

# Anadarko Petroleum Corp.

Weld County, CO (NAD 83)

Sec. 19-T1N-R67W

Jelts 37C-19HZ

Plan B Rev 0

Plan: Plan B Rev 0 Permit

## Sperry Drilling Services

### Proposal Report

06 December, 2012

Well Coordinates: 1,259,069.21 N, 3,159,435.68 E (40° 02' 35.26" N, 104° 55' 49.93" W)

Ground Level: 5,148.00 ft

Local Coordinate Origin:

Centered on Well Jelts 37C-19HZ

Viewing Datum:

RKB=17 @ 5165.00ft (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. 19-T1N-R67W  
Well: Jelts 37C-19HZ  
Wellbore: Plan B Rev 0  
Design: Plan B Rev 0 Permit

# Anadarko Petroleum Corp.

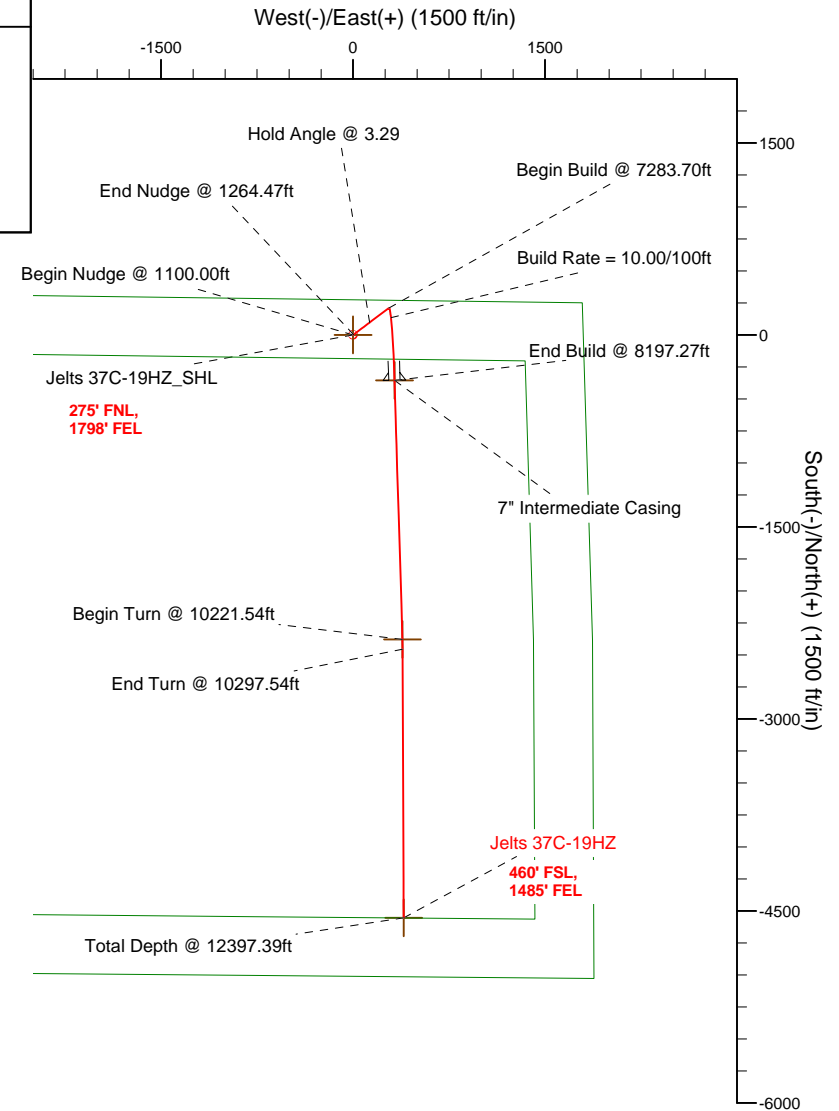
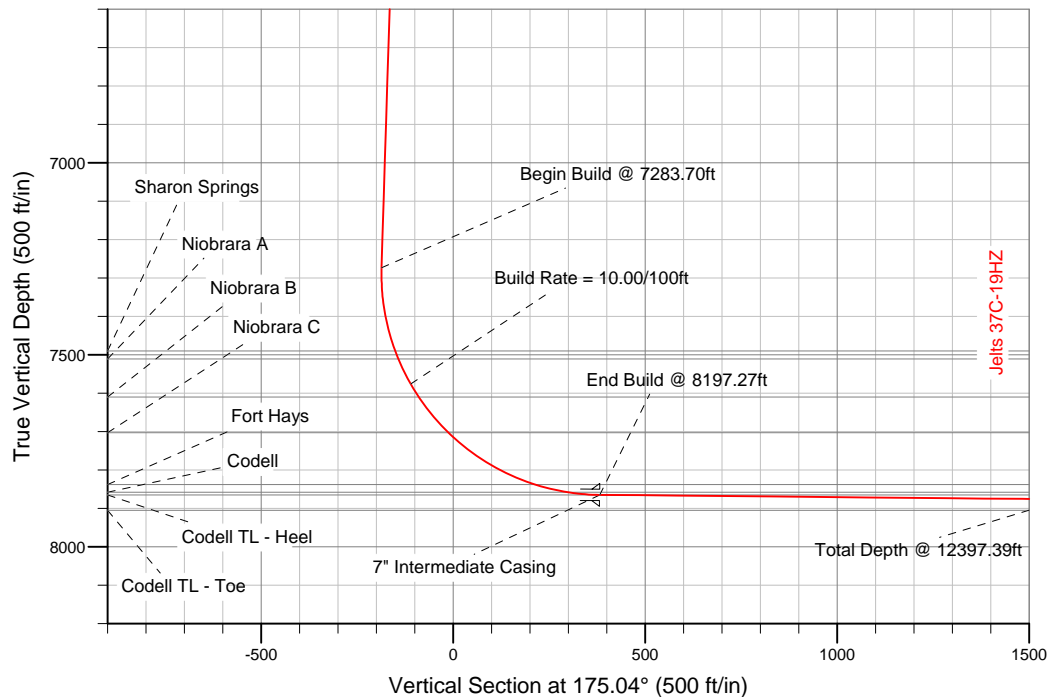
**HALLIBURTON**  
Sperry Drilling

