

Anadarko Petroleum Corp.

Weld County, CO (NAD 83)

Sec. 19-T2N-65W

Russian Fiddler 14N-18HZ

Plan A Rev 0

Plan: Plan A Rev 0 Permit

Sperry Drilling Services

Proposal Report

28 June, 2012

Well Coordinates: 1,286,629.76 N, 3,220,604.58 E (40° 07' 02.99" N, 104° 42' 40.28" W)

Ground Level: 5,000.00 ft

Local Coordinate Origin:

Centered on Site Sec. 19-T2N-65W

Viewing Datum:

RKB=17ft @ 5017.00ft (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-T2N-65W
Well: Russian Fiddler 14N-18HZ
Wellbore: Plan A Rev 0
Design: Plan A Rev 0 Permit

Anadarko Petroleum Corp.

HALLIBURTON
Sperry Drilling

SECTION DETAILS

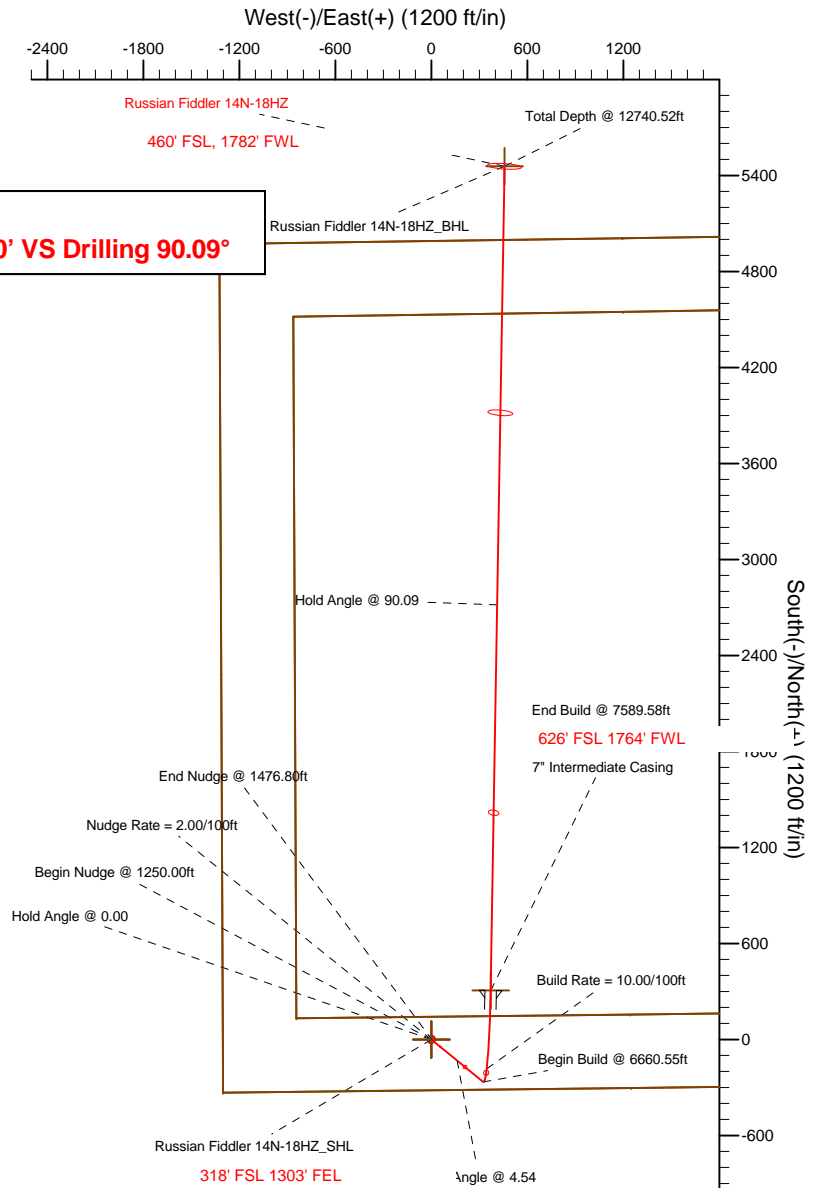
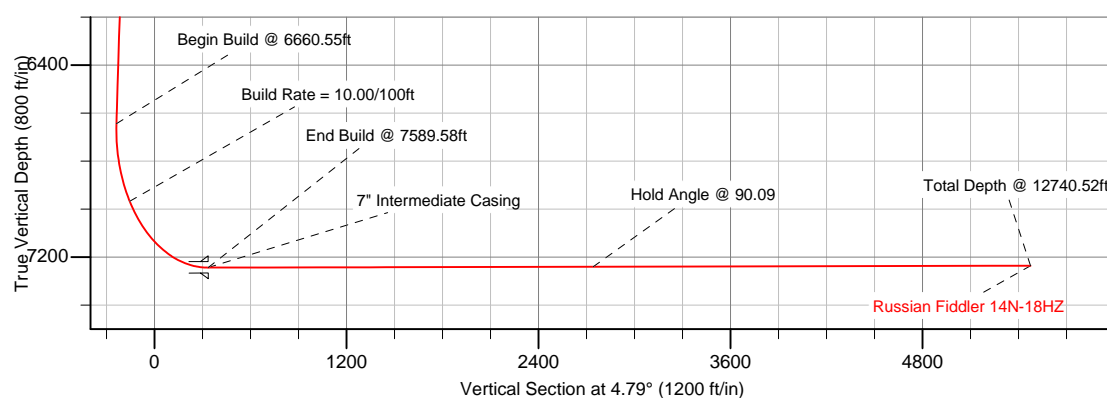
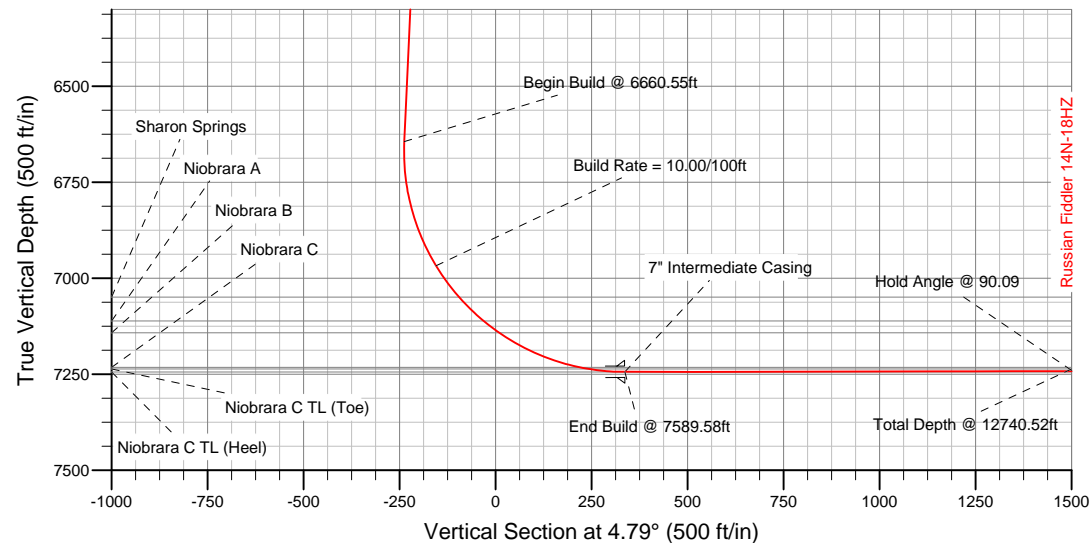
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	1250.00	0.00	0.00	1250.00	0.00	0.00	0.00	0.00	0.00	
3	1476.80	4.54	129.34	1476.56	-5.69	6.94	2.00	129.34	-5.09	
4	6660.55	4.54	129.34	6644.07	-265.54	324.02	0.00	0.00	-237.58	
5	7589.58	90.09	0.96	7244.00	306.91	370.94	10.00	-128.29	336.79	Russian Fiddler 14N-18HZ_Casing Point
6	12740.52	90.09	0.96	7236.00	5457.13	456.88	0.00	0.00	5476.22	Russian Fiddler 14N-18HZ_BHL

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
Russian Fiddler 14N-18HZ_Section Lines	0.00	0.00	0.00	40.117498	-104.711189	Polygon
Russian Fiddler 14N-18HZ_Setback Lines	0.00	0.00	0.00	40.117498	-104.711189	Polygon
Russian Fiddler 14N-18HZ_SHL	0.00	0.00	0.00	40.117498	-104.711189	Point
Russian Fiddler 14N-18HZ_BHL	7236.00	5457.13	456.90	40.132478	-104.709555	Point
Russian Fiddler 14N-18HZ_Casing Point	7244.00	306.91	370.94	40.118340	-104.709863	Point

