

Anadarko Petroleum Corp.

Weld County, CO (NAD 83)

Sec. 8 T2N-R66W

Kunzman Federal 30N-5HZ

Plan B Rev 0

Plan: Plan B Rev 0 Permit

Sperry Drilling Services

Proposal Report

20 November, 2012

Well Coordinates: 1,301,806.69 N, 3,194,421.07 E (40° 09' 35.14" N, 104° 48' 15.78" W)

Ground Level: 4,858.00 ft

Local Coordinate Origin: Centered on Well Kunzman Federal 30N-5HZ

Viewing Datum: RKB=17 @ 4875.00ft (Drilling Rig)

TVDs to System: N

North Reference: True

Unit System: API - US Survey Feet - Custom

Geodetic Scale Factor Applied

Version: 2003.16 Build: 43I

HALLIBURTON

Project: Weld County, CO (NAD 83)
Site: Sec. 8 T2N-R66W
Well: Kunzman Federal 30N-5HZ
Wellbore: Plan B Rev 0
Design: Plan B Rev 0 Permit

Anadarko Petroleum Corp.

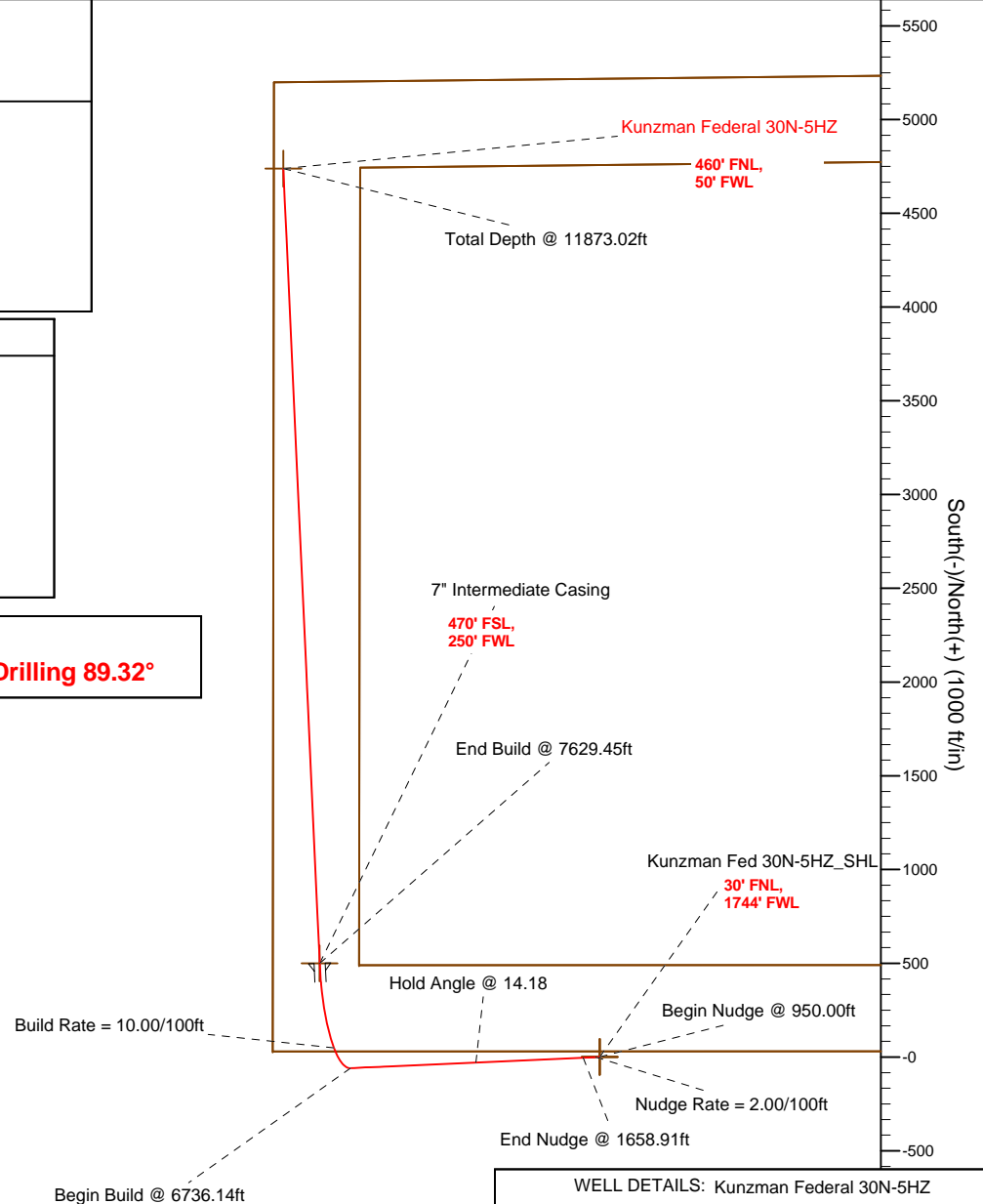
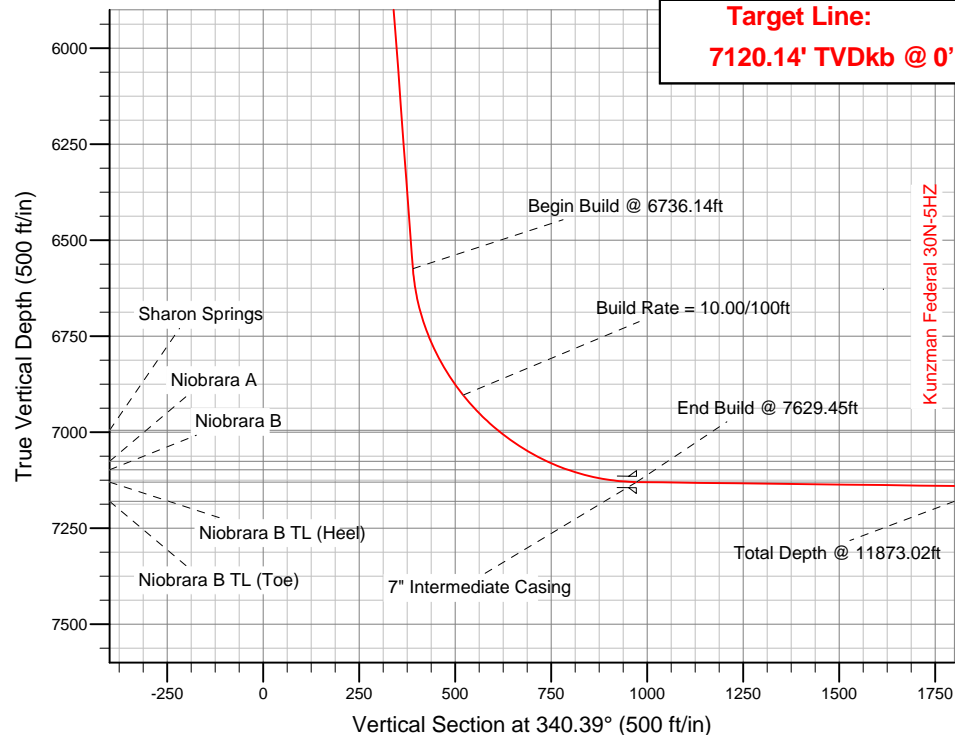
HALLIBURTON
Sperry Drilling

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	950.00	0.00	0.00	950.00	0.00	0.00	0.00	0.00	0.00	
3	1658.91	14.18	267.44	1651.70	-3.90	-87.18	2.00	267.44	25.58	
4	6736.14	14.18	267.44	6574.27	-59.48	-1329.55	0.00	0.00	390.08	
5	7629.45	89.32	357.38	7130.00	500.00	-1494.00	10.00	90.11	972.31	Kunzman Fed 30N-5HZ_CP
6	11873.02	89.32	357.38	7180.00	4738.84	-1687.91	0.00	0.00	5030.47	Kunzman Fed 30N-5HZ_BHL

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
Kunzman Fed 30N-5HZ_SB	0.00	0.00	0.00	40.159761	-104.804383	Polygon
Kunzman Fed 30N-5HZ_Sec	0.00	0.00	0.00	40.159761	-104.804383	Polygon
Kunzman Fed 30N-5HZ_SHL	0.00	0.00	0.00	40.159761	-104.804383	Point
Kunzman Fed 30N-5HZ_CP	7130.00	500.00	-1494.00	40.161133	-104.809728	Point
Kunzman Fed 30N-5HZ_BHL	7180.00	4738.84	-1687.91	40.172769	-104.810423	Point



