

BRUSH WELLMAN INC

FORM 10-K405

(Annual Report (Regulation S-K, item 405))

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| Fiscal Year | 12/31 |

UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549 **FORM 10-K**

(Mark One)

☒ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES
EXCHANGE ACT OF 1934 [FEE REQUIRED]**

For the fiscal year ended December 31, 1997

OR

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES
EXCHANGE ACT OF 1934 [NO FEE REQUIRED]**

For the transition period from _____ to _____

Commission file number 1-7006

BRUSH WELLMAN INC.

(Exact name of Registrant as specified in charter)

OHIO
(State or other jurisdiction of
incorporation or organization)

34-0119320
(I.R.S. Employer
Identification No.)

17876 ST. CLAIR AVENUE, CLEVELAND, OHIO
(ADDRESS OF PRINCIPAL EXECUTIVE OFFICES)

44110
(ZIP CODE)

REGISTRANT'S TELEPHONE NUMBER, INCLUDING AREA CODE 216-486-4200

SECURITIES REGISTERED PURSUANT TO SECTION 12(b) OF THE ACT:

| TITLE OF EACH CLASS ----- | NAME OF EACH EXCHANGE ON WHICH REGISTERED ----- |
|---------------------------------------|--|
| COMMON STOCK, PAR VALUE \$1 PER SHARE | NEW YORK STOCK EXCHANGE |

SECURITIES REGISTERED PURSUANT TO SECTION 12(g) OF THE ACT:

None

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes X No

Indicate by check mark if disclosure of delinquent filers pursuant to

Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. [X]

The aggregate market value of Common Stock, par value \$1 per share, held by non-affiliates of the registrant (based upon the closing sale price on the New York Stock Exchange) on March 9, 1998 was approximately \$434,116,719.

As of March 9, 1998, there were 16,523,822 shares of Common Stock, par value \$1 per share, outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the annual report to shareholders for the year ended December 31, 1997 are incorporated by reference into Parts I and II.

Portions of the proxy statement for the annual meeting of shareholders to be held on May 5, 1998 are incorporated by reference into Part III.

PART I

ITEM 1. BUSINESS

Brush Wellman Inc. ("Company") manufactures and sells engineered materials for use by manufacturers and others who perform further operations for eventual incorporation into capital, aerospace/defense or consumer products. These materials typically comprise a small portion of the final product's cost. They are generally premium priced and are often developed or customized for the customer's specific process or product requirements. The Company's product lines are supported by research and development activities, modern processing facilities and a global distribution network.

Customers include manufacturers of electrical/electronic connectors, communication equipment, computers, automobiles, lasers, appliances, spacecraft, aircraft, oil field instruments and equipment, sporting goods, and defense contractors and suppliers to all of the foregoing industries.

The Company operates in a single business segment with product lines comprised of beryllium-containing materials and other specialty materials.

The Company is a fully integrated producer of beryllium, beryllium alloys (primarily copper beryllium), and beryllia ceramic, each of which exhibits its own unique set of properties. The Company holds extensive mineral rights and mines the beryllium bearing ore, bertrandite, in central Utah. Beryllium is extracted from both bertrandite and imported beryl ore. In 1997, 66% of the Company's sales were of products containing the element beryllium (73% in 1996 and 73% in 1995). Beryllium-containing products are sold in competitive markets throughout the world through a direct sales organization and through owned and independent distribution centers. NGK Metals Corporation of Reading, Pennsylvania and NGK Insulators, Ltd. of Nagoya, Japan compete with the Company in the beryllium alloys field. Beryllium alloys also compete with other generally less expensive materials, including phosphor bronze, stainless steel and other specialty copper and nickel alloys. General Ceramics Inc. is a domestic competitor in beryllia ceramic. Other competitive materials include alumina, aluminum nitride and composites. While the Company is the only domestic producer of the metal beryllium, it competes with other fabricators as well as with designs utilizing other materials.

Sales of other specialty materials, principally metal systems and precious metal products, were 34% of total sales in 1997 (27% in 1996 and 27% in 1995). Precious metal products are produced by Williams Advanced Materials Inc. (hereinafter referred to as WAM), a subsidiary of the Company comprised of businesses acquired in 1986, 1989 and 1994. WAM's major product lines include vapor deposition materials, high temperature braze materials, clad and precious metal preforms, ultra fine wire, sealing lids for the semiconductor/hybrid markets and restorative dental alloys.

WAM's principal competition in the vapor deposition markets are Materials Research Corp., Tosoh and Engelhard corporations. The semiconductor/hybrid market segment competition includes Johnson Matthey, SPM and Semi-Alloys. The products are sold directly from WAM's facilities in Buffalo, New York and Singapore as well as through sales representatives throughout the world.

Technical Materials, Inc. (hereinafter referred to as "TMI"), a subsidiary of the Company, produces specialty metal systems, consisting principally of narrow metal strip, such as copper alloys, nickel alloys and stainless steels into which strips of precious and non-precious metal are inlaid. TMI also offers a number of other narrow metal strip material systems, including electron beam welded dual metal, contour milling and skiving, thick and thin selective solder coatings, selective electroplated products and bonded aluminum strips on nickel-iron alloys for semiconductor leadframes. Divisions of Cookson, Metallon and some European manufacturers are competitors for the sale of inlaid strip. Strip with selective electroplating is a competitive alternative as are other design approaches. The products are sold directly and through sales representatives.

Circuits Processing Technology, Inc. (hereinafter referred to as "CPT"), a subsidiary of the Company produces high reliability thick film circuits and other types of complex circuits supporting all aspects of hybrid circuit requirements for both Defense and the commercial marketplace. CPT's principal competitor in high reliability circuit fabrication is M.I.C., in the commercial marketplace it's main competitor is Amitron.

Sales and Backlog

The backlog of unshipped orders as of December 31, 1997, 1996 and 1995 was \$ 93,954,000, \$94,428,000 and \$95,718,000 respectively. Backlog is generally represented by purchase orders that may be terminated under certain conditions. The Company expects that, based on recent experience, substantially all of its backlog of orders at December 31, 1997 will be filled during 1998.

Sales are made to approximately 5,300 customers. Government sales, principally subcontracts, accounted for about 1.1% of consolidated sales in 1997 as compared to 1.2% in 1996 and 1.3% in 1995. Sales outside the United States, principally to Western Europe, Canada and Japan, accounted for approximately 31% of sales in 1997, 29% of sales in 1996 and 34% in 1995. Financial information as to sales, identifiable assets and profitability by geographic area set forth on page 19 Note N to the consolidated financial statements in the annual report to shareholders for the year ended December 31, 1997 is incorporated herein by reference.

Research & Development

Active research and development programs seek new product compositions and designs as well as process innovations. Expenditures for research and development amounted to \$7,709,000 in 1997, \$8,309,000 in 1996 and \$7,814,000 in 1995. A staff of 57 scientists, engineers and technicians was employed in this effort during 1997. Some research and development projects were externally sponsored and expenditures related to those projects (approximately \$170,000 in 1997, \$166,000 in 1996 and \$36,000 in 1995) are excluded from the above totals.

Availability of Raw Materials

The more important raw materials used by the Company are beryllium (extracted from both imported beryl ore and bertrandite mined from the Company's Utah properties), copper, gold, silver, nickel, platinum and palladium. The availability of these raw materials, as well as other materials used by the Company, is adequate to support current production levels and generally not dependent on any one supplier. Certain items are supplied by a preferred single source, but alternatives are believed readily available.

Patents and Licenses

The Company owns patents, patent applications and licenses relating to certain of its products and processes. While the Company's rights under the patents and licenses are of some importance to its operations, the Company's businesses are not materially dependent on any one patent or license or on the patents and licenses as a group.

Environmental Matters

The inhalation of airborne beryllium particulate may present a health hazard to certain individuals. For decades the Company has operated its beryllium facilities under stringent standards of inplant and outplant discharge. These standards, which were first established by the Atomic Energy Commission over forty years ago, were, in general, subsequently adopted by the United States Environmental Protection Agency and the Occupational Safety and Health Administration. The Company's experience in sampling, measurement, personnel training and other aspects of environmental control gained over the years, and its investment in environmental control equipment, are believed to be of material importance to the conduct of its business.

Employees

As of December 31, 1997 the Company had 2,160 employees.

Forward-looking Information

The portions of narrative set forth in this Item 1 and elsewhere in this Annual Report on Form 10-K that are not historical in nature are forward-looking statements. The Company's actual future performance may differ from that contemplated by the forward-looking statements as a result of a variety of factors that include, in addition to those mentioned elsewhere herein, the condition of the markets which the Company serves, the success of the Company's strategic plans, the timely and successful completion of pending capital expansions and the conclusion of pending litigation matters in accordance with the Company's expectation that there will be no materially adverse effects.

ITEM 2. PROPERTIES

The material properties of the Company, all of which are owned in fee except as otherwise indicated, are as follows:

CLEVELAND, OHIO - A structure containing 110,000 square feet on an 18 acre site housing corporate and administrative offices, data processing and research and development facilities.

ELMORE, OHIO - A complex containing approximately 676,000 square feet of building space on a 385 acre plant site. This facility employs diverse chemical, metallurgical and metalworking processes in the production of beryllium, beryllium oxide, beryllium alloys and related products. Beryllium ore concentrate from the Delta, Utah plant is used in all beryllium-containing products.

SHOEMAKERSVILLE (READING), PENNSYLVANIA - A 123,000 square foot plant on a ten acre site that produces thin precision strips of beryllium copper and other alloys and beryllium copper rod and wire.

NEWBURYPORT, MASSACHUSETTS - A 30,000 square foot manufacturing facility on a four acre site that produces alumina, beryllia ceramic and direct bond copper products.

TUCSON, ARIZONA - A 45,000 square foot plant on a ten acre site for the manufacture of beryllia ceramic parts from beryllium oxide powder supplied by the Elmore, Ohio facility.

DELTA, UTAH - An ore extraction plant consisting of 86,000 square feet of buildings and large outdoor facilities situated on a two square mile site. This plant extracts beryllium from bertrandite ore from the Company's mines as well as from imported beryl ore.

JUAB COUNTY, UTAH - The Company holds extensive mineral rights in Juab County, Utah from which the beryllium bearing ore, bertrandite, is mined by the open pit method. A substantial portion of these rights is held under lease. Ore reserve data set forth on page 23 of this Form 10-K annual report for the year ended December 31, 1996 is incorporated herein by reference.

FREMONT, CALIFORNIA - A 16,800 square foot leased facility for the fabrication of precision electron beam welded, brazed and diffusion bonded beryllium structures.

THEALE (READING), ENGLAND - A 19,700 square foot leased facility principally for distribution of beryllium alloys.

STUTTGART, WEST GERMANY - A 24,750 square foot leased facility principally for distribution of beryllium alloys.

FUKAYA, JAPAN - A 35,500 square foot facility on 1.8 acres of land in Saitama Prefecture principally for distribution of beryllium alloys.

LORAIN, OHIO - a manufacturing facility consisting of 55,000 square feet located on 15 acres. This facility produces metal alloys in electronic induction furnaces which are continually cast into bar stock and heat treated.

LINCOLN, RHODE ISLAND - A manufacturing facility consisting of 124,000 square feet located on seven and one-half acres. This facility produces metal strip inlaid with precious metals and related metal systems products.

BUFFALO, NEW YORK - A complex of approximately 97,000 square feet on a 3.8 acre site providing facilities for manufacturing, refining and laboratory services relating to high purity precious metals.

OCEANSIDE, CALIFORNIA - A 12,000 square foot leased facility on .75 acres of leased land. Over two-thirds of the facility is comprised of clean rooms which meet the Mil. Stds. 209D requirements, for the production of thick-film circuits and other complex circuits.

SINGAPORE, SINGAPORE - A 4,500 square foot leased facility for the assembly and sale of precious metal hermetic sealing lids.

Production capacity is believed to be adequate to fill the Company's backlog of orders and to meet the current level of demand. However, the Company is currently re-evaluating production capacity in light of anticipated sales increases from development of new applications for the Company's products and expanding international presence. In May 1996, the Board of Directors approved a plan for a major expansion and upgrading of alloy strip capabilities involving the investment of \$117 million at the Company's Elmore, Ohio facility. The plant is currently under construction and is targeted to begin production in the fourth quarter of 1998. The goal of this investment is to increase strip production capacity, reduce production costs, improve quality, reduce delivery lead times, and optimize working capital utilization.

ITEM 3. LEGAL PROCEEDINGS

(a) Environmental Proceedings.

PENDING CLAIMS. The Company received a complaint on July 26, 1994 in GLIDDEN COMPANY ET AL. V. AMERICAN COLOR AND CHEMICAL ET AL., No. 94-C-3970, filed in the United States District Court for the Eastern District of Pennsylvania. The plaintiffs are five companies that, pursuant to orders issued by the U.S. Environmental Protection Agency (the "U.S. EPA") under the Comprehensive, Environmental, Response, Compensation and Liability Act ("CERCLA"), have been spending funds to secure, maintain and conduct an investigation of the Berks Landfill in Sinking Springs, Pennsylvania (the "Berks Site"). The plaintiffs are alleged to have disposed of wastes at the Berks Site, which operated from 1950 through October 1, 1986. The 40 defendants (22 of which were added in 1997) consist of former owners or operators of the Berks Site and alleged transporters and/or generators of waste disposed of at the Berks Site. It is believed that hundreds of other entities disposed of waste at the Berks Site during its long period of operation. The plaintiffs seek to recover their past and future costs pursuant to rights of contribution under CERCLA and the Pennsylvania Hazardous Sites Cleanup Act. Plaintiffs allege that they have spent approximately \$3 million to secure and maintain the Berks Site and to prepare a remedial investigation/feasibility study and a risk assessment. Discovery is proceeding pursuant to a case management order. On September 30, 1997, the U.S. EPA sent a special notice letter to the Company and 28 other entities, 7 of whom are not parties to the GLIDDEN litigation. The letter requested reimbursement of the U.S. EPA's past costs (at least \$755,959) and future costs relating to the landfill, and solicited a proposal to conduct or finance the remedial action selected by the U.S. EPA in its July 1997 Record of Decision, the present worth cost of which is estimated by the U.S. EPA to be \$6.1 million. The U.S. EPA received no proposal in response to its letter. The Company has requested that the U.S. EPA consider it to be a candidate for a DE MINIMIS settlement. The Company's expenses at the Berks Site will be affected by a number of uncertainties, including the method and extent of remediation, the percentage of waste disposed of at the Berks Site attributable to the Company relative to that attributable to other parties, and the financial capabilities of the other Potentially Responsible Persons (the "PRPs").

