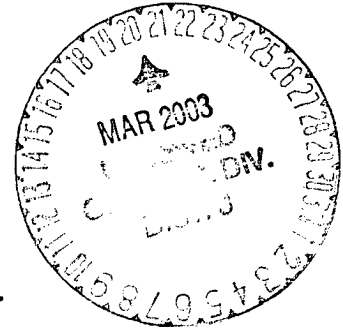




30-045-31203

Surface 1260/S 1210/E
BHL 1945/S 674/E

<u>Lease</u>	<u>Ulibarri GC 3M</u>	<u>San Juan Co., NM</u>
	<u>Well Name</u>	<u>County/State</u>
Survey Depths	<u>206</u> to <u>2736</u> ft	
Type of Survey	<u>Measurements While Drilling (MWD)</u>	
Survey Depths	<u> </u>	<u> </u> ft
Type of Survey	<u> </u>	
Survey Depths	<u> </u> to <u> </u> ft	
Type of Survey	<u> </u>	
Site Supervisor	<u>Greg Johnson</u>	

A. Allen Starkey
A. Allen Starkey
Account Manager

Christine J. Nelson My commission expires: 12.12.05

Survey Report - Geodetic

Report Date: 05-Mar-2003		Survey / DLS Computation Method: Minimum Curvature / Lubinski	
Client: BP America Inc.		Vertical Section Azimuth: 38.570°	
Field: NM, San Juan County (NAD 83 WZ)		Vertical Section Origin: N 0.000 ft, E 0.000 ft	
Structure / Slot: BP 35 30N 9W (Ulibarri Gas Com 3M) No Certified Plat - Have Lat-Long / Ulibarri Gas Com 3M		TVD Reference Datum: RKB	
Well: Ulibarri Gas Com 3M		TVD Reference Elevation: 5635.000 ft relative to MSL	
Borehole: Original Hole		Sea Bed / Ground Level Elevation: 5621.000 ft relative to MSL	
UWI/API#:		Magnetic Declination: +10.889°	
Survey Name / Date: Ulibarri GC 3M Final Surveys / March 5, 2003		Total Field Strength: 51513.901 nT	
Tort / AHD / DDI / ERD ratio: 64.377° / 878.75 ft / 4.763 / 0.125		Magnetic Dip: 63.676°	
Grid Coordinate System: NAD83 New Mexico State Planes, Western Zone, US Feet		Declination Date: March 05, 2003	
Location Lat/Long: N 36 45 54.000, W 107 44 42.000		Magnetic Declination Model: BCGM 2002	
Location Grid N/E Y/X: N 2097790.335 ftUS, E 2748964.884 ftUS		North Reference: True North	
Grid Convergence Angle: -0.05287056°		Total Corr Mag North -> True North: +10.889°	
Grid Scale Factor: 0.99991743		Local Coordinates Referenced To: Well Head	

Station ID	MD (ft)	Incl (°)	Azim (°)	TVD (ft)	VSec (ft)	N-S (ft)	E-W (ft)	DLS (°/100ft)	Grid Coordinates		Geographic Coordinates	
