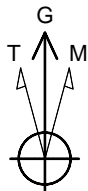


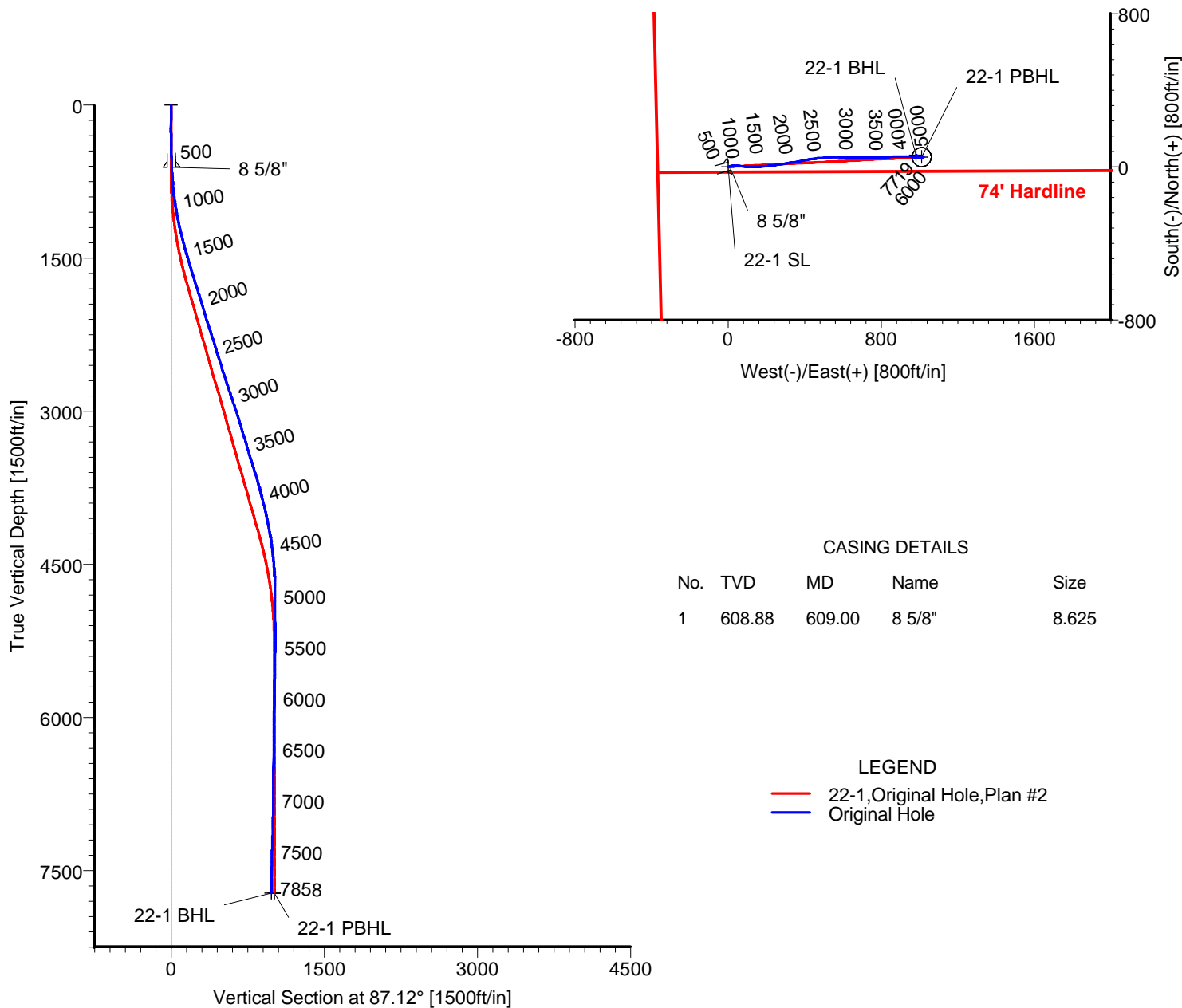
ANADARKO PETROLEUM

Field: Weld County, CO
Site: Shelton 22-1 Pad
Well: 22-1
Wellpath: Original Hole



Azimuths to Grid North
True North: -0.57°
Magnetic North: 8.17°

Magnetic Field
Strength: 53079nT
Dip Angle: 66.95°
Date: 09/30/2011
Model: IGRF2010



TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
22-1 SL	0.00	0.00	0.00	40°15'15.793N	104°37'10.088W	Point
22-1 BHL	7718.50	61.06	980.09	40°15'16.300N	104°36'57.439W	Point
22-1 PBHL	7722.00	50.84	1010.49	40°15'16.196N	104°36'57.049W	Circle (Radius: 50)

