

Project: Weld County, CO (NAD 83)
Site: Sec. 18-T1N-R65W
Well: PETTINGER 4C-18HZ
Wellbore: Plan A0
Design: Plan A0 - PERMIT



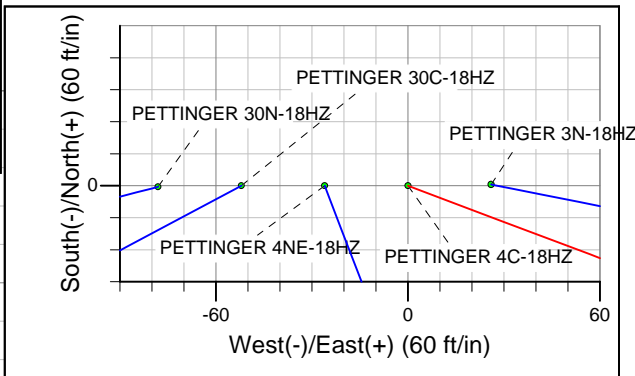
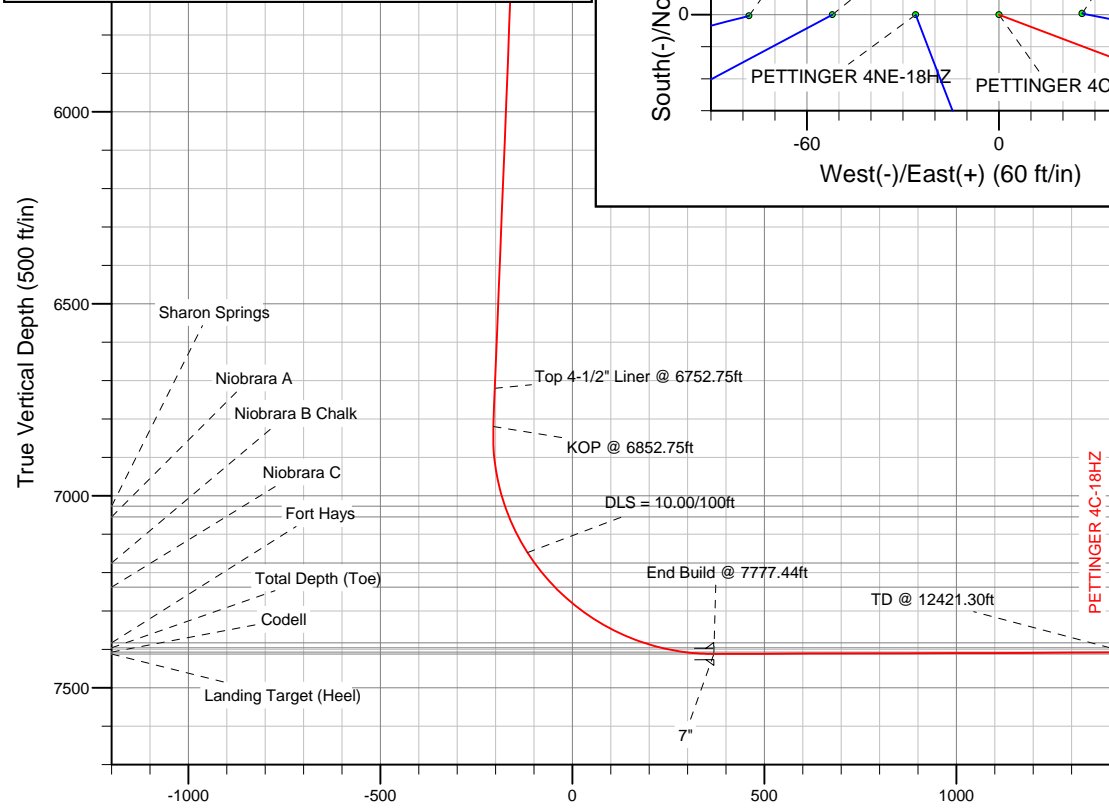
SECTION DETAILS