On or about September 25, 1992, the Company was served with a third-party complaint alleging that the Company, along with 159 other third-party defendants, is jointly and severally liable under CERCLA, 42 U.S.C. Sections 9607(a) and 9613(b), for response costs incurred in connection with the clean-up of hazardous substances in soil and groundwater at the Douglassville Site (the "Douglassville Site") located in Berks County, Pennsylvania: UNITED STATES OF AMERICA V. BERKS ASSOCIATES INC. ET AL. V. AAMCO TRANSMISSIONS ET AL.,

Case No. 91-4868, United States District Court for the Eastern District of Pennsylvania. Third-party complaints adding further parties have been subsequently filed. Prior to the commencement of litigation, the Company had responded to a request for information from the U.S. EPA by denying that it arranged to send any substances to the Douglassville Site. Although the Company has no documents in its own files relating to the shipment of any waste to the Douglassville Site, documents maintained by third-party plaintiffs suggest that 8,344 gallons of waste oil from the Company may have been taken there. According to a consultant retained by third-party plaintiffs, approximately 153 million gallons of waste were sent to the Douglassville Site. The Company denies liability. The Company participated in court-ordered settlement proceedings, which resulted in a DE MINIMIS settlement offer by the United States. The Company has accepted that offer and is awaiting notice from the government showing the final settlement calculation.

The Company was identified as one of the PRPs under CERCLA at the Spectron Superfund Site in Elkton, Maryland (the "Elkton Site"). The Company reached a settlement with the U.S. EPA resolving the Company's liability under the Administrative Orders by Consent dated August 21, 1989 and October 1, 1991. The cost of compliance with the terms of these Orders is approximately \$8,480,000, of which the Company's proportionate share is \$20,461. On September 29, 1995, the U.S. EPA sent a "Special Notice for Negotiations for Remedial Investigation/Feasibility Study" to approximately 700 PRPs, including the Company. The U.S. EPA estimates that the final remedy for the Elkton Site will cost in the aggregate approximately \$45 million. In October 1995, the terms of several proposed DE MINIMIS settlement/buyout options designed to resolve all remaining liability with respect to the Elkton Site were circulated among a group of PRPs, including the Company. The Company indicated its willingness to pursue resolution of its liability through a DE MINIMIS settlement/buyout. No litigation has been initiated by the U.S. EPA with respect to this matter.

The Company has advised the U.S. EPA and the Ohio Environmental Protection Agency that it was unable to meet the December 1997 deadline for achieving emission limitations for a solvent degreaser at its Elmore, Ohio plant. For purposes of considering the issuance of a compliance order, the U.S. EPA has requested information concerning the circumstances leading to the Company's inability to comply and its timetable for achieving compliance. The U.S. EPA has expressed no current intention of imposing a penalty.

(b) BERYLLIUM EXPOSURE CLAIMS.

The inhalation of airborne beryllium particulate may present a health hazard to certain individuals. For decades the Company has operated its beryllium facilities under stringent standards of inplant and outplant discharge. These standards, which were first developed by the Atomic Energy Commission over forty years ago, were, in general, substantially adopted by the U.S. EPA and the Occupational Safety and Health Administration (OSHA). The Government has continued to review these standards, and governmental agencies continue to debate their adequacy. For example, the Department of Energy has concluded that, in its opinion, current beryllium standards may not be adequate to protect its own workers, and has gathered data, views and other relevant information to develop a possible revised standard for occupational exposure to beryllium at Department of Energy facilities. Some of the private litigants mentioned below have made similar claims. In contrast, the American Conference of Governmental Industrial Hygienists, a professional organization devoted to the administrative and technical aspects of occupational and environmental health, recently has retained the current occupational exposure standards and has added a new occupational exposure standard to limit short-term exposures.

PENDING CLAIMS. The Company is currently a defendant in the following eight product liability cases in which the plaintiffs allege injury resulting from exposure to beryllium and beryllium-containing materials, other than as employees of the Company, and are claiming recovery based on various legal theories. These cases were previously reported in the Company's annual report on Form 10-K for the year ended December 31, 1996 or in the Company's quarterly report on Form 10-Q for the quarters ended June 27, 1997 and September 26, 1997, respectively. The Company believes that resolution of these cases will not have a material adverse effect on the Company. Defense for each of the cases identified in the table below is being conducted by counsel selected by the Company and retained, with reservations of rights, by the Company's insurance carriers.

| NAME OF PLAINTIFF | DATE LAWSUIT INSTITUTED | FORUM | RELIEF REQUESTED |
|---|----------------------------|--|---|
| Richard Neiman and Spouse | November 1990 | Court of Common Pleas, Montgomery County, Pennsylvania | The Company is one of three defendants. Plaintiffs seek damages in excess of \$20,000 for personal injury and in excess of \$20,000 for loss of consortium. |
| Harry Robbins and Spouse | June 1993 | Court of Common Pleas, Montgomery County, Pennsylvania | The Company is one of three defendants. Both plaintiffs individually seek compensatory damages in excess of \$50,000. Mr. Robbins also seeks punitive damages in excess of \$50,000. |
| Troy Murphy Morgan, Corky Dean McCarter and wife, Karen Denise Smith McCarter, Richard Emory Myers, Sr. and wife, Wilma Dean Kennedy Myers, and Kathlene Beatty | June 1994 | United States District Court, Eastern District of Tennessee | The Company is one of several defendants, together with the United States. In the Fourth Amended Complaint (served in April 1997), plaintiffs' aggregate claims against the corporate defendants, including compensatory and punitive damages, are \$44 million. |
| George F. Faccio and Spouse | July 1995 | United States District Court, District of Arizona | The Company is the only defendant. Plaintiffs seek compensatory and punitive damages of an unspecified amount. |
| Ballinger et al. | November 1996 | United States District Court, Colorado | The Company is the only defendant. Plaintiffs seek compensatory and punitive damages of an unspecified amount. |
| Foster et al. | February 1997 | United States District Court, Eastern District of Tennessee | The Company is one of several defendants. Gary Foster seeks compensatory damages from each corporate defendant of \$5 million. His spouse seeks compensatory damages from each defendant of \$1 million. Both plaintiffs seek punitive damages from each defendant of \$10 million. |
| Wallace et al. | June 1997 | Filed in the Superior Court of California, County of Los Angeles; transferred to Orange County, California | The Company is one of several defendants. The plaintiffs seek damages in an unspecified amount. |
| Grant et al. | August 1997 | United States District Court, Eastern District of Tennessee | The Company is one of several defendants. Mr. Grant seeks compensatory damages of \$5 million against each defendant. His spouse seeks compensatory damages of \$1 million against each defendant, and both seek punitive damages of \$10 million against each defendant. |

Discovery is continuing in five of the eight cases reported above:

NEIMAN ET AL. V. CABOT CORP. ET AL.; ROBBINS ET AL. V. CABOT CORP. ET AL.; MORGAN ET AL. V. BRUSH WELLMAN INC. ET AL.; FOSTER ET AL. V. BRUSH WELLMAN INC. ET AL.; and GRANT ET AL. V. BRUSH WELLMAN INC. ET AL. (USDC, Tennessee). In FACCIO ET AL. V. BRUSH WELLMAN INC. also, discovery is ongoing, and several procedural motions, some of which sought sanctions against the Company, were filed. The motions seeking sanctions alleged that the Company, without substantial justification, failed to produce documentation within its possession and control in response to discovery requests.

The Court has ruled on two of the plaintiffs' procedural motions, denying sanctions (it also denied the Company's request for sanctions against the plaintiffs). Several additional procedural motions were heard in January 1998, but the Court has not yet issued its order. The plaintiffs filed another motion in January 1998 seeking sanctions. To date, no trial date has been established.

BALLINGER ET AL. V. BRUSH WELLMAN INC. ET AL. was filed against the Company and one other defendant by 26 plaintiffs who allegedly have chronic beryllium disease ("CBD"), and their spouses, and one representative of a spouse who allegedly died from CBD (for a total of 43 plaintiffs). The defendants filed various motions in response to the complaint, including a motion to dismiss. Before a ruling on the motion to dismiss, an amended complaint was filed in September 1997 adding 7 plaintiffs who allegedly have CBD and their spouses (for a total of 14 additional plaintiffs). Various motions were again filed, including a motion to dismiss. Before a ruling was made on the motion to dismiss the amended complaint, a second amended complaint was filed in December 1997. One plaintiff and his spouse moved for dismissal of their claims without prejudice, which motion was granted. Also, in December 1997, the remaining plaintiffs agreed to dismiss the second defendant and filed an agreed motion for dismissal. The Court granted this second agreed motion on February 13, 1998. In response to the second amended complaint, on January 23, 1998, the Company moved to dismiss 47 of the 55 plaintiffs and answered as to the remaining 8 plaintiffs. The Court has not ruled on this motion.

The complaint in WALLACE ET AL. V. BRUSH WELLMAN INC. ET AL. was answered by the Company on August 15, 1997. The case has since been transferred to Orange County and is in its very early stages of discovery.

In LINDSTEDT V. NATIONAL BERYLLIUM CORP. ET AL., SPECTRA-PHYSICS, INC. V. BRUSH WELLMAN INC., a suit brought by an employee of the Company against a number of defendants, including Spectra Physics, a customer of the Company, for personal injury resulting from exposure to beryllium containing materials, the customer filed a third-party complaint against the Company on December 12, 1996 in the Superior Court of New Jersey, seeking indemnification. The third-party complaint was dismissed by the Court in early 1997. Spectra-Physics has since settled with the plaintiff and has itself been dismissed from the action. On March 20, 1998, the single remaining defendant requested, and was granted, permission to identify the Company as a party for discovery purposes only. Accordingly, the Company remains a party solely for this purpose. The Company believes that resolution of this case will not have a material adverse effect on the Company.

Nine Company employees and their spouses had filed law suits against the Company and certain of its employees in the Superior Court of Pima County, Arizona: COLE ET AL. V. BRUSH WELLMAN INC. ET AL.; CRUZ ET AL. V. BRUSH WELLMAN INC. ET AL.; HAYNES-KERN ET AL. V. BRUSH WELLMAN INC. ET AL.; MATULIN ET AL. V. BRUSH WELLMAN INC. ET AL.; FIMBRES ET AL. V. BRUSH WELLMAN INC. ET AL.; FLORES ET AL. V. BRUSH WELLMAN INC. ET AL.; KOFIRA ET AL. V. BRUSH WELLMAN INC. ET AL.; MALDONADO ET AL. V. BRUSH WELLMAN INC. ET AL.; and STOECKER ET AL. V. BRUSH WELLMAN INC. ET AL. Six of these suits were instituted on June 29, 1994; one was instituted on December 13, 1994; and two were instituted on February 28, 1995. The plaintiffs claimed that, during their employment with the Company, they contracted CBD as a result of exposure to beryllium and beryllium-containing products. The plaintiffs sought compensatory and punitive damages of an unspecified amount based on allegations that the Company intentionally misrepresented the potential danger of exposure to beryllium and breached an agreement to pay certain benefits should the plaintiffs contract CBD. On July 5, 1996, Rudy Gamez, an employee of the Company, filed a suit in the Superior Court of Pima County, Arizona (GAMEZ ET AL. V. BRUSH WELLMAN INC. ET AL.), based upon similar claims and seeking similar relief. The first nine cases noted above were dismissed by the trial court and currently are on appeal following a summary judgment entered in favor of the Company on August 26, 1996. However, the Company's motion for summary judgment did not cover the GAMEZ case, which was filed after the Company had filed its summary judgment motion. Discovery is currently ongoing in this action. Defense of all of these cases is being conducted by counsel retained by the Company, and the Company believes that resolution of these cases will not have a material adverse effect on the Company.

In August 1994 and April 1995, the Company notified the State Compensation Fund, a workers' compensation fund in the State of Arizona, of the filing of certain of the above-mentioned employee suits and requested that the State Compensation Fund defend such suits pursuant to the Company's State Compensation Fund policies. The State Compensation Fund denied coverage and defense of such suits, but, after discussion, indicated that it would defend some of the employee lawsuits under a reservation of rights. Pursuant to that commitment, the State Compensation Fund has reimbursed the Company for a substantial portion of the costs incurred by the Company in defending the first nine employee lawsuits noted above at the trial court level.