Target Line:

7244.6' TVDkb @ 0° VS Drilling 90.09°



WELL DETAILS: Russian Fiddler 14N-18HZ

Ground Level: 5000.00 RKB=17ft @ 5017.00ft (Drilling Rig)

Plan: Plan A Rev 0 Permit (Russian Fiddler 14N-18HZ/Plan A Rev 0)

Created By: Fred Hartmann Date: 06/28/2012
Reviewed: Date:

Plan Report for Russian Fiddler 14N-18HZ - 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	1.09	90.06	0.00	0.00	0.00	0.00	0.00
Tie-On to Surface @ 0.00ft - Russian Fiddler 14N-18HZ_SHL - Russian Fiddler 14N-18HZ_Section Lines - Russian Fiddler 14N-18										
100.00	0.00	0.00	100.00	1.09	90.06	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	1.09	90.06	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	1.09	90.06	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	1.09	90.06	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	1.09	90.06	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	1.09	90.06	0.00	0.00	0.00	0.00	0.00
Hold Angle @ 0.00										
700.00	0.00	0.00	700.00	1.09	90.06	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	1.09	90.06	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	1.09	90.06	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	1.09	90.06	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	1.09	90.06	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	1.09	90.06	0.00	0.00	0.00	0.00	0.00
1,250.00	0.00	0.00	1,250.00	1.09	90.06	0.00	0.00	0.00	0.00	0.00
Begin Nudge @ 1250.00ft										
1,300.00	1.00	129.34	1,300.00	0.81	90.40	-0.25	2.00	2.00	0.00	129.34
Nudge Rate = 2.00/100ft										
1,400.00	3.00	129.34	1,399.93	-1.40	93.09	-2.23	2.00	2.00	0.00	0.00
1,476.80	4.54	129.34	1,476.56	-4.60	97.00	-5.09	2.00	2.00	0.00	0.00
End Nudge @ 1476.80ft										
1,500.00	4.54	129.34	1,499.69	-5.76	98.42	-6.13	0.00	0.00	0.00	0.00
1,600.00	4.54	129.34	1,599.38	-10.77	104.53	-10.61	0.00	0.00	0.00	0.00
1,700.00	4.54	129.34	1,699.06	-15.79	110.65	-15.10	0.00	0.00	0.00	0.00
1,800.00	4.54	129.34	1,798.75	-20.80	116.77	-19.58	0.00	0.00	0.00	0.00
1,900.00	4.54	129.34	1,898.44	-25.81	122.88	-24.07	0.00	0.00	0.00	0.00
2,000.00	4.54	129.34	1,998.12	-30.83	129.00	-28.55	0.00	0.00	0.00	0.00
2,100.00	4.54	129.34	2,097.81	-35.84	135.12	-33.04	0.00	0.00	0.00	0.00
2,200.00	4.54	129.34	2,197.50	-40.85	141.23	-37.52	0.00	0.00	0.00	0.00
2,300.00	4.54	129.34	2,297.18	-45.86	147.35	-42.01	0.00	0.00	0.00	0.00
2,400.00	4.54	129.34	2,396.87	-50.88	153.47	-46.49	0.00	0.00	0.00	0.00
2,500.00	4.54	129.34	2,496.56	-55.89	159.58	-50.98	0.00	0.00	0.00	0.00
2,600.00	4.54	129.34	2,596.25	-60.90	165.70	-55.46	0.00	0.00	0.00	0.00
2,700.00	4.54	129.34	2,695.93	-65.92	171.82	-59.95	0.00	0.00	0.00	0.00
2,800.00	4.54	129.34	2,795.62	-70.93	177.93	-64.43	0.00	0.00	0.00	0.00
2,900.00	4.54	129.34	2,895.31	-75.94	184.05	-68.92	0.00	0.00	0.00	0.00
3,000.00	4.54	129.34	2,994.99	-80.95	190.17	-73.40	0.00	0.00	0.00	0.00
3,100.00	4.54	129.34	3,094.68	-85.97	196.29	-77.89	0.00	0.00	0.00	0.00
3,200.00	4.54	129.34	3,194.37	-90.98	202.40	-82.38	0.00	0.00	0.00	0.00
3,300.00	4.54	129.34	3,294.05	-95.99	208.52	-86.86	0.00	0.00	0.00	0.00
3,400.00	4.54	129.34	3,393.74	-101.01	214.64	-91.35	0.00	0.00	0.00	0.00
3,500.00	4.54	129.34	3,493.43	-106.02	220.75	-95.83	0.00	0.00	0.00	0.00
3,600.00	4.54	129.34	3,593.11	-111.03	226.87	-100.32	0.00	0.00	0.00	0.00
3,700.00	4.54	129.34	3,692.80	-116.04	232.99	-104.80	0.00	0.00	0.00	0.00
3,800.00	4.54	129.34	3,792.49	-121.06	239.10	-109.29	0.00	0.00	0.00	0.00
3,900.00	4.54	129.34	3,892.17	-126.07	245.22	-113.77	0.00	0.00	0.00	0.00
4,000.00	4.54	129.34	3,991.86	-131.08	251.34	-118.26	0.00	0.00	0.00	0.00
Hold Angle @ 4.54										
4,068.35	4.54	129.34	4,060.00	-134.51	255.52	-121.32	0.00	0.00	0.00	0.00
Parkman										
4,100.00	4.54	129.34	4,091.55	-136.10	257.45	-122.74	0.00	0.00	0.00	0.00
4,200.00	4.54	129.34	4,191.23	-141.11	263.57	-127.23	0.00	0.00	0.00	0.00
4,300.00	4.54	129.34	4,290.92	-146.12	269.69	-131.71	0.00	0.00	0.00	0.00
4,400.00	4.54	129.34	4,390.61	-151.13	275.80	-136.20	0.00	0.00	0.00	0.00
4,500.00	4.54	129.34	4,490.29	-156.15	281.92	-140.68	0.00	0.00	0.00	0.00
4,598.01	4.54	129.34	4,588.00	-161.06	287.91	-145.08	0.00	0.00	0.00	0.00
Sussex										

