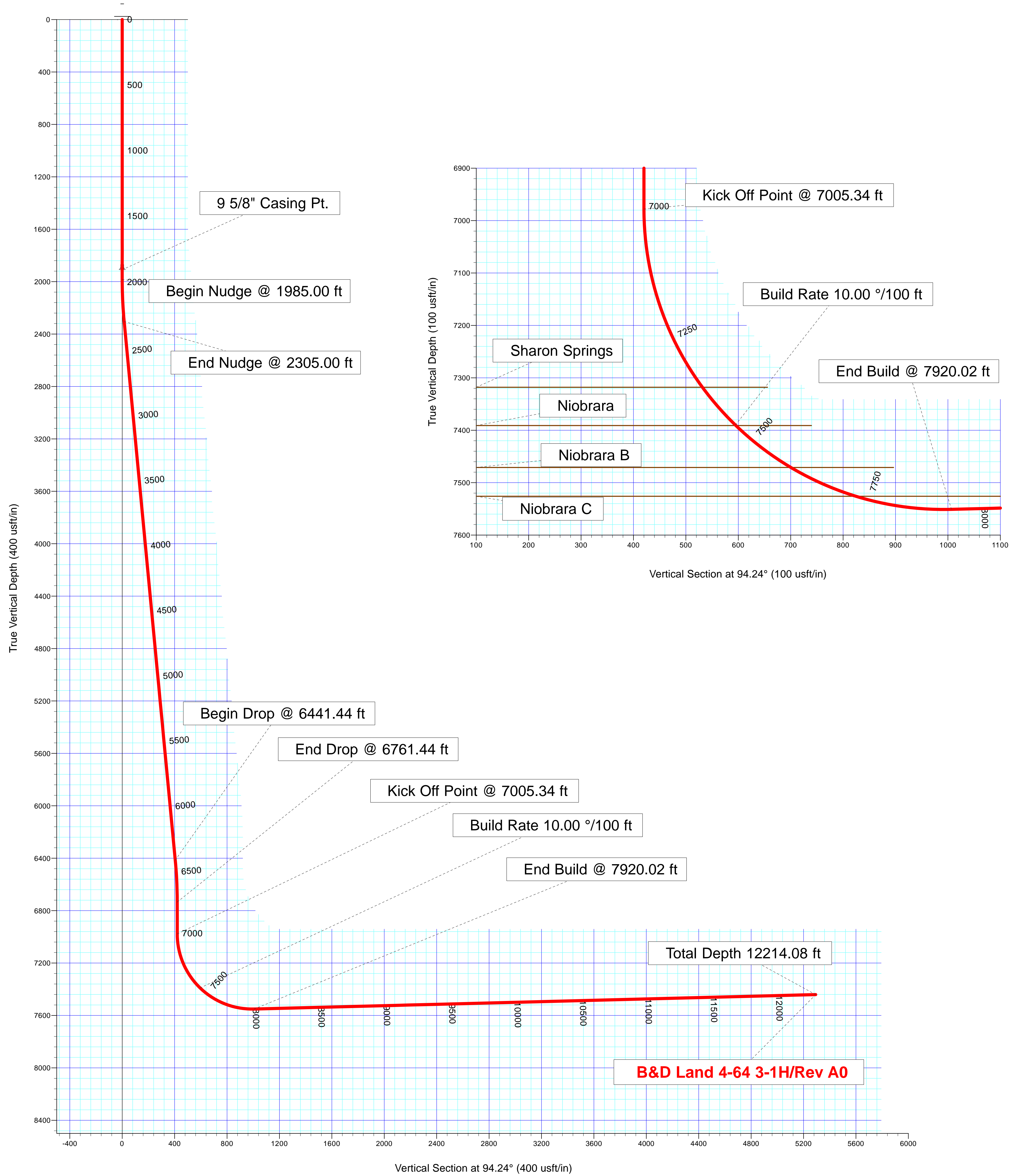
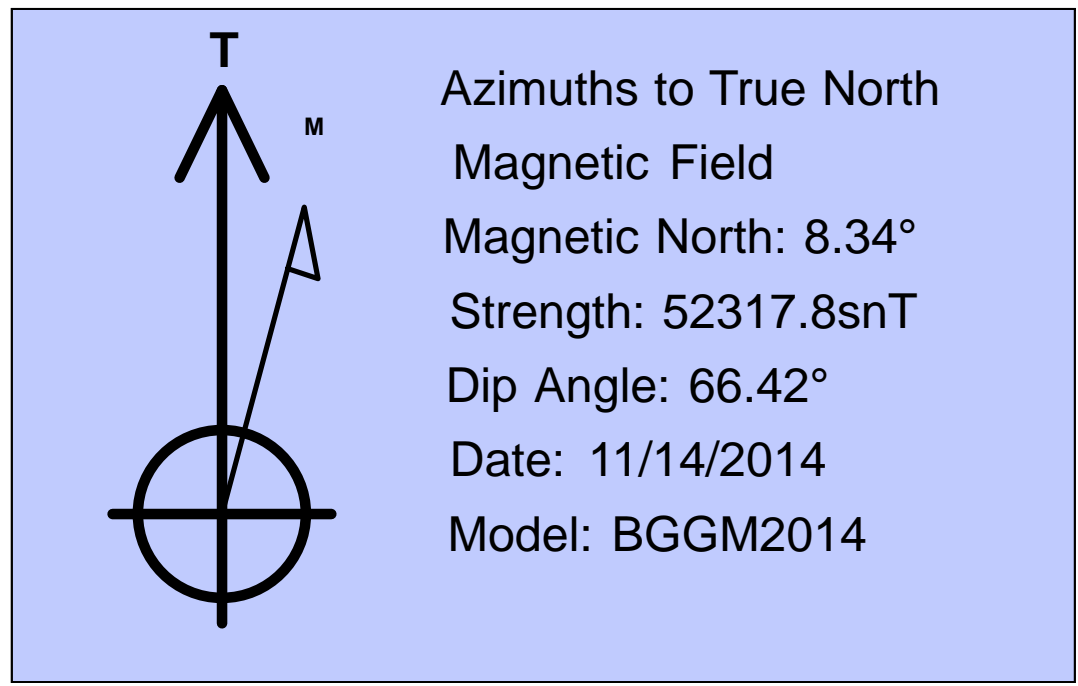
Plan: Rev A0 (B&D Land 4-64 3-1H/Plan A)

