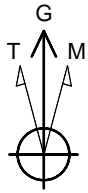


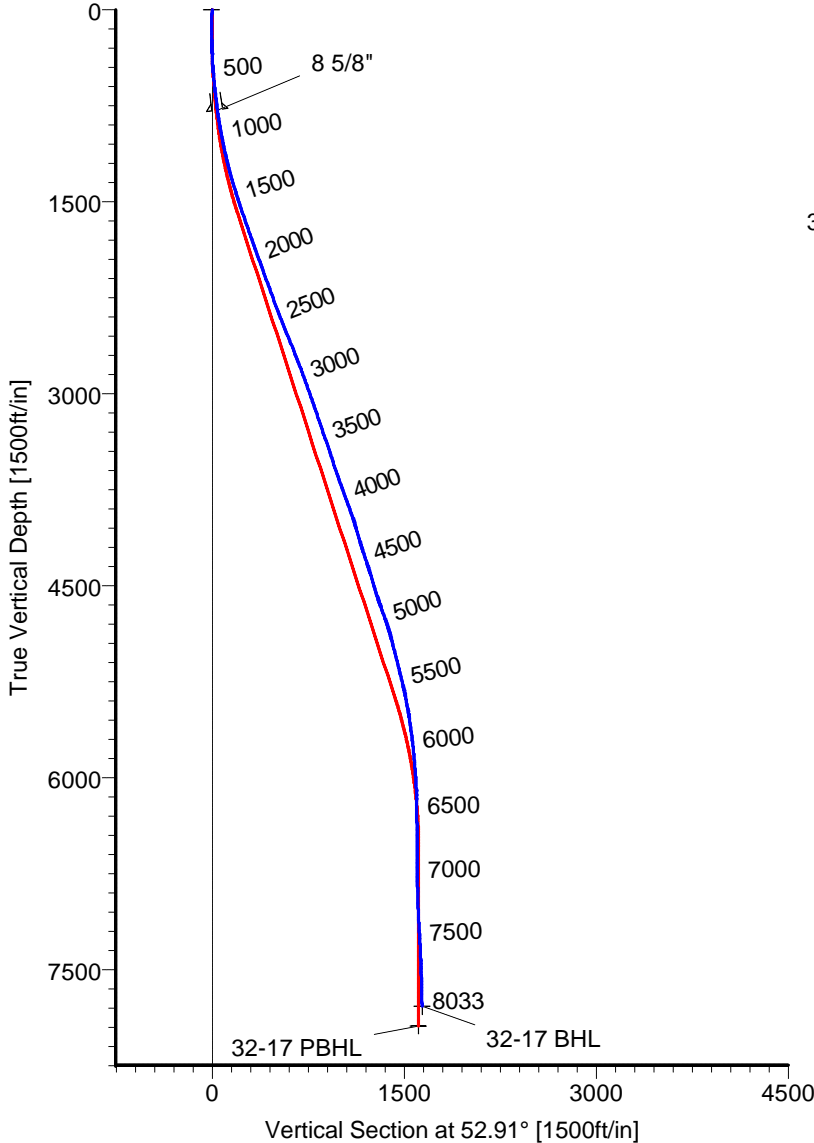
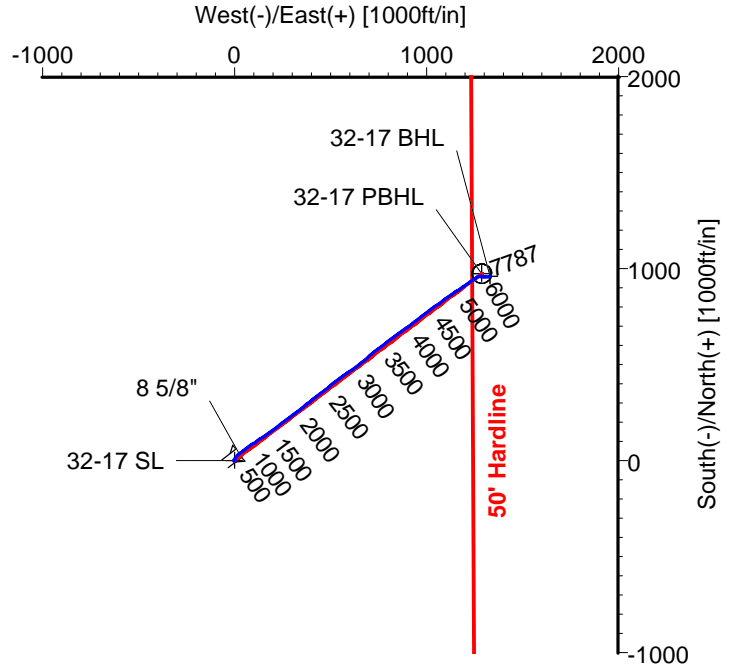
ANADARKO PETROLEUM

