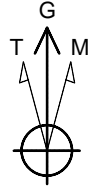


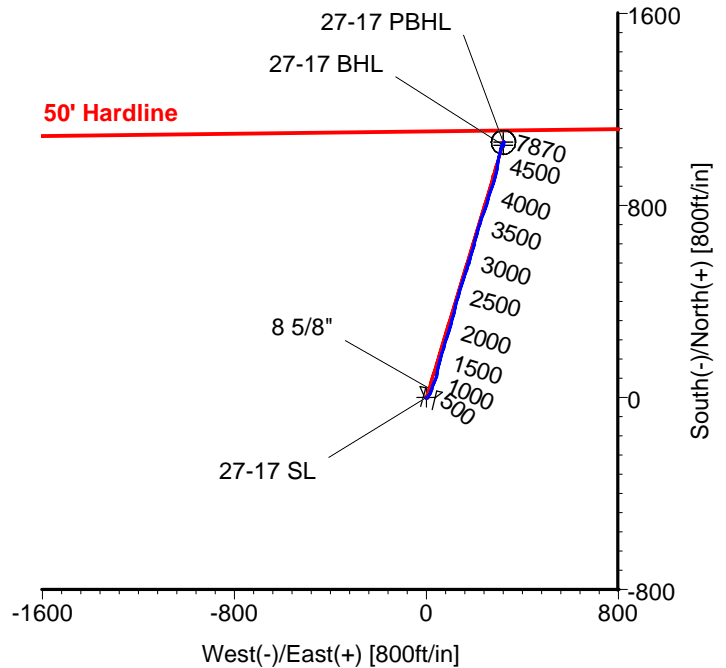
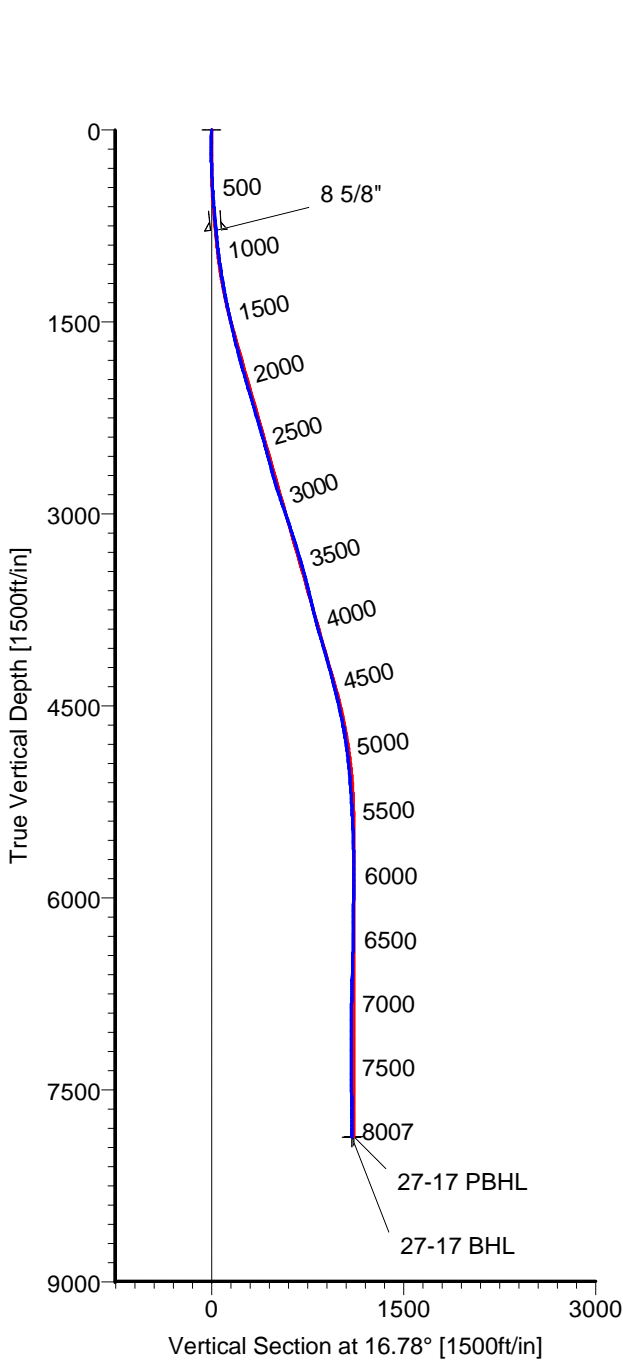
ANADARKO PETROLEUM