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	1500.00	0.00	0.00	1500.00	0.00	0.00	0.00	0.00	0.00	
3	1825.11	6.50	110.65	1824.41	-6.50	17.24	2.00	110.65	-6.45	
4	6852.75	6.50	110.65	6819.72	-207.30	549.99	0.00	0.00	-205.76	
5	7777.44	90.20	0.16	7412.00	367.00	615.00	10.00	-110.35	368.72	PETTINGER 4C-18HZ_tgt
6	12421.30	90.20	0.16	7396.00	5010.81	627.59	0.00	0.00	5012.55	PETTINGER 4C-18HZ_BHL

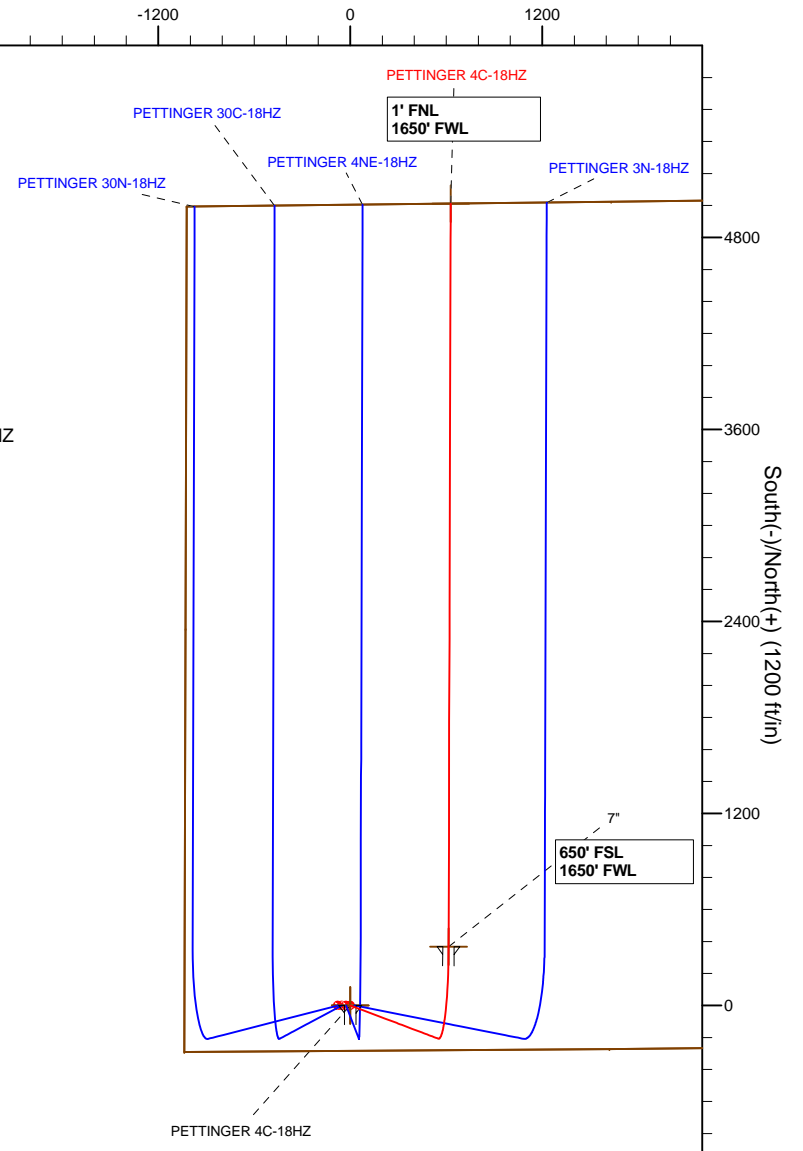
WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
PETTINGER 4C-18HZ_Sec	0.00	0.00	0.00	40.044890	-104.712341	Polygon
PETTINGER 4C-18HZ_SHL	0.00	0.00	0.00	40.044890	-104.712341	Point
PETTINGER 4C-18HZ_BHL	7396.00	5010.81	627.59	40.058645	-104.710099	Point
PETTINGER 4C-18HZ_tgt	7412.00	367.00	615.00	40.045897	-104.710144	Point

MD	TVD	
6752.75	6720.36	Top 4-1/2" Liner @ 6752.75ft
6852.75	6819.71	KOP @ 6852.75ft



West(-)/East(+) (1200 ft/in)



WELL DETAILS: PETTINGER 4C-18HZ	
Ground Level:	5007.00
RKB = 17 @ 5024.00ft (Drilling Rig)	
Plan:	Plan A0 - PERMIT (PETTINGER 4C-18HZ/Plan A0)
Created By:	Fred Hartmann
Date:	07/22/2013

Anadarko Petroleum Corp.

