

Anadarko Petroleum Corp.

Weld County, CO (NAD 83)

Sec. 19-T1N-R67W

Jelts 37N-19HZ

Plan A Rev 0

Plan: Plan A Rev 0 Permit

Sperry Drilling Services

Proposal Report

03 December, 2012

Well Coordinates: 1,259,063.80 N, 3,160,236.18 E (40° 02' 35.16" N, 104° 55' 39.63" W)

Ground Level: 5,158.00 ft

Local Coordinate Origin: Centered on Well Jelts 37N-19HZ

Viewing Datum: RKB=17 @ 5175.00ft (Drilling Rig)

TVDs to System: N

North Reference: True

Unit System: API - US Survey Feet - Custom

Geodetic Scale Factor Applied

Version: 2003.16 Build: 431

HALLIBURTON

Project: Weld County, CO (NAD 83)
 Site: Sec. 19-T1N-R67W
 Well: Jelts 37N-19HZ
 Wellbore: Plan A Rev 0
 Design: Plan A Rev 0 Permit

Anadarko Petroleum Corp.

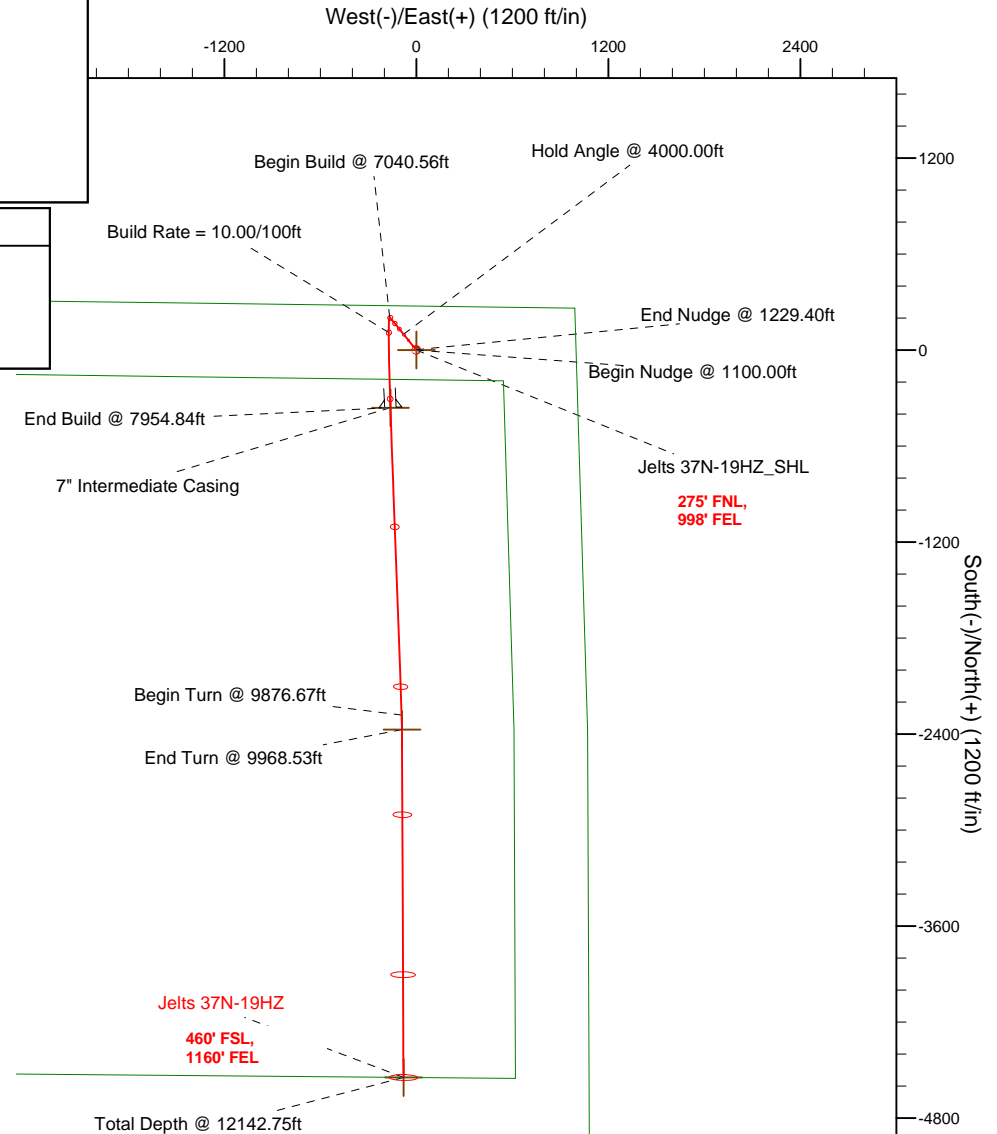
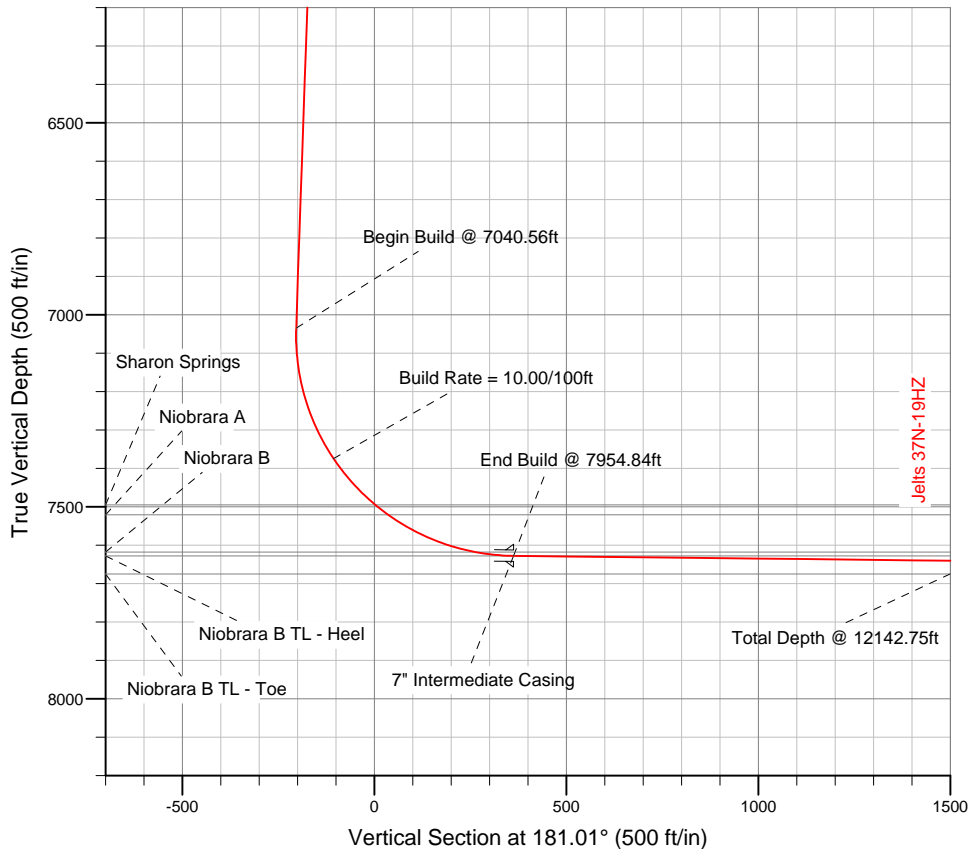


SECTION DETAILS

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	1100.00	0.00	0.00	1100.00	0.00	0.00	0.00	0.00	0.00	
3	1229.40	2.59	321.06	1229.35	2.27	-1.84	2.00	321.06	-2.24	
4	7040.56	2.59	321.06	7034.59	206.36	-166.75	0.00	0.00	-203.38	
5	7954.84	89.36	177.91	7628.00	-360.00	-162.00	10.00	-143.14	362.81	Jelts 37N-19HZ_CP
6	7954.90	89.36	177.91	7628.00	-360.06	-162.00	2.00	-89.01	362.86	
7	9876.67	89.36	177.91	7649.56	-2280.43	-91.88	0.00	0.00	2281.69	
8	9968.53	89.36	179.75	7650.59	-2372.26	-90.00	2.00	90.03	2373.48	Jelts 37N-19HZ_TP
9	12142.75	89.36	179.75	7675.00	-4546.32	-80.37	0.00	0.00	4547.03	Jelts 37N-19HZ_BHL