Wellpath: (22-1/Original Hole)

Created By: Ivonne Gonzalez

Date: 08/23/2011

ARCHER DIRECTIONAL DRILLING SERVICES
911 Regional Park Drive Houston, Texas 77060
Phone: 713-934-9600 Fax: 713-934-9067

Archer

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Survey Report

Company: ANADARKO PETROLEUM Field: Weld County, CO Site: Shelton 22-1 Pad Well: 22-1 Wellpath: Original Hole	Date: 08/23/2011 Co-ordinate(NE) Reference: Vertical (TVD) Reference: Section (VS) Reference: Survey Calculation Method:	Time: 09:03:14 Well: 22-1, Grid North 4831'GL+13'KB 4844.0 Well (0.00N,0.00E,87.12Azi) Minimum Curvature	Page: 1 Db: Adapti
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Field: Weld County, CO Map System: US State Plane Coordinate System 1983 Geo Datum: GRS 1980 Sys Datum: Mean Sea Level	Map Zone: Colorado, Northern Zone Coordinate System: Well Centre Geomagnetic Model: IGRF2010
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Site: Shelton 22-1 Pad Centered on 22-1 Site Position: From: Geographic Position Uncertainty: 0.00 ft Ground Level: 4831.00 ft	Northing: 1336737.66 ft Easting: 3245766.22 ft Latitude: 40 15 15.793 N Longitude: 104 37 10.088 W North Reference: Grid Grid Convergence: 0.57 deg
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Well: 22-1 Well Position: +N/-S 0.00 ft +E/-W 0.00 ft Position Uncertainty: 0.00 ft	Slot Name: 22-1 Well Position: +N/-S 0.00 ft +E/-W 0.00 ft Position Uncertainty: 0.00 ft
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Wellpath: Original Hole Current Datum: 4831'GL+13'KB Magnetic Data: 09/30/2011 Field Strength: 53079 nT Vertical Section: Depth From (TVD) ft	Drilled From: Surface Tie-on Depth: 0.00 ft Above System Datum: Mean Sea Level Declination: 8.74 deg Mag Dip Angle: 66.95 deg Direction: deg
--	---

Height 4844.00 ft +N/-S ft 0.00	+E/-W ft 0.00 87.12
--	---------------------------

Survey Program for Definitive Wellpath				
Date: 08/23/2011	Validated: No	Version: 0		
Actual From	To	Survey	Toolcode	Tool Name
50.00	7813.00	Survey #1 (50.00-7813.00)	MWD	Std MWD
7858.00	7858.00	Survey #2 (7858.00-7858.00)	Project	Projection

Survey										
MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	Tool/Comment
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	TIE LINE
50.00	0.40	157.50	50.00	-0.16	0.07	0.06	0.80	0.80	0.00	MWD
140.00	0.20	341.30	140.00	-0.30	0.14	0.12	0.67	-0.22	-195.78	MWD
230.00	0.20	244.60	230.00	-0.22	-0.06	-0.07	0.33	0.00	-107.44	MWD
320.00	1.20	67.80	319.99	0.07	0.68	0.68	1.56	1.11	-196.44	MWD
442.00	1.80	66.00	441.95	1.33	3.61	3.67	0.49	0.49	-1.48	MWD
533.00	1.60	66.00	532.91	2.43	6.07	6.19	0.22	-0.22	0.00	MWD
564.00	1.60	67.10	563.90	2.77	6.87	7.00	0.10	0.00	3.55	MWD
603.00	1.60	72.40	602.88	3.15	7.89	8.04	0.38	0.00	13.59	MWD
609.00	1.69	73.96	608.88	3.20	8.05	8.20	1.61	1.42	25.97	8 5/8"
696.00	3.00	86.10	695.81	3.71	11.55	11.73	1.61	1.51	13.96	MWD
786.00	5.10	81.50	785.58	4.46	17.86	18.06	2.36	2.33	-5.11	MWD
877.00	7.00	87.50	876.07	5.30	27.40	27.63	2.20	2.09	6.59	MWD
968.00	8.80	91.70	966.20	5.33	39.90	40.12	2.08	1.98	4.62	MWD
1058.00	10.60	94.90	1054.91	4.42	55.03	55.18	2.09	2.00	3.56	MWD
1149.00	12.00	97.30	1144.15	2.50	72.76	72.79	1.62	1.54	2.64	MWD
1240.00	13.40	93.80	1232.92	0.60	92.66	92.57	1.75	1.54	-3.85	MWD
1331.00	14.80	93.10	1321.17	-0.72	114.79	114.61	1.55	1.54	-0.77	MWD
1422.00	15.10	87.50	1409.10	-0.84	138.24	138.02	1.62	0.33	-6.15	MWD
1512.00	16.70	83.30	1495.66	1.19	162.79	162.65	2.19	1.78	-4.67	MWD
1603.00	16.90	86.40	1582.77	3.54	188.98	188.92	1.01	0.22	3.41	MWD
1694.00	16.70	82.60	1669.89	6.06	215.15	215.18	1.23	-0.22	-4.18	MWD

