



SURVEY CERTIFICATION REPORT

My commision expires: 12-12-05



Elliott GC A 1B Final Surveys Report



Report Date: October 27, 2003 Client: BP America Inc. Field: NM, San Juan County (NAD 83 WZ) Structure / Slot: BP 14-29N-SW (Elliott GC A 1B) / Elliott GC A 1B Well: Elliott GC A 1B Borehole: Original Hole UNWAPIS: Survey Name / Date: Elliott GC A 1B Final Surveys / September 27, 2003 Tort / AHD / DDI / ERD ratio: 60.428" / 962.68 ft / 4.779 / 0.170 Grid Coordinate System: NAD83 New Mexico State Planes, Western Zone, US Feet Location Lat/Long: N 36 43 36.000, W 107 44 36.000 Location Grid NIE YDN: N 2083835.412 ftUS, E 2749466.172 ftUS Grid Convergence Angle: +0.05381987" Grid Scale Factor: 0.99991746	Survey / DLS Computation Method: Minimum Curvature / Lubinski Vertical Section Azimuth: 12.580° Vertical Section Origin: N 0.000 ft, E 0.000 ft TVD Reference Datum: RKB TVD Reference Elevation: 6422.0 ft relative to MSL Sea Bed / Ground Level Elevation: 6408.000 ft relative to MSL Magnetic Declination: 10.816° Total Field Strength: 51512.902 nT Magnetic Dip: 63.672° Declination Date: September 27, 2003 Magnetic Declination Model: BGM 2003 North Reference: Grid North Total Cor Mag North -> Grid North: +10.762° Local Coordinates Referenced To: Well Head
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Comments	Measured Depth (ft)	Inclination (deg)	Azimuth (deg)	TVD (ft)	Vertical Section (ft)	NS (ft)	EW (ft)	DLS (deg/100 ft)	Northing (ftUS)	Easting (ftUS)	Latitude	Longitude
Surface	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2083835.41	2749466.17	N 36 43 36.000	W 107 44 36.000
Begin SLB MWD Surveys	300.00	0.32	249.46	300.00	-0.48	-0.29	-0.78	0.11	2083835.12	2749465.39	N 36 43 35.997	W 107 44 36.010
	331.00	0.05	220.81	331.00	-0.52	-0.33	-0.87	0.89	2083835.08	2749465.30	N 36 43 35.997	W 107 44 36.011
	362.00	0.35	20.11	362.00	-0.44	-0.26	-0.85	1.28	2083835.16	2749465.32	N 36 43 35.997	W 107 44 36.010
	393.00	0.90	23.81	393.00	-0.10	0.06	-0.72	1.78	2083835.47	2749465.45	N 36 43 36.001	W 107 44 36.009
	424.00	1.63	25.44	423.99	0.57	0.68	-0.43	2.36	2083836.09	2749465.74	N 36 43 36.007	W 107 44 36.005
	455.00	2.35	15.74	454.97	1.63	1.69	-0.07	2.56	2083837.10	2749466.10	N 36 43 36.017	W 107 44 36.001
	486.00	2.88	10.04	485.94	3.04	3.07	0.24	1.90	2083838.48	2749466.41	N 36 43 36.030	W 107 44 35.997
	517.00	3.75	9.74	516.89	4.83	4.83	0.55	2.81	2083840.24	2749466.72	N 36 43 36.048	W 107 44 35.993
	548.00	4.65	6.44	547.80	7.10	7.08	0.86	3.00	2083842.49	2749467.03	N 36 43 36.070	W 107 44 35.989
	582.00	5.63	9.84	581.86	10.13	10.09	1.30	3.02	2083845.50	2749467.47	N 36 43 36.100	W 107 44 35.984
	613.00	6.32	9.46	612.50	13.35	13.27	1.84	2.23	2083848.68	2749468.01	N 36 43 36.131	W 107 44 35.977
	645.00	7.07	11.24	644.28	17.08	16.94	2.51	2.43	2083852.35	2749468.68	N 36 43 36.167	W 107 44 35.969
	677.00	7.82	13.09	676.01	21.23	20.99	3.39	2.46	2083856.40	2749469.56	N 36 43 36.208	W 107 44 35.958
	709.00	8.73	12.99	707.67	25.83	25.48	4.43	2.84	2083860.89	2749470.60	N 36 43 36.252	W 107 44 35.945
	741.00	9.68	13.21	739.26	30.95	30.47	5.59	2.97	2083865.88	2749471.76	N 36 43 36.301	W 107 44 35.931
	773.00	10.55	12.79	770.76	36.57	35.94	6.85	2.73	2083871.35	2749473.02	N 36 43 36.355	W 107 44 35.915
	805.00	11.50	12.81	802.17	42.69	41.91	8.21	2.97	2083877.32	2749474.38	N 36 43 36.414	W 107 44 35.899
	836.00	12.38	13.51	832.50	49.10	48.15	9.67	2.88	2083883.56	2749475.84	N 36 43 36.476	W 107 44 35.881
	868.00	13.15	14.31	863.71	56.17	55.02	11.37	2.47	2083890.42	2749477.54	N 36 43 36.544	W 107 44 35.860
	900.00	13.98	15.99	894.82	63.67	62.26	13.33	2.87	2083897.87	2749479.50	N 36 43 36.615	W 107 44 35.836
	932.00	14.70	15.49	925.82	71.58	69.89	15.48	2.28	2083905.29	2749481.65	N 36 43 36.691	W 107 44 35.809
	964.00	15.52	15.09	956.71	79.92	77.94	17.68	2.58	2083913.34	2749483.85	N 36 43 36.770	W 107 44 35.782
	996.00	16.38	14.56	987.48	88.70	86.44	19.93	2.73	2083921.84	2749486.10	N 36 43 36.854	W 107 44 35.754
	1028.00	17.27	15.24	1018.11	97.96	95.39	22.31	2.85	2083930.79	2749488.48	N 36 43 36.943	W 107 44 35.725
	1059.00	18.33	16.11	1047.63	107.42	104.51	24.88	3.53	2083939.91	2749491.05	N 36 43 37.033	W 107 44 35.693
	1091.00	19.23	16.16	1077.92	117.70	114.41	27.74	2.81	2083949.81	2749493.91	N 36 43 37.131	W 107 44 35.658
	1123.00	19.77	15.26	1108.09	128.37	124.69	30.63	1.93	2083960.09	2749496.80	N 36 43 37.233	W 107 44 35.622
	1155.00	20.60	15.16	1138.12	139.40	135.34	33.53	2.60	2083970.74	2749499.70	N 36 43 37.338	W 107 44 35.587
	1187.00	21.13	13.96	1168.02	150.79	146.37	36.39	2.13	2083981.77	2749502.56	N 36 43 37.447	W 107 44 35.551
	1219.00	21.70	14.04	1197.81	162.47	157.71	39.22	1.78	2083993.11	2749505.39	N 36 43 37.559	W 107 44 35.516
	1250.00	22.48	14.46	1226.54	174.12	169.01	42.09	2.57	2084004.41	2749508.26	N 36 43 37.671	W 107 44 35.481
	1282.00	23.10	15.21	1256.04	186.51	180.99	45.26	2.14	2084016.39	2749511.43	N 36 43 37.789	W 107 44 35.442
	1346.00	24.08	16.04	1314.69	212.08	205.66	52.16	1.62	2084041.05	2749518.33	N 36 43 38.033	W 107 44 35.357
	1409.00	23.80	15.66	1372.27	237.60	230.25	59.15	0.51	2084065.64	2749525.31	N 36 43 38.276	W 107 44 35.271
	1473.00	24.80	14.51	1430.60	263.91	255.68	65.99	1.73	2084091.07	2749532.16	N 36 43 38.527	W 107 44 35.186
	1537.00	25.00	13.56	1488.65	290.85	281.82	72.53	0.70	2084117.21	2749538.69	N 36 43 38.786	W 107 44 35.106
	1601.00	24.95	13.56	1546.67	317.87	308.09	78.86	0.08	2084143.47	2749545.03	N 36 43 39.046	W 107 44 35.028
	1666.00	25.13	11.94	1632.74	358.07	347.30	87.74	0.75	2084182.68	2749553.90	N 36 43 39.433	W 107 44 34.918
	1792.00	25.27	12.16	1719.60	398.95	387.28	96.27	0.18	2084222.65	2749562.43	N 36 43 39.828	W 107 44 34.813
	1887.00	25.25	10.21	1805.52	439.47	427.04	104.13	0.88	2084262.41	2749570.30	N 36 43 40.222	W 107 44 34.716
	1963.00	26.08	10.54	1892.05	481.02	467.94	111.62	0.88	2084303.31	2749577.78	N 36 43 40.626	W 107 44 34.623
	2079.00	26.43	10.19	1978.15	523.45	509.71	119.26	0.40	2084345.08	2749585.42	N 36 43 41.039	W 107 44 34.529
	2175.00	26.92	9.39	2063.93	566.50	552.18	126.59	0.63	2084387.55	2749592.75	N 36 43 41.459	W 107 44 34.439
	2302.00	27.65	10.19	2176.80	624.64	609.55	136.49	0.64	2084444.91	2749602.65	N 36 43 42.026	W 107 44 34.316
	2366.00	26.85	10.64	2233.69	653.93	638.37	141.79	1.29	2084473.73	2749607.95	N 36 43 42.311	W 107 44 34.251
	2430.00	25.95	10.74	2291.02	682.37	666.33	147.06	1.41	2084501.69	2749613.22	N 36 43 42.587	W 107 44 34.186
	2494.00	24.95	11.76	2348.81	709.86	693.31	152.43	1.71	2084528.66	2749618.58	N 36 43 42.854	W 107 44 34.120
	2557.00	23.83	12.36	2406.18	735.87	718.75	157.86	1.82	2084554.10	2749624.02	N 36 43 43.105	W 107 44 34.053
	2621.00	22.45	14.31	2465.03	761.02	743.22	163.65	2.47	2084578.57	2749629.80	N 36 43 43.347	W 107 44 33.981
	2684.00	20.88	16.09	2523.58	784.25	765.66	169.73	2.70	2084601.01	2749635.89	N 36 43 43.589	W 107 44 33.906
	2748.00	19.77	15.41	2583.60	806.44	787.06	175.77	1.77	2084622.40	2749641.93	N 36 43 43.781	W 107 44 33.832
	2811.00	19.45	14.74	2642.94	827.57	807.47	181.27	0.62	2084642.82	2749647.43	N 36 43 43.982	W 107 44 33.764
Last SLB MWD Survey	2893.00	19.17	16.44	2720.33	854.64	833.59	188.55	0.77	2084668.93	2749654.71	N 36 43 44.241	W 107 44 33.674
Begin Client Assumed Drop	2894.00	19.14	16.44	2721.28	854.97	833.90	188.65	3.00	2084669.24	2749654.80	N 36 43 44.244	W 107 44 33.673
End Client Assumed Drop	3532.00	0.00	16.44	3347.48	960.31	935.16	218.53	3.00	2084770.50	2749684.68	N 36 43 45.245	W 107 44 33.305
Assumed Client TD	5857.00	0.00	16.44	5672.48	960.31	935.16	218.53	0.00	2084770.50	2749684.68	N 36 43 45.245	W 107 44 33.305

Survey Type: Definitive Survey

Survey Error Model: SLB ISCWSA version 16 *** 3-D 95.00% Confidence 2.7956 sigma

Surveying Program:

MD From (ft)

0.00

2893.00

MD To (ft)

2893.00

5857.00

EQV Freq Survey Tool Type

Act-Sigs SLB_MWD-STD

Act-Sigs SLB_BLIND