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
Jelts 37N-19HZ_SHL	0.00	0.00	0.00	40.043099	-104.927676	Point
Jelts 37N-19HZ_CP	7628.00	-360.00	-162.00	40.042111	-104.928255	Point
Jelts 37N-19HZ_TP	7650.59	-2372.26	-90.00	40.036587	-104.927997	Point
Jelts 37N-19HZ_BHL	7675.00	-4546.32	-80.37	40.030619	-104.927963	Point



WELL DETAILS: Jelts 37N-19HZ

Ground Level 5158.00 RKB=17 @ 5175.00ft (Drilling Rig)

Plan: Plan A Rev 0 Permit (Jelts 37N-19HZ/Plan A Rev 0)

Created By: Fred Hartmann Date: 12/03/2012
 Reviewed: _____ Date: _____

Plan Report for Jelts 37N-19HZ - Plan A 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
Jelts 37N-19HZ_SHL										
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
Begin Nudge @ 1100.00ft										
1,200.00	2.00	321.06	1,199.98	1.36	-1.10	-1.34	2.00	2.00	0.00	321.06
1,229.40	2.59	321.06	1,229.36	2.27	-1.84	-2.24	2.00	2.00	0.00	0.00
End Nudge @ 1229.40ft										
1,300.00	2.59	321.06	1,299.88	4.75	-3.84	-4.68	0.00	0.00	0.00	0.00
1,400.00	2.59	321.06	1,399.78	8.26	-6.68	-8.14	0.00	0.00	0.00	0.00
1,500.00	2.59	321.06	1,499.68	11.78	-9.52	-11.61	0.00	0.00	0.00	0.00
1,600.00	2.59	321.06	1,599.58	15.29	-12.35	-15.07	0.00	0.00	0.00	0.00
1,700.00	2.59	321.06	1,699.48	18.80	-15.19	-18.53	0.00	0.00	0.00	0.00
1,800.00	2.59	321.06	1,799.37	22.31	-18.03	-21.99	0.00	0.00	0.00	0.00
1,900.00	2.59	321.06	1,899.27	25.82	-20.87	-25.45	0.00	0.00	0.00	0.00
2,000.00	2.59	321.06	1,999.17	29.34	-23.71	-28.91	0.00	0.00	0.00	0.00
2,100.00	2.59	321.06	2,099.07	32.85	-26.54	-32.37	0.00	0.00	0.00	0.00
2,200.00	2.59	321.06	2,198.97	36.36	-29.38	-35.84	0.00	0.00	0.00	0.00
2,300.00	2.59	321.06	2,298.86	39.87	-32.22	-39.30	0.00	0.00	0.00	0.00
2,400.00	2.59	321.06	2,398.76	43.38	-35.06	-42.76	0.00	0.00	0.00	0.00
2,500.00	2.59	321.06	2,498.66	46.90	-37.89	-46.22	0.00	0.00	0.00	0.00
2,600.00	2.59	321.06	2,598.56	50.41	-40.73	-49.68	0.00	0.00	0.00	0.00
2,700.00	2.59	321.06	2,698.46	53.92	-43.57	-53.14	0.00	0.00	0.00	0.00
2,800.00	2.59	321.06	2,798.35	57.43	-46.41	-56.60	0.00	0.00	0.00	0.00
2,900.00	2.59	321.06	2,898.25	60.94	-49.25	-60.06	0.00	0.00	0.00	0.00
3,000.00	2.59	321.06	2,998.15	64.46	-52.08	-63.53	0.00	0.00	0.00	0.00
3,100.00	2.59	321.06	3,098.05	67.97	-54.92	-66.99	0.00	0.00	0.00	0.00
3,200.00	2.59	321.06	3,197.95	71.48	-57.76	-70.45	0.00	0.00	0.00	0.00
3,300.00	2.59	321.06	3,297.84	74.99	-60.60	-73.91	0.00	0.00	0.00	0.00
3,400.00	2.59	321.06	3,397.74	78.50	-63.44	-77.37	0.00	0.00	0.00	0.00
3,500.00	2.59	321.06	3,497.64	82.02	-66.27	-80.83	0.00	0.00	0.00	0.00
3,600.00	2.59	321.06	3,597.54	85.53	-69.11	-84.29	0.00	0.00	0.00	0.00
3,700.00	2.59	321.06	3,697.44	89.04	-71.95	-87.76	0.00	0.00	0.00	0.00
3,800.00	2.59	321.06	3,797.33	92.55	-74.79	-91.22	0.00	0.00	0.00	0.00
3,900.00	2.59	321.06	3,897.23	96.06	-77.63	-94.68	0.00	0.00	0.00	0.00
4,000.00	2.59	321.06	3,997.13	99.58	-80.46	-98.14	0.00	0.00	0.00	0.00
Hold Angle @ 4000.00ft										
4,100.00	2.59	321.06	4,097.03	103.09	-83.30	-101.60	0.00	0.00	0.00	0.00
4,200.00	2.59	321.06	4,196.93	106.60	-86.14	-105.06	0.00	0.00	0.00	0.00
4,300.00	2.59	321.06	4,296.82	110.11	-88.98	-108.52	0.00	0.00	0.00	0.00
4,400.00	2.59	321.06	4,396.72	113.62	-91.81	-111.98	0.00	0.00	0.00	0.00
4,500.00	2.59	321.06	4,496.62	117.14	-94.65	-115.45	0.00	0.00	0.00	0.00
4,600.00	2.59	321.06	4,596.52	120.65	-97.49	-118.91	0.00	0.00	0.00	0.00
4,700.00	2.59	321.06	4,696.42	124.16	-100.33	-122.37	0.00	0.00	0.00	0.00
4,800.00	2.59	321.06	4,796.31	127.67	-103.17	-125.83	0.00	0.00	0.00	0.00
4,900.00	2.59	321.06	4,896.21	131.18	-106.00	-129.29	0.00	0.00	0.00	0.00
4,928.82	2.59	321.06	4,925.00	132.20	-106.82	-130.29	0.00	0.00	0.00	0.00
Sussex										
5,000.00	2.59	321.06	4,996.11	134.70	-108.84	-132.75	0.00	0.00	0.00	0.00