WELL DETAILS: Kunzman Federal 30N-5HZ

Ground Level: 4858.00 RKB=17 @ 4875.00ft (Drilling Rig)

Plan: Plan B Rev 0 Permit (Kunzman Federal 30N-5HZ/Plan B Rev 0)

Created By: Fred Hartmann Date: 11/19/2012
Reviewed: Date:

Plan Report for Kunzman Federal 30N-5HZ - Plan B Rev 0 Permit

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	Toolface Azimuth (°)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Kunzman Fed 30N-5HZ_SB - Kunzman Fed 30N-5HZ_SHL - Kunzman Fed 30N-5HZ_Sec										
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
707.00	0.00	0.00	707.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fox Hills										
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
950.00	0.00	0.00	950.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Begin Nudge @ 950.00ft										
1,000.00	1.00	267.44	1,000.00	-0.02	-0.44	0.13	2.00	2.00	0.00	267.44
1,100.00	3.00	267.44	1,099.93	-0.18	-3.92	1.15	2.00	2.00	0.00	0.00
1,200.00	5.00	267.44	1,199.68	-0.49	-10.89	3.20	2.00	2.00	0.00	0.00
1,300.00	7.00	267.44	1,299.13	-0.95	-21.33	6.26	2.00	2.00	0.00	0.00
Nudge Rate = 2.00/100ft										
1,400.00	9.00	267.44	1,398.15	-1.58	-35.24	10.34	2.00	2.00	0.00	0.00
1,500.00	11.00	267.44	1,496.63	-2.35	-52.58	15.43	2.00	2.00	0.00	0.00
1,600.00	13.00	267.44	1,594.44	-3.28	-73.35	21.52	2.00	2.00	0.00	0.00
1,658.91	14.18	267.44	1,651.70	-3.90	-87.18	25.58	2.00	2.00	0.00	0.00
End Nudge @ 1658.91ft										
1,700.00	14.18	267.44	1,691.54	-4.35	-97.23	28.53	0.00	0.00	0.00	0.00
1,800.00	14.18	267.44	1,788.49	-5.44	-121.70	35.71	0.00	0.00	0.00	0.00
1,900.00	14.18	267.44	1,885.44	-6.54	-146.17	42.89	0.00	0.00	0.00	0.00
2,000.00	14.18	267.44	1,982.40	-7.63	-170.64	50.07	0.00	0.00	0.00	0.00
2,100.00	14.18	267.44	2,079.35	-8.73	-195.11	57.24	0.00	0.00	0.00	0.00
2,200.00	14.18	267.44	2,176.30	-9.82	-219.58	64.42	0.00	0.00	0.00	0.00
2,300.00	14.18	267.44	2,273.26	-10.92	-244.05	71.60	0.00	0.00	0.00	0.00
2,400.00	14.18	267.44	2,370.21	-12.01	-268.52	78.78	0.00	0.00	0.00	0.00
2,500.00	14.18	267.44	2,467.17	-13.11	-292.99	85.96	0.00	0.00	0.00	0.00
2,600.00	14.18	267.44	2,564.12	-14.20	-317.46	93.14	0.00	0.00	0.00	0.00
2,700.00	14.18	267.44	2,661.07	-15.30	-341.93	100.32	0.00	0.00	0.00	0.00
2,800.00	14.18	267.44	2,758.03	-16.39	-366.40	107.50	0.00	0.00	0.00	0.00
2,900.00	14.18	267.44	2,854.98	-17.49	-390.87	114.68	0.00	0.00	0.00	0.00
3,000.00	14.18	267.44	2,951.94	-18.58	-415.34	121.86	0.00	0.00	0.00	0.00
3,100.00	14.18	267.44	3,048.89	-19.68	-439.81	129.04	0.00	0.00	0.00	0.00
3,200.00	14.18	267.44	3,145.84	-20.77	-464.27	136.22	0.00	0.00	0.00	0.00
3,300.00	14.18	267.44	3,242.80	-21.86	-488.74	143.40	0.00	0.00	0.00	0.00
3,400.00	14.18	267.44	3,339.75	-22.96	-513.21	150.57	0.00	0.00	0.00	0.00
3,500.00	14.18	267.44	3,436.70	-24.05	-537.68	157.75	0.00	0.00	0.00	0.00
3,600.00	14.18	267.44	3,533.66	-25.15	-562.15	164.93	0.00	0.00	0.00	0.00
3,700.00	14.18	267.44	3,630.61	-26.24	-586.62	172.11	0.00	0.00	0.00	0.00
3,800.00	14.18	267.44	3,727.57	-27.34	-611.09	179.29	0.00	0.00	0.00	0.00
3,900.00	14.18	267.44	3,824.52	-28.43	-635.56	186.47	0.00	0.00	0.00	0.00
4,000.00	14.18	267.44	3,921.47	-29.53	-660.03	193.65	0.00	0.00	0.00	0.00
Hold Angle @ 14.18										
4,002.61	14.18	267.44	3,924.00	-29.56	-660.67	193.84	0.00	0.00	0.00	0.00
Parkman										
4,100.00	14.18	267.44	4,018.43	-30.62	-684.50	200.83	0.00	0.00	0.00	0.00
4,200.00	14.18	267.44	4,115.38	-31.72	-708.97	208.01	0.00	0.00	0.00	0.00
4,300.00	14.18	267.44	4,212.34	-32.81	-733.44	215.19	0.00	0.00	0.00	0.00
4,400.00	14.18	267.44	4,309.29	-33.91	-757.91	222.37	0.00	0.00	0.00	0.00
4,415.17	14.18	267.44	4,324.00	-34.07	-761.62	223.46	0.00	0.00	0.00	0.00
Sussex										