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Survey Report

Company: ANADARKO PETROLEUM	Date: 08/23/2011	Time: 09:03:14	Page: 2
Field: Weld County, CO	Co-ordinate(NE) Reference: Well: 22-1, Grid North		
Site: Shelton 22-1 Pad	Vertical (TVD) Reference: 4831'GL+13'KB 4844.0		
Well: 22-1	Section (VS) Reference: Well (0.00N,0.00E,87.12Azi)		
Wellpath: Original Hole	Survey Calculation Method: Minimum Curvature	Db: Adapti	

Survey

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	Tool/Comment
1785.00	17.60	83.60	1756.84	9.27	241.79	241.95	1.04	0.99	1.10	MWD
1875.00	17.80	84.00	1842.58	12.23	268.99	269.27	0.26	0.22	0.44	MWD
1966.00	17.10	82.60	1929.40	15.41	296.09	296.49	0.90	-0.77	-1.54	MWD
2057.00	17.10	77.60	2016.38	20.00	322.43	323.03	1.62	0.00	-5.49	MWD
2148.00	17.10	81.50	2103.36	24.85	348.73	349.54	1.26	0.00	4.29	MWD
2239.00	18.30	80.00	2190.05	29.31	376.03	377.03	1.41	1.32	-1.65	MWD
2330.00	17.40	79.40	2276.67	34.29	403.47	404.69	1.01	-0.99	-0.66	MWD
2421.00	17.10	80.50	2363.57	39.01	430.04	431.46	0.49	-0.33	1.21	MWD
2511.00	17.60	81.50	2449.48	43.20	456.55	458.15	0.65	0.56	1.11	MWD
2602.00	17.90	84.70	2536.15	46.53	484.08	485.81	1.12	0.33	3.52	MWD
2693.00	17.60	86.10	2622.82	48.75	511.73	513.54	0.57	-0.33	1.54	MWD
2784.00	18.10	89.20	2709.44	49.89	539.60	541.42	1.18	0.55	3.41	MWD
2874.00	18.80	91.40	2794.81	49.73	568.07	569.85	1.10	0.78	2.44	MWD
2965.00	18.10	91.00	2881.14	49.12	596.87	598.58	0.78	-0.77	-0.44	MWD
3056.00	18.80	90.00	2967.46	48.88	625.66	627.33	0.84	0.77	-1.10	MWD
3147.00	17.80	89.60	3053.85	48.97	654.24	655.87	1.11	-1.10	-0.44	MWD
3238.00	16.90	89.20	3140.71	49.25	681.37	682.99	1.00	-0.99	-0.44	MWD
3329.00	16.90	92.10	3227.79	48.95	707.82	709.38	0.93	0.00	3.19	MWD
3420.00	16.20	90.00	3315.02	48.47	733.73	735.24	1.01	-0.77	-2.31	MWD
3510.00	16.40	90.70	3401.40	48.31	758.99	760.46	0.31	0.22	0.78	MWD
3601.00	17.80	88.99	3488.37	48.40	785.74	787.18	1.63	1.54	-1.88	MWD
3692.00	17.10	88.90	3575.19	48.91	813.02	814.45	0.77	-0.77	-0.10	MWD
3783.00	16.70	86.10	3662.26	50.05	839.45	840.90	1.00	-0.44	-3.08	MWD
3873.00	15.70	84.30	3748.68	52.14	864.47	865.99	1.24	-1.11	-2.00	MWD
3964.00	13.50	86.10	3836.74	54.09	887.32	888.91	2.47	-2.42	1.98	MWD
4055.00	13.50	94.00	3925.23	54.07	908.51	910.08	2.03	0.00	8.68	MWD
4146.00	13.40	92.40	4013.74	52.88	929.64	931.13	0.42	-0.11	-1.76	MWD
4237.00	11.30	92.10	4102.63	52.12	949.09	950.51	2.31	-2.31	-0.33	MWD
4328.00	10.40	92.40	4192.00	51.45	966.21	967.57	0.99	-0.99	0.33	MWD
4418.00	8.10	92.40	4280.82	50.84	980.66	981.98	2.56	-2.56	0.00	MWD
4509.00	7.00	91.40	4371.03	50.44	992.61	993.89	1.22	-1.21	-1.10	MWD
4600.00	5.60	87.50	4461.48	50.49	1002.59	1003.86	1.61	-1.54	-4.29	MWD
4691.00	3.90	87.80	4552.16	50.81	1010.12	1011.39	1.87	-1.87	0.33	MWD
4782.00	1.80	78.30	4643.05	51.22	1014.61	1015.90	2.36	-2.31	-10.44	MWD
4872.00	0.50	78.30	4733.03	51.58	1016.38	1017.69	1.44	-1.44	0.00	MWD
4963.00	0.20	277.30	4824.03	51.68	1016.61	1017.92	0.76	-0.33	-176.92	MWD
5054.00	0.70	66.00	4915.02	51.93	1016.96	1018.28	0.96	0.55	163.41	MWD
5235.00	0.50	98.00	5096.01	52.27	1018.75	1020.09	0.21	-0.11	17.68	MWD
5417.00	0.20	301.90	5278.01	52.33	1019.27	1020.61	0.38	-0.16	-85.77	MWD
5599.00	1.10	267.10	5460.00	52.41	1017.25	1018.60	0.52	0.49	-19.12	MWD
5780.00	1.40	297.40	5640.96	53.34	1013.56	1014.96	0.39	0.17	16.74	MWD
5962.00	0.90	261.90	5822.92	54.16	1010.17	1011.61	0.47	-0.27	-19.51	MWD
6143.00	1.10	267.80	6003.90	53.89	1007.02	1008.46	0.12	0.11	3.26	MWD
6324.00	0.20	190.80	6184.88	53.51	1005.23	1006.65	0.59	-0.50	-42.54	MWD
6506.00	0.90	299.10	6366.88	53.90	1003.92	1005.36	0.54	0.38	59.51	MWD
6687.00	0.90	171.50	6547.87	53.18	1002.89	1004.29	0.89	0.00	-70.50	MWD
6869.00	0.50	260.10	6729.86	51.63	1002.32	1003.64	0.56	-0.22	48.68	MWD
7050.00	1.40	291.70	6910.83	52.31	999.48	1000.85	0.56	0.50	17.46	MWD
7232.00	1.20	272.80	7092.78	53.23	995.51	996.93	0.26	-0.11	-10.38	MWD
7413.00	2.80	287.90	7273.67	54.68	989.41	990.91	0.92	0.88	8.34	MWD
7595.00	1.20	315.30	7455.56	57.40	983.84	985.48	1.00	-0.88	15.05	MWD
7813.00	1.10	313.50	7673.51	60.46	980.72	982.52	0.05	-0.05	-0.83	MWD
7858.00	1.10	313.50	7718.50	61.06	980.09	981.92	0.00	0.00	0.00	22-1 BHL