Plan Report for Jelts 37N-19HZ - Plan A 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 (°)
5,100.00	2.59	321.06	5,096.01	138.21	-111.68	-136.21	0.00	0.00	0.00	0.00
5,200.00	2.59	321.06	5,195.91	141.72	-114.52	-139.67	0.00	0.00	0.00	0.00
5,300.00	2.59	321.06	5,295.80	145.23	-117.36	-143.14	0.00	0.00	0.00	0.00
5,400.00	2.59	321.06	5,395.70	148.75	-120.19	-146.60	0.00	0.00	0.00	0.00
5,500.00	2.59	321.06	5,495.60	152.26	-123.03	-150.06	0.00	0.00	0.00	0.00
5,600.00	2.59	321.06	5,595.50	155.77	-125.87	-153.52	0.00	0.00	0.00	0.00
5,700.00	2.59	321.06	5,695.40	159.28	-128.71	-156.98	0.00	0.00	0.00	0.00
5,800.00	2.59	321.06	5,795.29	162.79	-131.55	-160.44	0.00	0.00	0.00	0.00
5,900.00	2.59	321.06	5,895.19	166.31	-134.38	-163.90	0.00	0.00	0.00	0.00
6,000.00	2.59	321.06	5,995.09	169.82	-137.22	-167.37	0.00	0.00	0.00	0.00
6,100.00	2.59	321.06	6,094.99	173.33	-140.06	-170.83	0.00	0.00	0.00	0.00
6,200.00	2.59	321.06	6,194.89	176.84	-142.90	-174.29	0.00	0.00	0.00	0.00
6,300.00	2.59	321.06	6,294.78	180.35	-145.73	-177.75	0.00	0.00	0.00	0.00
6,400.00	2.59	321.06	6,394.68	183.87	-148.57	-181.21	0.00	0.00	0.00	0.00
6,500.00	2.59	321.06	6,494.58	187.38	-151.41	-184.67	0.00	0.00	0.00	0.00
6,600.00	2.59	321.06	6,594.48	190.89	-154.25	-188.13	0.00	0.00	0.00	0.00
6,700.00	2.59	321.06	6,694.38	194.40	-157.09	-191.59	0.00	0.00	0.00	0.00
6,800.00	2.59	321.06	6,794.27	197.91	-159.92	-195.06	0.00	0.00	0.00	0.00
6,900.00	2.59	321.06	6,894.17	201.43	-162.76	-198.52	0.00	0.00	0.00	0.00
7,000.00	2.59	321.06	6,994.07	204.94	-165.60	-201.98	0.00	0.00	0.00	0.00
7,040.56	2.59	321.06	7,034.59	206.36	-166.75	-203.38	0.00	0.00	0.00	0.00
Begin Build @ 7040.56ft										
7,100.00	4.17	199.70	7,093.97	205.37	-168.32	-202.36	10.00	2.66	-204.17	-143.14
7,200.00	13.96	184.15	7,192.61	189.88	-170.43	-186.83	10.00	9.79	-15.55	-21.86
7,300.00	23.92	181.39	7,287.08	157.50	-171.80	-154.44	10.00	9.96	-2.76	-6.45
7,400.00	33.90	180.20	7,374.51	109.22	-172.39	-106.15	10.00	9.98	-1.19	-3.83
Build Rate = 10.00/100ft										
7,500.00	43.89	179.51	7,452.24	46.50	-172.19	-43.45	10.00	9.99	-0.70	-2.78
7,562.77	50.17	179.19	7,495.00	0.60	-171.66	2.43	10.00	9.99	-0.51	-2.24