In view of the dispute with respect to coverage, however, the State Compensation Fund filed a declaratory judgment action against the Company and certain of its employees in the Superior Court of Pima County, Arizona, for which service of process occurred on August 21, 1995: STATE COMPENSATION FUND V. BRUSH WELLMAN INC. ET AL. The Company filed an answer and counterclaim to the effect that, among other things, the State Compensation Fund had a duty to defend and indemnify the Company. The Company sought an award of not only the costs of defending the underlying actions, but also the costs incurred with respect to the coverage, litigation and punitive damages. On May 13, 1996, the Court entered an order granting the State Compensation Fund's motions for partial summary judgment, which, among other things, sought a declaration of no duty to defend or indemnify the Company against claims for breach of contract and claims for intentional tort. These rulings did not completely dispose of the State Compensation Fund's claims and did not address the Company's counterclaim. As of September 1, 1996, the State Compensation Fund refused to reimburse the Company for any further defense costs that the Company might incur. The State Compensation Fund has also indicated that it plans to seek reimbursement of defense costs already paid. Further proceedings in this action have been stayed pending a ruling on the employees' appeals from the dismissal of their lawsuits by the Superior Court of Pima County, Arizona, in the underlying cases noted above.

In September 1995 and January 1996, the Company notified the Argonaut Insurance Company that it was requesting the defense of two of the aforementioned employee lawsuits. Argonaut denied coverage, and, in April 1996, it filed a declaratory judgment action against the Company and certain of its employees in the Superior Court of Pima County, Arizona: ARGONAUT INSURANCE COMPANIES V. BRUSH WELLMAN INC. ET AL. Subsequently, in September 1996, Argonaut and the Company agreed that Argonaut would dismiss its declaratory judgment action (with the right to refile it later), that they would not litigate any coverage issues between themselves until the State Compensation Fund's declaratory judgment action has been completely resolved and that both parties would be bound by the resolution of the coverage issues in the State Compensation Fund's declaratory judgment action.

The Company is a defendant in seven cases pending before the Court of Common Pleas of Cuyahoga County, Ohio, brought by current and former employees of the Company and, in most of the cases, their family members: BERLIN V. BRUSH WELLMAN INC., filed January 24, 1997; KNEPPER ET AL. V. BRUSH WELLMAN INC., filed January 23, 1997; MIA JOHNSON, EXECUTRIX OF THE ESTATE OF ETHEL JONES ET AL. V. BRUSH WELLMAN INC., filed January 22, 1997; JACOBS ET AL. V. BRUSH WELLMAN INC., filed December 31, 1996; STARIN V. BRUSH WELLMAN INC., filed December 31, 1996; MUSSER ET AL. V. BRUSH WELLMAN INC., filed October 25, 1996; and WHITAKER ET AL. V. BRUSH WELLMAN INC., filed August 23, 1996. The complaints in all of these cases allege that the employees contracted CBD at the workplace, seek recovery on an intentional tort theory and, except in the BERLIN and STARIN cases, include claims by family members. The plaintiffs in these cases seek both compensatory and, except in the KNEPPER case, punitive damages. All of these cases, except the KNEPPER case, have been consolidated at least for purposes of discovery and pretrial motions, and all are set for trial in June 1998. The consolidation order of the Court indicates that, after discovery, the Court will revisit whether the cases should be consolidated for trial. On October 6, 1997, the Company filed a motion to dismiss or in the alternative for summary judgment in the KNEPPER case. This motion remains pending. On October 16, 1997, one of the employee-plaintiffs in the consolidated cases and his spouse dismissed their complaint without prejudice. On November 26, 1997, the Company filed a motion for summary judgment in the STARIN case. This motion remains pending. On March 20, 1998, the parties filed an agreed motion to stay discovery in all of the seven cases on the grounds that the parties had negotiated a settlement and would need time to reduce that settlement to definitive written agreements. In addition, certain of the claims will be submitted for approval of the probate division of the appropriate common pleas court. The motion to stay remains pending and the parties are drafting written agreements. No assurance can be given that the settlement will be effected as currently anticipated since the agreements have not been signed, or, where necessary, submitted to the appropriate probate court. The Company believes that resolution of these cases will not have a material adverse effect on the Company.

An action was filed by the Arizona State Compensation Fund against the Company in Pima County Superior Court, Arizona, seeking a declaratory judgment that the Fund is not required to defend or indemnify the Company against claims made in the WHITAKER case: STATE COMPENSATION FUND V. BRUSH WELLMAN INC., filed December 11, 1996. The parties have agreed to stay further proceedings in the case for a mutually agreed period of time.

CLAIMS INITIATED SINCE THE END OF THIRD QUARTER 1997. On December 19, 1997, the Company was named a defendant in a product liability case filed in the Court of Common Pleas, Philadelphia County, Pennsylvania: FRANK CORVINO ET AL. V. CABOT CORP. ET AL. In the complaint, Mr. Corvino alleges that he suffered injury (including CBD) resulting from exposure to beryllium dust and fibers emitted from a plant operated by defendants Cabot Corporation and NGK in the vicinity of his place of work. Mr. Corvino also alleges that he suffered injury as a result of exposure to beryllium supplied to his employers. The complaint includes claims for negligence, product liability and loss of consortium. No specific claim has been asserted against the Company. The plaintiffs seek compensatory damages in excess of \$50,000, and medical monitoring and punitive damages of an unspecified amount. The defense of this case is being conducted by counsel selected by the Company and retained, with reservations of rights, by the Company's insurance carriers. The Company believes that resolution of this case will not have a material adverse effect on the Company.

CLAIMS CONCLUDED SINCE THE END OF THIRD QUARTER 1997. On October 2, 1997, an employee of the Company and his spouse filed an action in the Court of Common Pleas of Cuyahoga County, Ohio: DAVID NORGARD ET AL. V. BRUSH WELLMAN INC. The complaint alleged that David Norgard contracted CBD during his employment with the Company as a result of exposure to beryllium and beryllium containing products, and included claims for employer intentional tort and loss of consortium. The plaintiffs sought compensatory and punitive damages, each in an amount in excess of \$25,000. The case was consolidated, at least for purposes of discovery and pretrial motions, with the six other cases pending against the Company before the Court of Common Pleas for Cuyahoga County, Ohio, and identified above. On November 5, 1997, the Company filed a motion to dismiss the complaint based on the statute of limitations. On March 19, 1998, the plaintiffs in this case dismissed their complaint without prejudice.

In a product liability case brought by an employee of a customer of Williams Advanced Materials, Inc., a subsidiary of the Company, in the Court of Common Pleas, Chester County, Pennsylvania, the plaintiffs alleged personal injury resulting from exposure to beryllium and beryllium containing materials and loss of consortium, and claimed compensatory damages in excess of \$25,000 based on various legal theories: DAVID TAGGART ET AL. V. ACECODENT, ET AL., filed on October 2, 1992. The plaintiffs dismissed this action against the Company's subsidiary, but the case remained pending due to a cross-claim against the Company's subsidiary by one of the other defendants. This cross-claim against the Company's subsidiary was discontinued and a stipulation for dismissal was filed with the Court. On March 3, 1998, the Court dismissed the Company's subsidiary from the action.

The Company was one of five defendants in a product liability case filed in the District Court of Harris County, Texas, on August 15, 1997: BILLY RAY CASH ET AL. V. BRUSH WELLMAN INC. ET AL. The complaint alleged that the Company sold harmful and toxic substances to Mr. Cash's employer and that, as a result of exposure to such substances, Mr. Cash developed severe respiratory disease. The complaint included claims for loss of consortium. The plaintiff's sought compensatory and punitive damages of unspecified amounts. The plaintiffs moved for voluntary dismissal of their action against the Company, and the motion was granted by the Court on December 11, 1997.

(c) ASBESTOS EXPOSURE CLAIMS.

A subsidiary of the Company (the "Subsidiary") is a co-defendant in nineteen cases making claims for asbestos-induced illness allegedly relating to the former operations of the Subsidiary, then known as The S.K. Wellman Corp. Eighteen of these cases have been reported in prior filings with the S.E.C. In all but a small portion of these cases, the Subsidiary is one of a large number of defendants in each case. The plaintiffs seek compensatory and punitive damages, in most cases of unspecified sums. Each case has been referred for defense pursuant to liability insurance coverage and has been accepted for defense without admission or denial of carrier liability. Two hundred forty-seven similar cases previously reported have been dismissed or disposed of by pretrial judgment, one by jury verdict of no liability and fourteen others by settlement for nominal sums. The Company believes that resolution of the pending cases referred to in this paragraph will not have a material adverse effect on the Company.

The Subsidiary is a party to an agreement with the predecessor owner of its operating assets, Pneumo Abex Corporation (formerly Abex Corporation), and five insurers, regarding the handling of these cases. Under the agreement, the insurers share expenses of defense, and the Subsidiary, Pneumo Abex Corporation and the insurers share payment of settlements and/or judgments. In certain of the pending cases, both expenses of defense and payment of settlements and/or judgments are subject to a limited, separate reimbursement agreement with MLX Corp., the parent of the company that purchased the Subsidiary's operating assets in 1986.

(d) OTHER MISCELLANEOUS PENDING CLAIMS.

A subsidiary of the Company, Technical Materials, Inc. ("TMI"), and an employee of TMI are defendants in a case filed in the Superior Court of the State of Rhode Island on October 15, 1997: **HANDY & HARMAN ELECTRONIC MATERIALS CORPORATION V. TECHNICAL MATERIALS, INC. ET AL.** The complaint alleges that TMI tortiously induced the employee to breach his confidentiality obligations to his former employer, the plaintiff, and misappropriated trade secrets of the plaintiff. The plaintiff seeks preliminarily and permanently to enjoin TMI from using any confidential information obtained by the employee while he was employed with the plaintiff, and compensatory and punitive damages of unspecified amounts.

The Company is a defendant in a personal injury case filed in the Court of Common Pleas for Ottawa County, Ohio, on January 24, 1997, by an employee of the Company and his spouse: **MATHIAS ET AL. V. BRUSH WELLMAN INC.** The plaintiffs seek compensatory damages in excess of \$25,000 and punitive damages in excess of \$25,000 for an alleged acid spill.

The defense of these two cases is being conducted by counsel retained by the Company. The Company believes that the resolution of these cases will not have a material adverse effect on the Company.

ITEM 4. SUBMISSION OF MATTERS TO A VOTE OF SECURITY HOLDERS

Not Applicable.

Executive Officers of the Registrant

The following table provides information as to the executive officers of the Company.

| Name ---- | Age --- | Positions and Offices ----- |
|---------------------|------------|---|
| Gordon D. Harnett | 55 | Chairman of the Board, President, Chief Executive Officer and Director |
| Michael D. Anderson | 46 | Vice President Beryllium Products |
| Carl Cramer | 49 | Vice President Finance, Chief Financial Officer |
| Brian J. Derry | 52 | Vice President Operations |
| Stephen Freeman | 51 | Vice President Alloy Products |
| Jordan P. Frazier | 40 | General Manager of Ceramic Products |
| Craig B. Harlan | 60 | Vice President International - Europe |
| Alfonso T. Lubrano | 48 | President - Technical Materials, Inc. |

| | | |
|------------------|----|---|
| John J. Paschall | 60 | President - Williams Advanced Materials Inc. |
| Andrew J. Sandor | 58 | Vice President Alloy Technology |
| Daniel A. Skoch | 48 | Vice President Administration and Human Resources |

MR. HARNETT was elected Chairman of the Board, President, Chief Executive Officer and Director of the Company effective January 22, 1991. He had served as a Senior Vice President of The B. F. Goodrich Company from November, 1988.

MR. ANDERSON was elected Vice President Beryllium Products effective March 5, 1996. He had served as Director Sales and Marketing-Beryllium Products since November, 1994, Director of Marketing-Ceramics since February, 1994 and Director of Marketing since April, 1989.

MR. CRAMER was elected Vice President - Finance and Chief Financial Officer in December 1994. Prior to that, he served as President of U.S. Operations and Director for the Americas and Australasia for the Swedish multinational, Esselte Meto.

MR. DERRY was elected Vice President Operations May 6, 1997. Prior to that, he served as Director of Global Manufacturing for Ethyl Corporation.

MR. FRAZIER was appointed General Manager of Ceramic Products on December 2, 1997. He had served as General Manager of Ceramic Operations since September 7, 1996. He had served as Director of Sales and Marketing for Ceramic Products since February 1, 1996.

MR. FREEMAN was elected Vice President Alloy Products effective February 7, 1995. He had served as Vice President Sales and Marketing since August 3, 1993. He had served as Vice President Sales and Marketing-Alloy Products since July, 1992. Prior to that, he had served as Management Consultant for Adastra, Inc.

MR. HARLAN was elected Vice President International on December 2, 1997. He had served as Vice President International-Europe since June 7, 1994. He had served as Vice President Business Development since August, 1993. He had served as Senior Vice President, Sales and Marketing since October, 1991. He had served as Vice President/General Manager, Alloy Division since January 1, 1987.

MR. LUBRANO was elected President - Technical Materials, Inc. effective April, 1995 and Vice President and General Manager effective March, 1992. Prior to that, he served as Vice President and Business Director of Engelhard Corporation from 1987.

MR. PASCHALL was elected President - Williams Advanced Materials Inc. effective November, 1991. He had served as Vice President Operations - Williams Advanced Materials

Inc. since April, 1989.

MR. SANDOR was elected Vice President Alloy Technology effective March 5, 1996. He had served as Vice President Operations since October, 1991. He had served as Senior Vice President since September, 1989.

MR. SKOCH was elected Vice President Administration and Human Resources effective March 5, 1996. He had served as Vice President Human Resources since July, 1991. Prior to that he was Corporate Director - Personnel.

PART II

ITEM 5. MARKET FOR THE REGISTRANT'S COMMON STOCK AND RELATED STOCKHOLDER

MATTERS

The Company's Common Stock is traded on the New York Stock Exchange. As of March 9, 1998 there were 2,305 shareholders of record. Information as to stock price and dividends declared set forth on page 20 in Note O to the consolidated financial statements in the annual report to shareholders for the year ended December 31, 1997 is incorporated herein by reference. The Company's ability to pay dividends is generally unrestricted, except that it is obligated to maintain a specified level of tangible net worth pursuant to an existing credit facility.