Created By: Kansa B. BeckerDate: 12:34, August 18 2014

Checked: \_\_\_\_\_Date: \_\_\_\_\_

Reviewed: \_\_\_\_\_Date: \_\_\_\_\_

Approved: \_\_\_\_\_Date: \_\_\_\_\_



## Plan Report for B&amp;D Land 4-64 3-1H - Rev A0

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	Toolface Azimuth (°)
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
200.00	0.00	0.00	200.00	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	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,585.00	0.00	0.00	1,585.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Fox Hills</b>										
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,709.00	0.00	0.00	1,709.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Pierre Shale</b>										
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,909.00	0.00	0.00	1,909.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Surface Casing - 9 5/8" Casing Pt.</b>										
1,985.00	0.00	0.00	1,985.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Begin Nudge @ 1985.00 ft</b>										
2,000.00	0.30	126.50	2,000.00	-0.02	0.03	0.03	2.00	2.00	0.00	126.50
2,100.00	2.30	126.50	2,099.97	-1.37	1.86	1.95	2.00	2.00	0.00	0.00
2,200.00	4.30	126.50	2,199.80	-4.80	6.48	6.82	2.00	2.00	0.00	0.00
2,300.00	6.30	126.50	2,299.37	-10.29	13.91	14.63	2.00	2.00	0.00	0.00
2,305.00	6.40	126.50	2,304.33	-10.62	14.35	15.10	2.00	2.00	0.00	0.00
<b>End Nudge @ 2305.00 ft</b>										
2,400.00	6.40	126.50	2,398.74	-16.92	22.86	24.05	0.00	0.00	0.00	0.00
2,500.00	6.40	126.50	2,498.12	-23.55	31.82	33.48	0.00	0.00	0.00	0.00
2,600.00	6.40	126.50	2,597.50	-30.18	40.79	42.90	0.00	0.00	0.00	0.00
2,700.00	6.40	126.50	2,696.87	-36.81	49.75	52.33	0.00	0.00	0.00	0.00
2,800.00	6.40	126.50	2,796.25	-43.44	58.71	61.76	0.00	0.00	0.00	0.00
2,900.00	6.40	126.50	2,895.63	-50.07	67.67	71.18	0.00	0.00	0.00	0.00
3,000.00	6.40	126.50	2,995.00	-56.70	76.63	80.61	0.00	0.00	0.00	0.00
3,100.00	6.40	126.50	3,094.38	-63.33	85.59	90.03	0.00	0.00	0.00	0.00
3,200.00	6.40	126.50	3,193.76	-69.96	94.55	99.46	0.00	0.00	0.00	0.00
3,300.00	6.40	126.50	3,293.13	-76.59	103.51	108.88	0.00	0.00	0.00	0.00
3,400.00	6.40	126.50	3,392.51	-83.22	112.47	118.31	0.00	0.00	0.00	0.00
3,500.00	6.40	126.50	3,491.89	-89.85	121.43	127.74	0.00	0.00	0.00	0.00
3,600.00	6.40	126.50	3,591.26	-96.48	130.39	137.16	0.00	0.00	0.00	0.00
3,700.00	6.40	126.50	3,690.64	-103.11	139.35	146.59	0.00	0.00	0.00	0.00
3,800.00	6.40	126.50	3,790.02	-109.74	148.31	156.01	0.00	0.00	0.00	0.00
3,900.00	6.40	126.50	3,889.39	-116.38	157.27	165.44	0.00	0.00	0.00	0.00
4,000.00	6.40	126.50	3,988.77	-123.01	166.23	174.87	0.00	0.00	0.00	0.00
4,100.00	6.40	126.50	4,088.15	-129.64	175.19	184.29	0.00	0.00	0.00	0.00
4,200.00	6.40	126.50	4,187.53	-136.27	184.15	193.72	0.00	0.00	0.00	0.00
4,300.00	6.40	126.50	4,286.90	-142.90	193.11	203.14	0.00	0.00	0.00	0.00
4,400.00	6.40	126.50	4,386.28	-149.53	202.07	212.57	0.00	0.00	0.00	0.00
4,500.00	6.40	126.50	4,485.66	-156.16	211.03	221.99	0.00	0.00	0.00	0.00
4,600.00	6.40	126.50	4,585.03	-162.79	220.00	231.42	0.00	0.00	0.00	0.00
4,700.00	6.40	126.50	4,684.41	-169.42	228.96	240.85	0.00	0.00	0.00	0.00



