

Schlumberger

6501 S. Fiddler's Green Circle, Suite 400
Greenwood Village, CO 80111
(303) 486-3200

Surface: 1690/N 1610/E
BHL 2432/N 2014/E



SUB-SURFACE SURVEY CERTIFICATION REPORT

BP America Inc.

Company

March 3, 2003

Date

30-045-31170

Florance 35B

Well Name

San Juan Co., New Mexico

County/State

Lease

Survey Depths

195

to

2979 ft

Type of Survey

Measurements While Drilling (MWD)

Survey Depths

ft

Type of Survey

Survey Depths

to

ft

Type of Survey

Site Supervisor

Greg Johnson

The data submitted in this report conforms to the standards and procedures as set forth by Schlumberger. This report represents a true and correct directional wellbore survey based on original survey data obtained at the well site.

John O'Keefe
Drilling Engineer

This document has been subscribed and affirmed, or sworn before me in the county of Arapahoe in the state of Colorado, this 3rd day of March, 2003.

Christine J. Nelson

My commission expires:

12-12-05

Survey Report - Geodetic

Report Date: 03-Mar-2003		Survey / DLS Computation Method: Minimum Curvature / Lubinski	
Client: BP		Vertical Section Azimuth: 208.560°	
Field: NM, San Juan County (NAD 83 WZ)		Vertical Section Origin: N 0.000 ft, E 0.000 ft	
Structure / Slot: BP 18 30N 8W (Florence 35B) / Florence 35B		TVD Reference Datum: RKB	
Well: Florence 35B		TVD Reference Elevation: 6420.000 ft relative to MSL	
Borehole: Original Hole		Sea Bed / Ground Level Elevation: 6408.000 ft relative to MSL	
UWI/API#:		Magnetic Declination: +10.880°	
Survey Name / Date: Florence 35B Final Surveys / March 3, 2003		Total Field Strength: 51522.074 nT	
Tort / AHD / DDI / ERD ratio: 56.955° / 848.91 ft / 4.694 / 0.145		Magnetic Dip: 63.718°	
Grid Coordinate System: NAD83 New Mexico State Planes, Western Zone, US Feet		Declination Date: March 03, 2003	
Location Lat/Long: N 36 48 18.000, W 107 42 42.000		Magnetic Declination Model: BGM 2002	
Location Grid NE YX: N 2112363.278 ftUS, E 2758709.848 ftUS		North Reference: True North	
Grid Convergence Angle: +0.07288978°		Total Corr Mag North → True North: +10.880°	
Grid Scale Factor: 0.99991812		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	349.45	0.00	0.00	0.00	0.00		2112363.28	2758709.85	N 36 48 18.000	W 107 42 42.000
Begin SLB MWD Surveys	195.00	0.82	349.45	194.99	-1.08	1.37	-0.26	0.42	2112364.65	2758709.59	N 36 48 18.014	W 107 42 42.003
	226.00	0.31	296.61	225.99	-1.25	1.63	-0.37	2.19	2112364.90	2758709.47	N 36 48 18.016	W 107 42 42.005
	256.00	0.41	284.97	255.99	-1.22	1.69	-0.55	0.41	2112364.97	2758709.30	N 36 48 18.017	W 107 42 42.007
	286.00	0.55	238.52	285.99	-1.07	1.64	-0.77	1.33	2112364.92	2758709.07	N 36 48 18.016	W 107 42 42.010
	316.00	0.90	194.93	315.99	-0.72	1.34	-0.96	2.10	2112364.62	2758708.89	N 36 48 18.013	W 107 42 42.012
	349.00	1.17	219.36	348.98	-0.14	0.83	-1.24	1.55	2112364.11	2758708.61	N 36 48 18.008	W 107 42 42.015
	379.00	1.83	208.78	378.97	0.64	0.17	-1.66	2.38	2112363.45	2758708.19	N 36 48 18.002	W 107 42 42.020
	410.00	1.84	201.23	409.96	1.63	-0.72	-2.08	0.78	2112362.55	2758707.77	N 36 48 17.993	W 107 42 42.026
	441.00	2.31	207.52	440.94	2.75	-1.74	-2.55	1.68	2112361.53	2758707.30	N 36 48 17.983	W 107 42 42.031
	472.00	3.30	207.57	471.90	4.27	-3.09	-3.25	3.19	2112360.19	2758706.60	N 36 48 17.969	W 107 42 42.040
	503.00	3.38	210.28	502.85	6.07	-4.67	-4.13	0.57	2112358.61	2758705.73	N 36 48 17.954	W 107 42 42.051
	535.00	3.82	209.40	534.78	8.08	-6.41	-5.12	1.39	2112356.86	2758704.73	N 36 48 17.937	W 107 42 42.063
	565.00	4.34	204.40	564.71	10.21	-8.31	-6.08	2.10	2112354.96	2758703.78	N 36 48 17.918	W 107 42 42.075
	597.00	5.34	207.01	596.59	12.91	-10.74	-7.26	3.20	2112352.53	2758702.60	N 36 48 17.894	W 107 42 42.089
	627.00	5.60	209.20	626.46	15.77	-13.27	-8.61	1.11	2112350.00	2758701.26	N 36 48 17.869	W 107 42 42.106
	658.00	5.96	204.95	657.30	18.89	-16.05	-10.03	1.80	2112347.22	2758699.84	N 36 48 17.841	W 107 42 42.123
	689.00	6.76	206.15	688.11	22.31	-19.14	-11.51	2.62	2112344.12	2758698.37	N 36 48 17.811	W 107 42 42.142

