

01785930

**BAKER
HUGHES**

INTEQ

Anadarko
Petroleum Corporation**ANADARKO PETROLEUM**

Location: COLORADO

Slot: Slot# 09 NYGREN 21-19 (2059' FNL & 803' FWL)

Field: WELD COUNTY (ANADARKO)

Well: NYGREN 21-19

Facility: SEC.19-T4N-R67W

Wellbore: NYGREN 21-19 PWB

Plot reference wellpath is NYGREN 21-19 Rev-B.0

True vertical depths are referenced to Xtreme 8 (RT)

Measured depths are referenced to Xtreme 8 (RT)

Xtreme 8 (RT) to Mean Sea Level: 4977 feet

Mean Sea Level to Mud line (Facility: SEC.19-T4N-R67W): 0 feet

Coordinates are in feet referenced to Slot

Grid System: NAD83 / Lambert Colorado State Planes, Northern Zone (501), US feet

North Reference: True north

Scale: True distance

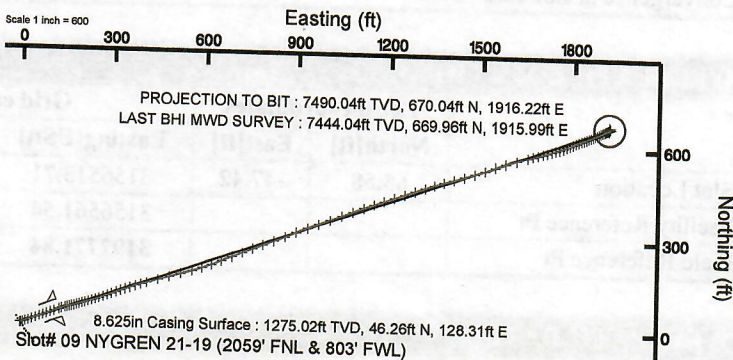
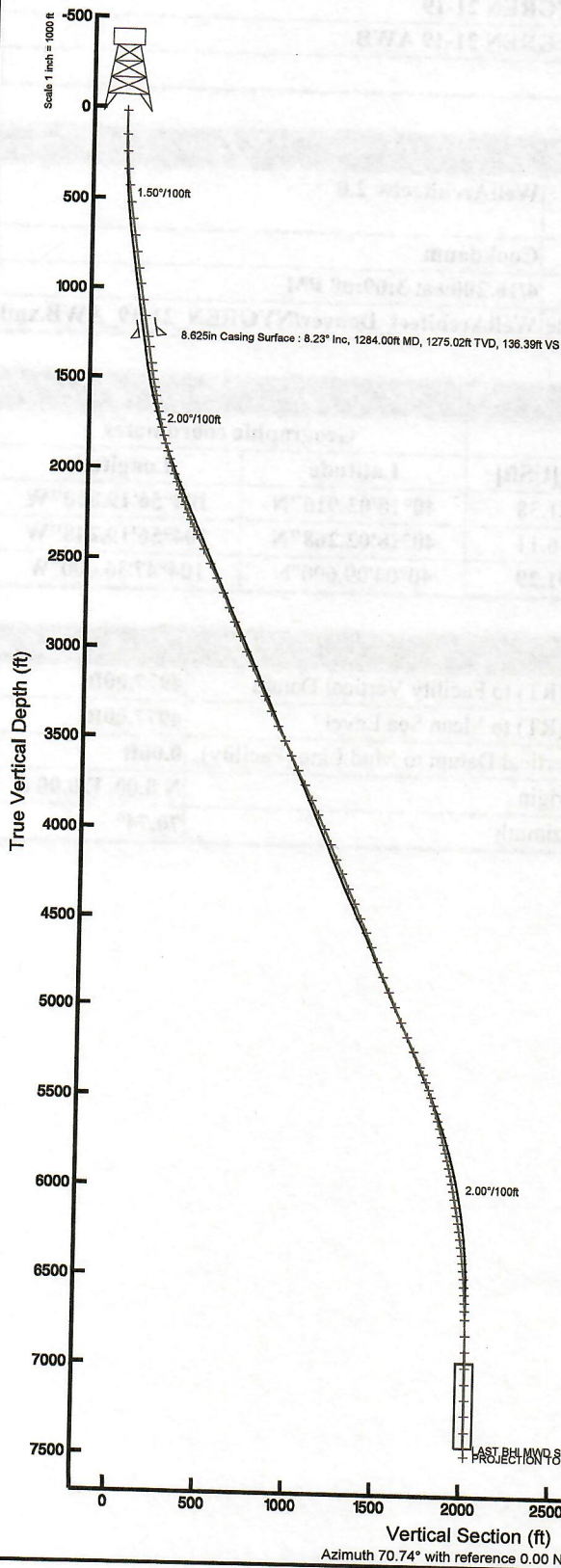
Depths are in feet