## Plan Report for B&amp;D Land 4-64 3-1H - Rev A0

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	Toolface Azimuth (°)
4,800.00	6.40	126.50	4,783.79	-176.05	237.92	250.27	0.00	0.00	0.00	0.00
4,900.00	6.40	126.50	4,883.16	-182.68	246.88	259.70	0.00	0.00	0.00	0.00
5,000.00	6.40	126.50	4,982.54	-189.31	255.84	269.12	0.00	0.00	0.00	0.00
5,100.00	6.40	126.50	5,081.92	-195.94	264.80	278.55	0.00	0.00	0.00	0.00
5,200.00	6.40	126.50	5,181.29	-202.57	273.76	287.98	0.00	0.00	0.00	0.00
5,300.00	6.40	126.50	5,280.67	-209.20	282.72	297.40	0.00	0.00	0.00	0.00
5,400.00	6.40	126.50	5,380.05	-215.83	291.68	306.83	0.00	0.00	0.00	0.00
5,500.00	6.40	126.50	5,479.42	-222.46	300.64	316.25	0.00	0.00	0.00	0.00
5,600.00	6.40	126.50	5,578.80	-229.09	309.60	325.68	0.00	0.00	0.00	0.00
5,700.00	6.40	126.50	5,678.18	-235.72	318.56	335.10	0.00	0.00	0.00	0.00
5,800.00	6.40	126.50	5,777.55	-242.35	327.52	344.53	0.00	0.00	0.00	0.00
5,900.00	6.40	126.50	5,876.93	-248.98	336.48	353.96	0.00	0.00	0.00	0.00
6,000.00	6.40	126.50	5,976.31	-255.61	345.44	363.38	0.00	0.00	0.00	0.00
6,100.00	6.40	126.50	6,075.68	-262.24	354.40	372.81	0.00	0.00	0.00	0.00
6,200.00	6.40	126.50	6,175.06	-268.87	363.36	382.23	0.00	0.00	0.00	0.00
6,300.00	6.40	126.50	6,274.44	-275.51	372.32	391.66	0.00	0.00	0.00	0.00
6,400.00	6.40	126.50	6,373.81	-282.14	381.28	401.09	0.00	0.00	0.00	0.00
6,441.44	6.40	126.50	6,415.00	-284.88	385.00	404.99	0.00	0.00	0.00	0.00
<b>Begin Drop @ 6441.44 ft</b>										
6,500.00	5.23	126.50	6,473.25	-288.41	389.77	410.01	2.00	-2.00	0.00	-180.00
6,600.00	3.23	126.50	6,572.98	-292.80	395.69	416.24	2.00	-2.00	0.00	-180.00
6,700.00	1.23	126.50	6,672.90	-295.11	398.82	419.53	2.00	-2.00	0.00	-180.00
6,761.44	0.00	0.00	6,734.33	-295.50	399.35	420.09	2.00	-2.00	-205.88	-180.00
<b>End Drop @ 6761.44 ft</b>										
6,800.00	0.00	0.00	6,772.89	-295.50	399.35	420.09	0.00	0.00	0.00	0.00
6,900.00	0.00	0.00	6,872.89	-295.50	399.35	420.09	0.00	0.00	0.00	0.00
7,000.00	0.00	0.00	6,972.89	-295.50	399.35	420.09	0.00	0.00	0.00	0.00