Field: Weld County, CO
 Site: Sekich 20-18 Pad
 Well: 32-17
 Wellpath: Original Hole



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

Magnetic Field
 Strength: 53083nT
 Dip Angle: 66.89°
 Date: 03/29/2011
 Model: IGRF2010



CASING DETAILS

No.	TVD	MD	Name	Size
1	782.71	785.00	8 5/8"	8.625

LEGEND

- 32-17, Original Hole, Plan #1
- Original Hole

TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
32-17 SL	0.00	0.00	0.00	40°13'23.205N	104°55'39.787W	Point
32-17 BHL	7786.81	959.31	1331.12	40°13'32.600N	104°55'22.546W	Point
32-17 PBHL	7940.00	973.25	1287.33	40°13'32.741N	104°55'23.109W	Circle (Radius: 50)

Wellpath: (32-17/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	Date: 04/03/2011	Time: 09:25:04	Page: 1
Field: Weld County, CO	Co-ordinate(NE) Reference: Well: 32-17, Grid North		
Site: Sekich 20-18 Pad	Vertical (TVD) Reference: 4865'GL+13'KB 4878.0		
Well: 32-17	Section (VS) Reference: Well (0.00N,0.00E,52.91Azi)		
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: Sekich 20-18 Pad			
Centered on 24-18			
Site Position:	Northing: 1324641.38 ft	Latitude: 40 13 23.218 N	
From: Geographic	Easting: 3159775.41 ft	Longitude: 104 55 40.199 W	
Position Uncertainty: 0.00 ft		North Reference: Grid	
Ground Level: 4865.00 ft		Grid Convergence: 0.37 deg	

Well: 32-17		Slot Name: 32-17	
Well Position:	+N/-S -1.08 ft	Northing: 1324640.30 ft	Latitude: 40 13 23.205 N
	+E/-W 31.98 ft	Easting : 3159807.39 ft	Longitude: 104 55 39.787 W
Position Uncertainty: 0.00 ft			

Wellpath: Original Hole		Drilled From: Surface	
Current Datum: 4865'GL+13'KB	Height 4878.00 ft	Tie-on Depth: 0.00 ft	
Magnetic Data: 03/29/2011		Above System Datum: Mean Sea Level	
Field Strength: 53083 nT		Declination: 8.97 deg	
Vertical Section:		Mag Dip Angle: 66.89 deg	
Depth From (TVD)	+N/-S	+E/-W	Direction
ft	ft	ft	deg
0.00	0.00	0.00	52.91

Survey Program for Definitive Wellpath				
Date: 04/02/2011	Validated: No	Version: 0		
Actual From	To	Survey	Toolcode	Tool Name
ft	ft			
51.00	7988.00	Survey #1 (51.00-7988.00)	MWD	Std MWD
8033.00	8033.00	Survey #2 (8033.00-8033.00)	Project	Projection