Weld County, CO (NAD 83)

Sec. 18-T1N-R65W

PETTINGER 4C-18HZ

Plan A0

Plan: Plan A0 - PERMIT

Sperry Drilling Services

Proposal Report

22 July, 2013

Well Coordinates: 1,260,178.50 N, 3,220,517.35 E (40° 02' 41.60" N, 104° 42' 44.43" W)

Ground Level: 5,007.00 ft

Local Coordinate Origin: Centered on Well PETTINGER 4C-18HZ

Viewing Datum: RKB = 17 @ 5024.00ft (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

Plan Report for PETTINGER 4C-18HZ - Plan A0 - 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
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
1,180.00	0.00	0.00	1,180.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9 5/8"										
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
Begin Nudge @ 1500.00ft										
1,600.00	2.00	110.65	1,599.98	-0.62	1.63	-0.61	2.00	2.00	0.00	110.65
1,700.00	4.00	110.65	1,699.84	-2.46	6.53	-2.44	2.00	2.00	0.00	0.00
1,800.00	6.00	110.65	1,799.45	-5.53	14.69	-5.49	2.00	2.00	0.00	0.00
1,825.11	6.50	110.65	1,824.41	-6.50	17.24	-6.45	2.00	2.00	0.00	0.00
End Nudge @ 1825.11ft										
1,900.00	6.50	110.65	1,898.82	-9.49	25.18	-9.42	0.00	0.00	0.00	0.00
2,000.00	6.50	110.65	1,998.18	-13.48	35.78	-13.38	0.00	0.00	0.00	0.00
2,100.00	6.50	110.65	2,097.53	-17.48	46.37	-17.35	0.00	0.00	0.00	0.00
2,200.00	6.50	110.65	2,196.89	-21.47	56.97	-21.31	0.00	0.00	0.00	0.00
2,300.00	6.50	110.65	2,296.25	-25.47	67.56	-25.28	0.00	0.00	0.00	0.00
2,400.00	6.50	110.65	2,395.60	-29.46	78.16	-29.24	0.00	0.00	0.00	0.00
2,500.00	6.50	110.65	2,494.96	-33.45	88.76	-33.21	0.00	0.00	0.00	0.00
2,600.00	6.50	110.65	2,594.32	-37.45	99.35	-37.17	0.00	0.00	0.00	0.00
2,700.00	6.50	110.65	2,693.67	-41.44	109.95	-41.13	0.00	0.00	0.00	0.00
2,800.00	6.50	110.65	2,793.03	-45.43	120.55	-45.10	0.00	0.00	0.00	0.00
2,900.00	6.50	110.65	2,892.39	-49.43	131.14	-49.06	0.00	0.00	0.00	0.00
3,000.00	6.50	110.65	2,991.75	-53.42	141.74	-53.03	0.00	0.00	0.00	0.00
3,100.00	6.50	110.65	3,091.10	-57.42	152.34	-56.99	0.00	0.00	0.00	0.00
3,200.00	6.50	110.65	3,190.46	-61.41	162.93	-60.96	0.00	0.00	0.00	0.00
3,300.00	6.50	110.65	3,289.82	-65.40	173.53	-64.92	0.00	0.00	0.00	0.00
3,400.00	6.50	110.65	3,389.17	-69.40	184.12	-68.88	0.00	0.00	0.00	0.00
3,500.00	6.50	110.65	3,488.53	-73.39	194.72	-72.85	0.00	0.00	0.00	0.00
3,600.00	6.50	110.65	3,587.89	-77.39	205.32	-76.81	0.00	0.00	0.00	0.00
3,700.00	6.50	110.65	3,687.24	-81.38	215.91	-80.78	0.00	0.00	0.00	0.00
3,800.00	6.50	110.65	3,786.60	-85.37	226.51	-84.74	0.00	0.00	0.00	0.00
3,900.00	6.50	110.65	3,885.96	-89.37	237.11	-88.70	0.00	0.00	0.00	0.00
4,000.00	6.50	110.65	3,985.31	-93.36	247.70	-92.67	0.00	0.00	0.00	0.00
4,100.00	6.50	110.65	4,084.67	-97.36	258.30	-96.63	0.00	0.00	0.00	0.00
4,188.90	6.50	110.65	4,173.00	-100.91	267.72	-100.16	0.00	0.00	0.00	0.00
Parkman										
4,200.00	6.50	110.65	4,184.03	-101.35	268.90	-100.60	0.00	0.00	0.00	0.00
4,300.00	6.50	110.65	4,283.38	-105.34	279.49	-104.56	0.00	0.00	0.00	0.00
4,400.00	6.50	110.65	4,382.74	-109.34	290.09	-108.53	0.00	0.00	0.00	0.00
4,500.00	6.50	110.65	4,482.10	-113.33	300.69	-112.49	0.00	0.00	0.00	0.00
4,569.35	6.50	110.65	4,551.00	-116.10	308.03	-115.24	0.00	0.00	0.00	0.00
Sussex										
4,600.00	6.50	110.65	4,581.45	-117.32	311.28	-116.45	0.00	0.00	0.00	0.00
4,700.00	6.50	110.65	4,680.81	-121.32	321.88	-120.42	0.00	0.00	0.00	0.00
4,800.00	6.50	110.65	4,780.17	-125.31	332.47	-124.38	0.00	0.00	0.00	0.00