ARCHER

Survey Report

Company: ANADARKO PETROLEUM Field: Weld County, CO Site: Shelton 22-1 Pad Well: 22-1 Wellpath: Original Hole	Date: 08/23/2011 Time: 09:03:14 Page: 3 Co-ordinate(NE) Reference: Well: 22-1, Grid North Vertical (TVD) Reference: 4831'GL+13'KB 4844.0 Section (VS) Reference: Well (0.00N,0.00E,87.12Azi) Survey Calculation Method: Minimum Curvature Db: Adapti
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Targets

Name	Description		TVD ft	+N/-S ft	+E/-W ft	Map Northing ft	Map Easting ft	<---- Latitude ---->			<--- Longitude --->		
	Dip.	Dir.						Deg	Min	Sec	Deg	Min	Sec
22-1 SL			0.00	0.00	0.00	1336737.66	3245766.22	40	15	15.793 N	104	37	10.088 W
22-1 BHL			7718.50	61.06	980.09	1336798.72	3246746.31	40	15	16.300 N	104	36	57.439 W
22-1 PBHL			7722.00	50.84	1010.49	1336788.50	3246776.72	40	15	16.196 N	104	36	57.049 W
-Circle (Radius: 50)													

Casing Points

MD ft	TVD ft	Diameter in	Hole Size in	Name
609.00	608.88	8.625	9.875	8 5/8"