## 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	1100.00	0.00	0.00	1100.00	0.00	0.00	0.00	0.00	0.00	
3	1264.47	3.29	52.92	1264.38	2.85	3.77	2.00	52.92	-2.51	
4	7283.70	3.29	52.92	7273.69	211.10	279.29	0.00	0.00	-186.16	
5	8197.27	89.45	178.26	7865.00	-355.00	324.00	10.00	125.32	381.68	Jelts 37C-19HZ_CP
6	10221.54	89.45	178.26	7884.27	-2378.25	385.61	0.00	0.00	2402.68	Jelts 37C-19HZ_TP
7	10297.54	89.45	179.78	7884.99	-2454.23	386.92	2.00	90.02	2478.49	
8	12397.39	89.45	179.78	7905.00	-4553.97	395.13	0.00	0.00	4571.08	Jelts 37C-19HZ_BHL

## WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
Jelts 37C-19HZ_SHL	0.00	0.00	0.00	40.043128	-104.930535	Point
Jelts 37C-19HZ_CP	7865.00	-355.00	324.00	40.042153	-104.929378	Point
Jelts 37C-19HZ_TP	7884.27	-2378.25	385.61	40.036600	-104.929158	Point
Jelts 37C-19HZ_BHL	7905.00	-4553.97	395.13	40.030627	-104.929124	Point



## WELL DETAILS: Jelts 37C-19HZ

Ground Level: 5148.00 RKB=17 @ 5165.00ft (Drilling Rig)

Plan: Plan B Rev 0 Permit (Jelts 37C-19HZ/Plan B Rev 0)

Created By: Fred Hartmann Date: 12/03/2012  
Reviewed: \_\_\_\_\_ Date: \_\_\_\_\_