Sharon Springs										
7,600.00	53.89	179.03	7,517.90	-28.74	-171.20	31.76	10.00	9.99	-0.44	-2.02
7,605.29	54.42	179.00	7,521.00	-33.03	-171.13	36.05	10.00	9.99	-0.41	-1.92
Niobrara A										
7,700.00	63.88	178.65	7,569.51	-114.23	-169.46	117.20	10.00	9.99	-0.37	-1.91
7,800.00	73.88	178.34	7,605.50	-207.36	-167.01	210.28	10.00	10.00	-0.31	-1.73
7,853.85	79.26	178.19	7,618.00	-259.70	-165.42	262.58	10.00	10.00	-0.29	-1.62
Niobrara B										
7,900.00	83.88	178.06	7,624.76	-305.31	-163.92	308.16	10.00	10.00	-0.28	-1.58
7,954.84	89.36	177.91	7,628.00	-360.00	-162.00	362.81	10.00	10.00	-0.27	-1.56
End Build @ 7954.84ft - Niobrara B TL - Heel - 7" Intermediate Casing - Jelts 37N-19HZ_CP										
7,954.90	89.36	177.91	7,628.00	-360.06	-162.00	362.86	2.03	0.30	-2.01	-81.64
8,000.00	89.36	177.91	7,628.51	-405.13	-160.35	407.90	0.00	0.00	0.00	0.00
8,100.00	89.36	177.91	7,629.63	-505.05	-156.70	507.74	0.00	0.00	0.00	0.00
8,200.00	89.36	177.91	7,630.75	-604.98	-153.06	607.59	0.00	0.00	0.00	0.00
8,300.00	89.36	177.91	7,631.87	-704.91	-149.41	707.44	0.00	0.00	0.00	0.00
8,400.00	89.36	177.91	7,632.99	-804.83	-145.76	807.28	0.00	0.00	0.00	0.00
8,500.00	89.36	177.91	7,634.12	-904.76	-142.11	907.13	0.00	0.00	0.00	0.00
8,600.00	89.36	177.91	7,635.24	-1,004.69	-138.46	1,006.98	0.00	0.00	0.00	0.00
8,700.00	89.36	177.91	7,636.36	-1,104.62	-134.81	1,106.83	0.00	0.00	0.00	0.00
8,800.00	89.36	177.91	7,637.48	-1,204.54	-131.16	1,206.67	0.00	0.00	0.00	0.00
8,900.00	89.36	177.91	7,638.60	-1,304.47	-127.51	1,306.52	0.00	0.00	0.00	0.00
9,000.00	89.36	177.91	7,639.72	-1,404.40	-123.87	1,406.37	0.00	0.00	0.00	0.00
9,100.00	89.36	177.91	7,640.85	-1,504.32	-120.22	1,506.21	0.00	0.00	0.00	0.00
9,200.00	89.36	177.91	7,641.97	-1,604.25	-116.57	1,606.06	0.00	0.00	0.00	0.00
9,300.00	89.36	177.91	7,643.09	-1,704.18	-112.92	1,705.91	0.00	0.00	0.00	0.00
9,400.00	89.36	177.91	7,644.21	-1,804.11	-109.27	1,805.75	0.00	0.00	0.00	0.00
9,500.00	89.36	177.91	7,645.33	-1,904.03	-105.62	1,905.60	0.00	0.00	0.00	0.00
9,600.00	89.36	177.91	7,646.46	-2,003.96	-101.97	2,005.45	0.00	0.00	0.00	0.00
9,700.00	89.36	177.91	7,647.58	-2,103.89	-98.33	2,105.30	0.00	0.00	0.00	0.00