Plan Report for Russian Fiddler 14N-18HZ - 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 (°)
4,600.00	4.54	129.34	4,589.98	-161.16	288.04	-145.17	0.00	0.00	0.00	0.00
4,700.00	4.54	129.34	4,689.67	-166.17	294.15	-149.65	0.00	0.00	0.00	0.00
4,800.00	4.54	129.34	4,789.35	-171.19	300.27	-154.14	0.00	0.00	0.00	0.00
4,900.00	4.54	129.34	4,889.04	-176.20	306.39	-158.62	0.00	0.00	0.00	0.00
5,000.00	4.54	129.34	4,988.73	-181.21	312.50	-163.11	0.00	0.00	0.00	0.00
5,100.00	4.54	129.34	5,088.42	-186.22	318.62	-167.59	0.00	0.00	0.00	0.00
5,200.00	4.54	129.34	5,188.10	-191.24	324.74	-172.08	0.00	0.00	0.00	0.00
5,300.00	4.54	129.34	5,287.79	-196.25	330.85	-176.56	0.00	0.00	0.00	0.00
5,400.00	4.54	129.34	5,387.48	-201.26	336.97	-181.05	0.00	0.00	0.00	0.00
5,500.00	4.54	129.34	5,487.16	-206.28	343.09	-185.53	0.00	0.00	0.00	0.00
5,600.00	4.54	129.34	5,586.85	-211.29	349.20	-190.02	0.00	0.00	0.00	0.00
5,700.00	4.54	129.34	5,686.54	-216.30	355.32	-194.50	0.00	0.00	0.00	0.00
5,800.00	4.54	129.34	5,786.22	-221.31	361.44	-198.99	0.00	0.00	0.00	0.00
5,900.00	4.54	129.34	5,885.91	-226.33	367.55	-203.47	0.00	0.00	0.00	0.00
6,000.00	4.54	129.34	5,985.60	-231.34	373.67	-207.96	0.00	0.00	0.00	0.00
6,100.00	4.54	129.34	6,085.28	-236.35	379.79	-212.44	0.00	0.00	0.00	0.00
6,200.00	4.54	129.34	6,184.97	-241.37	385.90	-216.93	0.00	0.00	0.00	0.00
6,300.00	4.54	129.34	6,284.66	-246.38	392.02	-221.41	0.00	0.00	0.00	0.00
6,400.00	4.54	129.34	6,384.34	-251.39	398.14	-225.90	0.00	0.00	0.00	0.00
6,500.00	4.54	129.34	6,484.03	-256.40	404.25	-230.38	0.00	0.00	0.00	0.00
6,600.00	4.54	129.34	6,583.72	-261.42	410.37	-234.87	0.00	0.00	0.00	0.00
6,660.55	4.54	129.34	6,644.08	-264.45	414.08	-237.58	0.00	0.00	0.00	0.00
Begin Build @ 6660.55ft										
6,700.00	3.73	73.31	6,683.44	-265.07	416.51	-238.00	10.00	-2.03	-142.01	-128.29
6,800.00	11.68	18.47	6,782.55	-254.51	422.86	-226.94	10.00	7.95	-54.84	-72.39
6,900.00	21.42	10.09	6,878.31	-226.86	429.28	-198.86	10.00	9.74	-8.39	-17.86
7,000.00	31.31	6.83	6,967.80	-182.98	435.58	-154.60	10.00	9.90	-3.26	-9.79