Plan Report for PETTINGER 4C-18HZ - Plan A0 - 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 (°)
4,900.00	6.50	110.65	4,879.52	-129.31	343.07	-128.35	0.00	0.00	0.00	0.00
5,000.00	6.50	110.65	4,978.88	-133.30	353.67	-132.31	0.00	0.00	0.00	0.00
5,100.00	6.50	110.65	5,078.24	-137.29	364.26	-136.28	0.00	0.00	0.00	0.00
5,200.00	6.50	110.65	5,177.59	-141.29	374.86	-140.24	0.00	0.00	0.00	0.00
5,300.00	6.50	110.65	5,276.95	-145.28	385.46	-144.20	0.00	0.00	0.00	0.00
5,400.00	6.50	110.65	5,376.31	-149.28	396.05	-148.17	0.00	0.00	0.00	0.00
5,500.00	6.50	110.65	5,475.66	-153.27	406.65	-152.13	0.00	0.00	0.00	0.00
5,600.00	6.50	110.65	5,575.02	-157.26	417.25	-156.10	0.00	0.00	0.00	0.00
5,700.00	6.50	110.65	5,674.38	-161.26	427.84	-160.06	0.00	0.00	0.00	0.00
5,800.00	6.50	110.65	5,773.73	-165.25	438.44	-164.03	0.00	0.00	0.00	0.00
5,900.00	6.50	110.65	5,873.09	-169.24	449.03	-167.99	0.00	0.00	0.00	0.00
6,000.00	6.50	110.65	5,972.45	-173.24	459.63	-171.95	0.00	0.00	0.00	0.00
6,100.00	6.50	110.65	6,071.80	-177.23	470.23	-175.92	0.00	0.00	0.00	0.00
6,200.00	6.50	110.65	6,171.16	-181.23	480.82	-179.88	0.00	0.00	0.00	0.00
6,300.00	6.50	110.65	6,270.52	-185.22	491.42	-183.85	0.00	0.00	0.00	0.00
6,400.00	6.50	110.65	6,369.88	-189.21	502.02	-187.81	0.00	0.00	0.00	0.00
6,500.00	6.50	110.65	6,469.23	-193.21	512.61	-191.78	0.00	0.00	0.00	0.00
6,600.00	6.50	110.65	6,568.59	-197.20	523.21	-195.74	0.00	0.00	0.00	0.00
6,700.00	6.50	110.65	6,667.95	-201.20	533.81	-199.70	0.00	0.00	0.00	0.00
6,752.75	6.50	110.65	6,720.36	-203.30	539.40	-201.79	0.00	0.00	0.00	0.00
Top 4-1/2" Liner @ 6752.75ft										
6,800.00	6.50	110.65	6,767.30	-205.19	544.40	-203.67	0.00	0.00	0.00	0.00
6,852.75	6.50	110.65	6,819.71	-207.30	549.99	-205.76	0.00	0.00	0.00	0.00
KOP @ 6852.75ft										
6,900.00	6.57	68.19	6,866.68	-207.24	555.01	-205.68	10.00	0.14	-89.86	-110.35
7,000.00	13.84	25.85	6,965.15	-194.31	565.56	-192.73	10.00	7.28	-42.34	-68.14