Plan Report for Jelts 37N-19HZ - Plan A 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 (°)
9,800.00	89.36	177.91	7,648.70	-2,203.81	-94.68	2,205.14	0.00	0.00	0.00	0.00
9,876.67	89.36	177.91	7,649.56	-2,280.43	-91.88	2,281.70	0.00	0.00	0.00	0.00
Begin Turn @ 9876.67ft										
9,900.00	89.36	178.38	7,649.82	-2,303.74	-91.12	2,304.99	2.00	0.00	2.00	90.03
9,968.53	89.36	179.75	7,650.59	-2,372.26	-90.00	2,373.48	2.00	0.00	2.00	90.02
End Turn @ 9968.53ft - Jelts 37N-19HZ_TP										
10,000.00	89.36	179.75	7,650.94	-2,403.73	-89.86	2,404.94	0.00	0.00	0.00	90.01
10,100.00	89.36	179.75	7,652.07	-2,503.72	-89.42	2,504.91	0.00	0.00	0.00	0.00
10,200.00	89.36	179.75	7,653.19	-2,603.71	-88.97	2,604.88	0.00	0.00	0.00	0.00
10,300.00	89.36	179.75	7,654.31	-2,703.70	-88.53	2,704.85	0.00	0.00	0.00	0.00
10,400.00	89.36	179.75	7,655.43	-2,803.70	-88.09	2,804.82	0.00	0.00	0.00	0.00
10,500.00	89.36	179.75	7,656.56	-2,903.69	-87.65	2,904.79	0.00	0.00	0.00	0.00
10,600.00	89.36	179.75	7,657.68	-3,003.68	-87.20	3,004.76	0.00	0.00	0.00	0.00
10,700.00	89.36	179.75	7,658.80	-3,103.68	-86.76	3,104.72	0.00	0.00	0.00	0.00
10,800.00	89.36	179.75	7,659.92	-3,203.67	-86.32	3,204.69	0.00	0.00	0.00	0.00
10,900.00	89.36	179.75	7,661.05	-3,303.66	-85.87	3,304.66	0.00	0.00	0.00	0.00
11,000.00	89.36	179.75	7,662.17	-3,403.65	-85.43	3,404.63	0.00	0.00	0.00	0.00
11,100.00	89.36	179.75	7,663.29	-3,503.65	-84.99	3,504.60	0.00	0.00	0.00	0.00
11,200.00	89.36	179.75	7,664.42	-3,603.64	-84.55	3,604.57	0.00	0.00	0.00	0.00
11,300.00	89.36	179.75	7,665.54	-3,703.63	-84.10	3,704.54	0.00	0.00	0.00	0.00
11,400.00	89.36	179.75	7,666.66	-3,803.62	-83.66	3,804.51	0.00	0.00	0.00	0.00
11,500.00	89.36	179.75	7,667.78	-3,903.62	-83.22	3,904.48	0.00	0.00	0.00	0.00
11,600.00	89.36	179.75	7,668.91	-4,003.61	-82.77	4,004.45	0.00	0.00	0.00	0.00
11,700.00	89.36	179.75	7,670.03	-4,103.60	-82.33	4,104.42	0.00	0.00	0.00	0.00
11,800.00	89.36	179.75	7,671.15	-4,203.60	-81.89	4,204.39	0.00	0.00	0.00	0.00
11,900.00	89.36	179.75	7,672.27	-4,303.59	-81.45	4,304.36	0.00	0.00	0.00	0.00
12,000.00	89.36	179.75	7,673.40	-4,403.58	-81.00	4,404.32	0.00	0.00	0.00	0.00
12,100.00	89.36	179.75	7,674.52	-4,503.57	-80.56	4,504.29	0.00	0.00	0.00	0.00
12,142.75	89.36	179.75	7,675.00	-4,546.32	-80.37	4,547.03	0.00	0.00	0.00	0.00
Total Depth @ 12142.75ft - Jelts 37N-19HZ_BHL										

