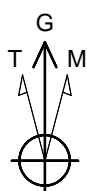


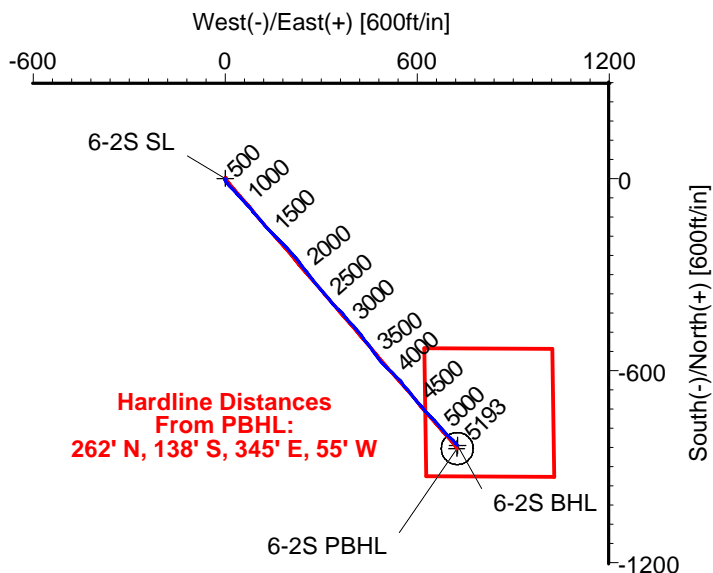
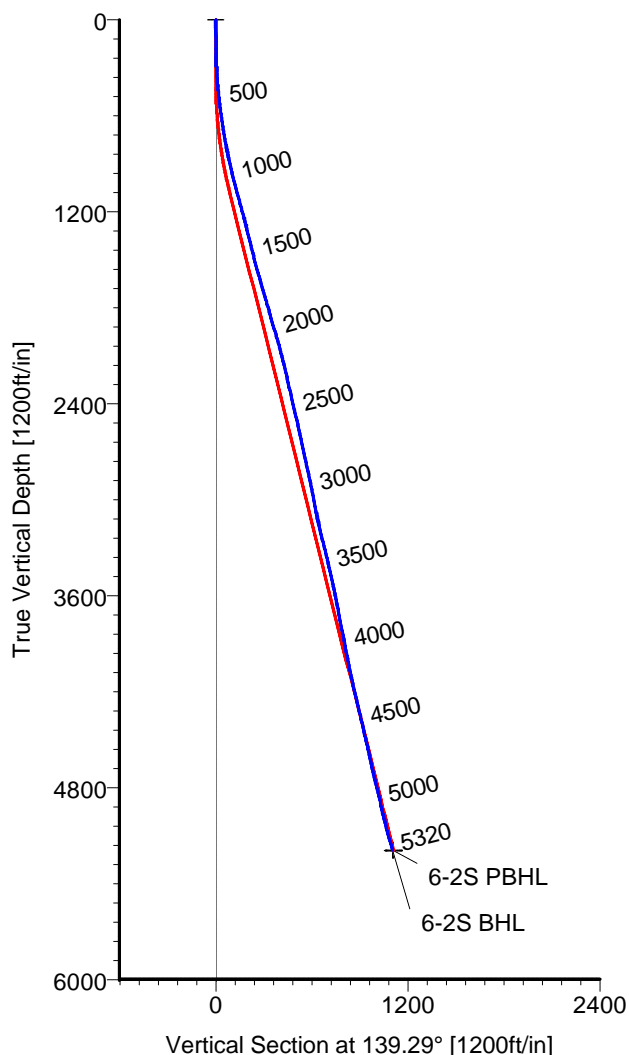
# ANADARKO PETROLEUM

Field: Weld County, CO  
Site: Jesser 18-2 Pad  
Well: Brown 6-2S  
Wellpath: Original Hole



Azimuths to Grid North  
True North: -0.49°  
Magnetic North: 8.42°

Magnetic Field  
Strength: 53062nT  
Dip Angle: 66.82°  
Date: 12/03/2010  
Model: IGRF2010