Created by: cookdamm on 4/16/2009

123-29330

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JUN 11 2009

COGCC

BGM (1945.0 to 2010.0) Dip: 67.04° Field: 53327.4 nT
Magnetic North is 9.21 degrees East of True North (at 3/26/2009)

To correct azimuth from Magnetic to True add 9.21 degrees
For example: if the Magnetic North Azimuth = 90 degs, then the Grid North Azimuth = 90 + 9.21 = 99.21

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REPORT SETUP INFORMATION

Projection System	NAD83 / Lambert Colorado State Planes, Northern Zone (501), US feet	Software System	WellArchitect® 2.0
North Reference	True	User	Cookdanm
Scale	0.999957	Report Generated	4/16/2009 at 3:09:00 PM
Convergence at slot	0.36° East	Database/Source file	WellArchitect_Denver/NYGREN_21-19_AWB.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[USft]	Northing[USft]	Latitude	Longitude
Slot Location	65.58	-47.42	3156513.71	1352921.38	40°18'02.916"N	104°56'19.860"W
Facility Reference Pt			3156561.54	1352856.11	40°18'02.268"N	104°56'19.248"W
Field Reference Pt			3197771.84	1268891.29	40°04'09.600"N	104°47'36.000"W

WELLPATH DATUM

Calculation method	Minimum curvature	Xtreme 8 (RT) to Facility Vertical Datum	4977.00ft
Horizontal Reference Pt	Slot	Xtreme 8 (RT) to Mean Sea Level	4977.00ft
Vertical Reference Pt	Xtreme 8 (RT)	Facility Vertical Datum to Mud Line (Facility)	0.00ft
MD Reference Pt	Xtreme 8 (RT)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	70.74°