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
1,100.00	1,100.00	0.00	0.00	Begin Nudge @ 1100.00ft
1,229.40	1,229.36	2.27	-1.84	End Nudge @ 1229.40ft
4,000.00	3,997.13	99.58	-80.46	Hold Angle @ 4000.00ft
7,040.56	7,034.59	206.36	-166.75	Begin Build @ 7040.56ft
7,400.00	7,374.51	109.22	-172.39	Build Rate = 10.00/100ft
7,954.84	7,628.00	-360.00	-162.00	End Build @ 7954.84ft
9,876.67	7,649.56	-2,280.43	-91.88	Begin Turn @ 9876.67ft
9,968.53	7,650.59	-2,372.26	-90.00	End Turn @ 9968.53ft
12,142.75	7,675.00	-4,546.32	-80.37	Total Depth @ 12142.75ft

Vertical Section Information

Angle Type	Target	Azimuth (°)	Origin Type	Origin +N/-S (ft)	Origin +E/-W (ft)	Start TVD (ft)
Target	Jelts 37N-19HZ_BHL	181.01	Slot	0.00	0.00	7,675.00

Survey tool program

From (ft)	To (ft)	Survey/Plan	Survey Tool
0.00	12,142.75	Plan A Rev 0 Permit	MWD

Plan Report for Jelts 37N-19HZ - Plan A Rev 0 Permit**Casing Details**

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
7,954.84	7,628.00	7" Intermediate Casing	7	8-3/4

Formation Details

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
4,928.82	4,925.00	Sussex		0.00	
7,562.77	7,495.00	Sharon Springs		0.00	
7,605.29	7,521.00	Niobrara A		0.00	
7,853.85	7,618.00	Niobrara B		0.00	
7,954.84	7,628.00	Niobrara B TL - Heel		0.00	
12,142.75	7,675.00	Niobrara B TL - Toe		0.00	

Targets associated with this wellbore

Target Name	TVD (ft)	+N-S (ft)	+E-W (ft)	Shape
Jelts 37N-19HZ_TP	7,650.59	-2,372.26	-90.00	Point
Jelts 37N-19HZ_BHL	7,675.00	-4,546.32	-80.37	Point
Jelts 37N-19HZ_SHL	0.00	0.00	0.00	Point
Jelts 37N-19HZ_CP	7,628.00	-360.00	-162.00	Point

North Reference Sheet for Sec. 19-T1N-R67W - Jelts 37N-19HZ - Plan A 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 @ 5175.00ft (Drilling Rig). Northing and Easting are relative to Jelts 37N-19HZ
 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: 0.99996338

Grid Coordinates of Well: 1,259,063.80 ft N, 3,160,236.18 ft E
 Geographical Coordinates of Well: 40° 02' 35.16" N, 104° 55' 39.63" W
 Grid Convergence at Surface is: 0.37°

Based upon Minimum Curvature type calculations, at a Measured Depth of 12,142.75ft
 the Bottom Hole Displacement is 4,547.03ft in the Direction of 181.01° (True).

Magnetic Convergence at surface is: -8.40° (3 December 2012, , BGGM2012)

Magnetic Model: BGGM 2012
 Date: 03-Dec-12
 Declination: 8.77°
 Inclination/Dip: 66.66°
 Field Strength: 52684

Grid North is 0.37° East of True North (Grid Convergence)
 Magnetic North is 8.77° East of True North (Magnetic Declination)
 Magnetic North is 8.40° East of Grid North (Magnetic Convergence)

To convert a True Direction to a Grid Direction, Subtract 0.37°
 To convert a Magnetic Direction to a True Direction, Add 8.77° East
 To convert a Magnetic Direction to a Grid Direction, Add 8.40°