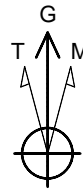
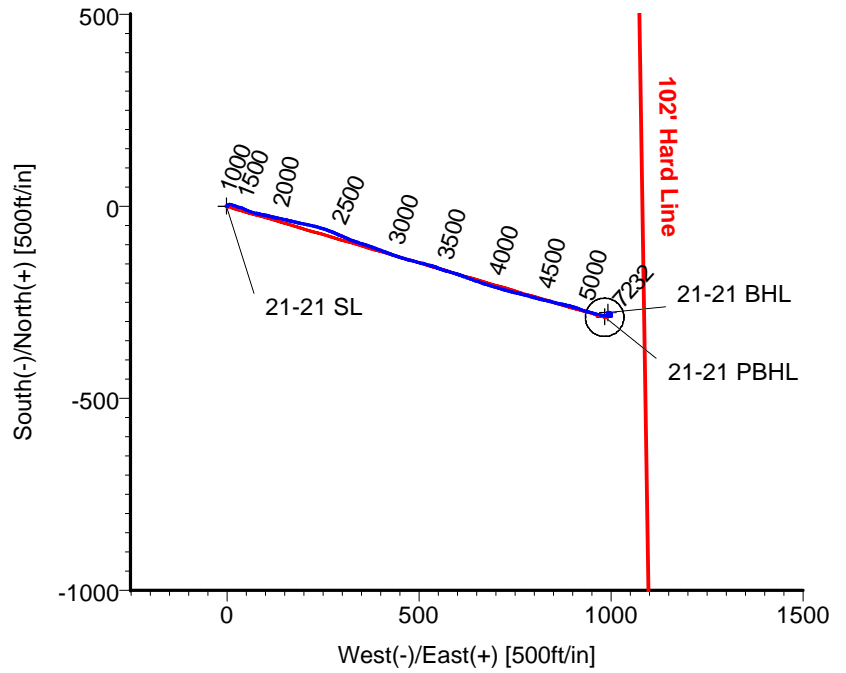
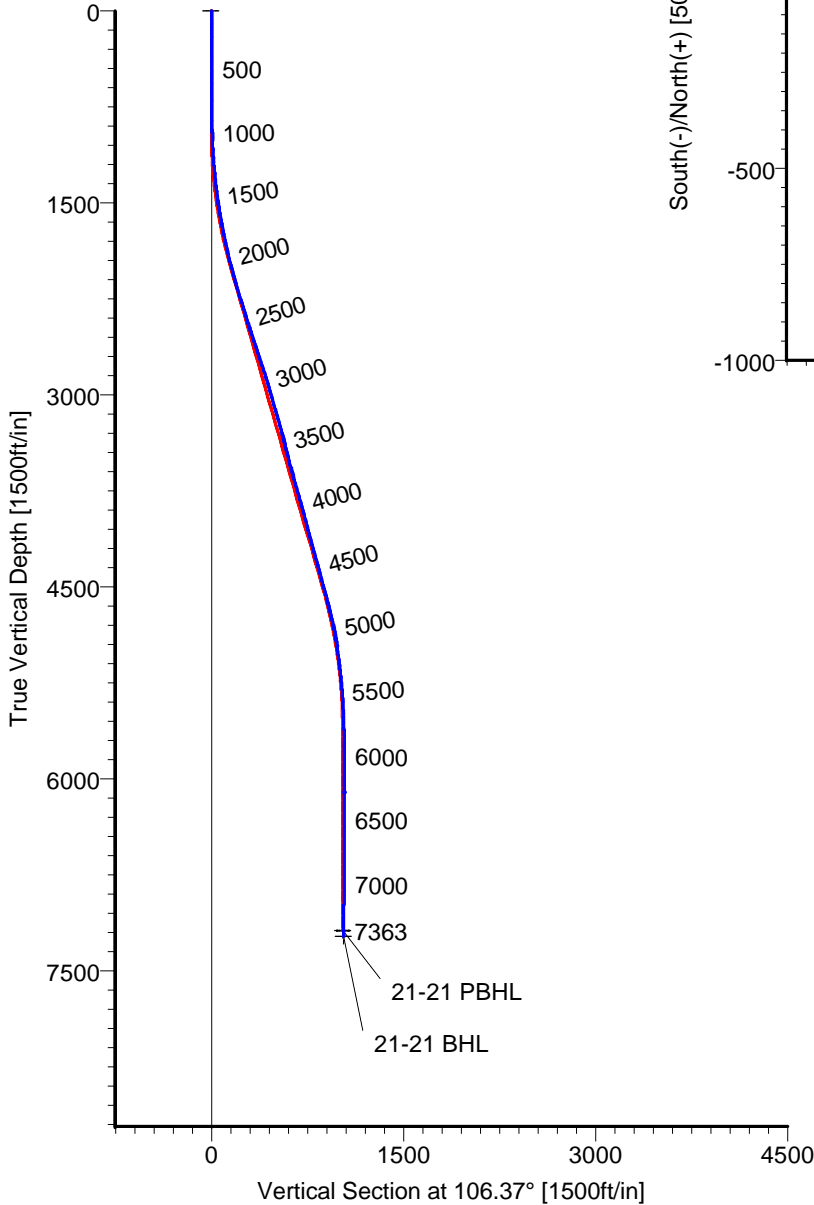


