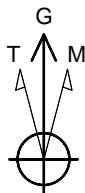


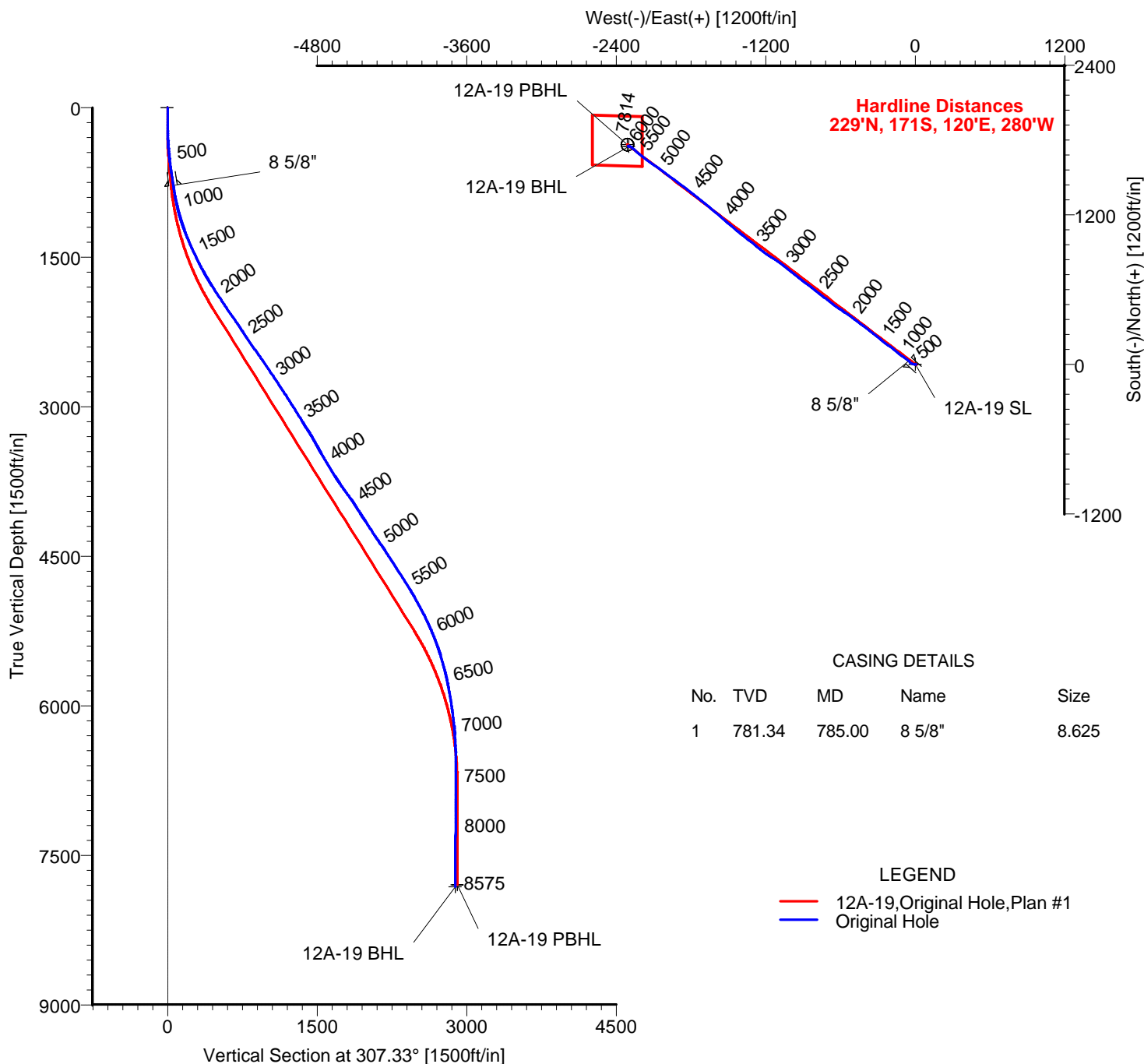
ANADARKO PETROLEUM

Field: Weld County, CO
Site: Sekich 15-19 Pad
Well: 12A-19
Wellpath: Original Hole



