

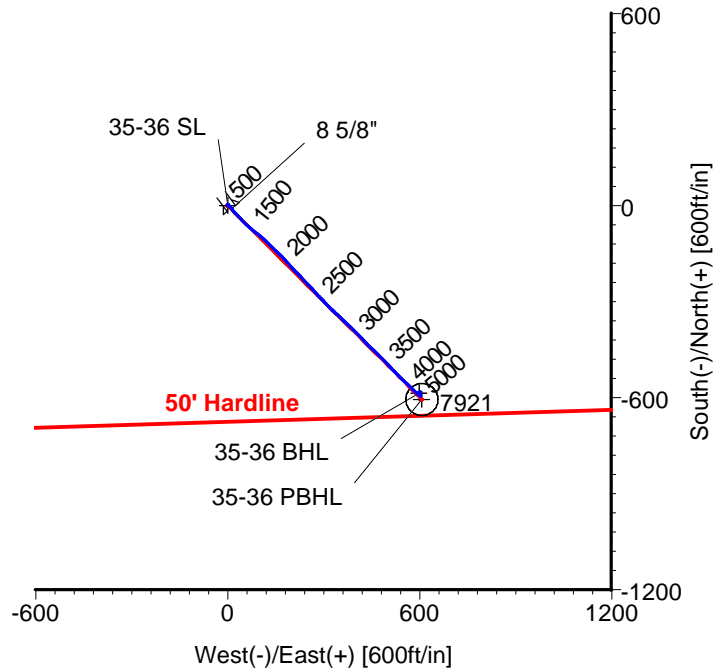
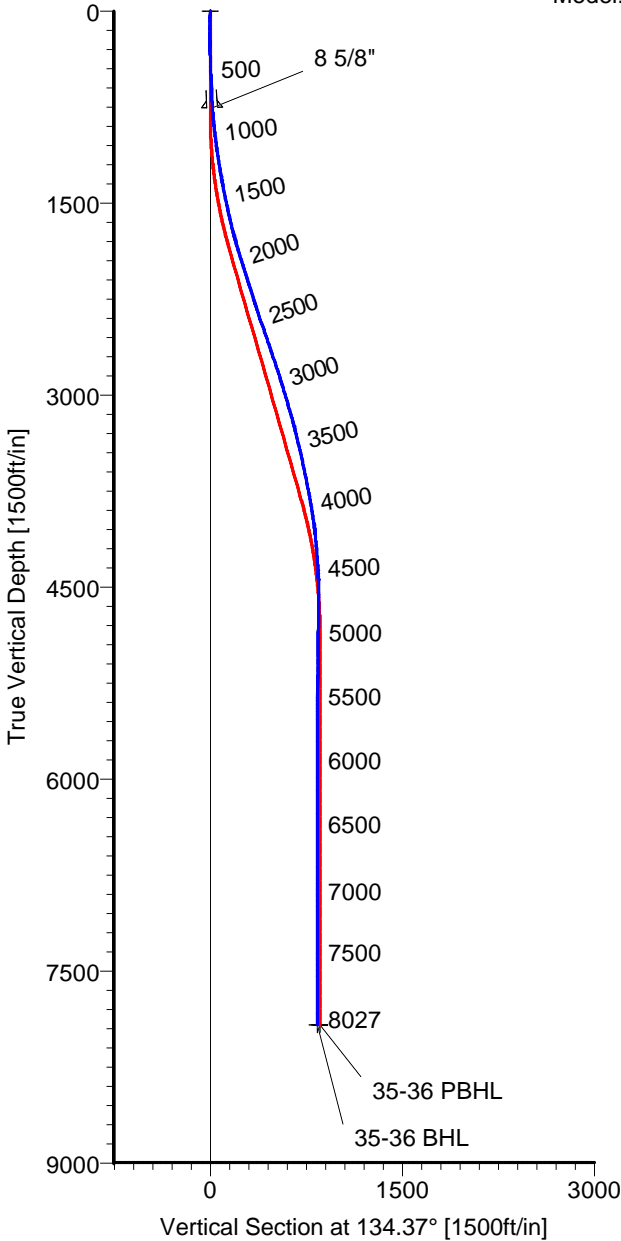
ANADARKO PETROLEUM

Field: Weld County, CO
 Site: Vogl 13-36 Pad
 Well: 35-36
 Wellpath: Original Hole



Azimuths to Grid North
 True North: -0.35°
 Magnetic North: 8.71°

Magnetic Field
 Strength: 53118nT
 Dip Angle: 66.87°
 Date: 08/24/2010
 Model: IGRF2010



CASING DETAILS

No.	TVD	MD	Name	Size
1	752.56	753.00	8 5/8"	8.625

LEGEND

- 35-36, Original Hole, Plan #1a
- Original Hole

TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
35-36 SL	0.00	0.00	0.00	40°10'37.230N	104°57'29.061W	Point
35-36 PBHL	7919.00	-605.85	607.54	40°10'31.207N	104°57'21.281W	Circle (Radius: 50)
35-36 BHL	7920.81	-586.21	599.34	40°10'31.401N	104°57'21.385W	Point

Wellpath: (35-36/Original Hole)

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



Allis-Chalmers Energy, Inc.

Survey Report

Company: ANADARKO PETROLEUM	Date: 09/19/2010	Time: 09:27:51	Page: 1
Field: Weld County, CO	Co-ordinate(NE) Reference: Well: 35-36, Grid North		
Site: Vogl 13-36 Pad	Vertical (TVD) Reference: 4817'GL+13'KB 4830.0		
Well: 35-36	Section (VS) Reference: Well (0.00N,0.00E,134.37Azi)		
Wellpath: Original Hole	Survey Calculation Method: Minimum Curvature	Db: Sybase	

Field: Weld County, CO	
Map System: US State Plane Coordinate System 1983	Map Zone: Colorado, Northern Zone
Geo Datum: GRS 1980	Coordinate System: Well Centre
Sys Datum: Mean Sea Level	Geomagnetic Model: IGRF2010

Site: Vogl 13-36 Pad		
Site Position:	Northing: 1307840.32 ft	Latitude: 40 10 37.704 N
From: Geographic	Easting: 3151437.43 ft	Longitude: 104 57 29.016 W
Position Uncertainty: 0.00 ft		North Reference: Grid
Ground Level: 4817.00 ft		Grid Convergence: 0.35 deg

Well: 35-36	Slot Name: 35-36
Well Position:	Latitude: 40 10 37.230 N
Position Uncertainty: 0.00 ft	Longitude: 104 57 29.061 W
Vertical Section:	Direction: deg
0.00	134.37

Wellpath: Original Hole	Drilled From: Surface
Current Datum: 4817'GL+13'KB	Tie-on Depth: 0.00 ft
Magnetic Data: 08/24/2010	Above System Datum: Mean Sea Level
Field Strength: 53118 nT	Declination: 9.06 deg
Vertical Section:	Mag Dip Angle: 66.87 deg
Depth From (TVD)	Direction
ft	deg
0.00	134.37

Survey Program for Definitive Wellpath				
Date: 09/19/2010	Validated: No	Version: 0		
Actual From	To	Survey	Toolcode	Tool Name
ft	ft			
46.00	7982.00	Survey #1 (46.00-7982.00)	MWD	Std MWD
8027.00	8027.00	Survey #2 (8027.00-8027.00)	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
46.00	1.10	358.90	46.00	0.44	-0.01	-0.31	2.39	2.39	0.00	MWD
107.00	1.40	13.30	106.98	1.75	0.15	-1.12	0.71	0.49	23.61	MWD
168.00	0.90	18.60	167.97	2.93	0.48	-1.71	0.84	-0.82	8.69	MWD
228.00	0.70	27.00	227.96	3.70	0.79	-2.02	0.39	-0.33	14.00	MWD
288.00	1.20	129.30	287.96	3.63	1.45	-1.51	2.52	0.83	170.50	MWD
349.00	1.80	138.10	348.94	2.52	2.58	0.09	1.05	0.98	14.43	MWD
430.00	2.10	137.40	429.89	0.48	4.43	2.84	0.37	0.37	-0.86	MWD
520.00	2.60	138.10	519.82	-2.26	6.91	6.52	0.56	0.56	0.78	MWD
611.00	2.60	137.70	610.72	-5.32	9.68	10.64	0.02	0.00	-0.44	MWD
702.00	2.60	148.60	701.63	-8.61	12.14	14.70	0.54	0.00	11.98	MWD
753.00	3.50	143.19	752.56	-10.84	13.68	17.36	1.84	1.76	-10.61	8 5/8"
831.00	4.90	138.80	830.34	-15.25	17.30	23.03	1.84	1.80	-5.63	MWD
922.00	6.70	141.60	920.88	-22.34	23.16	32.17	2.00	1.98	3.08	MWD
1013.00	7.20	130.70	1011.21	-30.22	30.78	43.13	1.55	0.55	-11.98	MWD
1104.00	8.50	138.40	1101.36	-38.96	39.57	55.53	1.83	1.43	8.46	MWD
1194.00	9.20	138.10	1190.29	-49.29	48.79	69.35	0.78	0.78	-0.33	MWD
1285.00	9.70	136.00	1280.05	-60.22	58.97	84.27	0.67	0.55	-2.31	MWD
1376.00	10.90	126.80	1369.59	-70.89	71.19	100.46	2.23	1.32	-10.11	MWD
1467.00	11.60	127.20	1458.84	-81.58	85.37	118.07	0.77	0.77	0.44	MWD
1558.00	12.50	129.30	1547.83	-93.35	100.27	136.96	1.10	0.99	2.31	MWD
1649.00	13.20	134.90	1636.56	-106.92	115.25	157.16	1.57	0.77	6.15	MWD

Allis-Chalmers Energy, Inc.

Survey Report

Company: ANADARKO PETROLEUM	Date: 09/19/2010	Time: 09:27:51	Page: 2
Field: Weld County, CO	Co-ordinate(NE) Reference: Well: 35-36, Grid North		
Site: Vogl 13-36 Pad	Vertical (TVD) Reference: 4817'GL+13'KB 4830.0		
Well: 35-36	Section (VS) Reference: Well (0.00N,0.00E,134.37Azi)		
Wellpath: Original Hole	Survey Calculation Method: Minimum Curvature	Db: Sybase	

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
1740.00	14.10	134.60	1724.99	-122.04	130.51	178.63	0.99	0.99	-0.33	MWD
1831.00	16.50	132.80	1812.76	-138.60	147.88	202.64	2.69	2.64	-1.98	MWD
1921.00	17.20	136.00	1898.89	-156.86	166.51	228.72	1.29	0.78	3.56	MWD
2012.00	17.80	138.10	1985.68	-176.89	185.14	256.04	0.96	0.66	2.31	MWD
2103.00	16.90	134.90	2072.54	-196.58	203.80	283.15	1.44	-0.99	-3.52	MWD
2194.00	17.80	138.10	2159.40	-216.27	222.46	310.26	1.44	0.99	3.52	MWD
2285.00	17.60	134.60	2246.10	-236.28	241.55	337.90	1.19	-0.22	-3.85	MWD
2376.00	18.70	139.20	2332.57	-256.99	260.87	366.19	1.98	1.21	5.05	MWD
2466.00	18.70	136.00	2417.82	-278.29	280.32	394.99	1.14	0.00	-3.56	MWD
2557.00	19.20	134.90	2503.89	-299.35	301.06	424.54	0.68	0.55	-1.21	MWD
2648.00	18.80	136.30	2589.94	-320.51	321.79	454.16	0.67	-0.44	1.54	MWD
2739.00	18.10	132.50	2676.26	-340.66	342.34	482.94	1.53	-0.77	-4.18	MWD
2830.00	18.50	133.20	2762.66	-360.09	363.29	511.50	0.50	0.44	0.77	MWD
2921.00	18.10	133.20	2849.06	-379.65	384.12	540.07	0.44	-0.44	0.00	MWD
3012.00	16.70	136.00	2935.89	-398.74	403.51	567.27	1.79	-1.54	3.08	MWD
3102.00	16.00	136.00	3022.25	-416.96	421.10	592.60	0.78	-0.78	0.00	MWD
3193.00	16.40	134.60	3109.64	-435.00	438.96	617.98	0.61	0.44	-1.54	MWD
3284.00	15.70	133.50	3197.09	-452.50	457.04	643.14	0.84	-0.77	-1.21	MWD
3374.00	13.90	135.60	3284.10	-468.61	473.44	666.12	2.09	-2.00	2.33	MWD
3465.00	13.20	134.60	3372.57	-483.71	488.49	687.44	0.81	-0.77	-1.10	MWD
3556.00	12.70	137.70	3461.25	-498.41	502.62	707.82	0.94	-0.55	3.41	MWD
3647.00	12.00	136.30	3550.15	-512.64	515.88	727.26	0.84	-0.77	-1.54	MWD
3738.00	11.30	133.50	3639.27	-525.62	528.89	745.63	0.99	-0.77	-3.08	MWD
3829.00	11.10	133.20	3728.54	-537.75	541.74	763.30	0.23	-0.22	-0.33	MWD
3920.00	10.20	133.90	3817.97	-549.34	553.93	780.12	1.00	-0.99	0.77	MWD
4011.00	9.20	135.60	3907.67	-560.12	564.83	795.45	1.14	-1.10	1.87	MWD
4102.00	8.10	136.70	3997.63	-569.99	574.31	809.13	1.22	-1.21	1.21	MWD
4193.00	5.80	132.10	4087.96	-577.74	582.12	820.13	2.60	-2.53	-5.05	MWD
4284.00	5.10	134.20	4178.55	-583.64	588.44	828.77	0.80	-0.77	2.31	MWD
4375.00	4.10	129.30	4269.25	-588.52	593.85	836.05	1.18	-1.10	-5.38	MWD
4466.00	3.30	130.70	4360.06	-592.29	598.36	841.91	0.88	-0.88	1.54	MWD
4556.00	1.20	123.30	4449.99	-594.49	601.11	845.42	2.35	-2.33	-8.22	MWD
4646.00	1.20	91.70	4539.97	-595.04	602.84	847.04	0.73	0.00	-35.11	MWD
4737.00	0.70	12.60	4630.96	-594.53	603.91	847.44	1.40	-0.55	-86.92	MWD
4828.00	0.90	342.00	4721.95	-593.30	603.81	846.52	0.51	0.22	-33.63	MWD
4919.00	0.90	330.40	4812.94	-592.00	603.24	845.20	0.20	0.00	-12.75	MWD
5101.00	0.50	318.10	4994.93	-590.17	602.00	843.03	0.23	-0.22	-6.76	MWD
5283.00	0.70	339.20	5176.92	-588.54	601.08	841.23	0.16	0.11	11.59	MWD
5465.00	0.70	326.50	5358.90	-586.57	600.07	839.13	0.09	0.00	-6.98	MWD
5647.00	0.90	195.40	5540.90	-587.02	599.07	838.74	0.80	0.11	-72.03	MWD
5829.00	0.50	265.40	5722.88	-588.46	597.90	838.91	0.48	-0.22	38.46	MWD
6010.00	0.50	312.80	5903.88	-587.99	596.54	837.60	0.22	0.00	26.19	MWD
6192.00	0.70	9.80	6085.87	-586.36	596.14	836.18	0.33	0.11	31.32	MWD
6374.00	0.70	18.20	6267.86	-584.20	596.68	835.06	0.06	0.00	4.62	MWD
6555.00	0.70	119.80	6448.85	-583.70	597.98	835.64	0.60	0.00	56.13	MWD
6737.00	0.70	43.20	6630.84	-583.45	599.71	836.69	0.48	0.00	-42.09	MWD
6919.00	0.30	358.20	6812.83	-582.16	600.46	836.33	0.29	-0.22	-24.73	MWD
7100.00	0.50	180.30	6993.83	-582.48	600.44	836.53	0.44	0.11	-98.29	MWD
7282.00	0.50	170.80	7175.82	-584.05	600.56	837.73	0.05	0.00	-5.22	MWD
7464.00	0.50	311.40	7357.82	-584.31	600.09	837.57	0.52	0.00	77.25	MWD
7645.00	0.30	146.50	7538.82	-584.18	599.76	837.25	0.44	-0.11	-91.10	MWD
7827.00	0.30	230.90	7720.82	-584.88	599.65	837.66	0.22	0.00	46.37	MWD
7982.00	0.50	179.90	7875.81	-585.81	599.34	838.09	0.25	0.13	-32.90	MWD

Allis-Chalmers Energy, Inc.

Survey Report

Company: ANADARKO PETROLEUM	Date: 09/19/2010	Time: 09:27:51	Page: 3
Field: Weld County, CO	Co-ordinate(NE) Reference: Well: 35-36, Grid North		
Site: Vogl 13-36 Pad	Vertical (TVD) Reference: 4817'GL+13'KB 4830.0		
Well: 35-36	Section (VS) Reference: Well (0.00N,0.00E,134.37Azi)		
Wellpath: Original Hole	Survey Calculation Method: Minimum Curvature	Db: Sybase	

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
8025.19	0.50	179.90	7919.00	-586.19	599.34	838.35	0.00	0.00	0.00	35-36 PBHL
8027.00	0.50	179.90	7920.81	-586.21	599.34	838.36	0.00	0.00	0.00	35-36 BHL

Targets

Name	Description Dip.	Dir.	TVD ft	+N/-S ft	+E/-W ft	Map Northing ft	Map Easting ft	<--- Latitude --->			<--- Longitude --->				
								Deg	Min	Sec	Deg	Min	Sec		
35-36 SL			0.00	0.00	0.00	1307792.393151434.26		40	10	37.230	N	104	57	29.061	W
35-36 PBHL			7919.00	-605.85	607.54	1307186.543152041.80		40	10	31.207	N	104	57	21.281	W
	-Circle (Radius: 50)														
35-36 BHL			7920.81	-586.21	599.34	1307206.183152033.60		40	10	31.401	N	104	57	21.385	W

Casing Points

MD ft	TVD ft	Diameter in	Hole Size in	Name
753.00	752.56	8.625	9.875	8 5/8"