ANADARKO PETROLEUM

Field: Weld County, CO
 Site: Burchfield 18-21 Pad
 Well: 21-21
 Wellpath: Original Hole
 Plan: Plan #2



Azimuths to Grid North
 True North: -0.39°
 Magnetic North: 8.63°

Magnetic Field
 Strength: 53136nT
 Dip Angle: 66.90°
 Date: 09/21/2010
 Model: IGRF2010

LEGEND

- 21-21, Original Hole, Plan #2
- Original Hole

TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
21-21 SL	0.00	0.00	0.00	40°12'56.510N	104°53'57.197W	Point
21-21 PBHL	7185.00	-289.09	983.96	40°12'53.588N	104°53'44.538W	Circle (Radius: 50)
21-21 BHL	7231.80	-309.23	961.48	40°12'53.390N	104°53'44.830W	Point

Wellpath: (21-21/Original Hole)

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	Date: 09/25/2010	Time: 11:03:49	Page: 1
Field: Weld County, CO	Co-ordinate(NE) Reference: Well: 21-21, Grid North		
Site: Burchfield 18-21 Pad	Vertical (TVD) Reference: 4775'GL+15'KB 4790.0		
Well: 21-21	Section (VS) Reference: Well (0.00N,0.00E,106.37Azi)		
Wellpath: Original Hole	Survey Calculation Method: Minimum Curvature	Db: Sybase	

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: Burchfield 18-21 Pad
 Currently centered on 30-21

Site Position:	Northing: 1322003.56 ft	Latitude: 40 12 56.628 N	
From: Geographic	Easting: 3167772.13 ft	Longitude: 104 53 57.336 W	
Position Uncertainty: 0.00 ft		North Reference: Grid	
Ground Level: 4775.00 ft		Grid Convergence: 0.39 deg	

Well: 21-21	Slot Name: 21-21
Well Position:	
+N/-S -11.82 ft	Northing: 1321991.74 ft
+E/-W 10.88 ft	Easting : 3167783.01 ft
Position Uncertainty: 0.00 ft	
	Latitude: 40 12 56.510 N
	Longitude: 104 53 57.197 W

Wellpath: Original Hole	Drilled From: Surface
Current Datum: 4775'GL+15'KB	Tie-on Depth: 0.00 ft
Magnetic Data: 09/21/2010	Above System Datum: Mean Sea Level
Field Strength: 53136 nT	Declination: 9.02 deg
Vertical Section:	Mag Dip Angle: 66.90 deg
Depth From (TVD)	+N/-S
ft	ft
0.00	0.00
	+E/-W
	ft
	0.00
	Direction
	deg
	106.37