Build Rate = 10.00/100ft										
7,100.00	41.26	5.03	7,048.31	-124.18	441.57	-95.51	10.00	9.94	-1.80	-6.86
7,100.92	41.35	5.01	7,049.00	-123.57	441.63	-94.90	10.00	9.96	-1.42	-5.40
Sharon Springs										
7,189.92	50.22	3.93	7,111.00	-60.05	446.55	-31.18	10.00	9.96	-1.22	-5.39
Niobrara A										
7,200.00	51.22	3.83	7,117.39	-52.26	447.08	-23.38	10.00	9.97	-1.04	-4.63
7,241.17	55.33	3.43	7,142.00	-19.34	449.16	9.61	10.00	9.97	-0.97	-4.57
Niobrara B										
7,300.00	61.19	2.92	7,172.94	30.60	451.92	59.59	10.00	9.97	-0.86	-4.33
7,400.00	71.17	2.18	7,213.27	121.87	455.96	150.89	10.00	9.98	-0.74	-4.06
7,471.10	78.26	1.70	7,232.00	190.37	458.28	219.35	10.00	9.98	-0.67	-3.76
Niobrara C										
7,500.00	81.15	1.52	7,237.16	218.80	459.08	247.74	10.00	9.98	-0.64	-3.64
7,589.58	90.09	0.96	7,244.00	308.00	461.00	336.79	10.00	9.98	-0.63	-3.60
End Build @ 7589.58ft - Niobrara C TL (Heel) - 7" Intermediate Casing - Russian Fiddler 14N-18HZ_Casing Point										
7,600.00	90.09	0.96	7,243.98	318.42	461.17	347.19	0.00	0.00	0.00	-3.56
7,700.00	90.09	0.96	7,243.83	418.41	462.84	446.96	0.00	0.00	0.00	0.00
7,800.00	90.09	0.96	7,243.67	518.39	464.51	546.74	0.00	0.00	0.00	0.00
7,900.00	90.09	0.96	7,243.52	618.38	466.18	646.52	0.00	0.00	0.00	0.00
8,000.00	90.09	0.96	7,243.36	718.36	467.85	746.29	0.00	0.00	0.00	0.00
8,100.00	90.09	0.96	7,243.21	818.35	469.52	846.07	0.00	0.00	0.00	0.00
8,200.00	90.09	0.96	7,243.05	918.34	471.18	945.85	0.00	0.00	0.00	0.00
8,300.00	90.09	0.96	7,242.90	1,018.32	472.85	1,045.62	0.00	0.00	0.00	0.00
8,400.00	90.09	0.96	7,242.74	1,118.31	474.52	1,145.40	0.00	0.00	0.00	0.00
8,500.00	90.09	0.96	7,242.59	1,218.29	476.19	1,245.18	0.00	0.00	0.00	0.00
8,600.00	90.09	0.96	7,242.43	1,318.28	477.86	1,344.95	0.00	0.00	0.00	0.00
8,700.00	90.09	0.96	7,242.28	1,418.27	479.53	1,444.73	0.00	0.00	0.00	0.00
8,800.00	90.09	0.96	7,242.12	1,518.25	481.19	1,544.51	0.00	0.00	0.00	0.00
8,900.00	90.09	0.96	7,241.96	1,618.24	482.86	1,644.28	0.00	0.00	0.00	0.00
9,000.00	90.09	0.96	7,241.81	1,718.22	484.53	1,744.06	0.00	0.00	0.00	0.00