									Northing (ftUS)	Easting (ftUS)	Latitude	Longitude
Surface	0.00	0.00	167.34	0.00	0.00	0.00	0.00		2097790.34	2748964.88	N 36 45 54.000	W 107 44 42.000
Begin SLB MWD Surveys	206.00	0.46	167.34	206.00	-0.52	-0.81	0.18	0.22	2097789.53	2748965.07	N 36 45 53.992	W 107 44 41.998
	236.00	0.88	106.72	236.00	-0.51	-0.99	0.43	2.56	2097789.34	2748965.31	N 36 45 53.990	W 107 44 41.995
	267.00	1.11	68.88	266.99	-0.16	-0.95	0.94	2.20	2097789.39	2748965.82	N 36 45 53.991	W 107 44 41.988
	297.00	2.20	55.10	296.98	0.64	-0.52	1.68	3.84	2097789.82	2748966.56	N 36 45 53.995	W 107 44 41.979
	328.00	3.58	50.35	327.94	2.16	0.44	2.91	4.51	2097790.78	2748967.80	N 36 45 54.004	W 107 44 41.964
	359.00	4.55	48.65	358.86	4.32	1.87	4.58	3.15	2097792.21	2748969.46	N 36 45 54.019	W 107 44 41.944
	390.00	5.95	45.95	389.73	7.12	3.80	6.66	4.58	2097794.14	2748971.54	N 36 45 54.038	W 107 44 41.918
	422.00	6.80	43.35	421.53	10.66	6.33	9.15	2.80	2097796.67	2748974.03	N 36 45 54.063	W 107 44 41.888
	453.00	7.38	42.06	452.29	14.47	9.14	11.75	1.94	2097799.49	2748976.62	N 36 45 54.090	W 107 44 41.856
	484.00	8.48	40.35	483.00	18.74	12.36	14.56	3.63	2097802.71	2748979.43	N 36 45 54.122	W 107 44 41.821
	515.00	9.38	41.53	513.62	23.55	16.00	17.71	2.96	2097806.35	2748982.58	N 36 45 54.158	W 107 44 41.782
	546.00	10.32	39.50	544.16	28.85	20.03	21.16	3.23	2097810.38	2748986.02	N 36 45 54.198	W 107 44 41.740
	579.00	11.36	38.64	576.57	35.06	24.85	25.06	3.19	2097815.21	2748989.92	N 36 45 54.246	W 107 44 41.692
	611.00	12.57	37.92	607.88	41.69	30.06	29.17	3.81	2097820.42	2748994.03	N 36 45 54.297	W 107 44 41.641
	642.00	13.77	38.13	638.06	48.75	35.62	33.52	3.87	2097825.99	2748998.37	N 36 45 54.352	W 107 44 41.588
	673.00	14.18	38.07	668.15	56.24	41.51	38.14	1.32	2097831.88	2749002.99	N 36 45 54.410	W 107 44 41.531
	704.00	15.15	38.57	698.14	64.09	47.67	43.01	3.16	2097838.04	2749007.85	N 36 45 54.471	W 107 44 41.471