720.00	7.03	204.94	718.88	26.03	-22.50	-13.11	0.99	2112340.76	2758696.77	N 36 48 17.778	W 107 42 42.161
751.00	7.82	207.74	749.62	30.03	-26.09	-14.89	2.80	2112337.17	2758694.99	N 36 48 17.742	W 107 42 42.183
783.00	8.30	208.69	781.31	34.52	-30.04	-17.02	1.56	2112333.22	2758692.87	N 36 48 17.703	W 107 42 42.209
814.00	8.70	209.30	811.97	39.10	-34.05	-19.24	1.32	2112329.21	2758690.66	N 36 48 17.663	W 107 42 42.237
844.00	9.32	208.69	841.60	43.80	-38.16	-21.51	2.09	2112325.10	2758688.38	N 36 48 17.623	W 107 42 42.265
876.00	9.82	209.50	873.15	49.12	-42.81	-24.10	1.62	2112320.45	2758685.80	N 36 48 17.577	W 107 42 42.296
907.00	10.71	209.30	903.65	54.64	-47.62	-26.81	2.87	2112315.63	2758683.10	N 36 48 17.529	W 107 42 42.330
938.00	11.46	207.00	934.08	60.60	-52.87	-29.62	2.81	2112310.37	2758680.30	N 36 48 17.477	W 107 42 42.364
970.00	12.09	209.05	965.40	67.13	-58.64	-32.69	2.36	2112304.61	2758677.23	N 36 48 17.420	W 107 42 42.402
1001.00	12.91	206.22	995.67	73.84	-64.58	-35.80	3.30	2112298.66	2758674.14	N 36 48 17.361	W 107 42 42.440
1033.00	13.64	205.94	1026.81	81.18	-71.18	-39.03	2.29	2112292.05	2758670.91	N 36 48 17.296	W 107 42 42.480
1064.00	14.57	205.66	1056.88	88.72	-77.98	-42.32	3.01	2112285.25	2758667.64	N 36 48 17.229	W 107 42 42.520
1094.00	15.32	205.97	1085.86	96.45	-84.95	-45.69	2.51	2112278.28	2758664.27	N 36 48 17.160	W 107 42 42.562
1124.00	16.01	206.11	1114.75	104.54	-92.23	-49.24	2.30	2112271.00	2758660.73	N 36 48 17.088	W 107 42 42.605
1155.00	16.53	206.99	1144.51	113.22	-99.99	-53.12	1.86	2112263.23	2758656.86	N 36 48 17.011	W 107 42 42.653
1187.00	17.20	207.09	1175.13	122.50	-108.26	-57.34	2.10	2112254.95	2758652.65	N 36 48 16.930	W 107 42 42.705
1218.00	17.73	205.65	1204.70	131.80	-116.60	-61.48	2.21	2112246.61	2758648.53	N 36 48 16.847	W 107 42 42.756
1250.00	18.37	205.88	1235.13	141.70	-125.53	-65.79	2.01	2112237.68	2758644.23	N 36 48 16.759	W 107 42 42.809
1280.00	18.75	206.50	1263.57	151.24	-134.10	-70.00	1.43	2112229.10	2758640.02	N 36 48 16.674	W 107 42 42.861
1342.00	19.53	207.12	1322.14	171.56	-152.24	-79.17	1.30	2112210.95	2758630.88	N 36 48 16.495	W 107 42 42.973
1435.00	20.52	205.71	1409.51	203.38	-180.76	-93.33	1.18	2112182.41	2758616.76	N 36 48 16.213	W 107 42 43.148
1497.00	20.55	205.25	1467.57	225.10	-200.39	-102.68	0.26	2112162.77	2758607.43	N 36 48 16.019	W 107 42 43.263
1591.00	20.86	206.00	1555.50	258.29	-230.36	-117.06	0.43	2112132.79	2758593.09	N 36 48 15.722	W 107 42 43.439
1652.00	20.66	206.22	1612.54	279.89	-249.77	-126.57	0.35	2112113.37	2758583.60	N 36 48 15.530	W 107 42 43.556
1775.00	19.91	204.60	1727.91	322.47	-288.28	-144.88	0.76	2112074.84	2758565.35	N 36 48 15.150	W 107 42 43.781
1867.00	20.19	204.13	1814.34	353.92	-317.01	-157.89	0.35	2112046.09	2758552.37	N 36 48 14.865	W 107 42 43.941
1927.00	20.29	203.31	1870.63	374.61	-336.02	-166.24	0.50	2112027.08	2758544.05	N 36 48 14.678	W 107 42 44.044
1986.00	19.48	204.46	1926.12	394.61	-354.37	-174.36	1.52	2112008.72	2758535.95	N 36 48 14.496	W 107 42 44.144
2047.00	19.27	206.60	1983.66	414.81	-372.63	-183.08	1.21	2111990.45	2758527.26	N 36 48 14.316	W 107 42 44.251
2109.00	19.65	207.83	2042.12	435.46	-390.99	-192.53	0.90	2111972.07	2758517.83	N 36 48 14.134	W 107 42 44.367
2170.00	20.42	207.50	2099.43	456.35	-409.50	-202.23	1.28	2111953.55	2758508.16	N 36 48 13.951	W 107 42 44.487
2232.00	21.07	209.56	2157.41	478.31	-428.79	-212.72	1.58	2111934.25	2758497.69	N 36 48 13.760	W 107 42 44.616
2293.00	21.69	209.20	2214.21	500.55	-448.17	-223.63	1.04	2111914.86	2758486.81	N 36 48 13.569	W 107 42 44.750
2355.00	21.17	210.38	2271.93	523.19	-467.83	-234.88	1.09	2111895.19	2758475.58	N 36 48 13.374	W 107 42 44.888
2418.00	20.92	210.51	2330.72	545.81	-487.33	-246.35	0.40	2111875.67	2758464.14	N 36 48 13.181	W 107 42 45.029
2480.00	19.86	210.89	2388.84	567.39	-505.91	-257.37	1.72	2111857.09	2758453.14	N 36 48 12.998	W 107 42 45.165
2543.00	18.92	212.20	2448.26	588.28	-523.73	-268.31	1.64	2111839.25	2758442.23	N 36 48 12.821	W 107 42 45.299