ITEM 6. SELECTED FINANCIAL DATA

Selected Financial Data on page 26 of the annual report to shareholders for the year ended December 31, 1997 is incorporated herein by reference.

ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION

AND RESULTS OF OPERATIONS

RESULTS OF OPERATIONS

1997 to 1996 Comparison

Sales in 1997 were a record \$433.8 million, a 15% improvement over 1996 sales of \$376.3 million. Sales have increased for five consecutive years, establishing record highs in each of the past four years. Diluted earnings per share grew to \$1.56 in 1997 from \$1.53 in 1996.

Metal Systems sales, which are approximately 70% of total sales, increased in 1997 over 1996. The primary markets for these products are telecommunications, automotive and electronics. Aerospace, defense and plastic tooling are smaller, but important markets as well. Major products included in Metal Systems are beryllium, beryllium alloy strip and bulk and engineered materials. These products offer a wide variety of performance characteristics that are ideal in high reliability applications, and enable customers to improve efficiencies and lower costs. Depending upon their form and application, these products can provide superior electrical conductivity, formability, wear resistance and high strength and hardness. Applications for these materials include connectors, switches, relays, mold tooling, bushings, contacts and structural components.

Alloy strip sales posted significant gains in 1997 over 1996 in the domestic and international markets. Pounds shipped increased at a higher rate than the sale values as a

large portion of the additional sales was in relatively lower priced alloys. The translation rate differences also adversely affected international sales. Strip production was near capacity for most of the year. The new casting facility in Elmore, Ohio, part of the three-year \$117 million alloy expansion project, started up on schedule late in the fourth quarter 1997. In addition to increasing capacity, this equipment is designed to lower costs and improve quality of beryllium alloy products. The strip mill portion of the expansion project is scheduled to be completed in the summer of 1998.

Sales of alloy bulk products declined year on year due to lower sales to the recreation and leisure market. The Company has now developed new alloys and marketing strategies in attempts to regain its share in this profitable, but somewhat seasonal and inconsistent, market. Bulk product sales to other markets increased slightly in 1997 over 1996. To augment the markets served by its traditional beryllium alloy bulk products, the Company recently completed construction of a new facility in Lorain, Ohio, to produce a specialty family of non-beryllium containing alloys in rod, bar and tube form. Production in limited quantities began in the fourth quarter 1997 and the facility is anticipated to be fully operational in 1998.

Sales of engineered material systems once again demonstrated strong growth in the current year continuing a five-year trend of improving revenues and profits. Engineered material systems include clad inlay or overlay metals, contour profiling of metals, electron beam welded metal systems, precious and base metal electroplating and solder-coated metal systems, or any combinations of these systems. Capital investments to support and expand these product offerings were made in 1997 and are planned to continue in 1998.

Beryllium sales also grew in 1997 from 1996. AlBeMet(R) sales, while still relatively small, increased in the current year and the Company is encouraged by its potential commercial applications. Investment cast products also offer an opportunity for growth. Beryllium metal sales, primarily for defense applications, were flat year on year.

Sales of Microelectronic Group products, which include precious metals, ceramics and thick film circuits, increased dramatically in 1997 from 1996 to account for approximately 30% of the Company's total sales. The majority of the sales growth was in precious metals, primarily physical vapor deposition targets used in the optical data storage and hybrid electronic markets. Revenues from the Company's gold refining operations increased in 1997 as well. Because of the high precious metal content, the cost of which is passed through to customers, these sales have a lower margin percent than the average margins earned on the Company's other products. While profitable, the large increase in precious metal sales has the effect of lowering the Company's overall gross margin percent.

Ceramic sales were higher in 1997 than 1996 on the strength of additional base beryllia ceramic sales to the telecommunications market. Direct bond copper sales increased slightly, but their profitability remained disappointing. Thick film circuit sales from Circuits Processing Technology, Inc. ("CPT") were a minor contributor to the increased sales in 1997 from 1996.

International operations consist of distribution centers in Germany, England and Japan, a marketing office in Singapore and a precious metal finishing facility in Singapore. In addition, in 1997, the Company entered into a joint venture in Singapore to provide slitting and distribution facilities for beryllium alloys. Sales by international operations totaled \$88.7 million in 1997 compared to \$74.8 million in 1996. Sales by these operations are predominantly in their respective currencies while the majority of the underlying cost of sales is incurred in dollars. In 1997, the U.S. dollar on average strengthened 11% against the yen and 14% against the deutschmark from 1996, thereby reducing the comparative translated value of these sales and resulting margins. The dollar's value against the yen and the deutschmark was higher at December 31, 1997 than the average value for 1997. Direct exports to unaffiliated customers were \$53.7 million in 1997 and \$33.6 million in 1996. The majority of these sales are to North America and western Europe and are denominated in dollars. International markets are essentially the same as in the U.S.

As outlined in Note G to the Consolidated Financial Statements, the Company has a foreign currency hedge program to protect against adverse currency movements. Should the dollar strengthen significantly, the decrease in value of foreign currency transactions will be partially offset by gains on the hedge contracts. As of December 31, 1997, outstanding hedge contracts totaled \$25.9 million, compared to \$25.0 million at year end 1996.

Gross margin was \$113.0 million in 1997, a gain of \$4.4 million from 1996. However, the margin percentage declined to 26.1% of sales from 28.9%. The two major causes for the decline in the percentage were the effects of the stronger dollar and the large increase in precious metal products that carry smaller margins as previously discussed. Capacity constraints at several facilities created additional cost pressures (increased overtime, limited availability of the optimal equipment, etc.). Tempering these effects was the increase in beryllium strip sales earning greater margins. The Utah beryllium extraction facility operated at very efficient levels in 1997. The cost of copper, typically passed through to beryllium alloy customers, was essentially flat year on year. Selling prices in general were fairly stable during 1997.

Selling, administrative and general expenses were \$69.0 million or 15.9% of sales in 1997 compared to \$65.0 million or 17.2% of sales in 1996. Costs associated with the start-up of the new facility in Lorain, Ohio and charges for the company-owned life insurance program were two main causes for the increase. The expense portion of the new computer based information system project, begun in 1996, continued into 1997.

Research and development (R&D) expenses were \$7.7 million or 1.8% of sales in 1997, a decline from \$8.3 million or 2.2% of sales in 1996. Expenses were lower in 1997 in part because of reimbursements for R&D work performed under government contracts. Additionally, two major initiatives in 1996 achieved their objectives in early 1997 and, therefore, caused a reduction in expenditures. The Company is planning on increasing its investment and staffing in R&D in order to continue developing new products and technologies.

Other-net expense was \$0.3 million in 1997 and \$1.0 million in 1996. Foreign

currency hedge gains were higher in 1997 than 1996 while goodwill expense was lower in 1997. Partially offsetting these benefits was an increase in the cost of financing the consigned platinum and palladium stocks that support a portion of the precious metal business. Major disruptions to the supply of metal in the international markets in the summer of 1997 caused the higher rates. By the end of 1997, financing rates had significantly declined, although they still were higher than the typically nominal rates of prior years. The Company has taken additional measures to reduce its exposures.

Interest expense was \$0.6 million in 1997 versus \$1.1 million in 1996 net of capitalized interest associated with long-term capital projects of \$1.9 million in 1997 and \$1.0 million in 1996. The higher incurred interest expense in 1997 was the result of increased borrowings, as the weighted average interest rate declined slightly in 1997 from 1996.

Income before income taxes was \$35.5 million in 1997, an increase of \$2.3 million from 1996. As explained above, this improvement was due to higher sales volume generating an increase in margin that was partially offset by an unfavorable currency effect and higher expenses.

The Company's effective tax rate was 27.8% of pre-tax earnings in 1997 compared to 26.2% in 1996. Higher earnings and a decreased tax benefit from the company-owned life insurance program caused the increase in the rate. Adjustments to the statutory tax rate are detailed in Note I to the Consolidated Financial Statements.

Comparative basic earnings per share were \$1.58 in 1997 and \$1.55 in 1996. Diluted earnings per share were \$1.56 in 1997 and \$1.53 in 1996. All earnings per share calculations have been restated to comply with SFAS No. 128, which revised the methodology for determining the weighted average shares outstanding. (See Note J to the Consolidated Financial Statements for a reconciliation of basic and diluted earnings per share.)

1996 to 1995 Comparison

Worldwide sales in 1996 were \$376.3 million compared to \$369.6 million achieved in 1995. The revenue growth came primarily from domestic beryllium alloy products and engineered material systems. The resulting profits grew faster than sales, as diluted earnings per share were \$1.53 in 1996, an improvement of 20% over the prior year.

Worldwide sales of beryllium alloys increased in 1996 over 1995. Domestically, sales of beryllium copper precision strip, rod and wire were higher as shipments to the automotive electronics and telecommunications markets grew. Sales of bulk products (bar, tube, plate, custom fabricated parts) also increased in 1996, further penetrating the aerospace, plastic tooling and various industrial markets. The recreation and leisure market emerged as a potentially large application for bulk products; however, with a limited customer base, sales into this market are seasonal and inconsistent from year to year.

International sales of beryllium alloys declined in 1996 compared to 1995 as a

result of softening economic conditions in Germany and other portions of western Europe. The sales growth in Japan and the Pacific rim slowed down from recent years, but modest improvements were still recorded. The stronger dollar in 1996 relative to 1995 also contributed to the reported international sales decline, as foreign currency sales are translated into fewer dollars compared to 1995. The domestic beryllium alloy growth more than offset the international decline.

Sales of engineered material systems grew in 1996 over 1995. The gains came primarily from the telecommunications market, with some additional contribution from the automotive market as well. Semiconductor shipments were quite strong in the first part of the year, but a major market slow down adversely affected second half sales.

Precious metal sales were down in 1996 from 1995's levels, but sales in the second half 1996 were higher than in the second half 1995. An anticipated decline in frame lid assemblies occurred due to a major customer's re-design to a non-precious metal material in the second quarter 1995. Efforts to broaden the product offering have been successful through the continued development of physical vapor deposition products and services and high temperature braze alloys. Fine wire sales remained minor. International sales declined in 1996 from 1995, reflecting the drop-off in frame lid assembly shipments.

Beryllium sales slowed slightly in 1996 as compared to 1995. Defense applications remain the largest portion of these sales, but at significantly lower levels resulting from reduced government defense spending in recent years. Commercial applications, particularly those using AlBeMet (R) (a beryllium aluminum alloy) are beginning to develop. AlBeMet(R)'s high stiffness and low density provide excellent properties for a variety of aerospace and telecommunications applications.

Ceramic sales slipped in 1996 from 1995 levels due to a slowdown in shipments of base business beryllia ceramic to the telecommunications and automotive industries. The growth in direct bond copper products was not sufficient to compensate as these products continue to experience development delays.

CPT was acquired in late October 1996 by the Company and contributed a minor amount to sales and profits. CPT, which produces thick film circuits using a proprietary etching process, gives the Company an additional entree into the microelectronics market.

Sales from international operations totaled \$74.8 million in 1996 compared to \$91.2 million in 1995. Direct exports to unaffiliated customers totaled \$33.6 million in 1996 and \$36.1 million in 1995.

Cost of sales declined by \$1.0 million in 1996 from 1995 on higher sales, resulting in a \$7.7 million improvement in gross profit. Improved operating efficiencies, including higher yields on certain products, better utilization of available capacity, effective use of recycled materials and strong cost control measures, increased the gross margin to 28.9% of sales in 1996 from 27.3% in 1995. Stable prices and product mix helped to offset the negative margin

impact of the stronger dollar. The lower copper cost in 1996, as compared to 1995, was passed through to the customer and thus had no impact on gross margin.

Selling, administrative and general expenses of \$65.0 million represent a 4% increase over the prior year. Expenses associated with the first phase of implementing an enterprise-wide information system caused a portion of the increase. The project will carry over into 1997 and beyond. Additional administrative and legal expenses were incurred to support and structure the alloy expansion project and the related financial arrangements. Compensation plans carried higher costs in 1996 and certain sales volume related expenses increased in 1996 as well.

Research and development (R&D) expenses grew to \$8.3 million or 2.2% of sales in 1996 from \$7.8 million or 2.1% of sales in 1995. The increase is predominantly from efforts to develop a new high quality, low cost precision beryllium copper strip and in-house investment casting technology. The R&D staffing was also increased. Expenditures on non-beryllium alloy R&D were flat.

Other-net expense was \$1.0 million in 1996 and \$1.3 million in 1995. Foreign currency gains account for the improvement.

Interest expense fell to \$1.1 million in 1996 from \$1.7 million in 1995. These figures are net of capitalized interest associated with long-term capital projects of \$1.0 million in 1996 and \$0.4 million in 1995. The weighted average interest rate was essentially unchanged year on year.

Income before income taxes was \$33.2 million in 1996, a 20.9% improvement from 1995. Slightly higher sales and significantly improved margins were responsible for the increase.

An effective tax rate of 26.2% of pre-tax earnings was used in 1996, an increase from the 24.6% rate in 1995. Increased pre-tax earnings, reduced foreign tax benefits and a reduction in the allowable tax benefits from the company-owned life insurance program as a result of a change in the tax law caused the higher rate. Adjustments to the statutory tax rate are detailed in Note I to the Consolidated Financial Statements.

Comparative basic earnings per share were \$1.55 in 1996 and \$1.28 in 1995 and diluted earnings per share were \$1.53 in 1996 and \$1.27 in 1995.