**Plan Report for Jelts 37C-19HZ - 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
<b>Jelts 37C-19HZ_SHL</b>										
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
<b>Begin Nudge @ 1100.00ft</b>										
1,200.00	2.00	52.92	1,199.98	1.05	1.39	-0.93	2.00	2.00	0.00	52.92
1,264.47	3.29	52.92	1,264.38	2.85	3.77	-2.51	2.00	2.00	0.00	0.00
<b>End Nudge @ 1264.47ft</b>										
1,300.00	3.29	52.92	1,299.85	4.08	5.39	-3.59	0.00	0.00	0.00	0.00
1,400.00	3.29	52.92	1,399.69	7.53	9.97	-6.64	0.00	0.00	0.00	0.00
1,500.00	3.29	52.92	1,499.52	10.99	14.55	-9.70	0.00	0.00	0.00	0.00
1,600.00	3.29	52.92	1,599.36	14.45	19.12	-12.75	0.00	0.00	0.00	0.00
1,700.00	3.29	52.92	1,699.19	17.91	23.70	-15.80	0.00	0.00	0.00	0.00
1,800.00	3.29	52.92	1,799.03	21.37	28.28	-18.85	0.00	0.00	0.00	0.00
1,900.00	3.29	52.92	1,898.86	24.83	32.86	-21.90	0.00	0.00	0.00	0.00
2,000.00	3.29	52.92	1,998.70	28.29	37.43	-24.95	0.00	0.00	0.00	0.00
2,100.00	3.29	52.92	2,098.53	31.75	42.01	-28.00	0.00	0.00	0.00	0.00
2,200.00	3.29	52.92	2,198.37	35.21	46.59	-31.05	0.00	0.00	0.00	0.00
2,300.00	3.29	52.92	2,298.20	38.67	51.17	-34.10	0.00	0.00	0.00	0.00
2,400.00	3.29	52.92	2,398.04	42.13	55.74	-37.16	0.00	0.00	0.00	0.00
2,500.00	3.29	52.92	2,497.87	45.59	60.32	-40.21	0.00	0.00	0.00	0.00
2,600.00	3.29	52.92	2,597.71	49.05	64.90	-43.26	0.00	0.00	0.00	0.00
2,700.00	3.29	52.92	2,697.54	52.51	69.47	-46.31	0.00	0.00	0.00	0.00
2,800.00	3.29	52.92	2,797.38	55.97	74.05	-49.36	0.00	0.00	0.00	0.00
2,900.00	3.29	52.92	2,897.22	59.43	78.63	-52.41	0.00	0.00	0.00	0.00
3,000.00	3.29	52.92	2,997.05	62.89	83.21	-55.46	0.00	0.00	0.00	0.00
3,100.00	3.29	52.92	3,096.89	66.35	87.78	-58.51	0.00	0.00	0.00	0.00
3,200.00	3.29	52.92	3,196.72	69.81	92.36	-61.56	0.00	0.00	0.00	0.00
3,300.00	3.29	52.92	3,296.56	73.27	96.94	-64.62	0.00	0.00	0.00	0.00
3,400.00	3.29	52.92	3,396.39	76.73	101.52	-67.67	0.00	0.00	0.00	0.00
3,500.00	3.29	52.92	3,496.23	80.19	106.09	-70.72	0.00	0.00	0.00	0.00
3,600.00	3.29	52.92	3,596.06	83.65	110.67	-73.77	0.00	0.00	0.00	0.00
3,700.00	3.29	52.92	3,695.90	87.11	115.25	-76.82	0.00	0.00	0.00	0.00
3,800.00	3.29	52.92	3,795.73	90.57	119.83	-79.87	0.00	0.00	0.00	0.00
3,900.00	3.29	52.92	3,895.57	94.03	124.40	-82.92	0.00	0.00	0.00	0.00
4,000.00	3.29	52.92	3,995.40	97.49	128.98	-85.97	0.00	0.00	0.00	0.00
<b>Hold Angle @ 3.29</b>										
4,100.00	3.29	52.92	4,095.24	100.95	133.56	-89.02	0.00	0.00	0.00	0.00
4,200.00	3.29	52.92	4,195.07	104.41	138.14	-92.08	0.00	0.00	0.00	0.00
4,300.00	3.29	52.92	4,294.91	107.87	142.71	-95.13	0.00	0.00	0.00	0.00
4,400.00	3.29	52.92	4,394.74	111.33	147.29	-98.18	0.00	0.00	0.00	0.00
4,500.00	3.29	52.92	4,494.58	114.79	151.87	-101.23	0.00	0.00	0.00	0.00
4,600.00	3.29	52.92	4,594.41	118.25	156.45	-104.28	0.00	0.00	0.00	0.00
4,700.00	3.29	52.92	4,694.25	121.71	161.02	-107.33	0.00	0.00	0.00	0.00
4,800.00	3.29	52.92	4,794.09	125.17	165.60	-110.38	0.00	0.00	0.00	0.00
4,900.00	3.29	52.92	4,893.92	128.63	170.18	-113.43	0.00	0.00	0.00	0.00
4,921.11	3.29	52.92	4,915.00	129.36	171.14	-114.08	0.00	0.00	0.00	0.00
<b>Sussex</b>										
5,000.00	3.29	52.92	4,993.76	132.09	174.75	-116.48	0.00	0.00	0.00	0.00