Plan Report for Kunzman Federal 30N-5HZ - Plan B Rev 0 Permit

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N-S (ft)	+E-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	Toolface Azimuth (°)
4,500.00	14.18	267.44	4,406.24	-35.00	-782.38	229.55	0.00	0.00	0.00	0.00
4,600.00	14.18	267.44	4,503.20	-36.10	-806.85	236.72	0.00	0.00	0.00	0.00
4,700.00	14.18	267.44	4,600.15	-37.19	-831.32	243.90	0.00	0.00	0.00	0.00
4,800.00	14.18	267.44	4,697.10	-38.28	-855.79	251.08	0.00	0.00	0.00	0.00
4,900.00	14.18	267.44	4,794.06	-39.38	-880.26	258.26	0.00	0.00	0.00	0.00
5,000.00	14.18	267.44	4,891.01	-40.47	-904.72	265.44	0.00	0.00	0.00	0.00
5,100.00	14.18	267.44	4,987.97	-41.57	-929.19	272.62	0.00	0.00	0.00	0.00
5,200.00	14.18	267.44	5,084.92	-42.66	-953.66	279.80	0.00	0.00	0.00	0.00
5,300.00	14.18	267.44	5,181.87	-43.76	-978.13	286.98	0.00	0.00	0.00	0.00
5,400.00	14.18	267.44	5,278.83	-44.85	-1,002.60	294.16	0.00	0.00	0.00	0.00
5,500.00	14.18	267.44	5,375.78	-45.95	-1,027.07	301.34	0.00	0.00	0.00	0.00
5,600.00	14.18	267.44	5,472.74	-47.04	-1,051.54	308.52	0.00	0.00	0.00	0.00
5,700.00	14.18	267.44	5,569.69	-48.14	-1,076.01	315.70	0.00	0.00	0.00	0.00
5,800.00	14.18	267.44	5,666.64	-49.23	-1,100.48	322.88	0.00	0.00	0.00	0.00
5,900.00	14.18	267.44	5,763.60	-50.33	-1,124.95	330.05	0.00	0.00	0.00	0.00
6,000.00	14.18	267.44	5,860.55	-51.42	-1,149.42	337.23	0.00	0.00	0.00	0.00
6,100.00	14.18	267.44	5,957.50	-52.52	-1,173.89	344.41	0.00	0.00	0.00	0.00
6,200.00	14.18	267.44	6,054.46	-53.61	-1,198.36	351.59	0.00	0.00	0.00	0.00
6,300.00	14.18	267.44	6,151.41	-54.70	-1,222.83	358.77	0.00	0.00	0.00	0.00
6,400.00	14.18	267.44	6,248.37	-55.80	-1,247.30	365.95	0.00	0.00	0.00	0.00
6,500.00	14.18	267.44	6,345.32	-56.89	-1,271.77	373.13	0.00	0.00	0.00	0.00
6,600.00	14.18	267.44	6,442.27	-57.99	-1,296.24	380.31	0.00	0.00	0.00	0.00
6,700.00	14.18	267.44	6,539.23	-59.08	-1,320.71	387.49	0.00	0.00	0.00	0.00
6,736.14	14.18	267.44	6,574.27	-59.48	-1,329.55	390.08	0.00	0.00	0.00	0.00
Begin Build @ 6736.14ft										
6,800.00	15.51	292.01	6,636.05	-56.63	-1,345.30	398.05	10.00	2.09	38.48	90.11
6,900.00	21.52	317.71	6,730.99	-38.00	-1,370.10	423.92	10.00	6.01	25.69	66.33
7,000.00	29.69	331.25	6,821.17	-2.63	-1,394.41	465.40	10.00	8.17	13.54	41.89