FINANCIAL POSITION

CAPITAL RESOURCES AND LIQUIDITY

Cash flow from operations was \$40.4 million in 1997 down from \$45.0 million in 1996. Accounts receivable increased \$12.7 million since the prior year end as a result of the 24% growth in fourth quarter sales; the collection period remains essentially unchanged. Inventory declined by \$3.7 million in large part as a result of the strong demand for the

Company's products. The cash balance at December 31, 1997, was \$7.2 million compared to \$31.7 million at the prior year end. As discussed below, the increase in capital expenditures is the main cause for the decline in cash.

The aforementioned \$117 million alloy expansion project begun in 1996 is being financed, in part, by two operating leases totaling approximately \$81.1 million (See Note F to the Consolidated Financial Statements). Payments under the facility lease began in December 1997 and payments under the equipment lease will begin in 1999. Equipment lease payments are graduated to increase over time.

Capital expenditures for property, plant and equipment totaled \$53.2 million, excluding items under lease. Included in this total is the construction cost of the new manufacturing facility in Lorain, Ohio, which was financed in part by tax-advantaged industrial revenue bonds, a portion of the alloy expansion project in Elmore, Ohio, and new plating lines and related equipment at the Lincoln, Rhode Island facility. Capital expenditures in 1997 were significantly higher than in recent years and expenditures in 1998 are anticipated to approximate 1997's level.

New bertrandite mine pits in Utah were developed at a total cost of \$13.2 million, including \$3.7 million expended in 1996. The pits have an average life of four to five years.

In 1996, the Company initiated a project to implement a new computer-based information system replacing the majority of its older systems. The new system was designed primarily to improve the efficiency of information flow, but it also mitigates the requirements to make numerous old systems year 2000 compliant. The new system is anticipated to be substantially implemented by the end of 1998 and have a capitalized cost of approximately \$15 million. Year 2000 compliant costs for the remaining legacy systems are estimated at approximately five cents per share in 1998. The Company anticipates that the majority of its systems will be year 2000 compliant by the end of 1998. The Company does not believe it is materially dependent upon any vendor or customer who may have a year 2000 compliance problem.

Short-term debt at year end 1997 was \$28.9 million, an increase of \$3.2 million from the prior year end. Included in this amount is \$0.8 million of the current portion of long-term debt with the balance denominated in precious metals and foreign currencies to provide hedges for assets so denominated. Credit lines amounting to \$54.8 million are available for additional borrowing. The precious metal facility is committed, secured and renewed annually. All other lines are uncommitted, unsecured and renewed annually.

Long-term debt on the balance sheet was \$17.9 million at December 31, 1997, compared to \$18.9 million at December 31, 1996. Long-term available financial resources include \$70 million of medium-term notes and \$55 million under a revolving credit agreement.

The Company repurchased 205,600 shares of Common Stock at a cost of \$4.9 million in 1997 under a program authorized by the Board of Directors in the second quarter

1997. The purpose of the program is to help offset the dilutive effect of exercisable stock options and other stock-based compensation. Common stock was used to acquire CPT in the fourth quarter 1996, increasing the number of outstanding shares. Dividends paid in 1997 were \$7.3 million, an increase of \$0.8 million from 1996. The quarterly dividend per share increased to \$0.12 from \$0.11 in the third quarter 1997 following a similar increase in the third quarter 1996.

Funds being generated from operations plus the available borrowing capacity are believed adequate to support operating requirements, capital expenditures, remediation projects, dividends and small acquisitions. Excess cash, if any, is invested in money market instruments and other high quality investments.

Cash flow from operating activities in 1996 was \$45.0 million. Cash balances increased \$2.2 million while total balance sheet debt increased \$4.8 million during 1996. Capital expenditures and mine development expenditures were \$30.5 million in 1996. The Company re-purchased \$6.7 million of Common Stock and paid \$6.5 million dividends in 1996.

ORE RESERVES

The Company's reserves of beryllium-bearing bertrandite ore are located in Juab County, Utah. An ongoing drilling program has generally added to proven reserves. Proven reserves are the measured quantities of ore commercially recoverable through the open pit method. Probable reserves are the estimated quantities of ore known to exist, principally at greater depths, but prospects for commercial recovery are indeterminable. Ore dilution that occurs during mining approximates 7%. About 87% of beryllium in ore is recovered in the extraction process. The Company augments its proven reserves of bertrandite ore through the purchase of imported beryl ore (approximately 4% beryllium) which is also processed at the Utah extraction plant.

| | 1997 | 1996 | 1995 | 1994 | 1993 |
|--|-------|-------|-------|-------|-------|
| | ---- | ---- | ---- | ---- | ---- |
| Proven bertrandite ore reserves at year-end (thousands of dry tons) | 6,924 | 6,763 | 6,927 | 6,747 | 6,786 |
| Grade % beryllium | 0.249 | 0.249 | 0.249 | 0.251 | 0.251 |
| Probable bertrandite ore reserves at year-end (thousands of dry tons) | 6,750 | 7,432 | 7,346 | 7,559 | 7,594 |
| Grade % beryllium | 0.277 | 0.281 | 0.281 | 0.279 | 0.279 |
| Bertrandite ore processed (thousands of dry tons, diluted) | 110 | 97 | 96 | 79 | 92 |
| Grade % beryllium, diluted | 0.229 | 0.236 | 0.232 | 0.240 | 0.232 |

INFLATION AND CHANGING PRICES

The prices of certain major raw materials, including copper, nickel, gold and other precious metals purchased by the Company, fluctuate during a given year. Such changes in costs are generally reflected in selling price adjustments. The prices of labor and other factors of production generally increase with inflation. Additions to capacity, while more expensive over time, usually result in greater productivity or improved yields. However, market factors, alternative materials and competitive pricing affect the Company's ability to offset wage and benefit increases. The Company employs the last-in, first-out (LIFO) inventory valuation method domestically to more closely match current costs with revenues.

ENVIRONMENTAL MATTERS

As indicated in Note M to the Consolidated Financial Statements, page 18 of the Annual Report to Shareholders for the year ended December 31, 1997, the Company maintains an active program of environmental compliance. For projects involving remediation, estimates of the probable costs are made and the Company has reserved \$5.1 million at December 31, 1997 (\$4.0 million at December 31, 1996). This reserve covers existing and currently foreseen projects.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

The report of independent auditors and the following consolidated financial statements of the Company included in the annual report to shareholders for the year ended December 31, 1997 are incorporated herein by reference:

Consolidated Balance Sheets - December 31, 1997 and 1996.

Consolidated Statements of Income - Years ended December 31, 1997, 1996 and 1995.

Consolidated Statements of Shareholders' Equity - Years ended December 31, 1997, 1996 and 1995.

Consolidated Statements of Cash Flows - Years ended December 31, 1997, 1996 and 1995.

Notes to Consolidated Financial Statements.

Report of Independent Auditors.

Quarterly Data on page 20 of the annual report to shareholders for the years ended December 31, 1997 and December 31, 1996 is incorporated herein by reference.

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING

AND FINANCIAL DISCLOSURE

None

PART III

ITEM 10. DIRECTORS AND EXECUTIVE OFFICERS OF THE REGISTRANT

The information under Election of Directors on pages 2 through 5 of the Proxy Statement dated March 16, 1998 is incorporated herein by reference. Information with respect to Executive Officers of the Company is set forth earlier on pages 15 and 16 of this Form 10-K annual report.

ITEM 11. EXECUTIVE COMPENSATION

The information under Executive Officer Compensation on pages 8 through 12 of the Proxy Statement dated March 16, 1998 is incorporated herein by reference.

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT

The information under Common Stock Ownership of Certain Beneficial Owners, Directors and Management on pages 6 and 7 of the Proxy Statement dated March 16, 1998 is incorporated herein by reference.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS

Not applicable.

PART IV

ITEM 14. EXHIBITS, FINANCIAL STATEMENTS SCHEDULES AND REPORTS ON

FORM 8-K

(a) 1. Financial Statements and Supplemental Information

Included in Part II of this Form 10-K annual report by reference to the annual report to shareholders for the year ended December 31, 1997 are the following consolidated financial statements:

Consolidated Balance Sheets - December 31, 1997 and 1996.

Consolidated Statements of Income - Years ended December 31, 1997, 1996 and 1995.

Consolidated Statements of Shareholders' Equity - Years ended December 31, 1997, 1996 and 1995.

Consolidated Statements of Cash Flows - Years ended December 31, 1997, 1996 and 1995.

Notes to Consolidated Financial Statements.

Report of Independent Auditors.

(a) 2. Financial Statement Schedules

The following consolidated financial information for the years 1997, 1996 and 1995 is submitted herewith:

Schedule II - Valuation and qualifying accounts.

All other schedules for which provision is made in the applicable accounting regulations of the Securities and Exchange Commission are not required under the related instructions or are inapplicable, and therefore have been omitted.

(a) 3. Exhibits

- (3a) Second Amended and Restated Articles of Incorporation of the Company dated January 27, 1998.
- (3b) Regulations of the Company as amended April 27, 1993 (filed as Exhibit 3b to the Company's Form 10-K Annual Report for the year ended December 31, 1994), incorporated herein by reference.
- (4a) Credit Agreement dated as of December 13, 1994 between the Company and National City Bank acting for itself and as agent for three other banking institutions (filed as Exhibit 4a to the Company's Form 10-K Annual Report for the year ended December 31, 1994), incorporated herein by reference.
- (4b) First Amendment to Amended and Restated Credit Agreement dated December 30, 1996 between Brush Wellman Inc. and National City Bank acting for itself and as agent for three other banking institutions (filed as Exhibit 4b to the Company's Form 10-K Annual Report for the year ended December 31, 1996), incorporated herein by reference.
- (4c) Second Amendment to Amended and Restated Credit Agreement dated September 2, 1997 between Brush Wellman Inc. and National City Bank acting for itself and as agent for certain other banking institutions.
- (4d) Rights Agreement between the Company and National City Bank N.A. dated January 27, 1998.
- (4e) Issuing and Paying Agency Agreement dated as of February 1, 1990, including a specimen form of a medium term note issued thereunder, between the Company and First Trust N.A. (formerly with Morgan Guaranty Trust Company of New York) (filed as Exhibit 4c to the Company's Form 10-K Annual Report for the year ended December 31, 1994), incorporated herein by reference.
- (4f) Pursuant to Regulation S-K, Item 601(b)(4), the Company agrees to furnish to the Commission, upon its request, a copy of the instruments defining the rights of holders of long-term debt of the Company that are not being filed with this report.
- (10a)* Employment Agreement entered into by the Company and Mr. Gordon D. Harnett on March 20, 1991 (filed as Exhibit 10a to the Company's Form 10-K Annual Report for the year ended December 31, 1990), incorporated herein by reference.
- (10b)* Form of Employment Agreement entered into by the Company and Messrs. Brophy, Hanes, Harlan, Rozek and Sandor on February 20, 1989 (filed as Exhibit 10b to the Company's Form 10-K Annual Report for the year ended December 31, 1994), incorporated herein by reference.

* Reflects management contract or other compensatory arrangement required to be filed as an Exhibit pursuant to Item 14(c) of this Report.

- (10c)* Form of Amendment to the Employment Agreement (dated February 20, 1989) entered into by the Company and Messrs. Brophy, Hanes, Harlan, Rozek and Sandor dated February 28, 1991 (filed as Exhibit 10c to the Company's Form 10-K Annual Report for the year ended December 31, 1990), incorporated herein by reference.
- (10d)* Form of Employment Agreement entered into by the Company and Mr. Daniel A. Skoch on January 28, 1992, Mr. Stephen Freeman dated August 3, 1993, Mr. Carl Cramer dated December 6, 1994 and Mr. Brian J. Derry dated May 6, 1997 (filed as Exhibit 10d to the Company's Form 10-K Annual Report for the year ended December 31, 1991), incorporated herein by reference.
- (10e)* Form of Trust Agreement between the Company and Key Trust Company of Ohio, N.A. (formerly Ameritrust Company National Association) on behalf of Messrs. Brophy, Hanes, Harlan, Rozek and Sandor dated February 20, 1989, Mr. Harnett dated March 20, 1991 and Mr. Skoch dated January 28, 1992, Mr. Freeman dated August 3, 1993, Mr. Cramer dated December 6, 1994 and Mr. Brian J. Derry dated May 6, 1997 (filed as Exhibit 10e to the Company's Form 10-K Annual Report for the year ended December 31, 1994), incorporated herein by reference.
- (10f) Form of Indemnification Agreement entered into by the Company and Mr. G. D. Harnett on March 20, 1991 (filed as Exhibit 10f to the Company's Form 10-K Annual Report for the year ended December 31, 1994), incorporated herein by reference.
- (10g) Form of Indemnification Agreement entered into by the Company and Messrs. J. H. Brophy, A. J. Sandor, C. B. Harlan, H. D. Hanes, and R. H. Rozek on June 27, 1989, Mr. D. A. Skoch on January 28, 1992, Mr. S. Freeman dated August 3, 1993, Mr. C. Cramer on December 6, 1994, Messrs. M. D. Anderson, A. T. Lubrano, S. A. Moyer and J. J. Paschall on January 19, 1996, and Messrs. Brian J. Derry and Jordon P. Frazier on May 6, 1997 (filed as Exhibit 10g to the Company's Form 10-K Annual Report for the year ended December 31, 1994), incorporated herein by reference.
- (10h) Form of Indemnification Agreement entered into by the Company and Messrs. C. F. Brush III, F. B. Carr, W. P. Madar, G. C. McDonough, R. M. McInnes, H. G. Piper and J. Sherwin Jr. on June 27, 1989, Mr. A. C. Bersticker on April 27, 1993, Mr. D. L. Burner on May 2, 1995, Mr. James P. Mooney on October 1, 1996, Mr. J. P. Keithley on August 5, 1997 and Mr. W. P. Robertson on December 2, 1997 (filed as Exhibit 10h to the Company's Form 10-K Annual Report for the year ended December 31, 1994), incorporated herein by reference.
- (10i)* Directors' Retirement Plan as amended January 26, 1993 (filed as Exhibit 10i to the Company's Form 10-K Annual Report for the year ended December 31, 1992), incorporated herein by reference.

* Reflects management contract or other compensatory arrangement required to be filed as an Exhibit pursuant to Item 14(c) of this Report.

- (10j)* Deferred Compensation Plan for Nonemployee Directors effective January 1, 1992 (filed as Exhibit I to the Company's Proxy Statement dated March 6, 1992, Commission File No. 1-7006), incorporated herein by reference.
- (10k)* Form of Trust Agreement between the Company and National City Bank dated January 1, 1992 on behalf of Nonemployee Directors of the Company (filed as Exhibit 10k to the Company's Form 10-K Annual Report for the year ended December 31, 1992), incorporated herein by reference.
- (10l)* Incentive Compensation Plan adopted December 16, 1991, effective January 1, 1992 (filed as Exhibit 10l to the Company's Form 10-K Annual Report for the year ended December 31, 1991), incorporated herein by reference.
- (10m)* Supplemental Retirement Plan as amended and restated December 1, 1992 (filed as Exhibit 10n to the Company's Form 10-K Annual Report for the year ended December 31, 1992), incorporated herein by reference.
- (10n)* Amendment Number 3, adopted February 8, 1995, to Supplemental Retirement Benefit Plan as amended and restated December 1, 1992 (filed as Exhibit 10o to the Company's Form 10-K Annual Report for the year ended December 31, 1994), incorporated herein by reference.
- (10o)* Amendment Number 2, adopted January 1, 1996, to Supplemental Retirement Benefit Plan as amended and restated December 1, 1992 (filed as Exhibit 10o to the Company's Form 10-K Annual Report for the year ended December 31, 1995), incorporated herein by reference.
- (10p)* Form of Trust Agreement between the Company and Key Trust Company of Ohio, N.A. (formerly Society National Bank) dated January 8, 1993 pursuant to the December 1, 1992 amended Supplemental Retirement Benefit Plan (filed as Exhibit 10p to the Company's Form 10-K Annual Report for the year ended December 31, 1992), incorporated herein by reference.
- (10q)* 1979 Stock Option Plan, as amended pursuant to approval of shareholders on April 21, 1982 (filed as Exhibit 15A to Post-Effective Amendment No. 3 to Registration Statement No. 2-64080), incorporated herein by reference.
- (10r)* 1984 Stock Option Plan as amended by the Board of Directors on April 18, 1984 and February 24, 1987 (filed as Exhibit 4.4 to Registration Statement No. 33-28605), incorporated herein by reference.
- (10s)* 1989 Stock Option Plan (filed as Exhibit 4.5 to Registration Statement No. 33-28605), incorporated herein by reference.

* Reflects management contract or other compensatory arrangement required to be filed as an Exhibit pursuant to Item 14(c) of this Report.

- (10t)* 1990 Stock Option Plan for Nonemployee Directors (filed as Exhibit 4.6 to Registration Statement No. 33-35979), incorporated herein by reference.
- (10u)* 1995 Stock Incentive Plan as Amended March 3, 1998 (filed as Exhibit A to the Company's Proxy Statement dated March 16, 1998, Commission File No. 1-7006), incorporated herein by reference.
- (10v) Lease dated as of October 1, 1996, between Brush Wellman Inc. and Toledo-Lucas County Port Authority (filed as Exhibit 10v to the Company's Form 10-K Annual Report for the year ended December 31, 1996), incorporated herein by reference.
- (10w) Master Lease Agreement dated December 30, 1996 between Brush Wellman Inc. and National City Bank acting for itself and as agent for certain participants (filed as Exhibit 10w to the Company's Form 10-K Annual Report for the year ended December 31, 1996), incorporated herein by reference.
- (10x)* 1997 Stock Incentive Plan for Non-Employee Directors (filed as Exhibit B to the Company's Proxy Statement dated March 16, 1998, Commission File No. 1-7006) incorporated herein by reference.
- (13) Portions of the Annual Report to shareholders for the year ended December 31, 1997.
- (21) Subsidiaries of the registrant.
- (23) Consent of Ernst & Young LLP.
- (24) Power of Attorney.
- (27.1) Financial Data Schedule 1997.
- (27.2) Financial Data Schedule 1996 Restated.
- (27.3) Financial Data Schedule 1995 Restated.
- (99) Form 11-K Annual Report for the Brush Wellman Inc. Savings and Investment Plan for the year ended December 31, 1997.

(b) Reports on Form 8-K

There were no reports on Form 8-K filed during the fourth quarter of the year ended December 31, 1997.

* Reflects management contract or other compensatory arrangement required to be filed as an Exhibit pursuant to Item 14(c) of this Report.

SIGNATURES

Pursuant to the requirements of Section 13 of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

March 27, 1998

BRUSH WELLMAN INC.

By: /s/Gordon D. Harnett

Gordon D. Harnett
Chairman of the Board,
President and Chief Executive Officer

By: /s/Carl Cramer

Carl Cramer
Vice President and
Chief Financial Officer

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

| | | |
|--|---|----------------|
| GORDON D. HARNETT* ----- Gordon D. Harnett | Chairman of the Board, President, Chief Executive Officer and Director (Principal Executive Officer) | March 27, 1998 |
| CARL CRAMER ----- Carl Cramer | Vice President and Chief Financial Officer | March 27, 1998 |
| ALBERT C. BERSTICKER* ----- Albert C. Bersticker | Director | March 27, 1998 |
| CHARLES F. BRUSH, III* ----- Charles F. Brush, III | Director | March 27, 1998 |
| DAVID L. BURNER* ----- David L. Burner | Director | March 27, 1998 |
| JOSEPH P. KEITHLEY * ----- Joseph P. Keithley | Director | March 27, 1998 |
| WILLIAM P. MADAR* ----- William P. Madar | Director | March 27, 1998 |
| ROBERT M. McINNES* ----- Robert M. McInnes | Director | March 27, 1998 |
| WILLIAM R. ROBERTSON ----- William R. Robertson | Director | March 27, 1998 |
| JOHN SHERWIN, JR.* ----- John Sherwin, Jr. | Director | March 27, 1998 |

*The undersigned, by signing his name hereto, does sign and execute this report on behalf of each of the above-named officers and directors of Brush Wellman Inc., pursuant to Powers of Attorney executed by each such officer and director filed with the Securities and Exchange Commission.

By: /s/Carl Cramer

Carl Cramer
Attorney-in-Fact

March 27, 1998

SCHEDULE II - VALUATION AND QUALIFYING ACCOUNTS

BRUSH WELLMAN INC. AND SUBSIDIARIES

YEARS ENDED DECEMBER 31, 1997, 1996 AND 1995

| COL. A | COL. B | COL. C | | COL. D | COL. E |
|---|-----------------------------------|---|--|--------------------|-----------------------------|
| DESCRIPTION | Balance at Beginning of Period | ADDITIONS | | Deduction-Describe | Balance at End of Period |
| | | (1) Charged to Costs and Expenses | (2) Charged to Other Accounts-Describe | | |
| Year ended December 31, 1997 | | | | | |
| Deducted from assets accounts: | | | | | |
| Allowance for doubtful accounts receivable | \$954,289 | \$143,666 | \$0 | \$39,292 (A) | \$1,058,663 |
| Inventory reserves and obsolescence | \$1,717,795 | \$2,816,498 | \$0 | \$2,479,355 (B) | \$2,054,938 |
| Year ended December 31, 1996 | | | | | |
| Deducted from assets accounts: | | | | | |
| Allowance for doubtful accounts receivable | \$1,014,704 | \$29,455 | \$0 | \$89,870 (A) | \$954,289 |
| Inventory reserves and obsolescence | \$1,600,000 | \$2,656,779 | \$0 | \$2,538,984 (B) | \$1,717,795 |
| Year ended December 31, 1995 | | | | | |
| Deducted from assets accounts: | | | | | |
| Allowance for doubtful accounts receivable | \$1,036,797 | \$203,213 | \$0 | \$225,306 (A) | \$1,014,704 |
| Inventory reserves and obsolescence | \$1,466,039 | \$1,590,856 | \$0 | \$1,456,895 (B) | \$1,600,000 |

Note A - Bad debts written-off.

Note B - Inventory write-off.

Exhibit 3A

**SECOND AMENDED AND RESTATED ARTICLES OF INCORPORATION
OF
BRUSH WELLMAN INC.**

FIRST: The name of the Corporation shall be BRUSH WELLMAN INC.

SECOND: The place in the State of Ohio where its principal office is to be located is the City of Cleveland, Cuyahoga County.

THIRD: The purpose or purposes for which it is formed are:

1. To engage in, and exploit the results of; scientific research.
2. To acquire, own, lease, work and operate mines, and to deal in minerals, and to produce or cause to be produced products therefrom.
3. To manufacture, buy or otherwise acquire, own, mortgage, pledge, sell, assign, lease, license, or otherwise dispose of; import, export, trade and deal in and with goods, wares, merchandise, and personal property of every kind and description.
4. To secure, register, purchase, lease or otherwise acquire, hold, use, own, operate and introduce, and sell, assign, or otherwise dispose of; any trademarks, trade names, copyrights, patents, inventions, improvements and processes, whether used in connection with or secured under letters patent of the United States or elsewhere, or otherwise, and to use, exercise, develop and grant licenses in respect of; or otherwise turn to account any such trademarks, copyrights, patents, licenses, processes and the like, or any property or rights.
5. To acquire, own, hold, dispose of; and generally deal in bonds, debentures, notes, stocks, mortgages, choses in action and intangible property of every nature.
6. To purchase, lease, or otherwise acquire, own, improve, operate, lease, mortgage, sell, or otherwise dispose of; real property, and interests therein, and to construct, erect, equip, manufacture, occupy, conduct, manage, repair, improve, lease, mortgage, sell, or otherwise dispose of; fixtures, mills, residences, buildings, and structures of all kinds.
7. To carry on and transact any of the foregoing purposes as principal, agent or broker.
8. To the same extent and as fully as natural persons might lawfully or could do, to do all and every lawful act and thing and to enter into, make and perform contracts of every kind, without limitation as to amount, necessary, suitable or convenient and proper for the accomplishment of any of the purposes or the performance of any of the objects or incidental to any of the powers hereinbefore enumerated or which at any time shall appear conducive or expedient for the protection or benefit of the Corporation; the enumeration of specific powers not being a limitation or restriction in any manner of the general powers of the Corporation.

9. To do all or any of such acts or things and exercise any of such powers in the State of Ohio, other states, the District of Columbia, the territories, colonies, and possessions of the United States, and in any foreign countries, to comply with the requirements of laws of such other jurisdictions to enable it to do business therein, and to maintain such offices, branches or plants either within or without the State of Ohio as may be convenient.

FOURTH: The authorized number of shares of the Corporation is 50,000,000 consisting of 5,000,000 shares of Serial Preferred Stock, without par value, and 45,000,000 shares of Common Stock of the par value of \$1 per share. All authorized but unissued shares of Common Stock of the Corporation shall be free from preemptive rights of shareholders to subscribe for and purchase any part thereof, and may be disposed of by the Board of Directors of the Corporation at any time or from time to time for such consideration not less than the par value thereof as may be fixed by the Board of Directors.

DIVISION A

EXPRESS TERMS OF THE SERIAL PREFERRED STOCK

Section 1. The Serial Preferred Stock may be issued from time to time in one or more series. All shares of Serial Preferred Stock shall be of equal rank and shall be identical, except in respect of the matters that may be fixed by the Board of Directors as hereinafter provided, and each share of each series shall be identical with all other shares of such series, except as to the date from which dividends are cumulative. Subject to the provisions of Section 2 to 8, both inclusive, of this Division A, which provisions shall apply to all Serial Preferred Stock, the Board of Directors hereby is authorized to cause such shares to be issued in one or more series, and with respect to each such series, prior to the issuance thereof, to fix:

- (a) The designation of the series which may be by distinguishing number, letter or title.
- (b) The number of shares of the series, which number the Board of Directors may (except where otherwise provided in the creation of the series) increase or decrease (but not below the number of shares thereof then outstanding).
- (c) The annual dividend rate of the series.
- (d) The dates at which dividends, if declared, shall be payable, and the dates from which dividends shall be cumulative.
- (e) The redemption rights and price or prices, if any, for shares of the series.
- (f) The terms and amount of any sinking fund provided for the purchase or redemption of shares of the series.
- (g) The amounts payable on shares of the series in the event of any voluntary or involuntary liquidation, dissolution or winding up of the affairs of the Corporation.

(h) Whether the shares of the series shall be convertible into Common Stock, and, if so, the conversion price or prices, any adjustments thereof; and all other terms and conditions upon which such conversion may be made.

(i) Restrictions (in addition to those set forth in Section 6(b) and 6(c) of this Division) on the issuance of shares of the same series or of any other class or series.

The Board of Directors is authorized to adopt from time to time amendments to the Articles of Incorporation fixing, with respect to each such series, the matters described in clauses (a) to (i), both inclusive, of this Section 1.