Azimuths to Grid North
True North: -0.37°
Magnetic North: 8.59°

Magnetic Field
Strength: 53069nT
Dip Angle: 66.87°
Date: 04/10/2011
Model: IGRF2010



TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
12A-19 SL	0.00	0.00	0.00	40°12'18.025N	104°55'51.407W	Point
12A-19 PBHL	7795.00	1762.69	-2311.34	40°12'35.589N	104°56'21.053W	Circle (Radius: 50)
12A-19 BHL	7814.27	1747.68	-2299.09	40°12'35.440N	104°56'20.896W	Point

Wellpath: (12A-19/Original Hole)

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

Created By: Ivonne Gonzalez

Date: 04/11/2011



**DIRECTIONAL
DRILLING SERVICES**

Allis-Chalmers Energy, Inc.

Survey Report

Company: ANADARKO PETROLEUM Field: Weld County, CO Site: Sekich 15-19 Pad Well: 12A-19 Wellpath: Original Hole	Date: 04/11/2011 Co-ordinate(NE) Reference: Vertical (TVD) Reference: Section (VS) Reference: Survey Calculation Method:	Time: 08:55:40 Well: 12A-19, Grid North 4907'GL+15'KB 4922.0 Well (0.00N,0.00E,307.33Azi) 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: Sekich 15-19 Pad Site Position: From: Geographic Position Uncertainty: 0.00 ft Ground Level: 4907.00 ft	Northing: 1318022.72 ft Easting: 3158960.06 ft Latitude: 40 12 17.863 N Longitude: 104 55 51.258 W North Reference: Grid Grid Convergence: 0.37 deg
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Well: 12A-19 Well Position: +N/-S 16.28 ft +E/-W -11.63 ft Position Uncertainty: 0.00 ft	Slot Name: 12A-19 Well Position: +N/-S 16.28 ft +E/-W -11.63 ft Position Uncertainty: 0.00 ft
--	---

Wellpath: Original Hole Current Datum: 4907'GL+15'KB Magnetic Data: 04/10/2011 Field Strength: 53069 nT Vertical Section: Depth From (TVD) ft	Drilled From: Surface Tie-on Depth: 0.00 ft Above System Datum: Mean Sea Level Declination: 8.96 deg Mag Dip Angle: 66.87 deg +N/-S ft +E/-W ft Direction deg
0.00	0.00

Survey Program for Definitive Wellpath				
Date: 04/11/2011	Validated: No	Version: 0		
Actual From ft	To ft	Survey	Toolcode	Tool Name
49.00	8530.00	Survey #1 (49.00-8530.00)	MWD	Std MWD
8575.00	8575.00	Survey #2 (8575.00-8575.00)	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
49.00	1.10	6.90	49.00	0.47	0.06	0.24	2.24	2.24	0.00	MWD
140.00	0.50	311.00	139.99	1.59	-0.14	1.08	1.01	-0.66	-61.43	MWD
229.00	1.60	244.20	228.97	1.31	-1.55	2.03	1.66	1.24	-75.06	MWD
319.00	3.50	266.30	318.88	0.58	-5.42	4.67	2.34	2.11	24.56	MWD
426.00	5.60	280.00	425.54	1.28	-13.82	11.77	2.20	1.96	12.80	MWD
517.00	7.20	293.00	515.98	4.28	-23.45	21.24	2.36	1.76	14.29	MWD
608.00	7.90	303.60	606.19	9.97	-33.91	33.01	1.71	0.77	11.65	MWD
698.00	8.40	311.70	695.29	17.77	-43.97	45.73	1.39	0.56	9.00	MWD
744.00	8.60	311.00	740.78	22.26	-49.07	52.52	0.49	0.43	-1.52	MWD
785.00	8.31	311.68	781.34	26.24	-53.60	58.53	0.76	-0.71	1.67	8 5/8"
786.00	8.30	311.70	782.33	26.33	-53.70	58.67	0.76	-0.71	1.72	MWD
877.00	10.00	308.90	872.16	35.67	-64.76	73.12	1.93	1.87	-3.08	MWD
967.00	12.10	310.60	960.49	46.71	-78.00	90.35	2.36	2.33	1.89	MWD
1058.00	14.60	305.30	1049.03	59.55	-94.61	111.34	3.06	2.75	-5.82	MWD
1149.00	17.80	303.60	1136.40	73.88	-115.56	136.69	3.55	3.52	-1.87	MWD
1240.00	20.60	308.90	1222.34	91.63	-139.61	166.58	3.62	3.08	5.82	MWD
1331.00	22.50	308.50	1306.98	112.53	-165.70	199.99	2.09	2.09	-0.44	MWD
1421.00	24.10	307.10	1389.63	134.33	-193.83	235.59	1.88	1.78	-1.56	MWD
1512.00	25.20	306.00	1472.34	156.93	-224.33	273.54	1.31	1.21	-1.21	MWD
1603.00	26.60	308.20	1554.20	180.92	-256.01	313.28	1.87	1.54	2.42	MWD
1694.00	28.30	309.60	1634.95	207.27	-288.65	355.21	2.00	1.87	1.54	MWD

