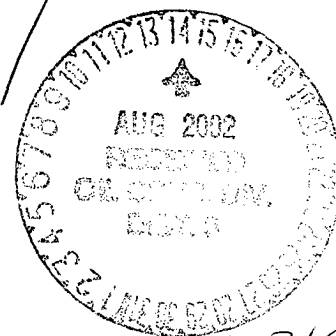
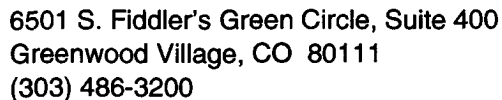




30-045-31031
C-30-31N-09W
S&S: 140/N 810/W

BP America
Company

7/26/2002
Date

Lease

Barrett LS 1C
Well Name

San Juan County, NM
County/State

Survey Depths

137 to **2902** ft

BHL 184/N 1048/n

Type of Survey

Measurements While Drilling (MWD)

NSL

Survey Depths

2902 **5999** ft

Type of Survey

Projection to TD

Survey Depths

to ft

Type of Survey

Site Supervisor

Greg Johnson

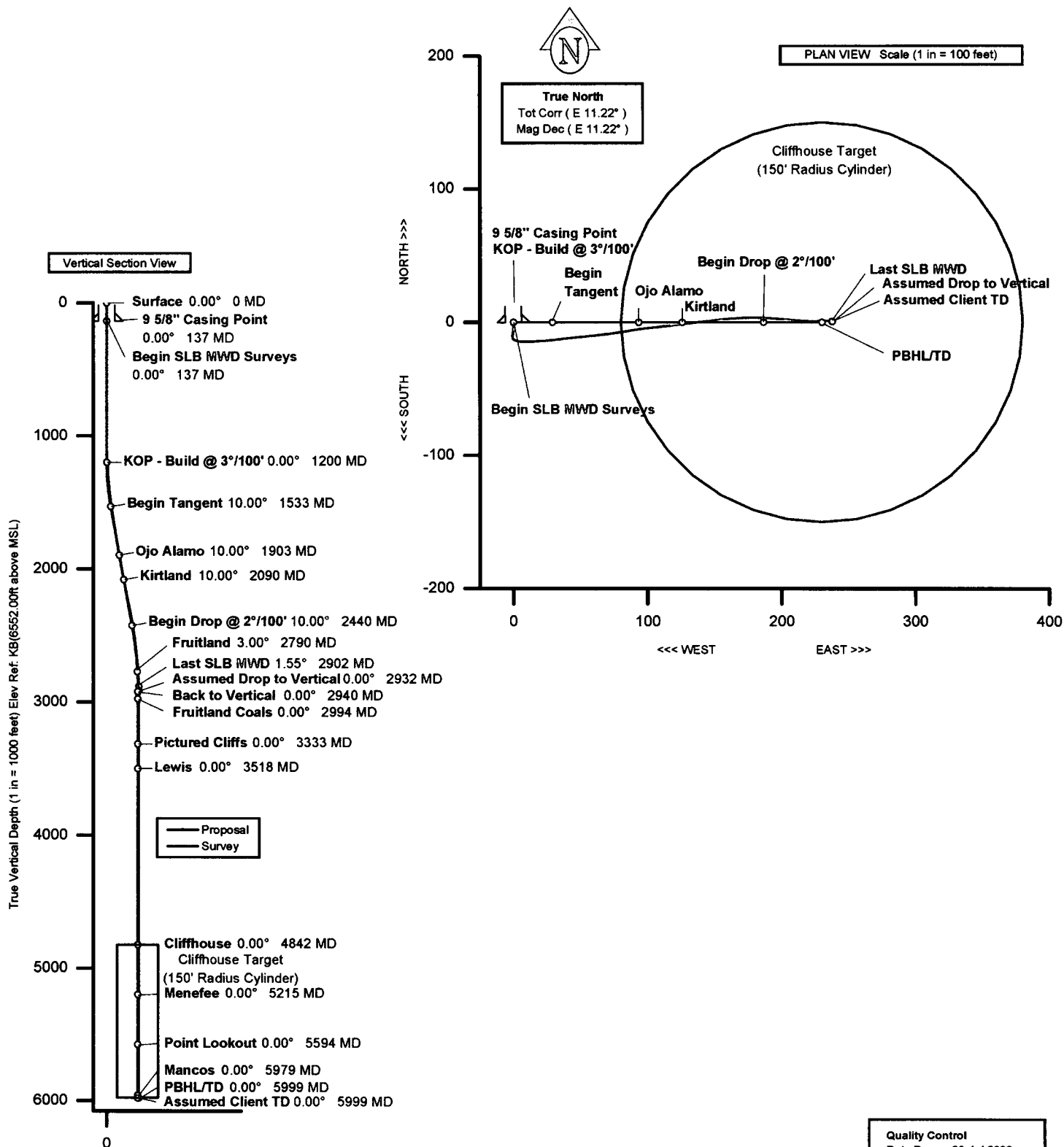
The data submitted in this report conforms to the standards and procedures as set forth by Schlumberger. This report represents a true and correct directional wellbore survey based on original survey data obtained at the well site.

A. Allen Starkey
Account Manager

This document has been subscribed and affirmed, or sworn before me in the county of Arapahoe in the state of Colorado, this 29th day of July, 2002.

Christine J. Nelson My commission expires: 12/12/05
Notary Public

WELL	Barret LS 1C	FIELD	San Juan County, New Mexico	RIG	AWS 184
------	--------------	-------	-----------------------------	-----	---------



Vertical Section Departure at 90.00 deg from (0.0, 0.0). (1 in = 1000 feet)

Quality Control
 Date Drawn: 26-Jul-2002
 Drawn by: John O'Keefe
 Checked by: Allen Starkey
 Client OK: _____

Survey Report - Standard

Report Date: 26-Jul-2002 Client: BP Field: NM, San Juan County (NAD 83 WZ) Structure / Slot: BP 30 31N 9W (Barret LS 1C) No Certified Plat / Barret LS 1C Well: Barret LS 1C Borehole: Original Hole UWI / API#: Survey Name / Date: Barret LS 1C Final Surveys / July 26, 2002 Tort / AHD / DDI / ERD ratio: 29.519° / 252.53 ft / 3.874 / 0.042 Grid Coordinate System: NAD83 New Mexico State Planes, Western Zone, US Feet Location Lat / Long: Location Grid N/E Y/X: Grid Convergence Angle: Grid Scale Factor:	Survey / DLS Computation Method: Minimum Curvature / Lubinski Vertical Section Azimuth: 90.000° Vertical Section Origin: N 0.000 ft, E 0.000 ft TVD Reference Datum: KB TVD Reference Elevation: 6552.000 ft relative to MSL Sea Bed / Ground Level Elevation: 6538.000 ft relative to MSL Magnetic Declination: Total Field Strength: Magnetic Dip: Declination Date: Magnetic Declination Model: North Reference: True North Total Corr Mag North -> True North: 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	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
	2902.00	1.55	101.40	2883.64	237.41	0.64	237.41	237.41	89.85	2.08	101.4 M
	2932.00	0.00	101.40	2913.64	237.81	0.56	237.81	237.81	89.87	5.17	101.4 M
Last SLB MWD											
Assumed Drop to Vertical											
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:

<u>MD From (ft)</u>	<u>MD To (ft)</u>	<u>EOU Freq</u>	<u>Survey Tool Type</u>
0.00	137.00	Act-Stns	Zero Tool
137.00	2932.00	Act-Stns	MWD1
2932.00	5999.00	Act-Stns	Zero Tool