	2604.00	18.85	212.20	2505.98	607.98	-540.44	-278.83	0.11	2111822.53	2758431.73	N 36 48 12.656	W 107 42 45.428
	2666.00	19.16	212.45	2564.60	628.13	-557.50	-289.63	0.52	2111805.46	2758420.95	N 36 48 12.488	W 107 42 45.561
	2728.00	19.34	210.60	2623.13	648.54	-574.92	-300.31	1.03	2111788.02	2758410.29	N 36 48 12.315	W 107 42 45.693
	2789.00	19.51	211.23	2680.66	668.81	-592.33	-310.74	0.44	2111770.60	2758399.89	N 36 48 12.143	W 107 42 45.821
	2851.00	19.64	210.47	2739.08	689.56	-610.16	-321.39	0.46	2111752.76	2758389.26	N 36 48 11.967	W 107 42 45.952
Last SLB MWD Survey Client Assumed Vertical Hole Client Assumed TD	2912.00	19.93	209.86	2796.48	710.20	-628.01	-331.76	0.58	2111734.90	2758378.91	N 36 48 11.790	W 107 42 46.079
	2979.00	19.72	212.54	2859.51	732.90	-647.45	-343.53	1.39	2111715.45	2758367.17	N 36 48 11.598	W 107 42 46.224
	3636.33	0.00	212.54	3503.94	844.63	-741.87	-403.78	3.00	2111620.96	2758307.05	N 36 48 10.665	W 107 42 46.965
	5969.00	0.00	212.54	5836.61	844.63	-741.87	-403.78	0.00	2111620.96	2758307.05	N 36 48 10.665	W 107 42 46.965