7,064.64	19.84	17.39	7,027.00	-176.86	572.22	-175.26	10.00	9.28	-13.09	-26.34
Sharon Springs										
7,094.69	22.71	14.95	7,055.00	-166.39	575.24	-164.78	10.00	9.56	-8.10	-18.23
Niobrara A										
7,100.00	23.23	14.58	7,059.89	-164.39	575.77	-162.78	10.00	9.62	-6.97	-15.96
7,200.00	32.96	9.65	7,148.01	-118.37	585.32	-116.73	10.00	9.73	-4.93	-15.62
DLS = 10.00/100ft										
7,232.78	36.18	8.57	7,175.00	-100.01	588.26	-98.36	10.00	9.82	-3.30	-11.25
Niobrara B Chalk										
7,300.00	42.81	6.80	7,226.85	-57.66	593.92	-56.00	10.00	9.86	-2.64	-10.36
7,315.39	44.33	6.45	7,238.00	-47.12	595.15	-45.46	10.00	9.88	-2.24	-8.99
Niobrara C										
7,400.00	52.70	4.84	7,294.00	15.90	601.32	17.58	10.00	9.90	-1.90	-8.74
7,500.00	62.62	3.35	7,347.42	100.07	607.28	101.77	10.00	9.92	-1.50	-7.67
7,591.85	71.75	2.19	7,383.00	184.54	611.34	186.25	10.00	9.93	-1.25	-6.87
Fort Hays										
7,600.00	72.56	2.10	7,385.50	192.30	611.63	194.01	10.00	9.94	-1.17	-6.42
7,699.46	82.44	0.99	7,407.00	289.25	614.23	290.96	10.00	9.94	-1.12	-6.39
Codell										
7,700.00	82.50	0.98	7,407.07	289.78	614.24	291.49	10.00	9.94	-1.08	-6.15
7,777.44	90.20	0.16	7,412.00	367.00	615.00	368.72	10.00	9.94	-1.07	-6.15
End Build @ 7777.44ft - Landing Target (Heel) - 7" - PETTINGER 4C-18HZ_tgt										
7,800.00	90.20	0.16	7,411.92	389.56	615.06	391.28	0.00	0.00	0.00	-6.09
7,900.00	90.20	0.16	7,411.58	489.56	615.33	491.27	0.00	0.00	0.00	0.00
8,000.00	90.20	0.16	7,411.23	589.56	615.60	591.27	0.00	0.00	0.00	0.00
8,100.00	90.20	0.16	7,410.89	689.56	615.87	691.27	0.00	0.00	0.00	0.00
8,200.00	90.20	0.16	7,410.54	789.56	616.15	791.27	0.00	0.00	0.00	0.00
8,300.00	90.20	0.16	7,410.20	889.55	616.42	891.27	0.00	0.00	0.00	0.00
8,400.00	90.20	0.16	7,409.86	989.55	616.69	991.27	0.00	0.00	0.00	0.00
8,500.00	90.20	0.16	7,409.51	1,089.55	616.96	1,091.27	0.00	0.00	0.00	0.00
8,600.00	90.20	0.16	7,409.17	1,189.55	617.23	1,191.27	0.00	0.00	0.00	0.00
8,700.00	90.20	0.16	7,408.82	1,289.55	617.50	1,291.27	0.00	0.00	0.00	0.00