7,100.00	38.67	339.15	6,903.86	48.40	-1,417.50	521.22	10.00	8.98	7.90	29.64
Build Rate = 10.00/100ft										
7,200.00	48.00	344.40	6,976.54	113.55	-1,438.67	589.69	10.00	9.33	5.26	23.08
7,228.34	50.68	345.61	6,995.00	134.31	-1,444.23	611.12	10.00	9.46	4.26	19.24
Sharon Springs										
7,300.00	57.51	348.29	7,037.00	190.83	-1,457.26	668.74	10.00	9.53	3.75	18.46
7,381.59	65.35	350.89	7,076.00	261.26	-1,470.14	739.40	10.00	9.60	3.19	16.88
Niobrara A										
7,400.00	67.12	351.43	7,083.42	277.90	-1,472.72	755.95	10.00	9.64	2.92	15.63
7,440.87	71.06	352.58	7,098.00	315.70	-1,478.03	793.33	10.00	9.65	2.81	15.42
Niobrara B										
7,500.00	76.78	354.15	7,114.37	372.12	-1,484.58	848.68	10.00	9.67	2.66	15.01
7,600.00	86.47	356.66	7,128.92	470.61	-1,492.47	944.11	10.00	9.69	2.51	14.57
7,629.45	89.32	357.38	7,130.00	500.00	-1,494.00	972.31	10.00	9.69	2.45	14.21
End Build @ 7629.45ft - Niobrara B TL (Heel) - 7" Intermediate Casing - Kunzman Fed 30N-5HZ_CP										
7,700.00	89.32	357.38	7,130.83	570.47	-1,497.22	1,039.77	0.00	0.00	0.00	14.18
7,800.00	89.32	357.38	7,132.01	670.36	-1,501.79	1,135.40	0.00	0.00	0.00	0.00
7,900.00	89.32	357.38	7,133.19	770.24	-1,506.36	1,231.03	0.00	0.00	0.00	0.00
8,000.00	89.32	357.38	7,134.37	870.13	-1,510.93	1,326.66	0.00	0.00	0.00	0.00
8,100.00	89.32	357.38	7,135.54	970.02	-1,515.50	1,422.29	0.00	0.00	0.00	0.00
8,200.00	89.32	357.38	7,136.72	1,069.91	-1,520.07	1,517.92	0.00	0.00	0.00	0.00
8,300.00	89.32	357.38	7,137.90	1,169.80	-1,524.64	1,613.56	0.00	0.00	0.00	0.00
8,400.00	89.32	357.38	7,139.08	1,269.69	-1,529.21	1,709.19	0.00	0.00	0.00	0.00
8,500.00	89.32	357.38	7,140.26	1,369.58	-1,533.78	1,804.82	0.00	0.00	0.00	0.00
8,600.00	89.32	357.38	7,141.44	1,469.46	-1,538.35	1,900.45	0.00	0.00	0.00	0.00
8,700.00	89.32	357.38	7,142.61	1,569.35	-1,542.92	1,996.08	0.00	0.00	0.00	0.00
8,800.00	89.32	357.38	7,143.79	1,669.24	-1,547.49	2,091.71	0.00	0.00	0.00	0.00
8,900.00	89.32	357.38	7,144.97	1,769.13	-1,552.06	2,187.34	0.00	0.00	0.00	0.00
9,000.00	89.32	357.38	7,146.15	1,869.02	-1,556.63	2,282.97	0.00	0.00	0.00	0.00
9,100.00	89.32	357.38	7,147.33	1,968.91	-1,561.20	2,378.60	0.00	0.00	0.00	0.00
9,200.00	89.32	357.38	7,148.51	2,068.80	-1,565.77	2,474.23	0.00	0.00	0.00	0.00