Survey Program for Definitive Wellpath

Date: 09/25/2010	Validated: No	Version: 0	
Actual From	To	Survey	Toolcode Tool Name
ft	ft		
76.00	6232.00	Survey #1 (76.00-6232.00)	MWD Std MWD
6233.00	7360.00	Survey #2 (6233.00-7360.00)	Dipmeter Dipmeter
7363.00	7363.00	Survey #3 (7363.00-7363.00)	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
76.00	0.20	106.80	76.00	-0.04	0.13	0.13	0.26	0.26	0.00	MWD
198.00	0.50	47.00	198.00	0.26	0.72	0.62	0.36	0.25	-49.02	MWD
319.00	0.50	55.10	318.99	0.93	1.54	1.22	0.06	0.00	6.69	MWD
430.00	0.50	41.40	429.99	1.57	2.26	1.72	0.11	0.00	-12.34	MWD
566.00	0.70	52.60	565.98	2.52	3.31	2.47	0.17	0.15	8.24	MWD
702.00	0.70	50.20	701.97	3.55	4.61	3.42	0.02	0.00	-1.76	MWD
829.00	0.70	48.40	828.96	4.56	5.78	4.26	0.02	0.00	-1.42	MWD
921.00	0.50	49.80	920.96	5.20	6.51	4.78	0.22	-0.22	1.52	MWD
1012.00	2.60	112.40	1011.92	4.67	8.72	7.05	2.65	2.31	68.79	MWD
1103.00	3.90	101.10	1102.77	3.28	13.67	12.19	1.59	1.43	-12.42	MWD
1194.00	4.80	109.20	1193.51	1.43	20.30	19.07	1.20	0.99	8.90	MWD
1285.00	5.50	103.90	1284.14	-0.86	28.13	27.23	0.93	0.77	-5.82	MWD
1376.00	6.30	111.00	1374.66	-3.70	37.02	36.57	1.19	0.88	7.80	MWD
1467.00	7.70	114.80	1464.98	-8.05	47.22	47.57	1.62	1.54	4.18	MWD
1557.00	9.50	107.80	1553.97	-12.85	59.77	60.96	2.31	2.00	-7.78	MWD
1648.00	10.60	107.80	1643.57	-17.70	74.89	76.84	1.21	1.21	0.00	MWD
1739.00	11.60	99.40	1732.87	-21.76	91.88	94.29	2.09	1.10	-9.23	MWD
1830.00	12.50	104.30	1821.87	-25.68	110.45	113.21	1.50	0.99	5.38	MWD
1921.00	13.90	102.20	1910.46	-30.43	130.68	133.96	1.63	1.54	-2.31	MWD
2011.00	14.10	102.20	1997.79	-35.03	151.96	155.67	0.22	0.22	0.00	MWD

Allis-Chalmers Energy, Inc.