7,005.34	0.00	0.00	6,978.23	-295.50	399.35	420.09	0.00	0.00	0.00	0.00
<b>Kick Off Point @ 7005.34 ft</b>										
7,100.00	9.47	91.12	7,072.46	-295.66	407.15	427.88	10.00	10.00	96.26	91.12
7,200.00	19.47	91.12	7,169.17	-296.14	432.09	452.79	10.00	10.00	0.00	0.00
7,300.00	29.47	91.12	7,260.07	-296.95	473.45	494.09	10.00	10.00	0.00	0.00
7,369.05	36.37	91.12	7,318.00	-297.69	510.94	531.54	10.00	10.00	0.00	0.00
<b>Sharon Springs</b>										
7,400.00	39.47	91.12	7,342.41	-298.06	529.96	550.53	10.00	10.00	0.00	0.00
7,465.00	45.97	91.12	7,390.15	-298.92	574.02	594.54	10.00	10.00	0.00	0.00
<b>Build Rate 10.00 °/100 ft</b>										
7,466.23	46.09	91.12	7,391.00	-298.94	574.91	595.42	10.00	10.00	0.00	0.00
<b>Niobrara</b>										
7,500.00	49.47	91.12	7,413.69	-299.43	599.91	620.39	10.00	10.00	0.00	0.00
7,598.56	59.32	91.12	7,471.00	-301.00	679.92	700.30	10.00	10.00	0.00	0.00
<b>Niobrara B</b>										
7,600.00	59.47	91.12	7,471.74	-301.02	681.16	701.54	10.00	10.00	0.00	0.00
7,700.00	69.47	91.12	7,514.78	-302.79	771.27	791.53	10.00	10.00	0.00	0.00
7,734.82	72.95	91.12	7,526.00	-303.43	804.22	824.43	10.00	10.00	0.00	0.00
<b>Niobrara C</b>										
7,800.00	79.47	91.12	7,541.53	-304.67	867.47	887.61	10.00	10.00	0.00	0.00
7,900.00	89.47	91.12	7,551.16	-306.61	966.86	986.87	10.00	10.00	0.00	0.00
7,920.02	91.47	91.12	7,551.00	-307.01	986.87	1,006.86	10.00	10.00	0.00	0.00
<b>End Build @ 7920.02 ft</b>										
8,000.00	91.47	91.12	7,548.95	-308.57	1,066.81	1,086.69	0.00	0.00	0.00	0.81
8,100.00	91.47	91.12	7,546.39	-310.53	1,166.76	1,186.51	0.00	0.00	0.00	0.00
8,200.00	91.47	91.12	7,543.83	-312.49	1,266.71	1,286.33	0.00	0.00	0.00	0.00
8,300.00	91.47	91.12	7,541.27	-314.44	1,366.66	1,386.15	0.00	0.00	0.00	0.00
8,400.00	91.47	91.12	7,538.70	-316.40	1,466.61	1,485.97	0.00	0.00	0.00	0.00
8,500.00	91.47	91.12	7,536.14	-318.36	1,566.55	1,585.79	0.00	0.00	0.00	0.00
8,600.00	91.47	91.12	7,533.58	-320.31	1,666.50	1,685.61	0.00	0.00	0.00	0.00
8,700.00	91.47	91.12	7,531.02	-322.27	1,766.45	1,785.43	0.00	0.00	0.00	0.00