## CASING DETAILS

No.	TVD	MD	Name	Size
1	1100.00	1112.86	8 5/8"	8.625

## LEGEND

— Brown 6-2S, Original Hole, Plan #5  
— Original Hole

## TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
6-2S SL	0.00	0.00	0.00	40°05'02.658N	104°44'58.353W	Point
6-2S PBHL	5190.71	-842.50	724.92	40°04'54.272N	104°44'49.119W	Circle (Radius: 50)
6-2S BHL	5192.76	-832.86	726.14	40°04'54.367N	104°44'49.102W	Point

Wellpath: (Brown 6-2S/Original Hole)

Created By: Ivonne Gonzalez

Date: 12/26/2010

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

<b>Company:</b> ANADARKO PETROLEUM <b>Field:</b> Weld County, CO <b>Site:</b> Jesser 18-2 Pad <b>Well:</b> Brown 6-2S <b>Wellpath:</b> Original Hole	<b>Date:</b> 12/26/2010 <b>Co-ordinate(NE) Reference:</b> <b>Vertical (TVD) Reference:</b> <b>Section (VS) Reference:</b> <b>Survey Calculation Method:</b>	<b>Time:</b> 08:51:34 <b>Well:</b> Brown 6-2S, Grid North <b>5144'GL+13'KB</b> 5157.0 <b>Well (0.00N,0.00E,139.29Azi)</b> <b>Minimum Curvature</b>	<b>Page:</b> 1 <b>Db:</b> Sybase
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<b>Field:</b> Weld County, CO  <b>Map System:</b> US State Plane Coordinate System 1983 <b>Geo Datum:</b> GRS 1980 <b>Sys Datum:</b> Mean Sea Level	<b>Map Zone:</b> Colorado, Northern Zone <b>Coordinate System:</b> Well Centre <b>Geomagnetic Model:</b> IGRF2010
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<b>Site:</b> Jesser 18-2 Pad  Centered on Jesser 21-2 <b>Site Position:</b> <b>From:</b> Geographic <b>Position Uncertainty:</b> 0.00 ft <b>Ground Level:</b> 5144.00 ft	<b>Northing:</b> 1274364.19 ft <b>Easting:</b> 3210048.09 ft  <b>Latitude:</b> 40 5 2.663 N <b>Longitude:</b> 104 44 57.581 W <b>North Reference:</b> Grid <b>Grid Convergence:</b> 0.49 deg
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<b>Well:</b> Brown 6-2S  <b>Well Position:</b> +N/-S -0.99 ft +E/-W -60.01 ft <b>Position Uncertainty:</b> 0.00 ft	<b>Slot Name:</b> 6-2S  <b>Latitude:</b> 40 5 2.658 N <b>Longitude:</b> 104 44 58.353 W
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<b>Wellpath:</b> Original Hole  <b>Current Datum:</b> 5144'GL+13'KB <b>Magnetic Data:</b> 12/03/2010 <b>Field Strength:</b> 53062 nT <b>Vertical Section:</b> Depth From (TVD) ft	<b>Drilled From:</b> Surface <b>Tie-on Depth:</b> 0.00 ft <b>Above System Datum:</b> Mean Sea Level <b>Declination:</b> 8.90 deg <b>Mag Dip Angle:</b> 66.82 deg <b>Direction</b> deg
0.00	0.00