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WELLPATH DATA (115 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	DLS [°/100ft]	Comments
0.00†	0.000	78.500	0.00	0.00	0.00	0.00	0.00	
20.00	0.000	78.500	20.00	0.00	0.00	0.00	0.00	
152.00	0.800	78.500	152.00	0.91	0.18	0.90	0.61	
245.00	2.400	77.800	244.96	3.49	0.72	3.44	1.72	
340.00	4.400	77.100	339.78	9.09	1.96	8.94	2.11	
432.00	6.100	68.600	431.40	17.48	4.53	16.93	2.03	
525.00	7.400	69.300	523.75	28.40	8.45	27.13	1.40	
619.00	8.100	71.100	616.89	41.08	12.74	39.06	0.79	
712.00	8.200	67.900	708.95	54.25	17.35	51.41	0.50	
805.00	8.000	69.300	801.02	67.35	22.14	63.61	0.30	
894.00	8.000	70.400	889.16	79.73	26.40	75.23	0.17	
984.00	8.400	69.000	978.24	92.56	30.86	87.27	0.50	
1075.00	8.400	68.600	1068.26	105.85	35.67	99.66	0.06	
1166.00	8.500	70.000	1158.27	119.22	40.39	112.17	0.25	
1343.00	8.100	70.000	1333.42	144.77	49.13	136.18	0.23	
1432.00	8.300	72.800	1421.51	157.46	53.17	148.21	0.50	
1478.00	8.500	77.400	1467.02	164.15	54.90	154.70	1.52	
1523.00	9.200	77.100	1511.48	171.03	56.43	161.45	1.56	
1568.00	10.000	75.300	1555.85	178.50	58.22	168.74	1.90	
1613.00	10.600	74.300	1600.13	186.52	60.33	176.50	1.39	
1659.00	11.200	73.900	1645.30	195.21	62.72	184.87	1.31	
1702.00	11.700	74.300	1687.44	203.73	65.05	193.08	1.18	
1747.00	12.700	73.200	1731.42	213.23	67.72	202.21	2.28	
1791.00	13.700	72.800	1774.26	223.27	70.66	211.81	2.28	
1836.00	14.600	72.800	1817.89	234.26	73.91	222.32	2.00	
1881.00	15.400	72.500	1861.36	245.90	77.38	233.44	1.79	
1927.00	16.000	71.800	1905.64	258.34	81.20	245.29	1.37	
1970.00	17.100	70.400	1946.86	270.59	85.17	256.87	2.72	
2016.00	18.500	69.300	1990.66	284.65	90.02	270.07	3.13	
2059.00	19.600	69.000	2031.30	298.68	95.02	283.19	2.57	

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Area	COLORADO	Well	NYGREN 21-19
Field	WELD COUNTY (ANADARKO)	Wellbore	NYGREN 21-19 AWB
Facility	SEC.19-T4N-R67W		

WELLPATH DATA (115 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	DLS [°/100ft]	Comments
2105.00	20.300	69.300	2074.54	314.37	100.60	297.85	1.54	
2150.00	20.200	68.600	2116.76	329.94	106.20	312.39	0.58	
2195.00	20.600	69.700	2158.94	345.61	111.78	327.05	1.23	
2240.00	21.400	71.800	2200.95	361.74	117.09	342.27	2.44	
2284.00	22.800	71.800	2241.72	378.29	122.26	358.00	3.18	
2329.00	24.000	71.400	2283.01	396.16	127.90	374.95	2.69	
2373.00	25.200	73.200	2323.02	414.46	133.46	392.40	3.22	
2418.00	25.500	73.500	2363.69	433.71	138.98	410.86	0.73	
2509.00	25.500	73.200	2445.82	472.85	150.21	448.40	0.14	
2598.00	25.400	73.900	2526.19	511.05	161.04	485.07	0.36	
2687.00	25.800	74.300	2606.45	549.44	171.57	522.06	0.49	
2778.00	24.000	73.900	2688.99	587.68	182.07	558.91	1.99	
2865.00	21.500	71.400	2769.21	621.30	192.06	591.02	3.08	
2954.00	22.200	69.300	2851.82	654.41	203.20	622.21	1.18	
3044.00	22.800	66.500	2934.97	688.80	216.17	654.11	1.36	
3135.00	24.000	68.600	3018.49	724.88	229.95	687.51	1.61	
3225.00	23.600	67.200	3100.84	761.15	243.61	721.16	0.77	
3314.00	24.100	67.900	3182.24	797.08	257.35	754.42	0.65	
3403.00	23.400	69.300	3263.70	832.90	270.44	787.79	1.01	
3494.00	25.500	70.400	3346.53	870.56	283.40	823.15	2.36	
3584.00	26.700	66.900	3427.36	910.11	297.83	860.00	2.17	
3673.00	26.000	67.200	3507.11	949.53	313.23	896.38	0.80	
3764.00	25.300	70.400	3589.15	988.88	327.49	933.08	1.71	
3854.00	25.800	68.600	3670.35	1027.69	341.08	969.44	1.03	
3944.00	26.700	69.300	3751.07	1067.47	355.38	1006.59	1.06	
4035.00	26.000	69.000	3832.61	1107.85	369.75	1044.33	0.78	
4124.00	25.600	69.300	3912.74	1146.57	383.54	1080.53	0.47	
4213.00	24.400	69.300	3993.40	1184.17	396.83	1115.71	1.35	
4302.00	22.900	71.400	4074.92	1219.86	408.86	1149.33	1.93	
4392.00	22.000	70.400	4158.10	1254.23	420.10	1181.80	1.09	