Allis-Chalmers Energy, Inc.

Survey Report

Company: ANADARKO PETROLEUM
Field: Weld County, CO
Site: Sekich 15-19 Pad
Well: 12A-19
Wellpath: Original Hole

Date: 04/11/2011	Time: 08:55:40	Page: 2
Co-ordinate(NE) Reference:	Well: 12A-19, Grid North	
Vertical (TVD) Reference:	4907'GL+15'KB 4922.0	
Section (VS) Reference:	Well (0.00N,0.00E,307.33Azi)	
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	30.80	308.50	1714.11	235.52	-323.50	400.06	2.81	2.75	-1.21	MWD
1875.00	33.10	308.90	1790.47	265.30	-360.67	447.67	2.57	2.56	0.44	MWD
1966.00	33.30	307.10	1866.62	295.98	-399.93	497.49	1.11	0.22	-1.98	MWD
2057.00	33.60	305.70	1942.55	325.74	-440.30	547.64	0.91	0.33	-1.54	MWD
2148.00	34.70	306.70	2017.86	355.91	-481.52	598.71	1.36	1.21	1.10	MWD
2238.00	34.70	305.30	2091.85	386.03	-522.97	649.93	0.89	0.00	-1.56	MWD
2329.00	34.50	305.70	2166.75	416.03	-565.04	701.58	0.33	-0.22	0.44	MWD
2420.00	33.10	304.30	2242.37	445.08	-606.49	752.15	1.76	-1.54	-1.54	MWD
2511.00	34.50	305.00	2317.99	473.86	-648.13	802.72	1.60	1.54	0.77	MWD
2602.00	34.50	308.20	2392.99	504.58	-689.50	854.24	1.99	0.00	3.52	MWD
2693.00	35.20	309.20	2467.67	537.10	-730.08	906.23	0.99	0.77	1.10	MWD
2784.00	34.50	307.40	2542.35	569.33	-770.88	958.21	1.37	-0.77	-1.98	MWD
2875.00	34.30	306.70	2617.44	600.31	-811.91	1009.62	0.49	-0.22	-0.77	MWD
2965.00	34.10	307.10	2691.88	630.68	-852.36	1060.21	0.33	-0.22	0.44	MWD
3056.00	32.70	307.10	2767.85	660.89	-892.32	1110.30	1.54	-1.54	0.00	MWD
3147.00	33.60	309.20	2844.04	691.64	-931.44	1160.05	1.60	0.99	2.31	MWD
3238.00	32.90	308.50	2920.14	722.94	-970.29	1209.93	0.88	-0.77	-0.77	MWD
3328.00	32.20	308.50	2996.00	753.08	-1008.19	1258.34	0.78	-0.78	0.00	MWD
3419.00	31.70	306.70	3073.22	782.46	-1046.33	1306.49	1.18	-0.55	-1.98	MWD
3510.00	31.10	305.70	3150.89	810.47	-1084.59	1353.89	0.87	-0.66	-1.10	MWD
3601.00	33.40	304.60	3227.85	838.41	-1124.30	1402.41	2.61	2.53	-1.21	MWD
3691.00	30.60	303.60	3304.16	865.16	-1163.78	1450.02	3.17	-3.11	-1.11	MWD
3782.00	28.30	303.60	3383.40	889.92	-1201.04	1494.66	2.53	-2.53	0.00	MWD
3873.00	30.10	308.90	3462.85	916.19	-1236.77	1539.01	3.46	1.98	5.82	MWD