Plan Report for Kunzman Federal 30N-5HZ - Plan B Rev 0 Permit

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	Toolface Azimuth (°)
9,300.00	89.32	357.38	7,149.68	2,168.68	-1,570.34	2,569.87	0.00	0.00	0.00	0.00
9,400.00	89.32	357.38	7,150.86	2,268.57	-1,574.91	2,665.50	0.00	0.00	0.00	0.00
9,500.00	89.32	357.38	7,152.04	2,368.46	-1,579.48	2,761.13	0.00	0.00	0.00	0.00
9,600.00	89.32	357.38	7,153.22	2,468.35	-1,584.04	2,856.76	0.00	0.00	0.00	0.00
9,700.00	89.32	357.38	7,154.40	2,568.24	-1,588.61	2,952.39	0.00	0.00	0.00	0.00
9,800.00	89.32	357.38	7,155.57	2,668.13	-1,593.18	3,048.02	0.00	0.00	0.00	0.00
9,900.00	89.32	357.38	7,156.75	2,768.02	-1,597.75	3,143.65	0.00	0.00	0.00	0.00
10,000.00	89.32	357.38	7,157.93	2,867.90	-1,602.32	3,239.28	0.00	0.00	0.00	0.00
10,100.00	89.32	357.38	7,159.11	2,967.79	-1,606.89	3,334.91	0.00	0.00	0.00	0.00
10,200.00	89.32	357.38	7,160.29	3,067.68	-1,611.46	3,430.54	0.00	0.00	0.00	0.00
10,300.00	89.32	357.38	7,161.47	3,167.57	-1,616.03	3,526.18	0.00	0.00	0.00	0.00
10,400.00	89.32	357.38	7,162.64	3,267.46	-1,620.60	3,621.81	0.00	0.00	0.00	0.00
10,500.00	89.32	357.38	7,163.82	3,367.35	-1,625.17	3,717.44	0.00	0.00	0.00	0.00
10,600.00	89.32	357.38	7,165.00	3,467.24	-1,629.74	3,813.07	0.00	0.00	0.00	0.00
10,700.00	89.32	357.38	7,166.18	3,567.12	-1,634.31	3,908.70	0.00	0.00	0.00	0.00
10,800.00	89.32	357.38	7,167.36	3,667.01	-1,638.88	4,004.33	0.00	0.00	0.00	0.00
10,900.00	89.32	357.38	7,168.54	3,766.90	-1,643.45	4,099.96	0.00	0.00	0.00	0.00
11,000.00	89.32	357.38	7,169.71	3,866.79	-1,648.02	4,195.59	0.00	0.00	0.00	0.00
11,100.00	89.32	357.38	7,170.89	3,966.68	-1,652.59	4,291.22	0.00	0.00	0.00	0.00
11,200.00	89.32	357.38	7,172.07	4,066.57	-1,657.16	4,386.85	0.00	0.00	0.00	0.00
11,300.00	89.32	357.38	7,173.25	4,166.46	-1,661.73	4,482.49	0.00	0.00	0.00	0.00
11,400.00	89.32	357.38	7,174.43	4,266.34	-1,666.30	4,578.12	0.00	0.00	0.00	0.00
11,500.00	89.32	357.38	7,175.60	4,366.23	-1,670.87	4,673.75	0.00	0.00	0.00	0.00
11,600.00	89.32	357.38	7,176.78	4,466.12	-1,675.44	4,769.38	0.00	0.00	0.00	0.00
11,700.00	89.32	357.38	7,177.96	4,566.01	-1,680.01	4,865.01	0.00	0.00	0.00	0.00
11,800.00	89.32	357.38	7,179.14	4,665.90	-1,684.58	4,960.64	0.00	0.00	0.00	0.00
11,873.02	89.32	357.38	7,180.00	4,738.84	-1,687.91	5,030.47	0.00	0.00	0.00	0.00