<b>Survey Program for Definitive Wellpath</b>			
<b>Date:</b> 12/26/2010	<b>Validated:</b> No	<b>Version:</b> 0	
<b>Actual From</b> ft	<b>To</b> ft	<b>Survey</b>	<b>Toolcode</b> <b>Tool Name</b>
50.00	5275.00	Survey #1 (50.00-5275.00)	MWD
5320.00	5320.00	Survey #2 (5320.00-5320.00)	Std MWD 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	0.70	230.40	50.00	-0.19	-0.24	-0.01	1.40	1.40	0.00	MWD
110.00	0.70	187.20	109.99	-0.79	-0.56	0.23	0.86	0.00	-72.00	MWD
170.00	1.20	182.20	169.99	-1.78	-0.63	0.94	0.84	0.83	-8.33	MWD
230.00	1.40	170.60	229.97	-3.13	-0.54	2.02	0.55	0.33	-19.33	MWD
291.00	2.60	158.70	290.93	-5.16	0.09	3.97	2.07	1.97	-19.51	MWD
350.00	4.20	142.50	349.83	-8.12	1.89	7.39	3.14	2.71	-27.46	MWD
427.00	5.60	137.90	426.55	-13.14	6.12	13.96	1.89	1.82	-5.97	MWD
518.00	6.70	135.90	517.02	-20.25	12.79	23.70	1.23	1.21	-2.20	MWD
608.00	8.10	136.20	606.27	-28.60	20.84	35.27	1.56	1.56	0.33	MWD
699.00	9.20	139.70	696.23	-38.77	29.98	48.95	1.34	1.21	3.85	MWD
789.00	10.20	137.60	784.95	-50.15	40.01	64.11	1.18	1.11	-2.33	MWD
880.00	13.00	136.90	874.08	-63.57	52.44	82.39	3.08	3.08	-0.77	MWD
971.00	13.90	137.90	962.58	-79.16	66.76	103.54	1.02	0.99	1.10	MWD
1062.00	14.30	139.40	1050.84	-95.80	81.40	125.71	0.60	0.44	1.65	MWD
1095.00	15.10	140.70	1082.76	-102.22	86.77	134.08	2.62	2.42	3.94	MWD
1150.00	15.10	138.80	1135.86	-113.15	96.03	148.41	0.90	0.00	-3.45	MWD
1241.00	15.50	141.40	1223.64	-131.58	111.42	172.41	0.87	0.44	2.86	MWD
1332.00	13.90	134.40	1311.66	-148.73	126.82	195.46	2.62	-1.76	-7.69	MWD
1423.00	13.90	135.10	1400.00	-164.12	142.35	217.25	0.18	0.00	0.77	MWD
1513.00	15.10	135.80	1487.13	-180.18	158.15	239.73	1.35	1.33	0.78	MWD
1604.00	15.10	133.70	1574.99	-196.87	174.98	263.36	0.60	0.00	-2.31	MWD

