

Schlumberger

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d-30-31N-9W

SUB-SURFACE SURVEY CERTIFICATION REPORT

BP America Inc.
Company

October 28, 2002
Date

Lease

Barrett LS 1C
Well Name

San Juan County, New Mexico
County/State

Survey Depths

137 to 2902 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.

A. Allen Starkey
A. Allen Starkey
Account Manager

This document has been subscribed and affirmed, or sworn before me in the county of Arapahoe in the state of Colorado, this 28th day of October, 2005.

Christine J. Wilson My commission expires: 12/12/05

Survey Report - Standard

Report Date: 26-Jul-2002	Survey / DLS Computation Method: Minimum Curvature / Lubinski
Client: BP	Vertical Section Azimuth: 90.000°
Field: NM, San Juan County (NAD 83 WZ)	Vertical Section Origin: N 0.000 ft, E 0.000 ft
Structure / Slot: BP 30 31N 9W (Barret LS 1C) No Certified Plat / Barret LS 1C	TVD Reference Datum: KB
Well: Barret LS 1C	TVD Reference Elevation: 6552.000 ft relative to MSL
Borehole: Original Hole	Sea Bed / Ground Level Elevation: 6538.000 ft relative to MSL
UWI / API#:	Magnetic Declination:
Survey Name / Date: Barret LS 1C Final Surveys / July 26, 2002	Total Field Strength:
Tort / AHD / DDI / ERD ratio: 29.519° / 252.53 ft / 3.874 / 0.042	Magnetic Dip:
Grid Coordinate System: NAD83 New Mexico State Planes, Western Zone, US Feet	Declination Date:
Location Lat / Long:	Magnetic Declination Model:
Location Grid N/E Y/X:	North Reference: True North
Grid Convergence Angle:	Total Corr Mag North -> True North:
Grid Scale Factor:	Local Coordinates Referenced To: Well Head

Station ID	MD (ft)	Incl (°)	Azim (°)	TVD (ft)	VSec (ft)	N-S (ft)	E-W (ft)	Closure (ft)	at Azim (°)	DLS (°/100ft)	TF (°)
Tie-In	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		90.0 M
Begin SLB MWD Surveys	137.00	0.00	90.00	137.00	0.00	0.00	0.00	0.00	0.00	0.00	178.5 M
	205.00	0.88	178.49	205.00	0.01	-0.52	0.01	0.52	178.49	1.29	178.7 M
	488.00	0.63	178.71	487.97	0.11	-4.25	0.11	4.25	178.57	0.09	-164.5 M
	770.00	0.65	195.54	769.96	-0.29	-7.34	-0.29	7.35	182.24	0.07	-173.1 M
	962.00	1.15	186.94	961.93	-0.81	-10.30	-0.81	10.33	184.51	0.27	179.0 M
	993.00	1.30	178.99	992.92	-0.84	-10.96	-0.84	11.00	184.40	0.73	165.8 M
	1025.00	1.25	165.76	1024.92	-0.75	-11.66	-0.75	11.69	183.69	0.93	154.3 M
	1057.00	1.39	154.30	1056.91	-0.50	-12.35	-0.50	12.36	182.30	0.93	119.5 M
	1089.00	1.58	119.47	1088.90	0.06	-12.92	0.06	12.92	179.75	2.83	120.3 M
	1121.00	2.00	120.34	1120.88	0.92	-13.42	0.92	13.45	176.07	1.32	102.6 M