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
51.00	0.70	266.30	51.00	-0.02	-0.31	-0.26	1.37	1.37	0.00	MWD
112.00	0.90	267.70	111.99	-0.06	-1.16	-0.96	0.33	0.33	2.30	MWD
171.00	0.90	272.60	170.99	-0.06	-2.09	-1.70	0.13	0.00	8.31	MWD
231.00	0.50	319.00	230.98	0.16	-2.73	-2.08	1.10	-0.67	77.33	MWD
292.00	1.90	3.70	291.97	1.37	-2.84	-1.44	2.60	2.30	73.28	MWD
351.00	3.00	27.60	350.91	3.71	-2.06	0.60	2.51	1.86	40.51	MWD
428.00	3.90	37.10	427.77	7.59	0.45	4.94	1.38	1.17	12.34	MWD
519.00	5.50	32.20	518.47	13.75	4.64	11.99	1.81	1.76	-5.38	MWD
610.00	6.30	35.00	608.98	21.53	9.83	20.82	0.93	0.88	3.08	MWD
700.00	6.90	47.70	698.39	29.21	16.66	30.91	1.75	0.67	14.11	MWD
740.00	7.20	50.80	738.09	32.41	20.38	35.80	1.21	0.75	7.75	MWD
785.00	7.75	52.39	782.71	36.04	24.97	41.66	1.30	1.22	3.54	8 5/8"
838.00	8.40	54.00	835.18	40.50	30.93	49.10	1.30	1.23	3.03	MWD
928.00	10.00	54.00	924.02	48.96	42.57	63.49	1.78	1.78	0.00	MWD
1019.00	11.10	53.60	1013.48	58.80	56.02	80.14	1.21	1.21	-0.44	MWD
1110.00	12.50	53.60	1102.56	69.84	70.99	98.75	1.54	1.54	0.00	MWD
1201.00	13.90	56.80	1191.15	81.67	88.07	119.51	1.73	1.54	3.52	MWD
1291.00	15.50	55.40	1278.20	94.42	107.01	142.31	1.82	1.78	-1.56	MWD
1382.00	16.50	55.40	1365.67	108.67	127.66	167.37	1.10	1.10	0.00	MWD
1474.00	17.40	52.90	1453.68	124.38	149.39	194.18	1.26	0.98	-2.72	MWD
1564.00	18.50	54.70	1539.30	140.75	171.77	221.90	1.37	1.22	2.00	MWD

Allis-Chalmers Energy, Inc.