Survey Report

Company: ANADARKO PETROLEUM	Date: 09/25/2010	Time: 11:03:49	Page: 2
Field: Weld County, CO	Co-ordinate(NE) Reference: Well: 21-21, Grid North		
Site: Burchfield 18-21 Pad	Vertical (TVD) Reference: 4775'GL+15'KB 4790.0		
Well: 21-21	Section (VS) Reference: Well (0.00N,0.00E,106.37Azi)		
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
2102.00	15.30	104.30	2085.81	-40.34	174.43	178.73	1.44	1.32	2.31	MWD
2193.00	16.70	101.10	2173.29	-45.82	198.90	203.75	1.82	1.54	-3.52	MWD
2284.00	17.40	103.20	2260.29	-51.44	224.97	230.35	1.02	0.77	2.31	MWD
2374.00	17.40	107.10	2346.17	-58.47	250.94	257.25	1.30	0.00	4.33	MWD
2466.00	17.10	112.70	2434.04	-67.74	276.57	284.45	1.83	-0.33	6.09	MWD
2556.00	19.00	114.10	2519.61	-78.83	302.15	312.12	2.17	2.11	1.56	MWD
2647.00	18.30	110.60	2605.83	-89.90	329.05	341.05	1.45	-0.77	-3.85	MWD
2738.00	18.10	106.40	2692.28	-98.92	355.98	369.43	1.46	-0.22	-4.62	MWD
2829.00	18.50	110.60	2778.68	-107.99	383.06	397.97	1.51	0.44	4.62	MWD
2920.00	17.60	110.30	2865.20	-117.85	409.48	426.09	0.99	-0.99	-0.33	MWD
3010.00	16.20	111.00	2951.31	-127.07	433.96	452.18	1.57	-1.56	0.78	MWD
3101.00	15.80	106.40	3038.79	-135.11	457.70	477.22	1.46	-0.44	-5.05	MWD
3192.00	16.60	104.30	3126.18	-141.82	482.18	502.60	1.09	0.88	-2.31	MWD
3282.00	15.10	104.30	3212.76	-147.89	506.00	527.17	1.67	-1.67	0.00	MWD
3374.00	15.50	105.40	3301.49	-154.12	529.46	551.43	0.54	0.43	1.20	MWD
3464.00	14.10	112.70	3388.51	-161.54	551.17	574.36	2.59	-1.56	8.11	MWD
3555.00	14.30	106.10	3476.74	-168.94	572.19	596.61	1.79	0.22	-7.25	MWD
3646.00	14.60	105.70	3564.86	-175.16	594.03	619.32	0.35	0.33	-0.44	MWD
3737.00	16.40	111.30	3652.55	-182.93	617.05	643.59	2.57	1.98	6.15	MWD
3828.00	15.80	109.60	3739.98	-191.75	640.69	668.76	0.84	-0.66	-1.87	MWD
3918.00	16.20	108.20	3826.50	-199.78	664.16	693.54	0.62	0.44	-1.56	MWD
4009.00	15.00	106.10	3914.14	-207.01	687.53	718.00	1.46	-1.32	-2.31	MWD
4100.00	14.30	107.50	4002.19	-213.66	709.56	741.02	0.86	-0.77	1.54	MWD
4190.00	15.70	105.70	4089.12	-220.30	731.89	764.31	1.64	1.56	-2.00	MWD
4281.00	14.80	102.20	4176.91	-226.08	755.10	788.21	1.41	-0.99	-3.85	MWD
4372.00	16.00	105.00	4264.65	-231.79	778.58	812.34	1.55	1.32	3.08	MWD
4463.00	15.00	106.40	4352.34	-238.36	801.99	836.66	1.17	-1.10	1.54	MWD
4553.00	15.30	101.80	4439.21	-244.07	824.79	860.14	1.38	0.33	-5.11	MWD
4644.00	14.80	104.70	4527.09	-249.48	847.78	883.73	0.99	-0.55	3.19	MWD
4735.00	15.30	101.80	4614.97	-254.88	870.78	907.31	0.99	0.55	-3.19	MWD
4826.00	13.20	103.60	4703.17	-259.78	892.63	929.66	2.36	-2.31	1.98	MWD
4916.00	12.50	110.30	4790.92	-265.58	911.76	949.65	1.83	-0.78	7.44	MWD
5007.00	10.20	106.10	4880.13	-271.23	928.74	967.53	2.68	-2.53	-4.62	MWD
5098.00	7.90	105.00	4969.99	-275.08	942.52	981.84	2.53	-2.53	-1.21	MWD
5189.00	7.70	107.80	5060.15	-278.57	954.37	994.19	0.47	-0.22	3.08	MWD
5279.00	6.50	105.40	5149.46	-281.76	965.02	1005.31	1.37	-1.33	-2.67	MWD
5370.00	5.30	101.50	5239.98	-283.97	974.10	1014.65	1.39	-1.32	-4.29	MWD
5461.00	4.40	91.30	5330.65	-284.89	981.71	1022.21	1.37	-0.99	-11.21	MWD
5551.00	3.30	83.60	5420.45	-284.68	987.74	1027.93	1.35	-1.22	-8.56	MWD
5642.00	2.60	82.20	5511.33	-284.10	992.38	1032.23	0.77	-0.77	-1.54	MWD
5733.00	1.10	83.20	5602.28	-283.72	995.30	1034.91	1.65	-1.65	1.10	MWD
5824.00	0.70	80.70	5693.27	-283.53	996.71	1036.22	0.44	-0.44	-2.75	MWD
5915.00	0.50	34.70	5784.26	-283.11	997.49	1036.84	0.55	-0.22	-50.55	MWD
6005.00	0.30	333.90	5874.26	-282.58	997.61	1036.81	0.49	-0.22	-67.56	MWD
6096.00	0.30	277.30	5965.26	-282.33	997.27	1036.41	0.31	0.00	-62.20	MWD
6187.00	0.70	229.10	6056.25	-282.67	996.61	1035.88	0.60	0.44	-52.97	MWD
6232.00	0.90	198.50	6101.25	-283.18	996.29	1035.71	1.03	0.44	-68.00	MWD
6233.00	0.76	169.84	6102.25	-283.19	996.29	1035.72	43.25	-13.73	-2866.06	Dipmeter
6234.00	0.75	169.16	6103.25	-283.21	996.29	1035.72	1.43	-1.11	-68.06	Dipmeter
6235.00	0.76	168.31	6104.25	-283.22	996.29	1035.73	1.35	0.76	-85.11	Dipmeter
6236.00	0.75	166.66	6105.25	-283.23	996.30	1035.73	2.39	-1.00	-165.11	Dipmeter
6237.00	0.76	165.91	6106.25	-283.25	996.30	1035.74	1.30	0.86	-74.66	Dipmeter
6238.00	0.77	166.18	6107.25	-283.26	996.30	1035.75	1.64	1.60	27.09	Dipmeter
6239.00	0.78	165.73	6108.25	-283.27	996.31	1035.75	0.81	0.54	-44.71	Dipmeter

Allis-Chalmers Energy, Inc.