**Plan Report for Jelts 37C-19HZ - 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 (°)
5,100.00	3.29	52.92	5,093.59	135.55	179.33	-119.54	0.00	0.00	0.00	0.00
5,200.00	3.29	52.92	5,193.43	139.00	183.91	-122.59	0.00	0.00	0.00	0.00
5,300.00	3.29	52.92	5,293.26	142.46	188.49	-125.64	0.00	0.00	0.00	0.00
5,400.00	3.29	52.92	5,393.10	145.92	193.06	-128.69	0.00	0.00	0.00	0.00
5,500.00	3.29	52.92	5,492.93	149.38	197.64	-131.74	0.00	0.00	0.00	0.00
5,600.00	3.29	52.92	5,592.77	152.84	202.22	-134.79	0.00	0.00	0.00	0.00
5,700.00	3.29	52.92	5,692.60	156.30	206.80	-137.84	0.00	0.00	0.00	0.00
5,800.00	3.29	52.92	5,792.44	159.76	211.37	-140.89	0.00	0.00	0.00	0.00
5,900.00	3.29	52.92	5,892.27	163.22	215.95	-143.94	0.00	0.00	0.00	0.00
6,000.00	3.29	52.92	5,992.11	166.68	220.53	-147.00	0.00	0.00	0.00	0.00
6,100.00	3.29	52.92	6,091.94	170.14	225.11	-150.05	0.00	0.00	0.00	0.00
6,200.00	3.29	52.92	6,191.78	173.60	229.68	-153.10	0.00	0.00	0.00	0.00
6,300.00	3.29	52.92	6,291.61	177.06	234.26	-156.15	0.00	0.00	0.00	0.00
6,400.00	3.29	52.92	6,391.45	180.52	238.84	-159.20	0.00	0.00	0.00	0.00
6,500.00	3.29	52.92	6,491.28	183.98	243.42	-162.25	0.00	0.00	0.00	0.00
6,600.00	3.29	52.92	6,591.12	187.44	247.99	-165.30	0.00	0.00	0.00	0.00
6,700.00	3.29	52.92	6,690.95	190.90	252.57	-168.35	0.00	0.00	0.00	0.00
6,800.00	3.29	52.92	6,790.79	194.36	257.15	-171.40	0.00	0.00	0.00	0.00
6,900.00	3.29	52.92	6,890.63	197.82	261.72	-174.46	0.00	0.00	0.00	0.00
7,000.00	3.29	52.92	6,990.46	201.28	266.30	-177.51	0.00	0.00	0.00	0.00
7,100.00	3.29	52.92	7,090.30	204.74	270.88	-180.56	0.00	0.00	0.00	0.00
7,200.00	3.29	52.92	7,190.13	208.20	275.46	-183.61	0.00	0.00	0.00	0.00
7,283.70	3.29	52.92	7,273.69	211.10	279.29	-186.16	0.00	0.00	0.00	0.00
<b>Begin Build @ 7283.70ft</b>										
7,300.00	2.70	82.48	7,289.97	211.43	280.04	-186.43	10.00	-3.63	181.34	125.32
7,400.00	10.09	163.01	7,389.40	203.34	284.95	-177.95	10.00	7.39	80.53	95.80
7,500.00	19.90	170.84	7,485.88	178.10	290.23	-152.34	10.00	9.81	7.84	15.50