## Plan Report for B&amp;D Land 4-64 3-1H - Rev A0

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	Toolface Azimuth (°)
8,800.00	91.47	91.12	7,528.46	-324.23	1,866.40	1,885.25	0.00	0.00	0.00	0.00
8,900.00	91.47	91.12	7,525.90	-326.18	1,966.35	1,985.07	0.00	0.00	0.00	0.00
9,000.00	91.47	91.12	7,523.33	-328.14	2,066.29	2,084.89	0.00	0.00	0.00	0.00
9,100.00	91.47	91.12	7,520.77	-330.10	2,166.24	2,184.71	0.00	0.00	0.00	0.00
9,200.00	91.47	91.12	7,518.21	-332.06	2,266.19	2,284.53	0.00	0.00	0.00	0.00
9,300.00	91.47	91.12	7,515.65	-334.01	2,366.14	2,384.35	0.00	0.00	0.00	0.00
9,400.00	91.47	91.12	7,513.09	-335.97	2,466.09	2,484.17	0.00	0.00	0.00	0.00
9,500.00	91.47	91.12	7,510.53	-337.93	2,566.03	2,583.99	0.00	0.00	0.00	0.00
9,600.00	91.47	91.12	7,507.96	-339.88	2,665.98	2,683.81	0.00	0.00	0.00	0.00
9,700.00	91.47	91.12	7,505.40	-341.84	2,765.93	2,783.63	0.00	0.00	0.00	0.00
9,800.00	91.47	91.12	7,502.84	-343.80	2,865.88	2,883.44	0.00	0.00	0.00	0.00
9,900.00	91.47	91.12	7,500.28	-345.75	2,965.83	2,983.26	0.00	0.00	0.00	0.00
10,000.00	91.47	91.12	7,497.72	-347.71	3,065.77	3,083.08	0.00	0.00	0.00	0.00
10,100.00	91.47	91.12	7,495.16	-349.67	3,165.72	3,182.90	0.00	0.00	0.00	0.00
10,200.00	91.47	91.12	7,492.59	-351.62	3,265.67	3,282.72	0.00	0.00	0.00	0.00
10,300.00	91.47	91.12	7,490.03	-353.58	3,365.62	3,382.54	0.00	0.00	0.00	0.00
10,400.00	91.47	91.12	7,487.47	-355.54	3,465.57	3,482.36	0.00	0.00	0.00	0.00
10,500.00	91.47	91.12	7,484.91	-357.50	3,565.51	3,582.18	0.00	0.00	0.00	0.00
10,600.00	91.47	91.12	7,482.35	-359.45	3,665.46	3,682.00	0.00	0.00	0.00	0.00
10,700.00	91.47	91.12	7,479.79	-361.41	3,765.41	3,781.82	0.00	0.00	0.00	0.00
10,800.00	91.47	91.12	7,477.22	-363.37	3,865.36	3,881.64	0.00	0.00	0.00	0.00
10,900.00	91.47	91.12	7,474.66	-365.32	3,965.31	3,981.46	0.00	0.00	0.00	0.00
11,000.00	91.47	91.12	7,472.10	-367.28	4,065.25	4,081.28	0.00	0.00	0.00	0.00
11,100.00	91.47	91.12	7,469.54	-369.24	4,165.20	4,181.10	0.00	0.00	0.00	0.00
11,200.00	91.47	91.12	7,466.98	-371.19	4,265.15	4,280.92	0.00	0.00	0.00	0.00
11,300.00	91.47	91.12	7,464.42	-373.15	4,365.10	4,380.74	0.00	0.00	0.00	0.00
11,400.00	91.47	91.12	7,461.85	-375.11	4,465.05	4,480.56	0.00	0.00	0.00	0.00
11,500.00	91.47	91.12	7,459.29	-377.07	4,564.99	4,580.38	0.00	0.00	0.00	0.00
11,600.00	91.47	91.12	7,456.73	-379.02	4,664.94	4,680.20	0.00	0.00	0.00	0.00
11,700.00	91.47	91.12	7,454.17	-380.98	4,764.89	4,780.01	0.00	0.00	0.00	0.00
11,800.00	91.47	91.12	7,451.61	-382.94	4,864.84	4,879.83	0.00	0.00	0.00	0.00
11,900.00	91.47	91.12	7,449.05	-384.89	4,964.79	4,979.65	0.00	0.00	0.00	0.00
12,000.00	91.47	91.12	7,446.48	-386.85	5,064.73	5,079.47	0.00	0.00	0.00	0.00
12,100.00	91.47	91.12	7,443.92	-388.81	5,164.68	5,179.29	0.00	0.00	0.00	0.00
12,200.00	91.47	91.12	7,441.36	-390.76	5,264.63	5,279.11	0.00	0.00	0.00	0.00
12,214.08	91.47	91.12	7,441.00	-391.04	5,278.70	5,293.16	0.00	0.00	0.00	0.00
Total Depth 12214.08 ft										