# Allis-Chalmers Energy, Inc.

## Survey Report

<b>Company:</b> ANADARKO PETROLEUM <b>Field:</b> Weld County, CO <b>Site:</b> Jesser 18-2 Pad <b>Well:</b> Brown 6-2S <b>Wellpath:</b> Original Hole	<b>Date:</b> 12/26/2010 <b>Co-ordinate(NE) Reference:</b> Well: Brown 6-2S, Grid North <b>Vertical (TVD) Reference:</b> 5144'GL+13'KB 5157.0 <b>Section (VS) Reference:</b> Well (0.00N,0.00E,139.29Azi) <b>Survey Calculation Method:</b> Minimum Curvature <b>Db:</b> 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
1695.00	15.70	136.90	1662.72	-214.05	191.97	287.46	1.14	0.66	3.52	MWD
1786.00	16.70	139.30	1750.11	-232.95	208.91	312.84	1.32	1.10	2.64	MWD
1877.00	16.40	141.80	1837.34	-252.96	225.38	338.74	0.85	-0.33	2.75	MWD
1967.00	16.20	142.20	1923.72	-272.86	240.93	363.98	0.25	-0.22	0.44	MWD
2058.00	15.50	141.80	2011.26	-292.45	256.23	388.80	0.78	-0.77	-0.44	MWD
2149.00	14.60	142.20	2099.14	-311.07	270.78	412.40	1.00	-0.99	0.44	MWD
2240.00	13.20	141.40	2187.47	-328.25	284.29	434.24	1.55	-1.54	-0.88	MWD
2331.00	12.70	140.40	2276.16	-344.08	297.15	454.63	0.60	-0.55	-1.10	MWD
2421.00	13.00	139.70	2363.90	-359.42	310.00	474.64	0.38	0.33	-0.78	MWD
2512.00	13.00	139.70	2452.57	-375.03	323.24	495.11	0.00	0.00	0.00	MWD
2603.00	12.70	137.60	2541.29	-390.23	336.61	515.34	0.61	-0.33	-2.31	MWD
2693.00	12.10	134.10	2629.19	-404.10	350.05	534.63	1.07	-0.67	-3.89	MWD
2784.00	12.10	136.50	2718.17	-417.65	363.47	553.65	0.55	0.00	2.64	MWD
2875.00	12.70	140.40	2807.05	-432.28	376.41	573.18	1.13	0.66	4.29	MWD
2966.00	11.70	138.60	2895.99	-446.91	388.89	592.41	1.18	-1.10	-1.98	MWD
3056.00	10.70	137.20	2984.28	-459.88	400.60	609.88	1.15	-1.11	-1.56	MWD
3147.00	10.70	139.00	3073.70	-472.46	411.88	626.77	0.37	0.00	1.98	MWD
3238.00	13.50	142.90	3162.67	-487.31	423.83	645.83	3.20	3.08	4.29	MWD
3329.00	13.90	141.80	3251.08	-504.37	437.00	667.35	0.52	0.44	-1.21	MWD
3420.00	13.70	145.30	3339.45	-521.82	449.89	688.98	0.94	-0.22	3.85	MWD
3511.00	12.80	145.30	3428.03	-538.97	461.77	709.73	0.99	-0.99	0.00	MWD
3601.00	12.70	145.30	3515.81	-555.30	473.07	729.48	0.11	-0.11	0.00	MWD
3693.00	11.60	137.60	3605.76	-570.44	485.07	748.79	2.13	-1.20	-8.37	MWD
3783.00	10.90	136.20	3694.03	-583.27	497.06	766.33	0.83	-0.78	-1.56	MWD
3874.00	10.90	125.60	3783.39	-594.49	510.01	783.28	2.20	0.00	-11.65	MWD
3965.00	10.90	137.90	3872.76	-605.88	522.78	800.24	2.55	0.00	13.52	MWD
4055.00	11.30	134.80	3961.08	-618.41	534.74	817.54	0.80	0.44	-3.44	MWD
4146.00	11.80	139.70	4050.24	-631.79	547.09	835.73	1.21	0.55	5.38	MWD
4237.00	12.30	143.60	4139.24	-646.68	558.86	854.70	1.05	0.55	4.29	MWD
4327.00	12.80	139.30	4227.09	-661.96	571.05	874.23	1.18	0.56	-4.78	MWD
4418.00	13.70	140.40	4315.66	-677.91	584.49	895.09	1.03	0.99	1.21	MWD
4509.00	13.20	138.60	4404.17	-694.00	598.23	916.25	0.72	-0.55	-1.98	MWD
4600.00	12.90	139.70	4492.82	-709.54	611.67	936.80	0.43	-0.33	1.21	MWD
4690.00	12.30	139.30	4580.65	-724.47	624.42	956.43	0.67	-0.67	-0.44	MWD
4781.00	12.50	133.70	4669.53	-738.63	637.86	975.93	1.34	0.22	-6.15	MWD
4872.00	14.10	137.60	4758.09	-753.62	652.46	996.81	2.01	1.76	4.29	MWD
4962.00	13.00	141.10	4845.58	-769.59	666.21	1017.88	1.52	-1.22	3.89	MWD
5053.00	12.80	138.60	4934.29	-785.12	679.30	1038.19	0.65	-0.22	-2.75	MWD
5144.00	15.10	135.10	5022.60	-801.08	694.33	1060.10	2.69	2.53	-3.85	MWD
5235.00	15.00	134.40	5110.48	-817.71	711.11	1083.65	0.23	-0.11	-0.77	MWD
5275.00	14.40	135.50	5149.17	-824.88	718.30	1093.77	1.65	-1.50	2.75	MWD
5317.89	14.40	135.50	5190.71	-832.49	725.78	1104.42	0.00	0.00	0.00	6-2S PBHL
5320.00	14.40	135.50	5192.76	-832.86	726.14	1104.94	0.00	0.00	0.00	6-2S BHL

### Targets

Name	Description Dip.	Dir.	TVD ft	+N/-S ft	+E/-W ft	Map Northing ft	Map Easting ft	<--- Latitude ---> Deg Min Sec			<--- Longitude ---> Deg Min Sec		
6-2S SL			0.00	0.00	0.00	1274363.20	3209988.08	40	5	2.658 N	104	44	58.353 W
6-2S PBHL			5190.71	-842.50	724.92	1273520.70	3210713.00	40	4	54.272 N	104	44	49.119 W
-Circle (Radius: 50)													
6-2S BHL			5192.76	-832.86	726.14	1273530.34	3210714.22	40	4	54.367 N	104	44	49.102 W