7,504.39	20.34	171.02	7,490.00	176.61	290.47	-150.84	10.00	9.91	3.96	7.91
<b>Sharon Springs</b>										
7,526.95	22.57	171.81	7,511.00	168.45	291.69	-142.60	10.00	9.92	3.51	7.74
<b>Niobrara A</b>										
7,600.00	29.84	173.59	7,576.50	136.47	295.73	-110.39	10.00	9.94	2.44	7.01
<b>Build Rate = 10.00/100ft</b>										
7,639.43	33.76	174.26	7,610.00	115.81	297.92	-89.62	10.00	9.96	1.69	5.40
<b>Niobrara B</b>										
7,700.00	39.80	175.06	7,658.49	79.71	301.27	-53.37	10.00	9.97	1.31	4.83
7,760.72	45.86	175.67	7,703.00	38.59	304.59	-12.11	10.00	9.98	1.02	4.19
<b>Niobrara C</b>										
7,800.00	49.78	176.01	7,729.37	9.56	306.70	16.99	10.00	9.98	0.85	3.74
7,900.00	59.76	176.72	7,786.98	-71.86	311.85	98.55	10.00	9.98	0.71	3.52
8,000.00	69.75	177.29	7,829.57	-162.07	316.55	188.83	10.00	9.99	0.57	3.11
8,025.95	72.34	177.43	7,838.00	-186.59	317.68	213.35	10.00	9.99	0.52	2.86
<b>Fort Hays</b>										
8,100.00	79.74	177.80	7,855.85	-258.34	320.67	285.09	10.00	9.99	0.50	2.82
8,112.86	81.02	177.86	7,858.00	-271.01	321.15	297.75	10.00	9.99	0.48	2.73
<b>Codell</b>										
8,197.27	89.45	178.26	7,865.00	-355.00	324.00	381.68	10.00	9.99	0.47	2.72
<b>End Build @ 8197.27ft - Codell TL - Heel - 7" Intermediate Casing - Jelts 37C-19HZ_CP</b>										
8,200.00	89.45	178.26	7,865.03	-357.73	324.08	384.41	0.01	0.01	0.00	2.68
8,300.00	89.45	178.26	7,865.98	-457.68	327.13	484.24	0.00	0.00	0.00	0.00
8,400.00	89.45	178.26	7,866.93	-557.63	330.17	584.08	0.00	0.00	0.00	0.00
8,500.00	89.45	178.26	7,867.88	-657.58	333.21	683.92	0.00	0.00	0.00	0.00
8,600.00	89.45	178.26	7,868.83	-757.53	336.26	783.76	0.00	0.00	0.00	0.00
8,700.00	89.45	178.26	7,869.79	-857.48	339.30	883.60	0.00	0.00	0.00	0.00
8,800.00	89.45	178.26	7,870.74	-957.43	342.35	983.44	0.00	0.00	0.00	0.00
8,900.00	89.45	178.26	7,871.69	-1,057.38	345.39	1,083.27	0.00	0.00	0.00	0.00
9,000.00	89.45	178.26	7,872.64	-1,157.32	348.43	1,183.11	0.00	0.00	0.00	0.00
9,100.00	89.45	178.26	7,873.59	-1,257.27	351.48	1,282.95	0.00	0.00	0.00	0.00