Field: Weld County, CO
 Site: REI 17-17 Pad
 Well: 27-17
 Wellpath: Original Hole



Azimuths to Grid North
 True North: -0.53°
 Magnetic North: 8.29°

Magnetic Field
 Strength: 53098nT
 Dip Angle: 66.93°
 Date: 05/18/2011
 Model: IGRF2010



CASING DETAILS

No.	TVD	MD	Name	Size
1	784.58	786.00	8 5/8"	8.625

LEGEND

- 27-17,Original Hole,Plan #3
- Original Hole

TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
27-17 SL	0.00	0.00	0.00	40°13'46.592N	104°41'01.169W	Point
27-17 PBHL	7863.00	1063.13	320.57	40°13'57.069N	104°40'56.910W	Circle (Radius: 50)
27-17 BHL	7869.70	1051.92	320.26	40°13'56.958N	104°40'56.915W	Point

Wellpath: (27-17/Original Hole)

Created By: Ivonne Gonzalez

Date: 07/01/2011

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

Archer

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Survey Report

Company: ANADARKO PETROLEUM Field: Weld County, CO Site: REI 17-17 Pad Well: 27-17 Wellpath: Original Hole	Date: 07/01/2011 Co-ordinate(NE) Reference: Vertical (TVD) Reference: Section (VS) Reference: Survey Calculation Method:	Time: 08:17:27 Well: 27-17, Grid North 4898'GL+15'KB 4913.0 Well (0.00N,0.00E,16.78Azi) 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: REI 17-17 Pad Centered on 27-17 Site Position: From: Geographic Position Uncertainty: 0.00 ft Ground Level: 4898.00 ft	Northing: 1327540.32 ft Easting: 3227934.36 ft Latitude: 40 13 46.592 N Longitude: 104 41 1.169 W North Reference: Grid Grid Convergence: 0.53 deg
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Well: 27-17 Well Position: +N/-S 0.00 ft +E/-W 0.00 ft Position Uncertainty: 0.00 ft	Slot Name: 27-17 Northing: 1327540.32 ft Easting : 3227934.36 ft Latitude: 40 13 46.592 N Longitude: 104 41 1.169 W
------------------------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Wellpath: Original Hole Current Datum: 4898'GL+15'KB Magnetic Data: 05/18/2011 Field Strength: 53098 nT Vertical Section: Depth From (TVD) ft	Drilled From: Surface Tie-on Depth: 0.00 ft Above System Datum: Mean Sea Level Declination: 8.82 deg Mag Dip Angle: 66.93 deg +N/-S ft +E/-W ft Direction deg
0.00	0.00

Survey Program for Definitive Wellpath				
Date: 07/01/2011	Validated: No	Version: 0		
Actual From ft	To ft	Survey	Toolcode	Tool Name
51.00	7962.00	Survey #1 (51.00-7962.00)	MWD	Std MWD
8007.00	8007.00	Survey #2 (8007.00-8007.00)	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
51.00	0.90	155.10	51.00	-0.36	0.17	-0.30	1.76	1.76	0.00	MWD
142.00	0.90	127.30	141.99	-1.44	1.04	-1.08	0.48	0.00	-30.55	MWD
235.00	1.40	58.00	234.97	-1.29	2.58	-0.48	1.47	0.54	-74.52	MWD
321.00	2.60	32.70	320.92	0.91	4.53	2.18	1.70	1.40	-29.42	MWD
428.00	3.20	30.30	427.78	5.53	7.35	7.42	0.57	0.56	-2.24	MWD
519.00	4.20	37.30	518.59	10.38	10.65	13.01	1.20	1.10	7.69	MWD
610.00	5.10	31.10	609.29	16.49	14.75	20.05	1.13	0.99	-6.81	MWD
701.00	5.10	25.00	699.93	23.62	18.55	27.97	0.60	0.00	-6.70	MWD
741.00	5.30	20.00	739.77	26.97	19.94	31.58	1.24	0.50	-12.50	MWD
791.00	5.30	13.70	789.55	31.38	21.27	36.19	1.16	0.00	-12.60	MWD
882.00	6.00	21.10	880.11	39.90	23.98	45.13	1.11	0.77	8.13	MWD
972.00	7.20	24.30	969.52	49.43	28.00	55.41	1.39	1.33	3.56	MWD
1063.00	8.80	20.40	1059.63	61.15	32.77	68.01	1.86	1.76	-4.29	MWD
1154.00	9.30	19.40	1149.49	74.61	37.64	82.30	0.58	0.55	-1.10	MWD
1245.00	10.00	10.60	1239.21	89.32	41.53	97.50	1.79	0.77	-9.67	MWD
1336.00	11.60	10.20	1328.60	106.09	44.61	114.45	1.76	1.76	-0.44	MWD
1426.00	11.80	14.40	1416.73	123.91	48.50	132.63	0.97	0.22	4.67	MWD
1517.00	12.80	16.90	1505.64	142.57	53.74	152.01	1.24	1.10	2.75	MWD
1608.00	13.70	15.10	1594.22	162.62	59.48	172.86	1.09	0.99	-1.98	MWD
1699.00	13.90	15.10	1682.59	183.57	65.14	194.56	0.22	0.22	0.00	MWD
1790.00	14.40	15.90	1770.83	205.01	71.08	216.80	0.59	0.55	0.88	MWD