3964.00	31.00	310.60	3541.21	945.77	-1272.33	1585.22	1.37	0.99	1.87	MWD
4054.00	31.30	308.50	3618.24	975.41	-1308.22	1631.73	1.25	0.33	-2.33	MWD
4145.00	31.80	306.40	3695.79	1004.35	-1346.02	1679.34	1.33	0.55	-2.31	MWD
4236.00	35.00	308.90	3771.76	1034.98	-1385.64	1729.42	3.83	3.52	2.75	MWD
4327.00	36.10	311.00	3845.80	1068.96	-1426.19	1782.26	1.81	1.21	2.31	MWD
4418.00	35.50	310.30	3919.60	1103.63	-1466.57	1835.40	0.80	-0.66	-0.77	MWD
4509.00	33.30	308.50	3994.69	1136.28	-1506.28	1886.77	2.66	-2.42	-1.98	MWD
4599.00	31.50	309.20	4070.67	1166.52	-1543.84	1934.98	2.04	-2.00	0.78	MWD
4690.00	34.10	311.30	4147.16	1198.39	-1581.43	1984.20	3.12	2.86	2.31	MWD
4781.00	32.90	309.60	4223.04	1230.98	-1619.64	2034.34	1.67	-1.32	-1.87	MWD
4871.00	33.40	310.60	4298.40	1262.68	-1657.29	2083.50	0.82	0.56	1.11	MWD
4962.00	35.20	310.30	4373.57	1295.95	-1696.31	2134.70	1.99	1.98	-0.33	MWD
5053.00	33.30	309.20	4448.78	1328.70	-1735.67	2185.87	2.20	-2.09	-1.21	MWD
5144.00	33.10	307.10	4524.93	1359.48	-1774.85	2235.68	1.28	-0.22	-2.31	MWD
5235.00	32.20	309.20	4601.56	1389.80	-1813.46	2284.76	1.59	-0.99	2.31	MWD
5325.00	32.90	307.00	4677.42	1419.66	-1851.57	2333.18	1.53	0.78	-2.44	MWD
5416.00	32.70	306.40	4753.91	1449.12	-1891.09	2382.47	0.42	-0.22	-0.66	MWD
5507.00	31.80	306.70	4830.87	1478.04	-1930.10	2431.02	1.00	-0.99	0.33	MWD
5598.00	29.70	306.70	4909.07	1505.85	-1967.40	2477.54	2.31	-2.31	0.00	MWD
5689.00	28.30	305.30	4988.66	1531.78	-2003.08	2521.65	1.71	-1.54	-1.54	MWD
5779.00	27.10	306.40	5068.35	1556.28	-2037.00	2563.47	1.45	-1.33	1.22	MWD
5870.00	25.50	305.30	5149.93	1579.90	-2069.67	2603.77	1.84	-1.76	-1.21	MWD
5961.00	23.40	305.30	5232.76	1601.66	-2100.41	2641.41	2.31	-2.31	0.00	MWD
6051.00	21.60	305.00	5315.91	1621.49	-2128.57	2675.82	2.00	-2.00	-0.33	MWD
6142.00	19.70	306.40	5401.06	1640.20	-2154.63	2707.90	2.16	-2.09	1.54	MWD
6233.00	16.90	307.40	5487.45	1657.34	-2177.49	2736.47	3.10	-3.08	1.10	MWD
6324.00	15.70	309.20	5574.79	1673.16	-2197.54	2762.00	1.43	-1.32	1.98	MWD
6415.00	14.10	311.00	5662.73	1688.21	-2215.45	2785.37	1.83	-1.76	1.98	MWD
6505.00	12.10	313.40	5750.38	1701.89	-2230.58	2805.69	2.30	-2.22	2.67	MWD

Allis-Chalmers Energy, Inc.