**Plan Report for Jelts 37C-19HZ - 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 (°)
9,200.00	89.45	178.26	7,874.55	-1,357.22	354.52	1,382.79	0.00	0.00	0.00	0.00
9,300.00	89.45	178.26	7,875.50	-1,457.17	357.56	1,482.63	0.00	0.00	0.00	0.00
9,400.00	89.45	178.26	7,876.45	-1,557.12	360.61	1,582.46	0.00	0.00	0.00	0.00
9,500.00	89.45	178.26	7,877.40	-1,657.07	363.65	1,682.30	0.00	0.00	0.00	0.00
9,600.00	89.45	178.26	7,878.35	-1,757.02	366.69	1,782.14	0.00	0.00	0.00	0.00
9,700.00	89.45	178.26	7,879.31	-1,856.97	369.74	1,881.98	0.00	0.00	0.00	0.00
9,800.00	89.45	178.26	7,880.26	-1,956.92	372.78	1,981.82	0.00	0.00	0.00	0.00
9,900.00	89.45	178.26	7,881.21	-2,056.87	375.83	2,081.65	0.00	0.00	0.00	0.00
10,000.00	89.45	178.26	7,882.16	-2,156.82	378.87	2,181.49	0.00	0.00	0.00	0.00
10,100.00	89.45	178.26	7,883.11	-2,256.76	381.91	2,281.33	0.00	0.00	0.00	0.00
10,200.00	89.45	178.26	7,884.06	-2,356.71	384.96	2,381.17	0.00	0.00	0.00	0.00
10,221.54	89.45	178.26	7,884.27	-2,378.25	385.61	2,402.68	0.00	0.00	0.00	0.00
<b>Begin Turn @ 10221.54ft - Jelts 37C-19HZ_TP</b>										
10,297.54	89.45	179.78	7,884.99	-2,454.23	386.92	2,478.49	2.00	0.00	2.00	90.02
<b>End Turn @ 10297.54ft</b>										
10,300.00	89.45	179.78	7,885.02	-2,456.69	386.93	2,480.94	0.00	0.00	0.00	90.01
10,400.00	89.45	179.78	7,885.97	-2,556.68	387.32	2,580.59	0.00	0.00	0.00	0.00
10,500.00	89.45	179.78	7,886.92	-2,656.68	387.71	2,680.25	0.00	0.00	0.00	0.00
10,600.00	89.45	179.78	7,887.88	-2,756.67	388.10	2,779.90	0.00	0.00	0.00	0.00
10,700.00	89.45	179.78	7,888.83	-2,856.66	388.49	2,879.55	0.00	0.00	0.00	0.00
10,800.00	89.45	179.78	7,889.78	-2,956.66	388.88	2,979.21	0.00	0.00	0.00	0.00
10,900.00	89.45	179.78	7,890.73	-3,056.65	389.27	3,078.86	0.00	0.00	0.00	0.00
11,000.00	89.45	179.78	7,891.69	-3,156.65	389.67	3,178.52	0.00	0.00	0.00	0.00
11,100.00	89.45	179.78	7,892.64	-3,256.64	390.06	3,278.17	0.00	0.00	0.00	0.00
11,200.00	89.45	179.78	7,893.59	-3,356.64	390.45	3,377.83	0.00	0.00	0.00	0.00
11,300.00	89.45	179.78	7,894.54	-3,456.63	390.84	3,477.48	0.00	0.00	0.00	0.00
11,400.00	89.45	179.78	7,895.50	-3,556.63	391.23	3,577.13	0.00	0.00	0.00	0.00
11,500.00	89.45	179.78	7,896.45	-3,656.62	391.62	3,676.79	0.00	0.00	0.00	0.00
11,600.00	89.45	179.78	7,897.40	-3,756.62	392.01	3,776.44	0.00	0.00	0.00	0.00
11,700.00	89.45	179.78	7,898.36	-3,856.61	392.40	3,876.10	0.00	0.00	0.00	0.00
11,800.00	89.45	179.78	7,899.31	-3,956.61	392.80	3,975.75	0.00	0.00	0.00	0.00
11,900.00	89.45	179.78	7,900.26	-4,056.60	393.19	4,075.40	0.00	0.00	0.00	0.00
12,000.00	89.45	179.78	7,901.21	-4,156.60	393.58	4,175.06	0.00	0.00	0.00	0.00
12,100.00	89.45	179.78	7,902.17	-4,256.59	393.97	4,274.71	0.00	0.00	0.00	0.00
12,200.00	89.45	179.78	7,903.12	-4,356.59	394.36	4,374.37	0.00	0.00	0.00	0.00
12,300.00	89.45	179.78	7,904.07	-4,456.58	394.75	4,474.02	0.00	0.00	0.00	0.00
12,397.39	89.45	179.78	7,905.00	-4,553.96	395.13	4,571.07	0.00	0.00	0.00	0.00
<b>Total Depth @ 12397.39ft - Jelts 37C-19HZ_BHL</b>										