Survey Report

Company: ANADARKO PETROLEUM	Date: 09/25/2010	Time: 11:03:49	Page: 3
Field: Weld County, CO	Co-ordinate(NE) Reference: Well: 21-21, Grid North		
Site: Burchfield 18-21 Pad	Vertical (TVD) Reference: 4775'GL+15'KB 4790.0		
Well: 21-21	Section (VS) Reference: Well (0.00N,0.00E,106.37Azi)		
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
6240.00	0.78	164.44	6109.25	-283.29	996.31	1035.76	1.77	-0.09	-129.70	Dipmeter
6250.00	0.88	159.83	6119.25	-283.42	996.35	1035.84	1.19	0.99	-46.05	Dipmeter
6260.00	0.83	159.59	6129.25	-283.56	996.41	1035.93	0.49	-0.49	-2.39	Dipmeter
6270.00	0.77	157.12	6139.25	-283.69	996.46	1036.02	0.65	-0.55	-24.77	Dipmeter
6280.00	0.71	168.55	6149.25	-283.81	996.50	1036.09	1.60	-0.62	114.33	Dipmeter
6290.00	0.71	183.76	6159.24	-283.94	996.50	1036.13	1.89	0.02	152.14	Dipmeter
6300.00	0.99	184.89	6169.24	-284.09	996.49	1036.16	2.81	2.80	11.24	Dipmeter
6310.00	1.11	172.65	6179.24	-284.27	996.50	1036.22	2.51	1.14	-122.39	Dipmeter
6320.00	1.10	166.33	6189.24	-284.46	996.53	1036.31	1.22	-0.07	-63.17	Dipmeter
6330.00	1.05	154.11	6199.24	-284.63	996.60	1036.42	2.34	-0.49	-122.16	Dipmeter
6340.00	0.92	142.98	6209.24	-284.78	996.68	1036.54	2.30	-1.27	-111.33	Dipmeter
6350.00	0.78	127.18	6219.24	-284.89	996.79	1036.67	2.75	-1.45	-157.98	Dipmeter
6360.00	0.63	111.08	6229.23	-284.95	996.89	1036.79	2.49	-1.53	-161.05	Dipmeter
6370.00	0.36	109.64	6239.23	-284.98	996.97	1036.87	2.61	-2.61	-14.34	Dipmeter
6380.00	0.40	148.83	6249.23	-285.02	997.02	1036.93	2.59	0.36	391.90	Dipmeter
6390.00	0.71	153.79	6259.23	-285.10	997.07	1037.00	3.09	3.05	49.55	Dipmeter
6400.00	0.79	135.15	6269.23	-285.21	997.14	1037.10	2.57	0.85	-186.43	Dipmeter
6410.00	0.78	117.15	6279.23	-285.29	997.25	1037.23	2.46	-0.09	-179.95	Dipmeter
6420.00	0.74	100.87	6289.23	-285.33	997.38	1037.36	2.19	-0.43	-162.81	Dipmeter
6430.00	0.68	84.74	6299.23	-285.34	997.50	1037.48	2.08	-0.61	-161.29	Dipmeter
6440.00	0.57	67.50	6309.23	-285.31	997.60	1037.57	2.15	-1.07	-172.40	Dipmeter
6450.00	0.38	52.82	6319.23	-285.27	997.67	1037.63	2.26	-1.92	-146.78	Dipmeter
6460.00	0.22	91.48	6329.23	-285.25	997.72	1037.67	2.48	-1.59	386.57	Dipmeter
6470.00	0.44	115.98	6339.23	-285.27	997.77	1037.73	2.57	2.21	244.96	Dipmeter
6480.00	0.58	99.49	6349.23	-285.30	997.86	1037.81	2.04	1.43	-164.84	Dipmeter
6490.00	0.62	77.87	6359.23	-285.29	997.96	1037.91	2.30	0.41	-216.20	Dipmeter
6500.00	0.65	51.20	6369.23	-285.25	998.06	1037.99	2.96	0.30	-266.73	Dipmeter
6510.00	0.67	37.27	6379.23	-285.16	998.14	1038.05	1.61	0.14	-139.31	Dipmeter
6520.00	0.56	29.64	6389.23	-285.07	998.20	1038.08	1.32	-1.03	-76.33	Dipmeter
6530.00	0.47	20.07	6399.23	-284.99	998.24	1038.09	1.25	-0.90	-95.71	Dipmeter
6540.00	0.28	23.96	6409.23	-284.93	998.26	1038.10	2.00	-1.99	38.95	Dipmeter
6550.00	0.32	65.53	6419.23	-284.90	998.30	1038.12	2.15	0.44	415.65	Dipmeter
6560.00	0.52	67.50	6429.23	-284.87	998.36	1038.18	2.04	2.03	19.70	Dipmeter
6570.00	0.63	53.56	6439.22	-284.82	998.45	1038.25	1.77	1.09	-139.38	Dipmeter
6580.00	0.67	42.74	6449.22	-284.74	998.53	1038.31	1.28	0.38	-108.23	Dipmeter
6590.00	0.68	36.28	6459.22	-284.65	998.61	1038.35	0.77	0.13	-64.58	Dipmeter
6600.00	0.67	30.20	6469.22	-284.55	998.67	1038.39	0.73	-0.14	-60.78	Dipmeter
6610.00	0.63	25.33	6479.22	-284.45	998.73	1038.41	0.68	-0.40	-48.66	Dipmeter
6620.00	0.59	16.96	6489.22	-284.36	998.77	1038.42	0.98	-0.42	-83.71	Dipmeter
6630.00	0.55	11.30	6499.22	-284.26	998.79	1038.42	0.70	-0.41	-56.66	Dipmeter
6640.00	0.46	10.44	6509.22	-284.17	998.81	1038.41	0.82	-0.82	-8.60	Dipmeter
6650.00	0.34	17.31	6519.22	-284.11	998.82	1038.40	1.32	-1.23	68.75	Dipmeter
6660.00	0.34	50.52	6529.22	-284.06	998.85	1038.42	1.94	-0.03	332.10	Dipmeter
6670.00	0.53	45.94	6539.22	-284.01	998.91	1038.46	1.95	1.92	-45.81	Dipmeter
6680.00	0.66	40.89	6549.22	-283.93	998.98	1038.51	1.43	1.33	-50.48	Dipmeter
6690.00	0.68	32.92	6559.22	-283.84	999.05	1038.55	0.94	0.11	-79.76	Dipmeter
6700.00	0.68	30.06	6569.22	-283.74	999.11	1038.58	0.34	0.06	-28.55	Dipmeter
6710.00	0.69	26.56	6579.22	-283.63	999.17	1038.60	0.42	0.05	-34.98	Dipmeter
6720.00	0.71	22.65	6589.22	-283.52	999.22	1038.62	0.54	0.25	-39.16	Dipmeter
6730.00	0.74	17.17	6599.22	-283.40	999.26	1038.63	0.75	0.28	-54.75	Dipmeter
6740.00	0.73	17.12	6609.22	-283.28	999.30	1038.63	0.09	-0.09	-0.55	Dipmeter
6750.00	0.74	13.68	6619.21	-283.16	999.34	1038.63	0.45	0.11	-34.35	Dipmeter
6760.00	0.74	11.60	6629.21	-283.03	999.36	1038.62	0.27	0.02	-20.84	Dipmeter