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Field	WELD COUNTY (ANADARKO)	Wellbore	NYGREN 21-19 AWB
Facility	SEC.19-T4N-R67W		

WELLPATH DATA (115 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	DLS [°/100ft]	Comments
4481.00	23.400	70.400	4240.20	1288.57	431.62	1214.16	1.57	
4572.00	23.000	70.400	4323.85	1324.42	443.64	1247.93	0.44	
4662.00	23.600	71.800	4406.51	1360.02	455.17	1281.61	0.91	
4753.00	21.500	71.100	4490.54	1394.91	466.26	1314.69	2.33	
4844.00	21.300	72.100	4575.27	1428.11	476.74	1346.20	0.46	
4933.00	20.800	73.600	4658.33	1460.05	486.17	1376.74	0.83	
5023.00	21.500	74.600	4742.27	1492.47	495.06	1407.97	0.87	
5114.00	23.500	72.800	4826.34	1527.24	504.86	1441.38	2.32	
5204.00	23.200	71.400	4908.97	1562.90	515.82	1475.33	0.70	
5293.00	22.900	71.100	4990.86	1597.74	527.02	1508.32	0.36	
5384.00	22.900	69.300	5074.69	1633.15	539.01	1541.64	0.77	
5473.00	24.800	73.200	5156.09	1669.11	550.53	1575.71	2.77	
5562.00	24.400	74.600	5237.02	1706.10	560.81	1611.30	0.79	
5653.00	23.600	74.600	5320.15	1743.03	570.64	1646.98	0.88	
5698.00	23.200	74.600	5361.45	1760.86	575.38	1664.21	0.89	
5743.00	22.000	74.600	5402.99	1778.12	579.98	1680.89	2.67	
5789.00	20.100	73.900	5445.92	1794.61	584.46	1696.79	4.17	
5832.00	19.100	72.800	5486.43	1809.02	588.58	1710.61	2.48	
5878.00	18.500	72.500	5529.97	1823.83	593.01	1724.76	1.32	
5922.00	17.800	72.800	5571.78	1837.53	597.09	1737.84	1.61	
5967.00	16.900	73.200	5614.74	1850.94	601.02	1750.67	2.02	
6012.00	15.300	71.800	5657.97	1863.41	604.76	1762.58	3.66	
6058.00	14.900	67.900	5702.38	1875.39	608.88	1773.82	2.37	
6103.00	14.600	65.500	5745.90	1886.81	613.41	1784.34	1.51	
6148.00	13.800	67.600	5789.52	1897.82	617.81	1794.47	2.11	
6194.00	13.200	67.900	5834.25	1908.54	621.88	1804.40	1.31	
6239.00	13.300	68.300	5878.06	1918.85	625.72	1813.97	0.30	
6283.00	12.200	70.000	5920.97	1928.55	629.18	1823.05	2.64	
6326.00	10.900	69.300	5963.10	1937.16	632.18	1831.12	3.04	
6370.00	10.200	68.600	6006.35	1945.21	635.07	1838.64	1.62	

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Field	WELD COUNTY (ANADARKO)	Wellbore	NYGREN 21-19 AWB
Facility	SEC.19-T4N-R67W		

