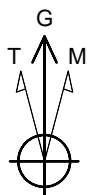


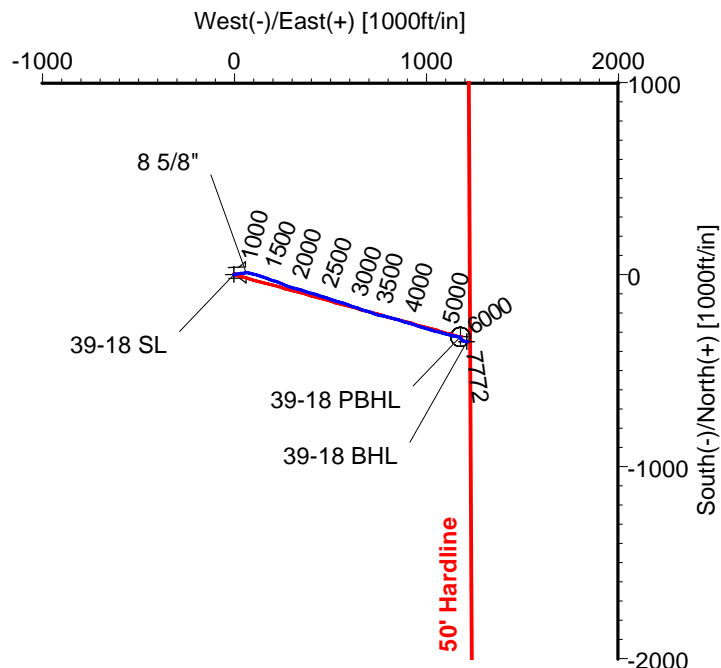
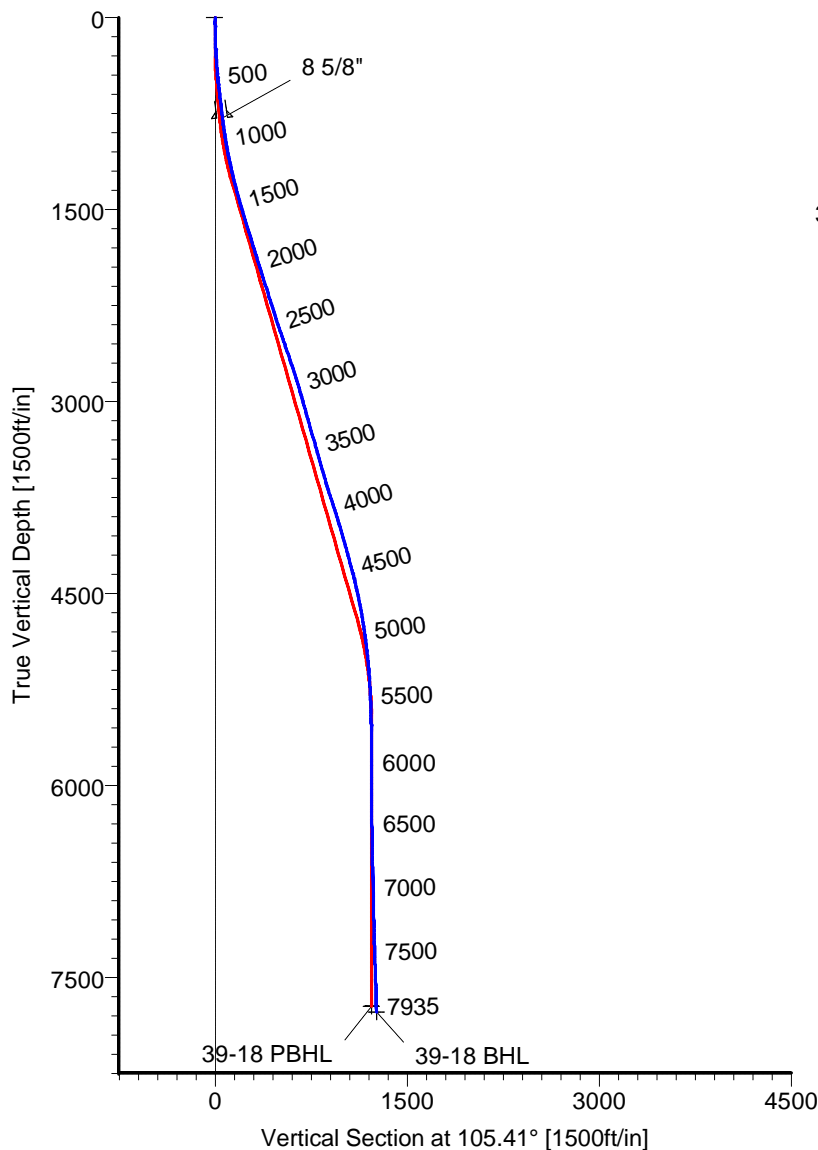
ANADARKO PETROLEUM

Field: Weld County, CO
Site: Sekich 20-18 Pad
Well: 39-18
Wellpath: Original Hole



Azimuths to Grid North
True North: -0.37°
Magnetic North: 8.60°

Magnetic Field
Strength: 53081nT
Dip Angle: 66.89°
Date: 04/02/2011
Model: IGRF2010



CASING DETAILS

No.	TVD	MD	Name	Size
1	783.62	787.00	8 5/8"	8.625

LEGEND

- 39-18, Original Hole, Plan #1
- Original Hole

TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
39-18 SL	0.00	0.00	0.00	40°13'23.199N	104°55'39.582W	Point
39-18 PBHL	7725.00	-324.56	1177.49	40°13'19.916N	104°55'24.429W	Circle (Radius: 50)
39-18 BHL	7772.49	-348.42	1211.20	40°13'19.678N	104°55'23.996W	Point

Wellpath: (39-18/Original Hole)

Created By: Ivonne Gonzalez

Date: 04/03/2011

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



DIRECTIONAL
DRILLING SERVICES

Allis-Chalmers Energy, Inc.

Survey Report

Company: ANADARKO PETROLEUM Field: Weld County, CO Site: Sekich 20-18 Pad Well: 39-18 Wellpath: Original Hole	Date: 04/03/2011 Co-ordinate(NE) Reference: Vertical (TVD) Reference: Section (VS) Reference: Survey Calculation Method:	Time: 09:14:20 Well: 39-18, Grid North 4865'GL+13'KB 4878.0 Well (0.00N,0.00E,105.41Azi) Minimum Curvature	Page: 1 Db: Sybase
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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

Site: Sekich 20-18 Pad Centered on 24-18 Site Position: From: Geographic Position Uncertainty: 0.00 ft Ground Level: 4865.00 ft	Northing: 1324641.38 ft Easting: 3159775.41 ft Latitude: 40 13 23.218 N Longitude: 104 55 40.199 W North Reference: Grid Grid Convergence: 0.37 deg
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Well: 39-18 Well Position: +N/-S -1.60 ft +E/-W 47.90 ft Position Uncertainty: 0.00 ft	Slot Name: 39-18 Latitude: 40 13 23.199 N Longitude: 104 55 39.582 W
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Wellpath: Original Hole Current Datum: 4865'GL+13'KB Magnetic Data: 04/02/2011 Field Strength: 53081 nT Vertical Section: Depth From (TVD) ft	Height 4878.00 ft	Drilled From: Surface Tie-on Depth: 0.00 ft Above System Datum: Mean Sea Level Declination: 8.97 deg Mag Dip Angle: 66.89 deg +N/-S ft +E/-W ft Direction deg
0.00	0.00	0.00 105.41

Survey Program for Definitive Wellpath				
Date:	04/03/2011	Validated:	No	Version: 0
Actual From	To	Survey	Toolcode	Tool Name
49.00	7890.00	Survey #1 (49.00-7890.00)	MWD	Std MWD
7935.00	7935.00	Survey #2 (7935.00-7935.00)	MWD	Std MWD

Survey										
MD	Incl	Azim	TVD	+N/-S	+E/-W	VS	DLS	Build	Turn	Tool/Comment
ft	deg	deg	ft	ft	ft	ft	deg/100ft	deg/100ft	deg/100ft	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	TIE LINE
49.00	0.40	195.70	49.00	-0.16	-0.05	0.00	0.82	0.82	0.00	MWD
110.00	1.10	90.90	110.00	-0.38	0.48	0.56	2.07	1.15	-171.80	MWD
169.00	2.10	79.30	168.97	-0.19	2.11	2.08	1.77	1.69	-19.66	MWD
229.00	3.00	75.00	228.91	0.42	4.71	4.43	1.53	1.50	-7.17	MWD
290.00	4.20	77.90	289.79	1.30	8.43	7.78	1.99	1.97	4.75	MWD
349.00	4.40	75.80	348.62	2.31	12.74	11.67	0.43	0.34	-3.56	MWD
426.00	4.90	75.10	425.37	3.88	18.78	17.07	0.65	0.65	-0.91	MWD
562.00	7.90	83.50	560.51	6.44	33.68	30.76	2.31	2.21	6.18	MWD
698.00	7.20	84.60	695.33	8.30	51.46	47.40	0.53	-0.51	0.81	MWD
742.00	7.20	82.80	738.98	8.90	56.94	52.52	0.51	0.00	-4.09	MWD
787.00	7.36	87.82	783.62	9.36	62.61	57.88	1.46	0.36	11.16	8 5/8"
836.00	7.60	93.00	832.21	9.31	68.99	64.03	1.46	0.48	10.57	MWD
927.00	8.80	101.40	922.28	7.62	81.82	76.86	1.86	1.32	9.23	MWD
1017.00	10.20	104.20	1011.04	4.31	96.30	91.69	1.64	1.56	3.11	MWD
1108.00	11.80	106.40	1100.37	-0.30	113.04	109.05	1.82	1.76	2.42	MWD
1199.00	12.70	109.50	1189.29	-6.26	131.39	128.33	1.22	0.99	3.41	MWD
1290.00	14.10	108.50	1277.81	-13.12	151.33	149.38	1.56	1.54	-1.10	MWD
1381.00	15.10	108.50	1365.87	-20.40	173.09	172.28	1.10	1.10	0.00	MWD
1472.00	16.10	110.60	1453.52	-28.60	196.14	196.69	1.26	1.10	2.31	MWD
1562.00	17.10	112.00	1539.77	-37.95	220.09	222.26	1.20	1.11	1.56	MWD
1653.00	17.10	110.60	1626.75	-47.67	245.02	248.87	0.45	0.00	-1.54	MWD

Allis-Chalmers Energy, Inc.

Survey Report

Company: ANADARKO PETROLEUM Field: Weld County, CO Site: Sekich 20-18 Pad Well: 39-18 Wellpath: Original Hole	Date: 04/03/2011 Co-ordinate(NE) Reference: Well: 39-18, Grid North Vertical (TVD) Reference: 4865'GL+13'KB 4878.0 Section (VS) Reference: Well (0.00N,0.00E,105.41Azi) Survey Calculation Method: Minimum Curvature	Time: 09:14:20 Page: 2 Db: Sybase
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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
1743.00	17.20	110.60	1712.75	-57.00	269.86	275.30	0.11	0.11	0.00	MWD
1835.00	17.60	107.80	1800.54	-66.04	295.83	302.75	1.01	0.43	-3.04	MWD
1925.00	17.40	104.90	1886.37	-73.66	321.79	329.80	0.99	-0.22	-3.22	MWD
2016.00	17.40	107.80	1973.21	-81.32	347.90	357.00	0.95	0.00	3.19	MWD
2106.00	17.40	106.40	2059.09	-89.23	373.62	383.90	0.47	0.00	-1.56	MWD
2197.00	17.20	104.90	2145.98	-96.53	399.68	410.96	0.54	-0.22	-1.65	MWD
2288.00	17.10	106.00	2232.93	-103.68	425.54	437.79	0.37	-0.11	1.21	MWD
2379.00	17.80	108.80	2319.74	-111.85	451.57	465.06	1.20	0.77	3.08	MWD
2470.00	18.70	108.50	2406.17	-120.96	478.57	493.51	0.99	0.99	-0.33	MWD
2561.00	19.00	108.80	2492.29	-130.37	506.43	522.86	0.35	0.33	0.33	MWD
2652.00	19.20	106.70	2578.28	-139.44	534.78	552.61	0.79	0.22	-2.31	MWD
2742.00	18.70	106.70	2663.40	-147.84	562.78	581.83	0.56	-0.56	0.00	MWD
2833.00	18.10	109.50	2749.75	-156.75	590.07	610.51	1.17	-0.66	3.08	MWD
2924.00	17.10	108.50	2836.49	-165.71	616.09	637.97	1.15	-1.10	-1.10	MWD
3015.00	16.90	109.20	2923.51	-174.31	641.27	664.53	0.31	-0.22	0.77	MWD
3106.00	15.30	108.90	3010.94	-182.55	665.12	689.71	1.76	-1.76	-0.33	MWD
3196.00	15.50	108.10	3097.71	-190.13	687.78	713.58	0.32	0.22	-0.89	MWD
3287.00	16.20	107.40	3185.25	-197.70	711.45	738.41	0.80	0.77	-0.77	MWD
3378.00	16.20	106.40	3272.63	-205.08	735.75	763.79	0.31	0.00	-1.10	MWD
3468.00	15.70	106.00	3359.17	-211.99	759.49	788.52	0.57	-0.56	-0.44	MWD
3559.00	15.80	101.40	3446.76	-217.83	783.48	813.19	1.38	0.11	-5.05	MWD
3650.00	15.80	105.30	3534.32	-223.55	807.57	837.94	1.17	0.00	4.29	MWD
3741.00	16.50	104.90	3621.73	-230.14	832.01	863.25	0.78	0.77	-0.44	MWD
3831.00	17.80	107.80	3707.73	-237.63	857.46	889.78	1.73	1.44	3.22	MWD
3922.00	18.10	107.40	3794.30	-246.11	884.19	917.80	0.36	0.33	-0.44	MWD
4013.00	17.40	106.70	3880.96	-254.25	910.71	945.53	0.80	-0.77	-0.77	MWD
4103.00	16.20	104.90	3967.12	-261.34	935.74	971.54	1.45	-1.33	-2.00	MWD
4194.00	16.20	107.10	4054.51	-268.34	960.14	996.92	0.67	0.00	2.42	MWD
4285.00	15.30	104.90	4142.09	-275.16	983.87	1021.62	1.19	-0.99	-2.42	MWD
4376.00	15.50	107.40	4229.83	-281.88	1007.08	1045.77	0.76	0.22	2.75	MWD
4466.00	15.30	107.10	4316.60	-288.97	1029.90	1069.66	0.24	-0.22	-0.33	MWD
4557.00	13.40	108.10	4404.75	-295.78	1051.40	1092.20	2.11	-2.09	1.10	MWD
4648.00	12.10	104.20	4493.51	-301.39	1070.67	1112.27	1.71	-1.43	-4.29	MWD
4739.00	10.90	103.90	4582.68	-305.80	1088.27	1130.41	1.32	-1.32	-0.33	MWD
4829.00	10.00	104.90	4671.19	-309.85	1104.08	1146.73	1.02	-1.00	1.11	MWD
4920.00	8.80	102.80	4760.96	-313.43	1118.51	1161.58	1.37	-1.32	-2.31	MWD
5011.00	7.60	101.80	4851.03	-316.20	1131.19	1174.54	1.33	-1.32	-1.10	MWD
5102.00	6.50	100.70	4941.34	-318.39	1142.14	1185.68	1.22	-1.21	-1.21	MWD
5192.00	5.80	103.90	5030.82	-320.42	1151.56	1195.30	0.87	-0.78	3.56	MWD
5283.00	4.20	97.60	5121.47	-321.97	1159.33	1203.20	1.86	-1.76	-6.92	MWD
5374.00	3.30	91.90	5212.28	-322.50	1165.25	1209.05	1.07	-0.99	-6.26	MWD
5465.00	2.50	108.50	5303.16	-323.21	1169.75	1213.58	1.27	-0.88	18.24	MWD
5556.00	1.60	128.50	5394.11	-324.63	1172.62	1216.73	1.25	-0.99	21.98	MWD
5647.00	2.10	142.60	5485.06	-326.75	1174.63	1219.23	0.74	0.55	15.49	MWD
5737.00	0.20	136.60	5575.04	-328.17	1175.74	1220.67	2.11	-2.11	-6.67	MWD
5918.00	0.20	215.30	5756.04	-328.66	1175.77	1220.84	0.14	0.00	43.48	MWD
6100.00	0.40	159.80	5938.03	-329.52	1175.81	1221.10	0.18	0.11	-30.49	MWD
6282.00	0.70	135.50	6120.02	-330.91	1176.81	1222.43	0.21	0.16	-13.35	MWD
6463.00	1.10	127.80	6301.00	-332.76	1178.96	1224.99	0.23	0.22	-4.25	MWD
6645.00	0.90	150.60	6482.98	-335.08	1181.04	1227.62	0.24	-0.11	12.53	MWD
6826.00	1.60	136.20	6663.93	-338.14	1183.48	1230.79	0.42	0.39	-7.96	MWD
7008.00	1.60	133.10	6845.86	-341.71	1187.10	1235.22	0.05	0.00	-1.70	MWD
7190.00	1.60	120.40	7027.79	-344.73	1191.15	1239.93	0.19	0.00	-6.98	MWD

Allis-Chalmers Energy, Inc.

Survey Report

Company: ANADARKO PETROLEUM Field: Weld County, CO Site: Sekich 20-18 Pad Well: 39-18 Wellpath: Original Hole	Date: 04/03/2011 Co-ordinate(NE) Reference: Well: 39-18, Grid North Vertical (TVD) Reference: 4865'GL+13'KB 4878.0 Section (VS) Reference: Well (0.00N,0.00E,105.41Azi) Survey Calculation Method: Minimum Curvature Db: Sybase
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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
7371.00	1.20	106.70	7208.74	-346.55	1195.14	1244.26	0.29	-0.22	-7.57	MWD
7553.00	2.30	101.10	7390.65	-347.80	1200.55	1249.81	0.61	0.60	-3.08	MWD
7734.00	1.40	94.40	7571.55	-348.67	1206.32	1255.60	0.51	-0.50	-3.70	MWD
7887.49	1.40	82.59	7725.00	-348.58	1210.05	1259.17	0.19	0.00	-7.69	39-18 PBHL
7890.00	1.40	82.40	7727.51	-348.57	1210.11	1259.23	0.19	0.02	-7.64	MWD
7935.00	1.40	82.40	7772.49	-348.42	1211.20	1260.24	0.00	0.00	0.00	39-18 BHL

Targets

Name	Description	Dir.	TVD ft	+N/-S ft	+E/-W ft	Map Northing ft	Map Easting ft	<---- Latitude ---->			<--- Longitude --->				
	Dip.							Deg	Min	Sec	Deg	Min	Sec		
39-18 SL			0.00	0.00	0.00	1324639.78	3159823.31	40	13	23.199	N	104	55	39.582	W
39-18 PBHL			7725.00	-324.56	1177.49	1324315.23	3161000.80	40	13	19.916	N	104	55	24.429	W
-Circle (Radius: 50)															
39-18 BHL			7772.49	-348.42	1211.20	1324291.36	3161034.51	40	13	19.678	N	104	55	23.996	W

Casing Points

MD ft	TVD ft	Diameter in	Hole Size in	Name
787.00	783.62	8.625	9.875	8 5/8"