Niobrara B TL (Toe) - Kunzman Fed 30N-5HZ_BHL

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	+E/-W (ft)	Comment
950.00	950.00	0.00	0.00	Begin Nudge @ 950.00ft
1,300.00	1,299.13	-0.95	-21.33	Nudge Rate = 2.00/100ft
1,658.91	1,651.70	-3.90	-87.18	End Nudge @ 1658.91ft
4,000.00	3,921.47	-29.53	-660.03	Hold Angle @ 14.18
6,736.14	6,574.27	-59.48	-1,329.55	Begin Build @ 6736.14ft
7,100.00	6,903.86	48.40	-1,417.50	Build Rate = 10.00/100ft
7,629.45	7,130.00	500.00	-1,494.00	End Build @ 7629.45ft
11,873.02	7,180.00	4,738.84	-1,687.91	Total Depth @ 11873.02ft

Vertical Section Information

Angle Type	Target	Azimuth (°)	Origin Type	Origin +N/-S (ft)	+E/-W (ft)	Start TVD (ft)
Target	Kunzman Fed 30N-5HZ_BHL	340.39	Slot	0.00	0.00	0.00

Survey tool program

From (ft)	To (ft)	Survey/Plan	Survey Tool
0.00	11,873.02	Plan B Rev 0 Permit	MWD

Plan Report for Kunzman Federal 30N-5HZ - Plan B Rev 0 Permit**Casing Details**

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
7,629.45	7,130.00	7" Intermediate Casing	7	8-3/4

Formation Details

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
707.00	707.00	Fox Hills		0.00	
4,002.61	3,924.00	Parkman		0.00	
4,415.17	4,324.00	Sussex		0.00	
7,228.34	6,995.00	Sharon Springs		0.00	
7,381.59	7,076.00	Niobrara A		0.00	
7,440.87	7,098.00	Niobrara B		0.00	
7,629.45	7,130.00	Niobrara B TL (Heel)		0.00	
11,873.02	7,180.00	Niobrara B TL (Toe)		0.00	

Targets associated with this wellbore

Target Name	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Shape
Kunzman Fed 30N-5HZ_SHL	0.00	0.00	0.00	Point
Kunzman Fed 30N-5HZ_BHL	7,180.00	4,738.84	-1,687.91	Point
Kunzman Fed 30N-5HZ_CP	7,130.00	500.00	-1,494.00	Point
Kunzman Fed 30N-5HZ_SB	0.00	0.00	0.00	Polygon
Kunzman Fed 30N-5HZ_Sec	0.00	0.00	0.00	Polygon

North Reference Sheet for Sec. 8 T2N-R66W - Kunzman Federal 30N-5HZ - Plan B Rev 0

All data is in US Feet unless otherwise stated. Directions and Coordinates are relative to True North Reference.
Vertical Depths are relative to RKB=17 @ 4875.00ft (Drilling Rig). Northing and Easting are relative to Kunzman Federal 30N-5HZ
Coordinate System is US State Plane 1983, Colorado Northern 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:0.000000°, Latitude Origin:40.783333°
False Easting: 3,000,000.00ft, False Northing: 1,000,000.00ft, Scale Reduction: 0.99995810

Grid Coordinates of Well: 1,301,806.69 ft N, 3,194,421.07 ft E
Geographical Coordinates of Well: 40° 09' 35.14" N, 104° 48' 15.78" W
Grid Convergence at Surface is: 0.45°

Based upon Minimum Curvature type calculations, at a Measured Depth of 11,873.02ft
the Bottom Hole Displacement is 5,030.47ft in the Direction of 340.39° (True).

Magnetic Convergence at surface is: -8.27° (20 November 2012, , BGGM2012)