ARCHER

Survey Report

Company: ANADARKO PETROLEUM	Date: 07/01/2011	Time: 08:17:27	Page: 2
Field: Weld County, CO	Co-ordinate(NE) Reference: Well: 27-17, Grid North		
Site: REI 17-17 Pad	Vertical (TVD) Reference: 4898'GL+15'KB 4913.0		
Well: 27-17	Section (VS) Reference: Well (0.00N,0.00E,16.78Azi)		
Wellpath: Original Hole	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
1881.00	16.20	16.90	1858.60	228.04	77.87	240.81	2.00	1.98	1.10	MWD
1972.00	15.70	18.30	1946.10	251.87	85.43	265.81	0.69	-0.55	1.54	MWD
2063.00	16.40	16.90	2033.55	275.86	93.03	290.97	0.88	0.77	-1.54	MWD
2153.00	16.40	15.10	2119.89	300.28	100.03	316.37	0.56	0.00	-2.00	MWD
2244.00	16.40	14.40	2207.18	325.13	106.58	342.05	0.22	0.00	-0.77	MWD
2335.00	17.20	15.90	2294.30	350.51	113.46	368.34	1.00	0.88	1.65	MWD
2426.00	15.80	14.80	2381.55	375.43	120.31	394.17	1.58	-1.54	-1.21	MWD
2517.00	15.70	14.10	2469.13	399.35	126.47	418.85	0.24	-0.11	-0.77	MWD
2607.00	15.10	15.50	2555.90	422.45	132.57	442.74	0.78	-0.67	1.56	MWD
2698.00	14.80	16.90	2643.82	445.00	139.12	466.21	0.52	-0.33	1.54	MWD
2789.00	16.40	18.30	2731.47	468.32	146.53	490.68	1.81	1.76	1.54	MWD
2880.00	18.10	18.30	2818.37	493.94	155.00	517.65	1.87	1.87	0.00	MWD
2971.00	18.80	18.00	2904.69	521.30	163.97	546.44	0.78	0.77	-0.33	MWD
3061.00	19.50	16.60	2989.71	549.49	172.75	575.96	0.93	0.78	-1.56	MWD
3152.00	18.10	16.20	3075.86	577.62	181.03	605.29	1.54	-1.54	-0.44	MWD
3243.00	17.20	16.60	3162.57	604.09	188.82	632.88	1.00	-0.99	0.44	MWD
3334.00	17.60	15.10	3249.41	630.27	196.24	660.09	0.66	0.44	-1.65	MWD
3425.00	16.70	13.70	3336.36	656.25	202.93	686.89	1.09	-0.99	-1.54	MWD
3515.00	15.50	16.90	3422.83	680.32	209.48	711.83	1.66	-1.33	3.56	MWD
3606.00	15.10	17.30	3510.61	703.28	216.54	735.85	0.45	-0.44	0.44	MWD
3697.00	13.90	15.10	3598.71	725.15	222.92	758.63	1.45	-1.32	-2.42	MWD
3788.00	13.00	19.70	3687.21	745.34	229.21	779.77	1.54	-0.99	5.05	MWD
3879.00	14.30	20.80	3775.64	765.48	236.66	801.21	1.46	1.43	1.21	MWD
3969.00	15.70	19.40	3862.57	787.36	244.65	824.46	1.61	1.56	-1.56	MWD
4060.00	15.70	18.30	3950.18	810.66	252.60	849.07	0.33	0.00	-1.21	MWD
4151.00	16.20	15.90	4037.67	834.56	259.95	874.07	0.91	0.55	-2.64	MWD
4241.00	15.70	18.70	4124.21	858.17	267.29	898.79	1.02	-0.56	3.11	MWD
4332.00	15.00	17.60	4211.96	881.05	274.80	922.87	0.83	-0.77	-1.21	MWD
4423.00	15.10	16.90	4299.84	903.62	281.81	946.50	0.23	0.11	-0.77	MWD
4514.00	14.10	13.00	4387.91	925.76	287.75	969.42	1.54	-1.10	-4.29	MWD
4605.00	12.50	12.00	4476.46	946.20	292.29	990.29	1.78	-1.76	-1.10	MWD
4695.00	11.80	10.90	4564.45	964.76	296.05	1009.15	0.82	-0.78	-1.22	MWD
4786.00	11.60	10.20	4653.55	982.90	299.43	1027.50	0.27	-0.22	-0.77	MWD
4877.00	9.30	12.00	4743.04	999.10	302.58	1043.91	2.55	-2.53	1.98	MWD
5013.00	6.90	10.90	4877.67	1017.88	306.41	1062.99	1.77	-1.76	-0.81	MWD
5149.00	4.80	16.20	5012.96	1031.36	309.54	1076.81	1.59	-1.54	3.90	MWD
5285.00	4.20	17.70	5148.54	1041.57	312.65	1087.48	0.45	-0.44	1.10	MWD
5421.00	3.20	19.70	5284.25	1049.89	315.44	1096.25	0.74	-0.74	1.47	MWD
5558.00	2.10	24.30	5421.10	1055.78	317.76	1102.56	0.82	-0.80	3.36	MWD
5694.00	2.20	22.20	5557.01	1060.47	319.77	1107.63	0.09	0.07	-1.54	MWD
5876.00	0.70	58.00	5738.95	1064.29	322.04	1111.94	0.92	-0.82	19.67	MWD
6057.00	0.90	204.30	5919.94	1063.58	322.39	1111.37	0.85	0.11	80.83	MWD
6239.00	0.70	227.80	6101.92	1061.53	320.98	1109.00	0.21	-0.11	12.91	MWD
6420.00	0.50	205.30	6282.91	1060.07	319.82	1107.27	0.17	-0.11	-12.43	MWD
6602.00	1.60	183.90	6464.88	1056.82	319.31	1104.00	0.63	0.60	-11.76	MWD
6784.00	1.70	193.40	6646.81	1051.66	318.51	1098.83	0.16	0.05	5.22	MWD
6965.00	0.90	175.80	6827.76	1047.63	317.99	1094.83	0.49	-0.44	-9.72	MWD
7147.00	0.40	180.40	7009.75	1045.57	318.09	1092.88	0.28	-0.27	2.53	MWD
7328.00	0.20	6.00	7190.75	1045.25	318.12	1092.59	0.33	-0.11	-96.35	MWD
7510.00	0.40	24.30	7372.74	1046.15	318.41	1093.53	0.12	0.11	10.05	MWD
7692.00	0.70	17.60	7554.73	1047.79	319.01	1095.27	0.17	0.16	-3.68	MWD
7873.00	0.90	17.30	7735.72	1050.20	319.77	1097.80	0.11	0.11	-0.17	MWD
7962.00	0.70	14.80	7824.71	1051.39	320.12	1099.04	0.23	-0.22	-2.81	MWD