Survey Report

Company: ANADARKO PETROLEUM	Date: 04/03/2011	Time: 09:25:04	Page: 2
Field: Weld County, CO	Co-ordinate(NE) Reference: Well: 32-17, Grid North		
Site: Sekich 20-18 Pad	Vertical (TVD) Reference: 4865'GL+13'KB 4878.0		
Well: 32-17	Section (VS) Reference: Well (0.00N,0.00E,52.91Azi)		
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
1655.00	18.80	55.70	1625.52	157.36	195.67	250.98	0.48	0.33	1.10	MWD
1746.00	19.20	54.30	1711.56	174.35	219.94	280.59	0.67	0.44	-1.54	MWD
1836.00	19.40	53.30	1796.50	191.92	243.94	310.33	0.43	0.22	-1.11	MWD
1927.00	20.20	50.80	1882.12	210.88	268.23	341.14	1.28	0.88	-2.75	MWD
2018.00	20.80	53.60	1967.36	230.40	293.41	373.00	1.26	0.66	3.08	MWD
2109.00	19.70	52.60	2052.74	249.31	318.60	404.49	1.27	-1.21	-1.10	MWD
2200.00	19.50	52.20	2138.47	267.93	342.79	435.02	0.26	-0.22	-0.44	MWD
2291.00	20.20	51.50	2224.06	287.02	367.09	465.91	0.81	0.77	-0.77	MWD
2427.00	20.40	52.60	2351.61	316.03	404.29	513.09	0.32	0.15	0.81	MWD
2518.00	21.50	53.60	2436.59	335.56	430.31	545.62	1.27	1.21	1.10	MWD
2608.00	22.50	51.50	2520.04	356.07	457.07	579.33	1.41	1.11	-2.33	MWD
2699.00	22.00	50.10	2604.27	377.84	483.77	613.76	0.80	-0.55	-1.54	MWD
2790.00	21.80	50.50	2688.70	399.53	509.88	647.67	0.27	-0.22	0.44	MWD
2881.00	21.10	54.00	2773.40	419.90	536.18	680.93	1.60	-0.77	3.85	MWD
2971.00	20.20	54.00	2857.62	438.56	561.85	712.67	1.00	-1.00	0.00	MWD
3062.00	19.50	55.40	2943.21	456.42	587.07	743.55	0.93	-0.77	1.54	MWD
3153.00	19.40	56.80	3029.02	473.32	612.21	773.80	0.52	-0.11	1.54	MWD
3244.00	19.00	52.90	3114.96	490.53	636.68	803.69	1.48	-0.44	-4.29	MWD
3335.00	18.70	51.20	3201.08	508.61	659.86	833.09	0.69	-0.33	-1.87	MWD
3426.00	18.70	49.40	3287.27	527.24	682.31	862.23	0.63	0.00	-1.98	MWD
3516.00	19.00	48.70	3372.45	546.30	704.27	891.24	0.42	0.33	-0.78	MWD
3607.00	19.00	50.50	3458.49	565.50	726.83	920.82	0.64	0.00	1.98	MWD
3698.00	18.30	52.60	3544.71	583.60	749.61	949.90	1.07	-0.77	2.31	MWD
3788.00	18.50	52.90	3630.11	600.79	772.22	978.31	0.25	0.22	0.33	MWD
3880.00	19.50	51.90	3717.10	619.07	795.95	1008.26	1.14	1.09	-1.09	MWD
3970.00	20.60	52.20	3801.64	638.05	820.28	1039.11	1.23	1.22	0.33	MWD
4061.00	19.70	53.60	3887.07	656.96	845.27	1070.46	1.12	-0.99	1.54	MWD
4152.00	18.50	54.00	3973.06	674.55	869.30	1100.23	1.33	-1.32	0.44	MWD
4243.00	16.40	57.10	4059.87	690.02	891.77	1127.48	2.52	-2.31	3.41	MWD
4333.00	16.40	56.10	4146.21	704.00	912.98	1152.84	0.31	0.00	-1.11	MWD
4424.00	17.80	50.50	4233.19	720.02	934.38	1179.57	2.37	1.54	-6.15	MWD
4515.00	18.70	50.80	4319.61	738.09	956.42	1208.04	0.99	0.99	0.33	MWD
4605.00	16.70	53.30	4405.35	754.93	977.97	1235.39	2.38	-2.22	2.78	MWD
4696.00	16.70	56.40	4492.51	769.98	999.34	1261.52	0.98	0.00	3.41	MWD
4787.00	17.60	52.60	4579.47	785.58	1021.16	1288.33	1.58	0.99	-4.18	MWD
4877.00	20.40	53.30	4664.56	803.22	1044.55	1317.63	3.12	3.11	0.78	MWD
4968.00	19.40	53.60	4750.12	821.67	1069.44	1348.60	1.10	-1.10	0.33	MWD
5059.00	17.20	52.90	4836.51	838.75	1092.33	1377.17	2.43	-2.42	-0.77	MWD
5150.00	14.90	57.10	4923.96	853.23	1112.89	1402.30	2.83	-2.53	4.62	MWD
5241.00	14.60	54.30	5011.97	866.27	1132.03	1425.43	0.85	-0.33	-3.08	MWD
5332.00	14.00	56.40	5100.15	879.06	1150.51	1447.88	0.87	-0.66	2.31	MWD
5423.00	13.70	54.00	5188.50	891.48	1168.40	1469.64	0.71	-0.33	-2.64	MWD
5513.00	13.50	58.20	5275.98	903.28	1185.95	1490.76	1.12	-0.22	4.67	MWD
5604.00	11.10	55.40	5364.89	913.86	1202.19	1510.09	2.72	-2.64	-3.08	MWD
5695.00	10.60	55.00	5454.26	923.63	1216.26	1527.21	0.56	-0.55	-0.44	MWD
5785.00	8.40	55.00	5543.02	932.15	1228.42	1542.05	2.44	-2.44	0.00	MWD
5876.00	7.90	56.40	5633.10	939.42	1239.08	1554.94	0.59	-0.55	1.54	MWD
5967.00	6.50	56.40	5723.38	945.74	1248.58	1566.32	1.54	-1.54	0.00	MWD
6057.00	5.50	56.80	5812.89	950.92	1256.43	1575.71	1.11	-1.11	0.44	MWD
6149.00	4.40	61.00	5904.54	955.04	1263.21	1583.60	1.26	-1.20	4.57	MWD
6239.00	3.90	62.40	5994.30	958.13	1268.94	1590.04	0.57	-0.56	1.56	MWD
6330.00	2.80	66.30	6085.15	960.46	1273.72	1595.25	1.23	-1.21	4.29	MWD
6421.00	1.10	103.90	6176.09	961.14	1276.60	1597.97	2.24	-1.87	41.32	MWD