**Plan Annotations**

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
1,985.00	1,985.00	0.00	0.00	Begin Nudge @ 1985.00 ft
2,305.00	2,304.33	-10.62	14.35	End Nudge @ 2305.00 ft
6,441.44	6,415.00	-284.88	385.00	Begin Drop @ 6441.44 ft
6,761.44	6,734.33	-295.50	399.35	End Drop @ 6761.44 ft
7,005.34	6,978.23	-295.50	399.35	Kick Off Point @ 7005.34 ft
7,465.00	7,390.15	-298.92	574.02	Build Rate 10.00 °/100 ft
7,920.02	7,551.00	-307.01	986.87	End Build @ 7920.02 ft
12,214.08	7,441.00	-391.04	5,278.70	Total Depth 12214.08 ft

## Plan Report for B&amp;D Land 4-64 3-1H - Rev A0

Vertical Section Information

Angle Type	Target	Azimuth (°)	Origin Type	Origin +N/-S (usft)	Origin +E/-W (usft)	Start TVD (usft)
Target	B&D Land 4-64 3-1H_Rev A0_BHL Tgt	94.24	Slot	0.00	0.00	0.00

Survey tool program

From (usft)	To (usft)	Survey/Plan	Survey Tool
0.00	1,909.00	Rev A0	MWD
1,909.00	12,214.08	Rev A0	MWD

Casing Details

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
1,909.00	1,909.00	9 5/8" Casing Pt.	9-5/8	13-1/2

Formation Details

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,585.00	1,585.00	Fox Hills			
1,709.00	1,709.00	Pierre Shale			
1,909.00	1,909.00	Surface Casing			
7,369.05	7,318.00	Sharon Springs			
7,466.23	7,391.00	Niobrara			
7,598.56	7,471.00	Niobrara B			
7,734.82	7,526.00	Niobrara C			

Targets associated with this wellbore

Target Name	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Shape
B&D Land 4-64 3-1H_SB	0.00	0.00	0.00	Polygon
C.C.I.A.S. 2 #1-4_SB	0.00	3,851.14	-4,266.94	Circle
B&D Land 4-64 3-1H_SL	0.00	0.00	0.00	Polygon
AMOCO-WESTAN-CAVANAUGH 1_SB	-14.90	-1,397.73	-5,609.58	Circle
B&D Land 4-64 3-1H_Rev A0_EPI	7,441.00	-389.04	5,143.94	Point
B&D Land 4-64 3-1H_Rev A0_BHL Tgt	7,441.00	-391.04	5,278.70	Point

Directional Difficulty Index

Average Dogleg over Survey:	0.85 °/100usft	Maximum Dogleg over Survey:	10.00 °/100usft at 7,920.02 usft
Net Tortousity applicable to Plans:	0.85 °/100usft	Directional Difficulty Index:	6.137

**Plan Report for B&D Land 4-64 3-1H - Rev A0**

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*Audit Info*

**North Reference Sheet for Sec. 4-T4S-R64W (B&D Land 4-64 Pad) - B&D Land 4-64  
 3-1H - Plan A**

All data is in US Feet unless otherwise stated. Directions and Coordinates are relative to True North Reference .  
 Vertical Depths are relative to KB 24 ft @ 5641.20usft (H&P 280). Northing and Easting are relative to B&D Land 4-64 3-1H  
 Coordinate System is US State Plane 1983, Colorado Central Zone using datum North American Datum 1983, ellipsoid GRS 1980  
 Projection method is Lambert Conformal Conic (2 parallel)  
 Central Meridian is -105.50°, Longitude Origin:0° 0' 0.000 E°, Latitude Origin:39° 45' 0.000 N°  
 False Easting: 3,000,000.00usft, False Northing: 1,000,000.00usft, Scale Reduction: 0.99999549

Grid Coordinates of Well: 1,691,023.17 usft N, 3,268,028.34 usft E  
 Geographical Coordinates of Well: 39° 43' 36.49" N, 104° 32' 49.48" W  
 Grid Convergence at Surface is: 0.60°

Based upon Minimum Curvature type calculations, at a Measured Depth of 12,214.08usft  
 the Bottom Hole Displacement is 5,293.16usft in the Direction of 94.24° ( True).  
 Magnetic Convergence at surface is: -7.73° (14 November 2014, , BGGM2014)