WELLPATH DATA (115 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	DLS [°/100ft]	Comments
6415.00	10.100	69.700	6050.65	1953.14	637.89	1846.05	0.48	
6460.00	9.800	70.400	6094.97	1960.91	640.54	1853.36	0.72	
6506.00	9.400	68.300	6140.33	1968.58	643.25	1860.53	1.16	
6551.00	9.000	67.600	6184.75	1975.77	645.95	1867.20	0.92	
6595.00	8.800	64.100	6228.22	1982.55	648.73	1873.41	1.31	
6640.00	8.300	62.700	6272.72	1989.18	651.72	1879.40	1.20	
6685.00	7.100	66.200	6317.31	1995.17	654.33	1884.83	2.86	
6730.00	6.400	64.700	6362.00	2000.44	656.53	1889.64	1.60	
6775.00	5.800	65.800	6406.75	2005.20	658.53	1893.98	1.36	
6819.00	5.000	65.800	6450.55	2009.32	660.23	1897.76	1.82	
6864.00	4.200	65.800	6495.41	2012.92	661.71	1901.05	1.78	
6910.00	3.700	67.900	6541.30	2016.08	662.96	1903.96	1.13	
6955.00	3.300	68.600	6586.21	2018.82	663.98	1906.51	0.89	
7000.00	2.800	72.100	6631.15	2021.22	664.79	1908.76	1.19	
7045.00	2.200	70.700	6676.11	2023.18	665.41	1910.62	1.34	
7091.00	1.700	69.700	6722.08	2024.74	665.94	1912.10	1.09	
7181.00	0.900	52.500	6812.06	2026.75	666.83	1913.91	0.98	
7272.00	0.500	38.700	6903.05	2027.77	667.58	1914.73	0.47	
→ 7362.00	0.400	358.700	6993.05	2028.20	668.20	1914.96	0.36	
7452.00	0.400	352.300	7083.04	2028.36	668.82	1914.92	0.05	
7543.00	0.300	0.800	7174.04	2028.50	669.38	1914.88	0.12	
7633.00	0.200	61.900	7264.04	2028.74	669.68	1915.02	0.30	
7724.00	0.400	79.500	7355.04	2029.21	669.82	1915.47	0.24	
7813.00	0.300	69.700	7444.04	2029.75	669.96	1915.99	0.13	LAST BHI MWD SURVEY
7859.00†	0.300	69.700	7490.04	2029.99	670.04	1916.22	0.00	PROJECTION TO BIT

668, 1915

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HOLE & CASING SECTIONS Ref Wellbore: NYGREN 21-19 AWB Ref Wellpath: NYGREN 21-19 AWP

String/Diameter	Start MD [ft]	End MD [ft]	Interval [ft]	Start TVD [ft]	End TVD [ft]	Start N/S [ft]	Start E/W [ft]	End N/S [ft]	End E/W [ft]
8.625in Casing Surface	20.00	1284.00	1264.00	20.00	1275.02	0.00	0.00	46.26	128.31

TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	Shape
NYGREN 21-19 GEO TARGET 50' radius (1320' FNL & 2500' FEL)		6965.00	668.19	1912.64	3158422.00	1353601.63	40°18'09.518"N	104°55'55.174"W	circle
NYGREN 21-19 HARDLINE (126' W of GT)		6965.00	668.19	1786.64	3158296.00	1353600.83	40°18'09.518"N	104°55'56.800"W	point

WELLPATH COMPOSITION Ref Wellbore: NYGREN 21-19 AWB Ref Wellpath: NYGREN 21-19 AWP

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
20.00	984.00	MTC (Collar, post-2000) (Standard)	SURFACE BHI MWD <152-984>	NYGREN 21-19 AWB
984.00	7813.00	MTC (Collar, post-2000) (Standard)	PRODUCTION BHI MWD <1075-7813>	NYGREN 21-19 AWB
7813.00	7859.00	Blind Drilling (std)	Projection to bit	NYGREN 21-19 AWB



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Field	WELD COUNTY (ANADARKO)	Wellbore	NYGREN 21-19 AWB
Facility	SEC.19-T4N-R67W		

WELLPATH COMMENTS

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
7813.00	0.300	69.700	7444.04	LAST BHI MWD SURVEY
7859.00	0.300	69.700	7490.04	PROJECTION TO BIT