Section 2. The holders of Serial Preferred Stock of each series, in preference to the holders of Common Stock and of any other class of shares ranking junior to the Serial Preferred Stock, shall be entitled to receive out of any funds legally available and when and as declared by the Board of Directors dividends in cash at the rate for such series fixed in accordance with the provisions of Section 1 of this Division and no more, payable quarterly on the dates fixed for such series. Such dividends shall be cumulative, in the case of shares of each particular series, from and after the date or dates fixed with respect to such series. No dividends may be paid upon or declared or set apart for any of the Serial Preferred Stock for any quarterly dividend period unless at the same time a like proportionate dividend for the same quarterly dividend period, ratably in proportion to the respective annual dividend rates fixed therefor, shall be paid upon or declared or set apart for all Serial Preferred Stock of all series then issued and outstanding and entitled to receive such dividend.

Section 3. In no event so long as any Serial Preferred Stock shall be outstanding shall any dividends, except a dividend payable in Common Stock or other shares ranking junior to the Serial Preferred Stock, be paid or declared or any distribution be made except as aforesaid in the Common Stock or any other shares ranking junior to the Serial Preferred Stock, nor shall any Common Stock or any other shares ranking junior to the Serial Preferred Stock be purchased, retired, or otherwise acquired by the Corporation (except out of the proceeds of the sale of Stock or other shares ranking junior to the Serial Preferred Stock received by the Corporation subsequent to March 31, 1968):

(a) Unless all accrued and unpaid dividends on Serial Preferred Stock, including the full dividends for the current quarterly dividend period, shall have been declared and paid or a sum sufficient for payment thereof set apart; and

(b) Unless there shall be no arrearages with respect to the redemption of Serial Preferred Stock of any series from any sinking fund provided for shares of such series in accordance with the provisions of Section 1 of this Division.

Section 4. (a) Subject to the express terms of each series and to the provisions of Section 6(b) (iii) of this Division, the Corporation may from time to time redeem all or any part of the Serial Preferred Stock of any series at the time outstanding (i) at the option of the Board of Directors at the applicable redemption price for such series fixed in accordance with the provisions of Section 1 of this Division, or (ii) in fulfillment of the requirements of any sinking

fund provided for shares of such series at the applicable sinking fund redemption price, fixed in accordance with the provisions of Section 1 of this Division, together in each case with an amount equal to all dividends accrued and unpaid thereon (whether or not such dividends shall have been earned or declared) to the redemption date.

(b) Notice of every such redemption shall be mailed, postage prepaid, to the holders of record of the Serial Preferred Stock to be redeemed at their respective addresses then appearing on the books of the Corporation, not less than 30 days nor more than 60 days prior to the date fixed for such redemption. At any time before or after notice has been given as above provided, the Corporation may deposit the aggregate redemption price of the shares of Serial Preferred Stock to be redeemed, together with accrued and unpaid dividends thereon to the redemption date, with any bank or trust company in Cleveland, Ohio, or New York, New York, having capital and surplus of more than \$5,000,000, named in such notice, and direct that such deposited amount be paid to the respective holders of the shares of Serial Preferred Stock so to be redeemed, upon surrender of the stock certificate or certificates held by such holders. Upon the giving of such notice and the making of such deposit, such holders shall cease to be shareholders with respect to such shares and shall have no interest in or claim against the Corporation with respect to such shares except only to receive such money from such bank or trust company without interest or the right to exercise any unexpired privileges of conversion. In case less than all of the outstanding shares of Serial Preferred Stock are to be redeemed, the Corporation shall select pro rata or by lot the shares so to be redeemed in such manner as shall be prescribed by its Board of Directors.

If the holders of shares of Serial Preferred Stock which shall have been called for redemption shall not, within six years after such deposit, claim the amount deposited for the redemption thereof; any such bank or trust company shall, upon demand, pay over to the Corporation such unclaimed amounts and thereupon such bank or trust company and the Corporation shall be relieved of all responsibility in respect thereof and to such holders.

(c) Any shares of Serial Preferred Stock which are redeemed by the Corporation pursuant to the provisions of this Section 4 and any shares of Serial Preferred Stock which are purchased and delivered in satisfaction of any sinking fund requirements provided for shares of such series and any shares of Serial Preferred Stock which are converted in accordance with the express terms thereof shall be cancelled and not reissued. Any shares of Serial Preferred Stock otherwise acquired by the Corporation shall resume the status of authorized and unissued shares of Serial Preferred Stock without serial designation.

Section 5. (a) The holders of Serial Preferred Stock of any series shall, in case of voluntary or involuntary liquidation, dissolution or winding up of the affairs of the Corporation, be entitled to receive in full out of the assets of the Corporation, including its capital, before any amount shall be paid or distributed among the holders of the Common Stock or any other shares ranking junior to the Serial Preferred Stock, the amounts fixed with respect to shares of such series in accordance with Section 1 of this Division plus in any such event an amount equal to all dividends accrued and unpaid thereon (whether or not such dividends shall have been earned or declared) to the date of payment of the amount due pursuant to such liquidation, dissolution or winding up of the affairs of the Corporation. In case the net assets of the Corporation legally

available therefor are insufficient to permit the payment upon all outstanding shares of Serial Preferred Stock of the full preferential amount to which they are respectively entitled, then such net assets shall be distributed ratably upon outstanding shares of Serial Preferred Stock in proportion to the full preferential amount to which each such share is entitled.

After payment to holders of Serial Preferred Stock of the full preferential amounts as aforesaid, holders of Serial Preferred Stock as such have no right or claim to any of the remaining assets of the Corporation.

(b) The merger or consolidation of the Corporation into or with any other corporation, or the merger of any other corporation into it, or the sale, lease or conveyance of all or substantially all the property or business of the Corporation, shall not be deemed to be a dissolution, liquidation or winding up, voluntary or involuntary, for the purposes of this Section 5.

Section 6. (a) The holders of Serial Preferred Stock shall be entitled to one vote for each share of such stock upon all matters presented to the shareholders; and, except as otherwise provided herein or required by law, the holders of Serial Preferred Stock and the holders of Common Stock shall vote together as one class on all matters. No adjustment of the voting rights of the holders of Serial Preferred Stock shall be made in the event of an increase or decrease in the number of shares of Common Stock authorized or issued or in the event of a stock split or combination of the Common Stock or in the event of a stock dividend on any class of stock payable solely in Common Stock.

If; and so often as, the Corporation shall be in default in the payment of dividends in an amount equivalent to six quarterly dividends (whether or not consecutive) on any series of Serial Preferred Stock at the time outstanding, whether or not earned or declared, the holders of Serial Preferred Stock of all series, voting separately as a class and in addition to all other rights to vote for directors, shall thereafter be entitled to elect, as herein provided, two members of the Board of Directors of the Corporation who shall serve, except as hereinbelow provided, until the next annual meeting of the shareholders and until their successors have been elected and qualified: provided, however, that the holders of shares of Serial Preferred Stock shall not have or exercise such special class voting rights except at meetings of the shareholders for the election of directors at which the holders of not less than 35% of the outstanding shares of Serial Preferred Stock of all series then outstanding are present in person or by proxy; and provided further that the special class voting rights provided for herein when the same shall have become vested shall remain so vested until all accrued and unpaid dividends on the Serial Preferred Stock of all series then outstanding shall have been paid, whereupon the holders of Serial Preferred Stock shall be divested of their special class voting rights in respect of subsequent elections of directors and the terms of the directors elected by the holders of the Serial Preferred Stock shall automatically terminate, subject to the revesting of such special class voting rights in the event hereinabove specified in this paragraph.

In the event of default entitling the holders of Serial Preferred Stock to elect two directors as above specified, a special meeting of the shareholders for the purpose of electing such directors shall be called by the Secretary of the Corporation upon written request of; or may

be called by, the holders of record of at least 10% of the shares of Serial Preferred Stock of all series at the time outstanding, and notice thereof shall be given in the same manner as that required for the annual meeting of shareholders; provided, however, that the Corporation shall not be required, and the holders of Serial Preferred Stock shall not be entitled, to call such special meeting if the annual meeting of shareholders shall be held within 90 days after the date of receipt of the foregoing written request from the holders of Serial Preferred Stock. At any meeting at which the holders of Serial Preferred Stock shall be entitled to elect directors, the holders of 35% of the then outstanding shares of Serial Preferred Stock of all series, present in person or by proxy, shall be sufficient to constitute a quorum, and the vote of the holders of a majority of such shares so present at any such meeting at which there shall be such a quorum shall be sufficient to elect the members of the Board of Directors which the holders of Serial Preferred Stock are entitled to elect as hereinabove provided. If at any such meeting there shall be less than a quorum present, the holders of a majority of the shares so present may adjourn the meeting from time to time without notice other than announcement at the meeting until a quorum shall attend.

The two directors who may be elected by the holders of Serial Preferred Stock pursuant to the foregoing provisions shall be in addition to any other directors then in office or proposed to be elected otherwise than pursuant to such provisions, and nothing in such provisions shall prevent any change otherwise permitted in the total number of directors of the Corporation or require the resignation of any director elected otherwise than pursuant to such provisions.

(b) The affirmative vote or consent of the holders of at least two-thirds of the shares of Serial Preferred Stock at the time outstanding, given in person or by proxy either in writing or at a meeting called for the purpose at which the holders of Serial Preferred Stock shall vote separately as a class, shall be necessary to effect any one or more of the following (but so far as the holders of Serial Preferred Stock are concerned, such action may be effected with such vote or consent):

(i) Any amendment, alteration or repeal of any of the provisions of the Articles of Incorporation or of the Regulations of the Corporation which affects adversely the voting powers, right or preferences of the holders of Serial Preferred Stock; provided, however, that, for the purpose of this clause (i) only, neither the amendment of the Articles of Incorporation so as to authorize or create, or to increase the authorized or outstanding amount of; Serial Preferred Stock or of any shares of any class ranking on a parity with or junior to the Serial Preferred Stock, nor the amendment of the provisions of the Regulations so as to increase the number of directors of the Corporation, shall be deemed to affect adversely the voting powers, rights or preferences of the holders of Serial Preferred Stock; and provided further, that if such amendment, alteration or repeal affects adversely the rights or preferences of one or more but not all series of Serial Preferred Stock at the time outstanding, only the vote or consent of the holders of at least two-thirds of the number of the shares at the time outstanding of the series so affected shall be required; or

(ii) The authorization or creation of; or the increase in the authorized amount of; any shares of any class, or any security convertible into shares of any class, ranking prior to the Serial Preferred Stock; or

(iii) The purchase or redemption (for sinking fund purposes or otherwise) of less than all of the Serial Preferred Stock then outstanding except in accordance with a stock purchase offer made to all holders of record of Serial Preferred Stock, unless all dividends upon all Serial Preferred Stock then outstanding for all previous quarterly dividend periods shall have been declared and paid or funds therefor set apart and all accrued sinking fund obligations applicable thereto shall have been complied with.

(c) The affirmative vote or consent of the holders of at least a majority of the shares of Serial Preferred Stock at the time outstanding, given in person or by proxy in writing or at a meeting called for the purpose at which the holders of Serial Preferred Stock shall vote separately as a class, shall be necessary to effect any one or more of the following (but so far as the holders of Serial Preferred Stock are concerned, such action may be effected with such vote or consent):

(i) The consolidation of the Corporation with or its merger into any other corporation unless the corporation resulting from such consolidation or merger will have after such consolidation or merger no class of shares either authorized or outstanding ranking prior to or on a parity with the Serial Preferred Stock except the same number of shares ranking prior to or on a parity with the Serial Preferred Stock and having the same rights and preferences as the shares of the Corporation authorized and outstanding immediately preceding such consolidation or merger, and each holder of Serial Preferred Stock immediately preceding such consolidation or merger shall receive the same number of shares, with the same rights and preferences of the resulting corporation; or

(ii) The authorization of any shares ranking on a parity with the Serial Preferred Stock or an increase in the authorized number of shares of Serial Preferred Stock; or

(iii) The sale, lease or conveyance by the Corporation of all or substantially all of its property or business.

Section 7. If the shares of any series of Serial Preferred Stock shall be convertible into Common Stock, then upon conversion of shares of such series the stated capital of the Common Stock issued upon such conversion shall be the aggregate par value of the shares so issued having par value, or, in the case of Shares without par value, shall be an amount equal to the stated capital represented by each share of Common Stock outstanding at the time of such conversion multiplied by the number of shares of Common Stock issued upon such conversion. The stated capital of the Corporation shall be correspondingly increased or reduced to reflect the difference between the stated capital of the shares of Serial Preferred Stock so converted and the stated capital of the Common Stock issued upon such conversion.

Section 8. For the purpose of this Division A:

Whenever reference is made to shares "ranking prior to the Serial Preferred Stock", such reference shall mean and include all shares of the Corporation in respect of which the rights of the holders thereof as to the payment of dividends or as to distributions in the event of an involuntary liquidation, dissolution or winding up of the Corporation are given preference over the rights of the holders of Serial Preferred Stock; whenever reference is made to shares "on a parity with the Serial Preferred Stock", such reference shall mean and include all shares of the Corporation in respect of which the rights of the holders thereof as to the payment of dividends and as to distributions in the event of an involuntary liquidation, dissolution or winding up of the Corporation rank on an equity (except as to the amounts fixed therefor) with the rights of the holders of Serial Preferred Stock; and whenever reference is made to shares "ranking junior to the Serial Preferred Stock", such reference shall mean and include all shares of the Corporation in respect of which the rights of the holders as to the payment of dividends and as to distributions in the event of an involuntary liquidation, dissolution or winding up of the Corporation are junior and subordinate to the rights of the holders of the Serial Preferred Stock.

DIVISION A-1

SERIAL PREFERRED STOCK, SERIES A

Section 1. There is established hereby a series of Serial Preferred Stock that shall be designated, "Serial Preferred Stock, Series A" (hereinafter sometimes called this "Series" or the "Series A Preferred Shares") and that shall have the terms set forth in this Division A-1.

Section 2. The number of shares of this Series shall be 450,000.