1152.00	2.42	102.59	1151.86	2.03	-13.83	2.03	13.98	171.66	2.57	102.1 M
1183.00	2.63	102.14	1182.83	3.36	-14.13	3.36	14.52	166.62	0.68	96.2 M
1214.00	3.00	96.19	1213.79	4.86	-14.36	4.86	15.16	161.30	1.52	89.5 M
1246.00	3.65	89.54	1245.74	6.71	-14.45	6.71	15.93	155.07	2.36	90.2 M
1277.00	3.92	90.22	1276.67	8.76	-14.44	8.76	16.89	148.76	0.88	90.0 M
1309.00	4.72	90.04	1308.58	11.17	-14.45	11.17	18.26	142.29	2.50	89.5 M
1341.00	4.80	89.51	1340.47	13.83	-14.44	13.83	19.99	136.24	0.29	84.9 M
1371.00	5.45	84.94	1370.35	16.50	-14.30	16.50	21.83	130.91	2.56	32.7 G
1403.00	5.80	87.14	1402.19	19.63	-14.09	19.63	24.16	125.66	1.28	-13.2 G
1435.00	6.50	85.69	1434.01	23.05	-13.87	23.05	26.90	121.03	2.24	-55.4 G
1467.00	6.63	84.09	1465.80	26.69	-13.54	26.69	29.93	116.90	0.70	-18.4 G
1498.00	7.30	82.34	1496.57	30.43	-13.10	30.43	33.12	113.29	2.27	10.1 G
1528.00	7.90	83.12	1526.31	34.36	-12.59	34.36	36.60	110.13	2.03	9.7 G
1590.00	8.48	83.79	1587.68	43.14	-11.59	43.14	44.67	105.04	0.95	19.7 G
1685.00	8.77	84.47	1681.60	57.31	-10.13	57.31	58.20	100.03	0.32	-38.9 G
1780.00	9.13	82.66	1775.44	71.99	-8.47	71.99	72.49	96.71	0.48	-73.5 G
1875.00	9.27	79.94	1869.22	87.00	-6.17	87.00	87.22	94.06	0.48	39.8 G
1970.00	10.19	84.15	1962.86	102.90	-3.98	102.90	102.97	92.22	1.22	-22.6 G
2063.00	11.05	82.29	2054.26	119.91	-1.95	119.91	119.93	90.93	1.00	29.8 G
2158.00	11.73	84.19	2147.39	138.54	0.25	138.54	138.54	89.90	0.82	-110.5 G
2222.00	11.63	82.82	2210.07	151.41	1.72	151.41	151.42	89.35	0.46	42.6 G
2253.00	11.93	84.14	2240.41	157.70	2.44	157.70	157.72	89.12	1.30	121.0 G
2285.00	11.68	86.26	2271.74	164.22	2.98	164.22	164.25	88.96	1.56	162.5 G
2317.00	11.20	87.04	2303.10	170.56	3.36	170.56	170.59	88.87	1.58	142.3 G
2349.00	10.68	89.24	2334.52	176.63	3.56	176.63	176.66	88.85	2.08	137.0 G
2379.00	10.25	91.54	2364.02	182.08	3.52	182.08	182.11	88.89	2.00	174.3 G
2411.00	9.35	92.09	2395.55	187.52	3.35	187.52	187.55	88.98	2.83	136.8 G
2442.00	8.90	94.89	2426.16	192.43	3.05	192.43	192.45	89.09	2.04	172.7 G
2474.00	8.63	95.12	2457.79	197.28	2.63	197.28	197.30	89.24	0.85	-173.6 G
2506.00	8.27	94.84	2489.44	201.97	2.22	201.97	201.98	89.37	1.13	172.7 G
2537.00	7.65	95.44	2520.14	206.24	1.84	206.24	206.25	89.49	2.02	-152.7 G
2568.00	7.22	93.66	2550.88	210.24	1.52	210.24	210.25	89.59	1.57	-174.6 G

	2600.00	6.68	93.22	2582.64	214.11	1.28	214.11	214.11	89.66	1.70	-172.2 G
	2632.00	6.03	92.37	2614.45	217.64	1.11	217.64	217.65	89.71	2.05	-171.8 G
	2664.00	5.78	92.01	2646.28	220.93	0.98	220.93	220.94	89.75	0.79	174.1 G
	2695.00	5.35	92.49	2677.13	223.94	0.87	223.94	223.94	89.78	1.40	-100.0 G
	2725.00	5.30	88.69	2707.00	226.72	0.84	226.72	226.72	89.79	1.19	-162.6 G
	2757.00	4.68	86.29	2738.88	229.50	0.95	229.50	229.50	89.76	2.04	86.8 M
	2789.00	4.05	86.84	2770.79	231.93	1.10	231.93	231.93	89.73	1.97	93.9 M
	2821.00	3.33	93.91	2802.72	233.99	1.10	233.99	233.99	89.73	2.66	96.2 M
	2852.00	2.70	96.19	2833.68	235.61	0.96	235.61	235.61	89.77	2.07	103.5 M
	2884.00	1.92	103.47	2865.65	236.88	0.75	236.88	236.88	89.82	2.60	101.4 M
Last SLB MWD	2902.00	1.55	101.40	2883.64	237.41	0.64	237.41	237.41	89.85	2.08	101.4 M
Assumed Drop to Vertical	2932.00	0.00	101.40	2913.64	237.81	0.56	237.81	237.81	89.87	5.17	101.4 M
Assumed Client TD	5999.00	0.00	101.40	5980.64	237.81	0.56	237.81	237.81	89.87	0.00	---

Survey Error Model: Topographic 3-D 95.00% Confidence 2.7957 sigma

Surveying Programme:

MD From (ft)

MD To (ft) EOU Freq Survey Tool Type

0.00	137.00	Act-Stns	Zero Tool
137.00	2932.00	Act-Stns	MWD1
2932.00	5999.00	Act-Stns	Zero Tool