Plan Report for PETTINGER 4C-18HZ - Plan A0 - 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 (°)
8,800.00	90.20	0.16	7,408.48	1,389.55	617.77	1,391.27	0.00	0.00	0.00	0.00
8,900.00	90.20	0.16	7,408.13	1,489.55	618.04	1,491.27	0.00	0.00	0.00	0.00
9,000.00	90.20	0.16	7,407.79	1,589.55	618.31	1,591.27	0.00	0.00	0.00	0.00
9,100.00	90.20	0.16	7,407.44	1,689.55	618.58	1,691.27	0.00	0.00	0.00	0.00
9,200.00	90.20	0.16	7,407.10	1,789.55	618.86	1,791.27	0.00	0.00	0.00	0.00
9,300.00	90.20	0.16	7,406.75	1,889.54	619.13	1,891.27	0.00	0.00	0.00	0.00
9,400.00	90.20	0.16	7,406.41	1,989.54	619.40	1,991.27	0.00	0.00	0.00	0.00
9,500.00	90.20	0.16	7,406.07	2,089.54	619.67	2,091.27	0.00	0.00	0.00	0.00
9,600.00	90.20	0.16	7,405.72	2,189.54	619.94	2,191.26	0.00	0.00	0.00	0.00
9,700.00	90.20	0.16	7,405.38	2,289.54	620.21	2,291.26	0.00	0.00	0.00	0.00
9,800.00	90.20	0.16	7,405.03	2,389.54	620.48	2,391.26	0.00	0.00	0.00	0.00
9,900.00	90.20	0.16	7,404.69	2,489.54	620.75	2,491.26	0.00	0.00	0.00	0.00
10,000.00	90.20	0.16	7,404.34	2,589.54	621.02	2,591.26	0.00	0.00	0.00	0.00
10,100.00	90.20	0.16	7,404.00	2,689.54	621.30	2,691.26	0.00	0.00	0.00	0.00
10,200.00	90.20	0.16	7,403.65	2,789.54	621.57	2,791.26	0.00	0.00	0.00	0.00
10,300.00	90.20	0.16	7,403.31	2,889.54	621.84	2,891.26	0.00	0.00	0.00	0.00
10,400.00	90.20	0.16	7,402.96	2,989.53	622.11	2,991.26	0.00	0.00	0.00	0.00
10,500.00	90.20	0.16	7,402.62	3,089.53	622.38	3,091.26	0.00	0.00	0.00	0.00
10,600.00	90.20	0.16	7,402.28	3,189.53	622.65	3,191.26	0.00	0.00	0.00	0.00
10,700.00	90.20	0.16	7,401.93	3,289.53	622.92	3,291.26	0.00	0.00	0.00	0.00
10,800.00	90.20	0.16	7,401.59	3,389.53	623.19	3,391.26	0.00	0.00	0.00	0.00
10,900.00	90.20	0.16	7,401.24	3,489.53	623.46	3,491.26	0.00	0.00	0.00	0.00
11,000.00	90.20	0.16	7,400.90	3,589.53	623.73	3,591.26	0.00	0.00	0.00	0.00
11,100.00	90.20	0.16	7,400.55	3,689.53	624.01	3,691.26	0.00	0.00	0.00	0.00
11,200.00	90.20	0.16	7,400.21	3,789.53	624.28	3,791.25	0.00	0.00	0.00	0.00
11,300.00	90.20	0.16	7,399.86	3,889.53	624.55	3,891.25	0.00	0.00	0.00	0.00
11,400.00	90.20	0.16	7,399.52	3,989.52	624.82	3,991.25	0.00	0.00	0.00	0.00
11,500.00	90.20	0.16	7,399.17	4,089.52	625.09	4,091.25	0.00	0.00	0.00	0.00
11,600.00	90.20	0.16	7,398.83	4,189.52	625.36	4,191.25	0.00	0.00	0.00	0.00
11,700.00	90.20	0.16	7,398.49	4,289.52	625.63	4,291.25	0.00	0.00	0.00	0.00
11,800.00	90.20	0.16	7,398.14	4,389.52	625.90	4,391.25	0.00	0.00	0.00	0.00
11,900.00	90.20	0.16	7,397.80	4,489.52	626.17	4,491.25	0.00	0.00	0.00	0.00
12,000.00	90.20	0.16	7,397.45	4,589.52	626.45	4,591.25	0.00	0.00	0.00	0.00
12,100.00	90.20	0.16	7,397.11	4,689.52	626.72	4,691.25	0.00	0.00	0.00	0.00
12,200.00	90.20	0.16	7,396.76	4,789.52	626.99	4,791.25	0.00	0.00	0.00	0.00
12,300.00	90.20	0.16	7,396.42	4,889.52	627.26	4,891.25	0.00	0.00	0.00	0.00
12,400.00	90.20	0.16	7,396.07	4,989.51	627.53	4,991.25	0.00	0.00	0.00	0.00
12,421.30	90.20	0.16	7,396.00	5,010.81	627.59	5,012.55	0.00	0.00	0.00	0.00