736.00	15.85	38.75	728.97	72.64	54.35	48.35	2.19	2097844.72	2749013.18	N 36 45 54.537	W 107 44 41.406
766.00	16.73	38.73	757.77	81.05	60.91	53.62	2.93	2097851.29	2749018.44	N 36 45 54.602	W 107 44 41.341
797.00	17.30	38.70	787.41	90.13	67.99	59.29	1.84	2097858.37	2749024.11	N 36 45 54.672	W 107 44 41.271
829.00	18.00	37.63	817.90	99.83	75.62	65.29	2.41	2097866.01	2749030.09	N 36 45 54.748	W 107 44 41.198
860.00	18.85	37.80	847.31	109.62	83.37	71.28	2.75	2097873.76	2749036.08	N 36 45 54.824	W 107 44 41.124
892.00	19.80	39.32	877.51	120.21	91.65	77.88	3.36	2097882.05	2749042.68	N 36 45 54.906	W 107 44 41.043
923.00	20.52	40.55	906.61	130.89	99.84	84.74	2.70	2097890.24	2749049.53	N 36 45 54.987	W 107 44 40.959
954.00	21.35	40.50	935.56	141.96	108.26	91.94	2.68	2097898.67	2749056.72	N 36 45 55.070	W 107 44 40.870
984.00	22.58	39.53	963.39	153.18	116.85	99.15	4.27	2097907.27	2749063.92	N 36 45 55.155	W 107 44 40.781
1015.00	23.77	39.15	991.88	165.38	126.29	106.89	3.87	2097916.71	2749071.64	N 36 45 55.249	W 107 44 40.686
1045.00	24.98	38.60	1019.21	177.76	135.93	114.65	4.10	2097926.36	2749079.40	N 36 45 55.344	W 107 44 40.591
1107.00	25.58	37.82	1075.27	204.23	156.73	131.03	1.11	2097947.18	2749095.76	N 36 45 55.550	W 107 44 40.390
1168.00	26.02	36.63	1130.19	230.77	177.87	147.09	1.11	2097968.33	2749111.80	N 36 45 55.759	W 107 44 40.192
1229.00	25.60	37.30	1185.11	257.32	199.09	163.06	0.84	2097989.56	2749127.74	N 36 45 55.969	W 107 44 39.996
1289.00	26.27	39.80	1239.07	283.56	219.61	179.41	2.14	2098010.09	2749144.08	N 36 45 56.171	W 107 44 39.795
1381.00	26.85	41.45	1321.36	324.66	250.82	206.20	1.02	2098041.33	2749170.83	N 36 45 56.480	W 107 44 39.466
1442.00	27.25	40.00	1375.68	352.38	271.85	224.29	1.26	2098062.37	2749188.91	N 36 45 56.688	W 107 44 39.243
1536.00	26.50	36.70	1459.54	394.86	305.15	250.66	1.78	2098095.69	2749215.24	N 36 45 57.017	W 107 44 38.919
1630.00	25.52	36.75	1544.02	436.06	338.19	275.31	1.04	2098128.75	2749239.86	N 36 45 57.344	W 107 44 38.616
1721.00	26.05	36.13	1625.95	475.62	370.03	298.82	0.65	2098160.61	2749263.34	N 36 45 57.659	W 107 44 38.328
1814.00	26.60	36.30	1709.31	516.82	403.31	323.19	0.60	2098193.91	2749287.67	N 36 45 57.988	W 107 44 38.028
1908.00	27.33	36.13	1793.09	559.41	437.70	348.37	0.78	2098228.32	2749312.82	N 36 45 58.328	W 107 44 37.719
1971.00	26.88	36.65	1849.17	588.09	460.80	365.40	0.81	2098251.44	2749329.83	N 36 45 58.556	W 107 44 37.509
2033.00	26.60	37.40	1904.54	615.98	483.08	382.20	0.71	2098273.72	2749346.60	N 36 45 58.777	W 107 44 37.303
2095.00	26.25	36.82	1960.06	643.56	505.08	398.84	0.70	2098295.74	2749363.23	N 36 45 58.994	W 107 44 37.098
2156.00	25.05	35.82	2015.05	669.95	526.35	414.49	2.09	2098317.02	2749378.85	N 36 45 59.204	W 107 44 36.906
2218.00	23.05	35.80	2071.66	695.18	546.84	429.27	3.23	2098337.52	2749393.61	N 36 45 59.407	W 107 44 36.724
2280.00	21.33	37.15	2129.07	718.58	565.67	443.18	2.89	2098356.37	2749407.50	N 36 45 59.593	W 107 44 36.553
2338.00	20.30	38.10	2183.29	739.19	582.00	455.76	1.87	2098372.70	2749420.07	N 36 45 59.755	W 107 44 36.399
2399.00	17.92	37.63	2240.92	759.15	597.76	468.02	3.91	2098388.48	2749432.31	N 36 45 59.910	W 107 44 36.248
2431.00	17.25	37.10	2271.42	768.82	605.44	473.89	2.15	2098396.16	2749438.17	N 36 45 59.986	W 107 44 36.176
2462.00	16.84	38.00	2301.06	777.90	612.65	479.43	1.57	2098403.37	2749443.70	N 36 46 0.058	W 107 44 36.108
2493.00	16.59	40.02	2330.75	786.82	619.58	485.04	2.04	2098410.31	2749449.31	N 36 46 0.126	W 107 44 36.039
2555.00	15.40	42.03	2390.35	803.88	632.47	496.24	2.12	2098423.21	2749460.50	N 36 46 0.254	W 107 44 35.901
2616.00	13.34	43.05	2449.44	818.99	643.63	506.47	3.40	2098434.38	2749470.71	N 36 46 0.364	W 107 44 35.776
2678.00	11.63	43.75	2509.97	832.34	653.37	515.67	2.77	2098444.13	2749479.91	N 36 46 0.460	W 107 44 35.662
2708.00	11.04	43.55	2539.39	838.22	657.64	519.74	1.97	2098448.40	2749483.98	N 36 46 0.503	W 107 44 35.612