Plan Report for Russian Fiddler 14N-18HZ - 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 (°)
9,100.00	90.09	0.96	7,241.65	1,818.21	486.20	1,843.84	0.00	0.00	0.00	0.00
9,200.00	90.09	0.96	7,241.50	1,918.20	487.87	1,943.61	0.00	0.00	0.00	0.00
9,300.00	90.09	0.96	7,241.34	2,018.18	489.54	2,043.39	0.00	0.00	0.00	0.00
9,400.00	90.09	0.96	7,241.19	2,118.17	491.20	2,143.17	0.00	0.00	0.00	0.00
9,500.00	90.09	0.96	7,241.03	2,218.15	492.87	2,242.94	0.00	0.00	0.00	0.00
9,600.00	90.09	0.96	7,240.88	2,318.14	494.54	2,342.72	0.00	0.00	0.00	0.00
9,700.00	90.09	0.96	7,240.72	2,418.13	496.21	2,442.50	0.00	0.00	0.00	0.00
9,800.00	90.09	0.96	7,240.57	2,518.11	497.88	2,542.27	0.00	0.00	0.00	0.00
9,900.00	90.09	0.96	7,240.41	2,618.10	499.55	2,642.05	0.00	0.00	0.00	0.00
10,000.00	90.09	0.96	7,240.26	2,718.08	501.22	2,741.83	0.00	0.00	0.00	0.00
Hold Angle @ 90.09										
10,100.00	90.09	0.96	7,240.10	2,818.07	502.88	2,841.60	0.00	0.00	0.00	0.00
10,200.00	90.09	0.96	7,239.95	2,918.06	504.55	2,941.38	0.00	0.00	0.00	0.00
10,300.00	90.09	0.96	7,239.79	3,018.04	506.22	3,041.16	0.00	0.00	0.00	0.00
10,400.00	90.09	0.96	7,239.64	3,118.03	507.89	3,140.93	0.00	0.00	0.00	0.00
10,500.00	90.09	0.96	7,239.48	3,218.01	509.56	3,240.71	0.00	0.00	0.00	0.00
10,600.00	90.09	0.96	7,239.32	3,318.00	511.23	3,340.48	0.00	0.00	0.00	0.00
10,700.00	90.09	0.96	7,239.17	3,417.99	512.89	3,440.26	0.00	0.00	0.00	0.00
10,800.00	90.09	0.96	7,239.01	3,517.97	514.56	3,540.04	0.00	0.00	0.00	0.00
10,900.00	90.09	0.96	7,238.86	3,617.96	516.23	3,639.81	0.00	0.00	0.00	0.00
11,000.00	90.09	0.96	7,238.70	3,717.94	517.90	3,739.59	0.00	0.00	0.00	0.00
11,100.00	90.09	0.96	7,238.55	3,817.93	519.57	3,839.37	0.00	0.00	0.00	0.00
11,200.00	90.09	0.96	7,238.39	3,917.92	521.24	3,939.14	0.00	0.00	0.00	0.00
11,300.00	90.09	0.96	7,238.24	4,017.90	522.90	4,038.92	0.00	0.00	0.00	0.00
11,400.00	90.09	0.96	7,238.08	4,117.89	524.57	4,138.70	0.00	0.00	0.00	0.00
11,500.00	90.09	0.96	7,237.93	4,217.87	526.24	4,238.47	0.00	0.00	0.00	0.00
11,600.00	90.09	0.96	7,237.77	4,317.86	527.91	4,338.25	0.00	0.00	0.00	0.00
11,700.00	90.09	0.96	7,237.62	4,417.85	529.58	4,438.03	0.00	0.00	0.00	0.00
11,800.00	90.09	0.96	7,237.46	4,517.83	531.25	4,537.80	0.00	0.00	0.00	0.00
11,900.00	90.09	0.96	7,237.31	4,617.82	532.91	4,637.58	0.00	0.00	0.00	0.00
12,000.00	90.09	0.96	7,237.15	4,717.80	534.58	4,737.36	0.00	0.00	0.00	0.00
12,100.00	90.09	0.96	7,236.99	4,817.79	536.25	4,837.13	0.00	0.00	0.00	0.00
12,200.00	90.09	0.96	7,236.84	4,917.78	537.92	4,936.91	0.00	0.00	0.00	0.00
12,300.00	90.09	0.96	7,236.68	5,017.76	539.59	5,036.69	0.00	0.00	0.00	0.00
12,400.00	90.09	0.96	7,236.53	5,117.75	541.26	5,136.46	0.00	0.00	0.00	0.00
12,500.00	90.09	0.96	7,236.37	5,217.73	542.93	5,236.24	0.00	0.00	0.00	0.00
12,600.00	90.09	0.96	7,236.22	5,317.72	544.59	5,336.02	0.00	0.00	0.00	0.00
12,700.00	90.09	0.96	7,236.06	5,417.70	546.26	5,435.79	0.00	0.00	0.00	0.00
12,740.52	90.09	0.96	7,236.00	5,458.22	546.94	5,476.22	0.00	0.00	0.00	0.00
Total Depth @ 12740.52ft - Niobrara C TL (Toe) - Russian Fiddler 14N-18HZ_BHL										

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
0.00	0.00	1.09	90.06	Tie-On to Surface @ 0.00ft
600.00	600.00	1.09	90.06	Hold Angle @ 0.00
1,250.00	1,250.00	1.09	90.06	Begin Nudge @ 1250.00ft
1,300.00	1,300.00	0.81	90.40	Nudge Rate = 2.00/100ft
1,476.80	1,476.56	-4.60	97.00	End Nudge @ 1476.80ft
4,000.00	3,991.86	-131.08	251.34	Hold Angle @ 4.54
6,660.55	6,644.08	-264.45	414.08	Begin Build @ 6660.55ft
7,000.00	6,967.80	-182.98	435.58	Build Rate = 10.00/100ft
7,589.58	7,244.00	308.00	461.00	End Build @ 7589.58ft
10,000.00	7,240.26	2,718.08	501.22	Hold Angle @ 90.09
12,740.52	7,236.00	5,458.22	546.94	Total Depth @ 12740.52ft

Plan Report for Russian Fiddler 14N-18HZ - Plan A Rev 0 Permit

Vertical Section Information

Angle Type	Target	Azimuth (°)	Origin Type	Origin +N/_S (ft)	Origin +E/-W (ft)	Start TVD (ft)
Target	Russian Fiddler 14N-18HZ_BHL	4.79	Slot	1.09	90.06	7,236.00

Survey tool program

From (ft)	To (ft)	Survey/Plan	Survey Tool
0.00	12,740.52	Plan A Rev 0 Permit	MWD

Casing Details

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
7,589.58	7,244.00	7" Intermediate Casing	7	8-3/4

Formation Details

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
4,068.35	4,060.00	Parkman		0.00	
4,598.01	4,588.00	Sussex		0.00	
7,100.92	7,049.00	Sharon Springs		0.00	
7,189.92	7,111.00	Niobrara A		0.00	
7,241.17	7,142.00	Niobrara B		0.00	
7,471.10	7,232.00	Niobrara C		0.00	
7,589.58	7,244.00	Niobrara C TL (Heel)		0.00	
12,740.52	7,236.00	Niobrara C TL (Toe)		0.00	

Targets associated with this wellbore

Target Name	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Shape
Russian Fiddler 14N-18HZ_Casing Point	7,244.00	308.00	461.00	Point
Russian Fiddler 14N-18HZ_BHL	7,236.00	5,458.22	546.94	Point
Russian Fiddler 14N-18HZ_SHL	0.00	1.09	90.06	Point
Russian Fiddler 14N-18HZ_Setback Lines	0.00	1.09	90.06	Polygon
Russian Fiddler 14N-18HZ_Section Lines	0.00	1.09	90.06	Polygon

North Reference Sheet for Sec. 19-T2N-65W - Russian Fiddler 14N-18HZ - 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=17ft @ 5017.00ft (Drilling Rig). Northing and Easting are relative to Sec. 19-T2N-65W
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: 3,000,000.000644ft, False Northing: 1,000,000.001308ft, Scale Reduction: 0.99995954

Grid Coordinates of Well: 1,286,629.757847 ft N, 3,220,604.580400 ft E
Geographical Coordinates of Well: 40° 07' 02.99" N, 104° 42' 40.28" W
Grid Convergence at Surface is: 0.51°

Based upon Minimum Curvature type calculations, at a Measured Depth of 12,740.52ft
the Bottom Hole Displacement is 5,476.22ft in the Direction of 4.79° (True).

Magnetic Convergence at surface is: -8.16° (21 June 2012, , BGGM2011)