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Survey Report

Company: ANADARKO PETROLEUM	Date: 07/01/2011	Time: 08:17:27	Page: 3
Field: Weld County, CO	Co-ordinate(NE) Reference:	Well: 27-17, Grid North	
Site: REI 17-17 Pad	Vertical (TVD) Reference:	4898'GL+15'KB 4913.0	
Well: 27-17	Section (VS) Reference:	Well (0.00N,0.00E,16.78Azi)	
Wellpath: Original Hole	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
8000.30	0.70	14.80	7863.00	1051.84	320.24	1099.51	0.00	0.00	0.00	27-17 PBHL
8007.00	0.70	14.80	7869.70	1051.92	320.26	1099.59	0.00	0.00	0.00	27-17 BHL

Targets

Name	Description Dip.	Dir.	TVD ft	+N/-S ft	+E/-W ft	Map Northing ft	Map Easting ft	<---- Latitude ---->			<--- Longitude --->		
27-17 SL			0.00	0.00	0.00	1327540.32	3227934.36	40	13	46.592 N	104	41	1.169 W
27-17 PBHL			7863.00	1063.13	320.57	1328603.45	3228254.93	40	13	57.069 N	104	40	56.910 W
-Circle (Radius: 50)													
27-17 BHL			7869.70	1051.92	320.26	1328592.24	3228254.62	40	13	56.958 N	104	40	56.915 W