Allis-Chalmers Energy, Inc.

Survey Report

Company: ANADARKO PETROLEUM	Date: 04/03/2011	Time: 09:25:04	Page: 3
Field: Weld County, CO	Co-ordinate(NE) Reference: Well: 32-17, Grid North		
Site: Sekich 20-18 Pad	Vertical (TVD) Reference: 4865'GL+13'KB 4878.0		
Well: 32-17	Section (VS) Reference: Well (0.00N,0.00E,52.91Azi)		
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
6512.00	1.10	95.50	6267.08	960.85	1278.32	1599.16	0.18	0.00	-9.23	MWD
6693.00	0.90	139.80	6448.05	959.60	1280.96	1600.51	0.43	-0.11	24.48	MWD
6874.00	0.90	101.40	6629.03	958.23	1283.27	1601.53	0.33	0.00	-21.22	MWD
7056.00	1.10	76.10	6811.01	958.37	1286.37	1604.09	0.26	0.11	-13.90	MWD
7237.00	2.80	96.50	6991.90	958.29	1292.45	1608.89	1.00	0.94	11.27	MWD
7419.00	4.60	92.60	7173.51	957.45	1304.16	1617.72	1.00	0.99	-2.14	MWD
7601.00	3.20	84.60	7355.08	957.60	1316.51	1627.66	0.82	-0.77	-4.40	MWD
7783.00	1.90	88.40	7536.90	958.16	1324.58	1634.44	0.72	-0.71	2.09	MWD
7964.00	1.40	74.70	7717.83	958.83	1329.71	1638.94	0.35	-0.28	-7.57	MWD
7988.00	1.20	70.10	7741.82	958.99	1330.23	1639.45	0.94	-0.83	-19.17	MWD
8033.00	1.20	70.10	7786.81	959.31	1331.12	1640.35	0.00	0.00	0.00	32-17 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		
32-17 SL		0.00	0.00	0.00	1324640.30	3159807.39	40	13	23.205	N	104	55	39.787	W
32-17 BHL		7786.81	959.31	1331.12	1325599.61	3161138.51	40	13	32.600	N	104	55	22.546	W
32-17 PBHL		7940.00	973.25	1287.33	1325613.55	3161094.72	40	13	32.741	N	104	55	23.109	W
-Circle (Radius: 50)														

Casing Points

MD ft	TVD ft	Diameter in	Hole Size in	Name
785.00	782.71	8.625	9.875	8 5/8"