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

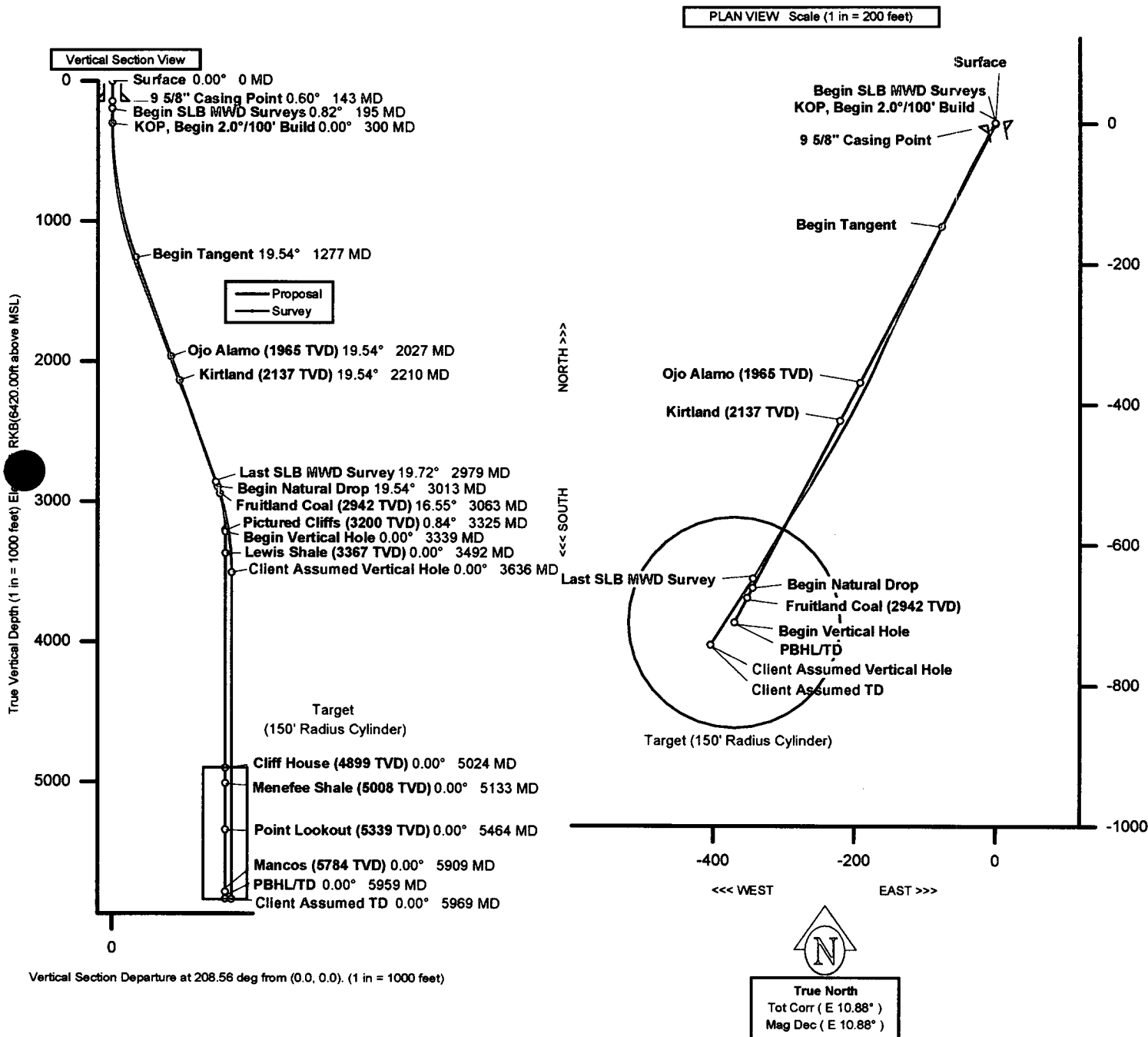
Surveying Programme:

<u>MD From (ft)</u>	<u>MD To (ft)</u>	<u>EOU Freq</u>	<u>Survey Tool Type</u>
0.00	195.00	Act-Stns	Blind Drilling
195.00	2979.00	Act-Stns	MWD1
2979.00	5969.00	Act-Stns	Blind Drilling

Schlumberger BP America Inc.



WELL	FIELD	RIG
Florance 35B	San Juan County, New Mexico	Aztec #56
Magnetic Parameters	Surface Location	Plan# : Rev0 jok 12-Aug-02
Model: BGGM 2002	Lat: N36 48 18.000 Lon: W107 42 42.000	Slot: Florance 35B
Dip: 63.718° Mag Dec: 10.880°	North: 2112363.28 ftUS East: 2758709.85 ftUS	Elev Ref: RKB(6420.00ft above MSL)
Date: March 03, 2003 FS: 51522.1 nT	Grid Conv: 0.0729° Scale Fact: 0.9999	Date Drawn: 01:49:15PM 03-Mar-2003



Quality Control
Date Drawn: 03-Mar-2003
Drawn by: James Wimberg
Checked by: John O'Keefe
Client OK: _____