Allis-Chalmers Energy, Inc.

Survey Report

Company: ANADARKO PETROLEUM	Date: 09/25/2010	Time: 11:03:49	Page: 4
Field: Weld County, CO	Co-ordinate(NE) Reference: Well: 21-21, Grid North		
Site: Burchfield 18-21 Pad	Vertical (TVD) Reference: 4775'GL+15'KB 4790.0		
Well: 21-21	Section (VS) Reference: Well (0.00N,0.00E,106.37Azi)		
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
6770.00	0.74	11.13	6639.21	-282.90	999.39	1038.61	0.07	-0.03	-4.66	Dipmeter
6780.00	0.74	9.72	6649.21	-282.78	999.41	1038.60	0.18	-0.03	-14.12	Dipmeter
6790.00	0.76	7.54	6659.21	-282.65	999.43	1038.58	0.35	0.20	-21.75	Dipmeter
6800.00	0.78	5.52	6669.21	-282.51	999.45	1038.55	0.35	0.22	-20.28	Dipmeter
6810.00	0.82	2.21	6679.21	-282.38	999.46	1038.52	0.61	0.40	-33.07	Dipmeter
6820.00	0.84	359.01	6689.21	-282.23	999.46	1038.49	0.54	0.27	-32.00	Dipmeter
6830.00	0.86	354.10	6699.21	-282.08	999.45	1038.43	0.75	0.17	-49.10	Dipmeter
6840.00	0.86	351.82	6709.21	-281.93	999.43	1038.38	0.34	-0.03	-22.76	Dipmeter
6850.00	0.87	349.95	6719.20	-281.79	999.41	1038.31	0.30	0.11	-18.73	Dipmeter
6860.00	0.88	350.65	6729.20	-281.63	999.38	1038.24	0.16	0.11	6.97	Dipmeter
6870.00	0.88	349.79	6739.20	-281.48	999.35	1038.18	0.14	0.03	-8.63	Dipmeter
6880.00	0.91	348.71	6749.20	-281.33	999.33	1038.10	0.34	0.30	-10.76	Dipmeter
6890.00	0.93	349.86	6759.20	-281.17	999.30	1038.03	0.27	0.19	11.54	Dipmeter
6900.00	0.95	347.60	6769.20	-281.01	999.26	1037.95	0.43	0.21	-22.63	Dipmeter
6910.00	0.96	345.68	6779.20	-280.85	999.22	1037.87	0.34	0.10	-19.23	Dipmeter
6920.00	0.98	344.79	6789.20	-280.68	999.18	1037.78	0.20	0.13	-8.85	Dipmeter
6930.00	0.99	343.25	6799.19	-280.52	999.13	1037.69	0.28	0.09	-15.40	Dipmeter
6940.00	0.99	340.71	6809.19	-280.35	999.08	1037.60	0.44	0.01	-25.38	Dipmeter
6950.00	1.00	339.65	6819.19	-280.19	999.02	1037.49	0.24	0.16	-10.59	Dipmeter
6960.00	1.00	337.78	6829.19	-280.03	998.96	1037.39	0.33	0.01	-18.79	Dipmeter
6970.00	1.00	336.07	6839.19	-279.87	998.89	1037.27	0.30	-0.05	-17.04	Dipmeter
6980.00	1.02	334.00	6849.19	-279.71	998.82	1037.16	0.43	0.23	-20.73	Dipmeter
6990.00	1.02	333.27	6859.18	-279.55	998.74	1037.04	0.13	-0.01	-7.26	Dipmeter
7000.00	1.03	330.34	6869.18	-279.39	998.65	1036.91	0.54	0.12	-29.36	Dipmeter
7010.00	1.04	326.86	6879.18	-279.24	998.56	1036.78	0.64	0.09	-34.78	Dipmeter
7020.00	1.05	324.77	6889.18	-279.09	998.46	1036.64	0.40	0.13	-20.91	Dipmeter
7030.00	1.05	321.74	6899.18	-278.94	998.35	1036.49	0.56	-0.05	-30.25	Dipmeter
7040.00	1.05	315.94	6909.18	-278.80	998.23	1036.34	1.06	-0.01	-57.99	Dipmeter
7050.00	1.06	309.47	6919.17	-278.68	998.09	1036.17	1.20	0.13	-64.75	Dipmeter
7060.00	1.09	303.59	6929.17	-278.56	997.94	1036.00	1.13	0.26	-58.80	Dipmeter
7070.00	1.13	299.29	6939.17	-278.46	997.77	1035.81	0.93	0.42	-43.03	Dipmeter
7080.00	1.15	296.23	6949.17	-278.37	997.60	1035.61	0.65	0.23	-30.57	Dipmeter
7090.00	1.18	296.03	6959.17	-278.28	997.42	1035.41	0.28	0.28	-1.98	Dipmeter
7100.00	1.20	295.41	6969.17	-278.19	997.23	1035.21	0.22	0.18	-6.20	Dipmeter
7110.00	1.21	294.62	6979.16	-278.10	997.04	1035.00	0.23	0.16	-7.85	Dipmeter
7120.00	1.23	294.92	6989.16	-278.01	996.84	1034.79	0.22	0.21	2.92	Dipmeter
7130.00	1.25	294.34	6999.16	-277.92	996.65	1034.57	0.18	0.13	-5.79	Dipmeter
7140.00	1.25	294.67	7009.16	-277.83	996.45	1034.36	0.10	0.06	3.29	Dipmeter
7150.00	1.26	293.95	7019.15	-277.74	996.25	1034.14	0.19	0.10	-7.16	Dipmeter
7160.00	1.26	293.64	7029.15	-277.65	996.05	1033.92	0.07	0.01	-3.11	Dipmeter
7170.00	1.27	292.79	7039.15	-277.57	995.84	1033.70	0.19	0.03	-8.49	Dipmeter
7180.00	1.28	292.38	7049.15	-277.48	995.64	1033.48	0.13	0.09	-4.10	Dipmeter
7190.00	1.28	291.77	7059.14	-277.40	995.43	1033.26	0.15	0.07	-6.09	Dipmeter
7200.00	1.26	291.24	7069.14	-277.32	995.23	1033.04	0.29	-0.26	-5.28	Dipmeter
7210.00	1.25	290.17	7079.14	-277.24	995.02	1032.82	0.25	-0.10	-10.70	Dipmeter
7220.00	1.23	288.82	7089.14	-277.17	994.82	1032.61	0.35	-0.19	-13.47	Dipmeter
7230.00	1.21	288.05	7099.13	-277.10	994.62	1032.39	0.26	-0.21	-7.70	Dipmeter
7240.00	1.18	287.19	7109.13	-277.04	994.42	1032.19	0.30	-0.24	-8.60	Dipmeter
7250.00	1.15	286.29	7119.13	-276.98	994.22	1031.98	0.41	-0.37	-9.07	Dipmeter
7260.00	1.11	285.48	7129.13	-276.92	994.03	1031.79	0.40	-0.36	-8.06	Dipmeter
7270.00	1.07	284.91	7139.13	-276.87	993.85	1031.60	0.43	-0.42	-5.73	Dipmeter
7280.00	1.02	284.44	7149.12	-276.83	993.67	1031.41	0.47	-0.46	-4.67	Dipmeter
7290.00	0.96	284.19	7159.12	-276.79	993.51	1031.24	0.59	-0.59	-2.51	Dipmeter