Survey Report

Company: ANADARKO PETROLEUM Field: Weld County, CO Site: Sekich 15-19 Pad Well: 12A-19 Wellpath: Original Hole	Date: 04/11/2011 Co-ordinate(NE) Reference: Well: 12A-19, Grid North Vertical (TVD) Reference: 4907'GL+15'KB 4922.0 Section (VS) Reference: Well (0.00N,0.00E,307.33Azi) Survey Calculation Method: Minimum Curvature Db: Adapti
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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
6596.00	10.60	306.70	5839.60	1713.45	-2244.22	2823.55	2.19	-1.65	-7.36	MWD
6687.00	9.30	306.40	5929.23	1722.81	-2256.85	2839.27	1.43	-1.43	-0.33	MWD
6778.00	8.10	306.00	6019.18	1730.94	-2267.96	2853.03	1.32	-1.32	-0.44	MWD
6869.00	6.70	312.40	6109.42	1738.29	-2277.06	2864.73	1.78	-1.54	7.03	MWD
6960.00	6.00	309.20	6199.86	1744.88	-2284.67	2874.77	0.86	-0.77	-3.52	MWD
7050.00	3.70	299.40	6289.54	1749.28	-2290.85	2882.35	2.71	-2.56	-10.89	MWD
7141.00	3.00	301.10	6380.38	1751.95	-2295.44	2887.62	0.78	-0.77	1.87	MWD
7232.00	1.10	277.60	6471.32	1753.29	-2298.35	2890.75	2.24	-2.09	-25.82	MWD
7323.00	0.50	208.30	6562.31	1753.06	-2299.40	2891.45	1.14	-0.66	-76.15	MWD
7414.00	0.50	236.80	6653.31	1752.49	-2299.92	2891.52	0.27	0.00	31.32	MWD
7504.00	0.50	246.60	6743.31	1752.12	-2300.61	2891.84	0.09	0.00	10.89	MWD
7595.00	0.50	249.40	6834.30	1751.82	-2301.35	2892.24	0.03	0.00	3.08	MWD
7686.00	0.70	242.40	6925.30	1751.43	-2302.21	2892.69	0.23	0.22	-7.69	MWD
7822.00	0.40	141.90	7061.29	1750.67	-2302.65	2892.58	0.64	-0.22	-73.90	MWD
7958.00	0.70	121.10	7197.29	1749.87	-2301.65	2891.30	0.26	0.22	-15.29	MWD
8095.00	0.50	121.80	7334.28	1749.12	-2300.43	2889.87	0.15	-0.15	0.51	MWD
8230.00	0.20	129.60	7469.28	1748.66	-2299.74	2889.05	0.22	-0.22	5.78	MWD
8367.00	0.20	160.80	7606.28	1748.28	-2299.48	2888.61	0.08	0.00	22.77	MWD
8503.00	0.20	140.80	7742.28	1747.87	-2299.25	2888.18	0.05	0.00	-14.71	MWD
8530.00	0.20	138.70	7769.28	1747.80	-2299.19	2888.09	0.03	0.00	-7.78	MWD
8555.73	0.20	138.70	7795.00	1747.73	-2299.13	2888.00	0.00	0.00	0.00	12A-19 PBHL
8575.00	0.20	138.70	7814.27	1747.68	-2299.09	2887.94	0.00	0.00	0.00	12A-19 BHL

Targets

Name	Description Dip.	Dir.	TVD ft	+N/-S ft	+E/-W ft	Map Northing ft	Map Easting ft	<--- Latitude --->			<--- Longitude --->		
12A-19 SL			0.00	0.00	0.00	1318039.00	3158948.43	40	12	18.025 N	104	55	51.407 W
12A-19 PBHL			7795.00	1762.69	-2311.34	1319801.68	3156637.09	40	12	35.589 N	104	56	21.053 W
-Circle (Radius: 50)													
12A-19 BHL			7814.27	1747.68	-2299.09	1319786.68	3156649.34	40	12	35.440 N	104	56	20.896 W

Casing Points

MD ft	TVD ft	Diameter in	Hole Size in	Name
785.00	781.34	8.625	9.875	8 5/8"