**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
1,264.47	1,264.38	2.85	3.77	End Nudge @ 1264.47ft
4,000.00	3,995.40	97.49	128.98	Hold Angle @ 3.29
7,283.70	7,273.69	211.10	279.29	Begin Build @ 7283.70ft
7,600.00	7,576.50	136.47	295.73	Build Rate = 10.00/100ft
8,197.27	7,865.00	-355.00	324.00	End Build @ 8197.27ft
10,221.54	7,884.27	-2,378.24	385.61	Begin Turn @ 10221.54ft
10,297.54	7,884.99	-2,454.23	386.92	End Turn @ 10297.54ft
12,397.39	7,905.00	-4,553.96	395.13	Total Depth @ 12397.39ft

## Plan Report for Jelts 37C-19HZ - Plan B Rev 0 Permit

### Vertical Section Information

Angle Type	Target	Azimuth (°)	Origin Type	Origin +N/_S (ft)	Origin +E/-W (ft)	Start TVD (ft)
Target	Jelts 37C-19HZ_BHL	175.04	Slot	0.00	0.00	7,905.00

### Survey tool program

From (ft)	To (ft)	Survey/Plan	Survey Tool
0.00	12,397.39	Plan B Rev 0 Permit	MWD

### Casing Details

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
8,197.27	7,865.00	7" Intermediate Casing	7	8-3/4

### Formation Details

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
4,921.11	4,915.00	Sussex		0.00	
7,504.39	7,490.00	Sharon Springs		0.00	
7,526.95	7,511.00	Niobrara A		0.00	
7,639.43	7,610.00	Niobrara B		0.00	
7,760.72	7,703.00	Niobrara C		0.00	
8,025.95	7,838.00	Fort Hays		0.00	
8,112.86	7,858.00	Codell		0.00	
8,197.27	7,865.00	Codell TL - Heel		0.00	
12,397.39	7,905.00	Codell TL - Toe		0.00	

### Targets associated with this wellbore

Target Name	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Shape
Jelts 37C-19HZ_BHL	7,905.00	-4,553.97	395.13	Point
Jelts 37C-19HZ_TP	7,884.27	-2,378.25	385.61	Point
Jelts 37C-19HZ_SHL	0.00	0.00	0.00	Point
Jelts 37C-19HZ_CP	7,865.00	-355.00	324.00	Point

## North Reference Sheet for Sec. 19-T1N-R67W - Jelts 37C-19HZ - 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 @ 5165.00ft (Drilling Rig). Northing and Easting are relative to Jelts 37C-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: 1,259,069.21 ft N, 3,159,435.68 ft E

Geographical Coordinates of Well: 40° 02' 35.26" N, 104° 55' 49.93" W

Grid Convergence at Surface is: 0.37°

Based upon Minimum Curvature type calculations, at a Measured Depth of 12,397.39ft  
the Bottom Hole Displacement is 4,571.07ft in the Direction of 175.04° (True).

Magnetic Convergence at surface is: -8.40° ( 6 December 2012, , BGGM2012)