TD @ 12421.30ft - Total Depth (Toe) - PETTINGER 4C-18HZ_BHL

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
1,500.00	1,500.00	0.00	0.00	Begin Nudge @ 1500.00ft
1,825.11	1,824.41	-6.50	17.24	End Nudge @ 1825.11ft
6,752.75	6,720.36	-203.30	539.40	Top 4-1/2" Liner @ 6752.75ft
6,852.75	6,819.71	-207.30	549.99	KOP @ 6852.75ft
7,200.00	7,148.01	-118.37	585.32	DLS = 10.00/100ft
7,777.44	7,412.00	367.00	615.00	End Build @ 7777.44ft
12,421.30	7,396.00	5,010.81	627.59	TD @ 12421.30ft

Plan Report for PETTINGER 4C-18HZ - Plan A0 - PERMIT

Vertical Section Information

Angle Type	Target	Azimuth (°)	Origin Type	Origin +N/_S (ft)	Origin +E/-W (ft)	Start TVD (ft)
User	No Target (Freehand)	0.16	Slot	0.00	0.00	0.00

Survey tool program

From (ft)	To (ft)	Survey/Plan	Survey Tool
0.00	12,421.30	Plan A0 - PERMIT	MWD

Casing Details

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
1,180.00	1,180.00	9 5/8"	9-5/8	13-1/2
7,777.44	7,412.00	7"	7	8-3/4

Formation Details

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
4,188.90	4,173.00	Parkman		0.00	
4,569.35	4,551.00	Sussex		0.00	
7,064.64	7,027.00	Sharon Springs		0.00	
7,094.69	7,055.00	Niobrara A		0.00	
7,232.78	7,175.00	Niobrara B Chalk		0.00	
7,315.39	7,238.00	Niobrara C		0.00	
7,591.85	7,383.00	Fort Hays		0.00	
7,699.46	7,407.00	Codell		0.00	
7,777.44	7,412.00	Landing Target (Heel)		0.00	
12,421.30	7,396.00	Total Depth (Toe)		0.00	

Targets associated with this wellbore

Target Name	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Shape
PETTINGER 4C-18HZ_BHL	7,396.00	5,010.81	627.59	Point
PETTINGER 4C-18HZ_tgt	7,412.00	367.00	615.00	Point
PETTINGER 4C-18HZ_SHL	0.00	0.00	0.00	Point
PETTINGER 4C-18HZ_Sec	0.00	0.00	0.00	Polygon

North Reference Sheet for Sec. 18-T1N-R65W - PETTINGER 4C-18HZ - Plan A0

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 @ 5024.00ft (Drilling Rig). Northing and Easting are relative to PETTINGER 4C-18HZ

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: 0.99996327

Grid Coordinates of Well: 1,260,178.50 ft N, 3,220,517.35 ft E

Geographical Coordinates of Well: 40° 02' 41.60" N, 104° 42' 44.43" W

Grid Convergence at Surface is: 0.51°

Based upon Minimum Curvature type calculations, at a Measured Depth of 12,421.30ft
the Bottom Hole Displacement is 5,049.96ft in the Direction of 7.14° (True).

Magnetic Convergence at surface is: -8.04° (22 July 2013, , BGGM2013)