Last SLB MWD Survey	2736.00	10.63	44.18	2566.89	843.46	661.43	523.39	1.52	2098452.19	2749487.62	N 36 46 0.540	W 107 44 35.568
End Client Assumed Drop	3090.33	0.00	44.18	2919.19	876.07	684.94	546.23	3.00	2098475.72	2749510.44	N 36 46 0.772	W 107 44 35.287
Client Assumed TD	6993.00	0.00	44.18	6821.86	876.07	684.94	546.23	0.00	2098475.72	2749510.44	N 36 46 0.772	W 107 44 35.287

N E

Survey Error Model: Topographic 3-D 95.00% Confidence 2.7955 sigma

Surveying Programme:

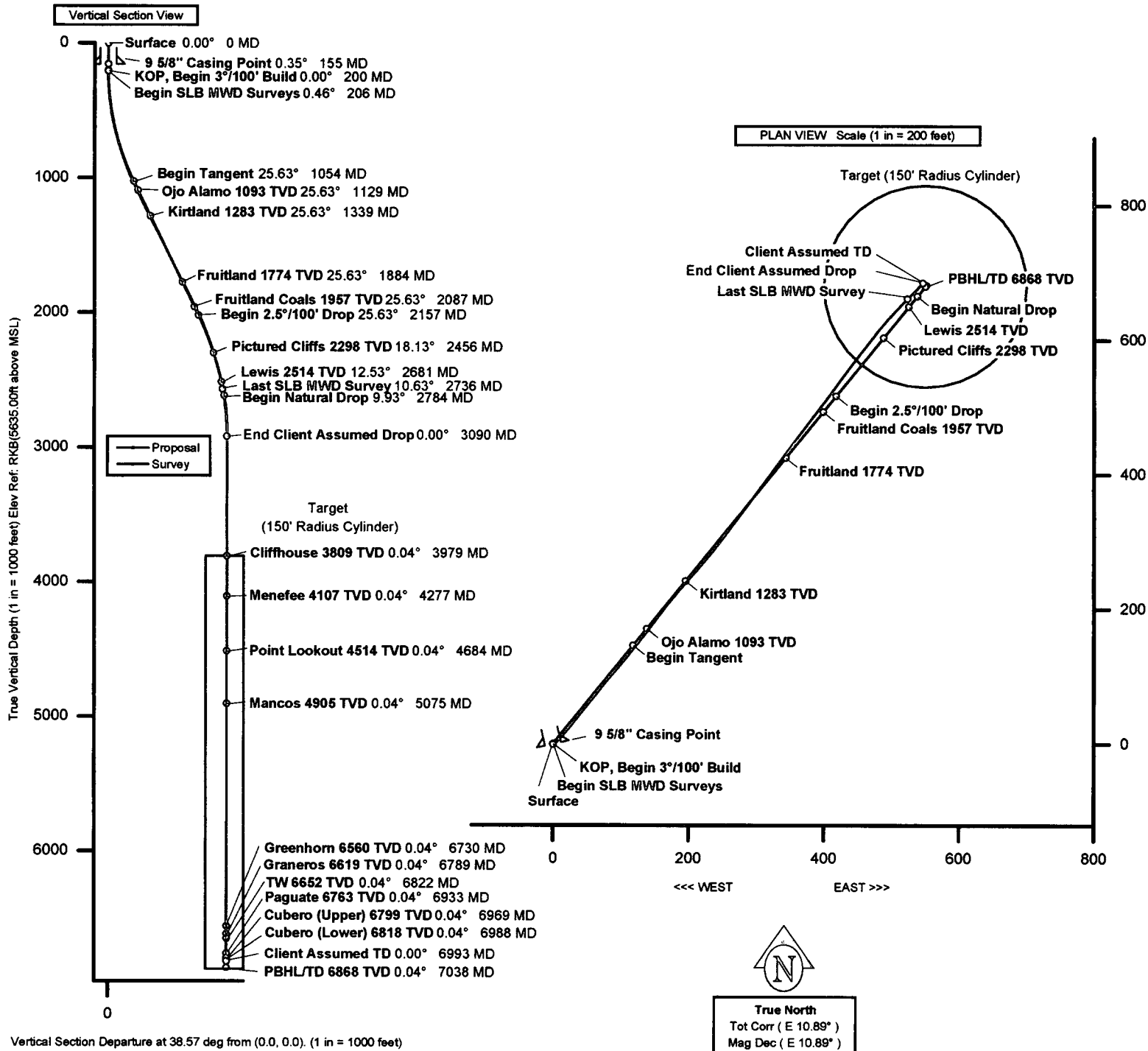
<u>MD From (ft)</u>	<u>MD To (ft)</u>	<u>EOU Freq</u>	<u>Survey Tool Type</u>
0.00	206.00	Act-Stns	Blind Drilling
206.00	2736.00	Act-Stns	MWD1
2736.00	6993.00	Act-Stns	Blind Drilling



BP America Inc.



WELL	FIELD	RIG
Ulibarri Gas Com 3M	San Juan County, New Mexico	Aztec 545
Magnetic Parameters		
Model: BGGM 2002		
Dip: 63.676° Mag Dec: 10.889°		
Date: March 05, 2003 FS: 51513.9 nT		
Surface Location		
Lat: N36 45 54.000 Lon: W107 44 42.000		
North: 2097790.34 ftUS East: 2748964.88 ftUS		
Grid Conv: 0.0529° Scale Fact: 0.9999		
Plan#: Rev1 jok 17-Sep-03		
Slot: Ulibarri Gas Com 3M		
Elev Ref: RKB(5635.00ft above MSL)		
Date Drawn: 08:55:46AM 05-Mar-2003		



Quality Control
Date Drawn: 05-Mar-2003
Drawn by: James Wimberg
Checked by: John O'Keefe
Client OK: