

Florance I 38B Final Surveys Report



Report Date: January 6, 2004 Client: BP America Inc. Field: NM, San Juan County (NAD 83 WZ) Structure / Slot: BP 14-30N-8W (Florance I 38B) / Florance I 38B Well: Florance I 38B Borehole: Original Hole UWI/APM: Survey Name / Date: Florance I 38B Final Surveys / December 12, 2004 Tort / AHD / DDI / ERD ratio: 47.775° / 822.73 ft / 4.603 / 0.134 Grid Coordinate System: NAD83 New Mexico State Planes, Western Zone, US Feet Location Lat/Long: N 36 48 48.000, W 107 38 47.000 Location Grid N/E Y/X: N 2115427.925 ftUS, E 2777814.145 ftUS Grid Convergence Angle: +0.11201922° Grid Scale Factor: 0.99992009	Survey / DLS Computation Method: Minimum Curvature / Lubinski Vertical Section Azimuth: 311.150° Vertical Section Origin: N 0.000 ft, E 0.000 ft TVD Reference Datum: RKB TVD Reference Elevation: 6463.5 ft relative to MSL See Bed / Ground Level Elevation: 6453.000 ft relative to MSL Magnetic Declination: 10.765° Total Field Strength: 51556.658 nT Magnetic Dip: 63.763° Declination Date: December 12, 2003 Magnetic Declination Model: BGGM 2003 North Reference: Grid North Total Corr Mag North -> Grid North: +10.653° 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	2115427.93	2777814.15	N 36 48 48.000	W 107 38 47.000
Begin SLB MWD Surveys	158.00	0.40	225.43	158.00	0.04	-0.39	-0.39	0.25	2115427.54	2777813.75	N 36 48 47.996	W 107 38 47.005
	216.00	0.25	276.25	216.00	0.16	-0.52	-0.66	0.53	2115427.41	2777813.48	N 36 48 47.995	W 107 38 47.008
	276.00	1.25	331.83	275.99	0.88	0.08	-1.10	1.88	2115428.00	2777813.04	N 36 48 48.001	W 107 38 47.014
	335.00	2.63	320.73	334.96	2.82	1.69	-2.26	2.41	2115429.62	2777811.88	N 36 48 48.017	W 107 38 47.028
	393.00	4.07	315.38	392.86	6.18	4.19	-4.55	2.54	2115432.11	2777809.59	N 36 48 48.041	W 107 38 47.056
	451.00	5.82	315.88	450.64	11.17	7.76	-8.04	3.02	2115435.69	2777806.10	N 36 48 48.077	W 107 38 47.099
	511.00	6.78	308.08	510.28	17.73	12.13	-12.95	2.14	2115440.06	2777801.20	N 36 48 48.120	W 107 38 47.159
	573.00	8.55	303.58	571.72	25.96	16.94	-19.67	3.01	2115444.86	2777794.48	N 36 48 48.168	W 107 38 47.241
	636.00	10.07	304.55	633.89	36.07	22.65	-28.11	2.43	2115450.58	2777786.04	N 36 48 48.225	W 107 38 47.345
	699.00	10.77	308.75	695.85	47.43	29.46	-37.24	1.64	2115457.38	2777776.91	N 36 48 48.292	W 107 38 47.457
	763.00	11.60	313.03	758.64	59.83	37.59	-46.60	1.83	2115465.52	2777767.54	N 36 48 48.373	W 107 38 47.572
	825.00	12.57	314.18	819.26	72.80	46.55	-56.00	1.61	2115474.47	2777758.15	N 36 48 48.461	W 107 38 47.688
	888.00	14.20	314.43	880.55	87.36	56.74	-66.43	2.59	2115484.66	2777747.72	N 36 48 48.562	W 107 38 47.816
	950.00	15.75	314.28	940.44	103.36	67.94	-77.89	2.50	2115495.86	2777736.26	N 36 48 48.673	W 107 38 47.956
	1013.00	17.83	313.08	1000.75	121.53	80.50	-91.06	3.35	2115508.41	2777723.09	N 36 48 48.798	W 107 38 48.118
	1075.00	17.40	311.08	1059.84	140.29	93.07	-104.98	1.20	2115520.99	2777709.17	N 36 48 48.922	W 107 38 48.289
	1137.00	17.60	310.18	1118.98	158.93	105.21	-119.13	0.54	2115533.13	2777695.03	N 36 48 49.043	W 107 38 48.462
	1200.00	17.95	311.33	1178.97	178.17	117.77	-133.70	0.79	2115545.68	2777680.46	N 36 48 49.167	W 107 38 48.641
	1261.00	17.52	310.68	1237.07	196.75	129.96	-147.72	0.78	2115557.67	2777666.44	N 36 48 49.288	W 107 38 48.813
	1323.00	17.60	310.68	1296.18	215.45	142.15	-161.90	0.13	2115570.07	2777652.26	N 36 48 49.409	W 107 38 48.988
	1386.00	17.25	310.25	1356.29	234.32	154.40	-176.26	0.59	2115582.31	2777637.90	N 36 48 49.530	W 107 38 49.164
	1448.00	17.38	310.48	1415.48	252.77	166.35	-190.31	0.24	2115594.26	2777623.85	N 36 48 49.648	W 107 38 49.336
	1510.00	17.05	309.70	1474.70	271.11	178.16	-204.35	0.65	2115606.07	2777609.81	N 36 48 49.766	W 107 38 49.509
	1572.00	16.95	310.13	1533.99	289.24	189.80	-218.26	0.26	2115617.70	2777595.91	N 36 48 49.881	W 107 38 49.679
	1634.00	17.27	310.78	1593.25	307.47	201.63	-232.13	0.60	2115629.54	2777582.03	N 36 48 49.998	W 107 38 49.850
	1696.00	17.85	312.63	1652.36	326.18	214.08	-246.09	1.30	2115641.99	2777568.07	N 36 48 50.121	W 107 38 50.021
	1758.00	17.75	313.28	1711.39	345.12	226.99	-259.97	0.36	2115654.90	2777554.20	N 36 48 50.249	W 107 38 50.191
	1821.00	17.48	312.63	1771.44	364.18	239.98	-273.92	0.53	2115667.89	2777540.25	N 36 48 50.378	W 107 38 50.363
	1883.00	17.52	312.85	1830.57	382.81	252.64	-287.61	0.12	2115680.54	2777526.56	N 36 48 50.504	W 107 38 50.531
	1944.00	17.42	312.00	1888.75	401.12	264.99	-301.13	0.45	2115692.89	2777513.04	N 36 48 50.626	W 107 38 50.697
	2006.00	17.48	311.08	1947.90	419.71	277.32	-315.04	0.46	2115705.22	2777499.13	N 36 48 50.748	W 107 38 50.868
	2068.00	17.27	310.75	2007.07	438.23	289.45	-329.04	0.37	2115717.35	2777485.14	N 36 48 50.868	W 107 38 51.039
	2129.00	17.50	311.13	2065.29	456.45	301.39	-342.80	0.42	2115729.29	2777471.37	N 36 48 50.987	W 107 38 51.208
	2190.00	17.15	311.85	2123.52	474.62	313.42	-356.41	0.67	2115741.32	2777457.76	N 36 48 51.106	W 107 38 51.375
	2252.00	16.95	311.03	2182.79	492.79	325.45	-370.04	0.50	2115753.35	2777444.14	N 36 48 51.225	W 107 38 51.543
	2313.00	18.27	313.08	2240.93	511.24	337.82	-383.73	2.39	2115765.72	2777430.45	N 36 48 51.348	W 107 38 51.711
	2374.00	17.92	311.78	2298.92	530.18	350.61	-397.71	0.88	2115778.50	2777416.47	N 36 48 51.474	W 107 38 51.882
	2436.00	18.05	311.10	2357.89	549.33	363.28	-412.06	0.40	2115791.17	2777402.12	N 36 48 51.600	W 107 38 52.059
	2498.00	18.23	312.28	2416.81	568.63	376.11	-426.48	0.66	2115804.01	2777387.70	N 36 48 51.727	W 107 38 52.236
	2562.00	18.38	311.85	2477.57	588.73	389.58	-441.40	0.32	2115817.47	2777372.78	N 36 48 51.861	W 107 38 52.419
	2658.00	17.48	310.93	2568.90	618.28	409.13	-463.57	0.98	2115837.02	2777350.62	N 36 48 52.054	W 107 38 52.691
	2752.00	17.27	310.43	2658.62	646.35	427.42	-484.85	0.27	2115855.31	2777329.33	N 36 48 52.236	W 107 38 52.952
	2813.00	16.80	310.25	2716.94	664.22	438.99	-498.47	0.78	2115866.88	2777315.71	N 36 48 52.350	W 107 38 53.119
Last SLB MWD Survey Projection to 7" Casing Point	3073.00	16.80	310.25	2965.84	739.36	487.55	-555.83	0.00	2115915.43	2777258.36	N 36 48 52.831	W 107 38 53.824
Begin Client Assumed Drop	3076.00	16.77	310.25	2968.71	740.22	488.11	-556.49	1.00	2115915.99	2777257.70	N 36 48 52.837	W 107 38 53.832
End Client Assumed Drop	3636.00	0.00	310.25	3520.75	821.58	540.68	-618.60	2.99	2115968.56	2777195.60	N 36 48 53.358	W 107 38 54.594
Client Assumed TD	6238.00	0.00	310.25	6122.75	821.58	540.68	-618.60	0.00	2115968.56	2777195.60	N 36 48 53.358	W 107 38 54.594

Survey Type: Raw Survey

Survey Error Model: SLB ISCWSA version 16 *** 3-D 95.00% Confidence 2.7955 sigma

Surveying Prog:

MD From (ft)

0.00

2813.00

MD To (ft)

2813.00

6238.00

EOU Freq Survey Tool Type

Act-Stns SLB_MWD-STD

Act-Stns SLB_BLIND

Well Florance I 38B	Field San Juan County, New Mexico	Rig Aztec 507
Magnetic Parameters Model BGGM 2003 Dip 63.730° Date December 12, 2004 Mag Dec +10.657° Field Strength 51459.9 nT	Surface Location NAD83 New Mexico State Planes, Western Zone, US Feet Latitude N36 48 48.000 Northing 2115427.92 ftUS Grid Convergence +0.11201922° Longitude W107 38 47.000 Easting 2777814.15 ftUS Scale Factor 0.999920000	Miscellaneous Borehole Original Hole TVD Reference RKB (6463.50 ft above MSL) Plan Florance I 38B R0 04-Aug-03 Survey Date December 12, 2004