Allis-Chalmers Energy, Inc.

Survey Report

Company: ANADARKO PETROLEUM	Date: 09/25/2010	Time: 11:03:49	Page: 5
Field: Weld County, CO	Co-ordinate(NE) Reference: Well: 21-21, Grid North		
Site: Burchfield 18-21 Pad	Vertical (TVD) Reference: 4775'GL+15'KB 4790.0		
Well: 21-21	Section (VS) Reference: Well (0.00N,0.00E,106.37Azi)		
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
7300.00	0.88	286.06	7169.12	-276.74	993.35	1031.08	0.86	-0.81	18.68	Dipmeter
7310.00	0.82	295.46	7179.12	-276.69	993.21	1030.93	1.51	-0.57	94.02	Dipmeter
7315.88	0.95	304.13	7185.00	-276.65	993.13	1030.84	3.07	2.07	147.53	21-21 PBHL
7320.00	1.04	308.93	7189.12	-276.60	993.08	1030.78	3.07	2.32	116.44	Dipmeter
7330.00	1.09	311.54	7199.12	-276.48	992.94	1030.61	0.72	0.53	26.04	Dipmeter
7340.00	1.09	311.54	7209.12	-276.36	992.79	1030.43	0.00	0.00	0.00	Dipmeter
7350.00	1.09	311.54	7219.11	-276.23	992.65	1030.26	0.00	0.00	0.00	Dipmeter
7360.00	1.09	311.54	7229.11	-276.10	992.51	1030.09	0.00	0.00	0.00	Dipmeter
7363.00	1.09	311.54	7232.11	-276.06	992.46	1030.04	0.14	-0.14	0.16	21-21 BHL

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		
21-21 SL			0.00	0.00	0.00	1321991.74	3167783.01	40	12	56.510	N	104	53	57.197	W
21-21 PBHL			7185.00	-289.09	983.96	1321702.66	3168766.97	40	12	53.588	N	104	53	44.538	W
-Circle (Radius: 50)															
21-21 BHL			7232.11	-276.06	992.46	1321715.68	3168775.47	40	12	53.716	N	104	53	44.428	W