Section 3. (a) The holders of record of Series A Preferred Shares shall be entitled to receive, when and as declared by the Board of Directors in accordance with the terms hereof; out of funds legally available for the purpose, cumulative quarterly dividends payable in cash on the first day of January, April, July and October in each year (each such date being referred to herein as a "Quarterly Dividend Payment Date"), commencing on the first Quarterly Dividend Payment Date after the first issuance of a Series A Preferred Share or fraction of a Series A Preferred Share in an amount per share (rounded to the nearest cent) equal to the lesser of (i) \$1.50 or (ii) subject to the provision for adjustment hereinafter set forth, 100 times the aggregate per share amount of all cash dividends, and 100 times the aggregate per share amount (payable in kind) of all non-cash dividends or other distributions, other than a dividend payable in shares of Common Stock, or a subdivision of the outstanding Common Stock (by reclassification or otherwise), declared on the Common Stock since the immediately preceding Quarterly Dividend Payment Date, or, with respect to the first Quarterly Dividend Payment Date, since the first issuance of any Series A Preferred Share or fraction of a Series A Preferred Share. In the event the Corporation shall at any time declare or pay any dividend on the Common Stock payable in Common Stock, or effect a subdivision or combination or consolidation of the outstanding shares of Common Stock (by reclassification or otherwise than by payment of a dividend in Common Stock) into a greater or lesser number of shares of Common Stock, then in each such case the amount to which holders of Series A Preferred Shares were entitled immediately prior to such

event under clause (ii) of the preceding sentence shall be adjusted by multiplying such amount by a fraction the numerator of which is the number of shares of Common Stock outstanding immediately after such event and the denominator of which is the number of shares of Common Stock that were outstanding immediately prior to such event.

(b) Dividends shall begin to accrue and be cumulative on outstanding Series A Preferred Shares from the Quarterly Dividend Payment Date next preceding the date of issue of such Series A Preferred Shares, unless the date of issue of such shares is prior to the record date for the first Quarterly Dividend Payment Date, in which case dividends on such shares shall begin to accrue from the date of issue of such shares, or unless the date of issue is a Quarterly Dividend Payment Date or is a date after the record date for the determination of holders of shares of Series A Preferred Shares entitled to receive a quarterly dividend and before such Quarterly Dividend Payment Date, in either of which events such dividends shall begin to accrue and be cumulative from such Quarterly Dividend Payment Date. Accrued but unpaid dividends shall not bear interest. No dividends shall be paid upon or declared and set apart for any Series A Preferred Shares for any dividend period unless at the same time a dividend for the same dividend period, ratably in proportion to the respective annual dividend rates fixed therefor, shall be paid upon or declared and set apart for all Serial Preferred Stock of all series then outstanding and entitled to receive such dividend. The Board of Directors may fix a record date for the determination of holders of Series A Preferred Shares entitled to receive payment of a dividend or distribution declared thereon, which record date shall be no more than 40 days prior to the date fixed for the payment thereof.

Section 4. Subject to the provisions of Section 6(b)(iii) of Division A and in accordance with Section 4 of Division A, the Series A Preferred Shares shall be redeemable from time to time at the option of the Board of Directors of the Corporation, as a whole or in part, at any time at a redemption price per share equal to one hundred times the then applicable Purchase Price as defined in that certain Rights Agreement, dated as of January 27, 1998, between the Corporation and National City Bank, N.A. (the "Rights Agreement"), as the same may from time to time be amended in accordance with its terms, which Purchase Price is \$110 as of January 27, 1998, subject to adjustment from time to time as provided in the Rights Agreement. Copies of the Rights Agreement are available from the Company upon request. In the event that fewer than all of the outstanding Series A Preferred Shares are to be redeemed, the number of shares to be redeemed shall be as determined by the Board of Directors and the shares to be redeemed shall be selected pro rata or by lot in such manner as shall be determined by the Board of Directors.

Section 5. (a) In the event of any voluntary or involuntary liquidation, dissolution or winding up of the affairs of the Corporation (hereinafter referred to as a "Liquidation"), no distribution shall be made to the holders of shares of stock ranking junior (either as to dividends or upon Liquidation) to the Series A Preferred Shares, unless, prior thereto, the holders of Series A Preferred Shares shall have received at least an amount per share equal to one hundred times the then applicable Purchase Price as defined in the Rights Agreement, as the same may be from time to time amended in accordance with its terms, which Purchase Price is \$110 as of January 27, 1998, subject to adjustment from time to time as provided in the Rights Agreement, plus an amount equal to accrued and unpaid dividends and distributions thereon, whether or not earned

or declared, to the date of such payment, provided that the holders of shares of Series A Preferred Shares shall be entitled to receive an aggregate amount per share, subject to the provision for adjustment hereinafter set forth, equal to 100 times the aggregate amount to be distributed per share to holders of Common Stock (the "Series A Liquidation Preferences").

(b) In the event, however, that the net assets of the Corporation are not sufficient to pay in full the amount of the Series A Liquidation Preference and the liquidation preferences of all other series of Serial Preferred Stock, if any, which rank on a parity with the Series A Preferred Shares as to distribution of assets in Liquidation, all shares of this Series and of such other Serial Preferred Stock shall share ratably in the distribution of assets (or proceeds thereof) in Liquidation in proportion to the full amounts to which they are respectively entitled.

(c) In the event the Corporation shall at any time declare or pay any dividend on the Common Stock payable in Common Stock, or effect a subdivision or combination or consolidation of the outstanding Common Stock (by reclassification or otherwise than by payment of a dividend in Common Stock) into a greater or lesser number of shares of Common Stock, then in each such case the amount to which holders of Series A Preferred Shares were entitled immediately prior to such event pursuant to the proviso set forth in paragraph

(a) above, shall be adjusted by multiplying such amount by a fraction the numerator of which is the number of shares of Common Stock outstanding immediately after such event and the denominator of which is the number of shares of Common Stock that were outstanding immediately prior to such event.

(d) The merger or consolidation of the Corporation into or with any other corporation, or the merger of any other corporation into it, or the sale, lease or conveyance of all or substantially all the property or business of the Corporation, shall not be deemed to be a Liquidation for the purposes of this Section 5.

Section 6. The Series A Preferred Shares shall not be convertible into Common Stock.

FIFTH: The Corporation may from time to time, pursuant to authorization by the Board of Directors and without action by shareholders, purchase or otherwise acquire shares of the Corporation of any class or classes in such manner, upon such terms and in such amounts as the Board of Directors shall determine.

SIXTH: Notwithstanding any provision of the Ohio Revised Code now or hereafter in force requiring for any purpose the vote, consent, waiver or release of the holders of shares entitling them to exercise two-thirds, or any other proportion, of the voting power of the Corporation or of any class or classes of shares thereof; such action, unless otherwise expressly required by statute or by the Articles of the Corporation, may be taken by the vote, consent, waiver or release of the holders of shares entitling them to exercise a majority of the voting power of the Corporation or of such class or classes.

SEVENTH: Section 1. In addition to any affirmative vote required by law or these Articles of Incorporation, any Related Party Transaction shall require the affirmative vote

of not less than both a majority of the Corporation's outstanding Voting Stock and a majority of the portion of the Corporation's outstanding Voting Stock excluding the Voting Stock owned by the Related Party involved in the Related Party Transaction. In the event of any inconsistency between this Article Seventh and any other provision of these Articles of Incorporation, this Article Seventh shall govern.

Section 2. The provisions of Section 1 of this Article Seventh shall not be applicable to Related Party Transactions in which (a) the aggregate amount of the cash and the fair market value of consideration other than cash received per share by holders of outstanding shares of each class or series of Voting Stock of the Corporation who receive cash or other consideration in the Related Party Transaction is not less than the highest per share price (with appropriate adjustments for recapitalizations and for stock splits, stock dividends, and other distributions) paid by the Related Party in acquiring any of its holdings of each class or series of such Voting Stock and (b) the form of consideration received by holders of shares of each class or series of such Voting Stock in cash or the same form of the consideration used by the Related Party to acquire the largest percentage of each class or series of such Voting Stock owned by the Related Party.

Section 3. The provisions of Section 1 of this Article Seventh shall not be applicable to any Related Party Transaction expressly approved by a majority vote of the Continuing Directors of the Corporation.

Section 4. For the purpose of this Article Seventh:

(a) The term "Related Party Transaction" shall mean (i) any merger or consolidation of the Corporation or a Subsidiary with a Related Party, irrespective of which party, if either, is the surviving party, (ii) any sale, purchase, lease, exchange, transfer, or other transaction (or series of transactions) between the Corporation or a Subsidiary and a Related Party involving the acquisition or disposition of assets for consideration of \$5,000,000 or more in value (except transactions in the ordinary course of business), (iii) the issuance or transfer of any securities of the Corporation or of a Subsidiary to a Related Party (other than an issuance or transfer of securities which is effected on a pro rata basis to all shareholders of the Corporation), (iv) any reclassification of securities of the Corporation (including any reverse stock split) or any recapitalization or other transaction involving the Corporation or its Subsidiaries that would have the effect of increasing the voting power of a Related Party, except for any mandatory redemption required by the terms of outstanding securities, and (v) the adoption of any plan or proposal for the liquidation or dissolution of the Corporation in favor of which a Related Party votes its Voting Stock.

(b) The term "Related Party" shall mean (i) any individual, corporation, partnership, or other person, group or entity which, together with its Affiliates and Associates, is the beneficial owner of ten percent (10%) or more but less than ninety percent (90%) of the Voting Stock of the Corporation or (ii) any such Affiliate or Associate.

(c) A person shall be a "beneficial owner" of any shares of Voting Stock:

(1) Which such person or any of its Affiliates or Associates beneficially owns, directly or indirectly; or

(2) Which such person or any of its Affiliates or Associates has

(i) the right to acquire (whether such right is exercisable immediately or only after the passage of time) pursuant to any agreement, arrangement or understanding or upon the exercise of conversion rights, exchange rights, warrants or options, or otherwise, or (ii) the right to vote pursuant to any agreement, arrangement or understanding; or

(3) Which are beneficially owned, directly or indirectly, by any other person with which such person or any of its Affiliates or Associates has any agreement, arrangement or understanding for the purpose of acquiring, holding, voting or disposing of any shares of Voting Stock.

(d) The terms "Affiliate" and "Associate" shall have the respective meanings ascribed to such terms in Rule 1 2b-2 of the General Rules and Regulations under the Securities Exchange Act of 1934, as in effect on April 22, 1986.

(e) The term "consideration other than cash" as used in Section 2(a) of this Article Seventh shall include, without limitation, Voting Stock of the Corporation retained by its existing shareholders in the event of a merger or consolidation with a Related Party in which the Corporation is the surviving corporation.

(f) The term "Subsidiary" shall mean any Affiliate of the Corporation more than fifty percent (50%) of the outstanding securities of which representing the right, other than as affected by events of default, to vote for the election of directors is owned by the Corporation or by another Subsidiary (or both).

(g) The term "Voting Stock" shall mean all securities of the Corporation entitled to vote generally in the election of directors.

(h) The term "Continuing Director" shall mean a director who either (i) was a member of the Board of Directors of the Corporation immediately prior to the time that the Related Party involved in a Related Party Transaction became a Related Party, or (ii) was designated (before his or her initial election as a director) as a Continuing Director by a majority of the then Continuing Directors.

Section 5. A majority of the Continuing Directors shall have the power and duty to determine conclusively for the purposes of this Article Seventh, on the basis of information known to them, (a) whether a person is a Related Party, (b) whether a person is an Affiliate or Associate of another, (c) whether a transaction between the Corporation or a Subsidiary and a Related Party involves the acquisition or disposition of assets for consideration of \$5,000,000 or more in value, (d) the fair market value of consideration other than cash received by holders of

Voting Stock in a Related Party Transaction, and (e) such other matters with respect to which a determination or interpretation is required under this Article Seventh.

Section 6. Nothing contained in this Article Seventh shall be construed to relieve any Related Party from any fiduciary or other obligation imposed by law.

Section 7. Notwithstanding any other provision of these Articles of Incorporation or the Regulations of the Corporation or any provision of law which might otherwise permit a lesser vote, but in addition to any affirmative vote of the holders of any particular class or series of stock required by law, these Articles of Incorporation or the Regulations of the Corporation, the affirmative vote of the holders of at least sixty-six and two-thirds percent (66-2/3%) of the Corporation's Voting Stock, voting as a single class, shall be required to alter, amend or adopt any provision inconsistent with or repeal this Article Seventh.

EIGHTH: These Second Amended and Restated Articles of Incorporation supersede and take the place of the heretofore existing Amended Articles of Incorporation of the Corporation and all amendments thereto.

SECOND AMENDMENT TO AMENDED AND RESTATED CREDIT AGREEMENT

THIS SECOND AMENDMENT TO AMENDED AND RESTATED CREDIT

AGREEMENT, dated as of September 2, 1997 ("Amendment"), by and among Brush Wellman Inc., an Ohio corporation ("Borrower"), the banks that are parties to this Amendment (the "Banks"), and National City Bank, as agent for the Banks (in that capacity, "NCB-Agent"),

WITNESSETH THAT:

WHEREAS, Borrower, the Banks and NCB-Agent entered into an Amended and Restated Credit Agreement, dated as of December 13, 1994, as amended by a First Amendment to Amended and Restated Credit Agreement date December 30, 1996 (together with all Exhibits and Schedules thereto, the "Credit Agreement"), under which the Banks, subject to certain conditions, agreed to lend to Borrower up to \$50,000,000 from time to time in accordance with the terms thereof; and

WHEREAS, the parties desire to amend the Credit Agreement as set forth herein;

NOW, THEREFORE, in consideration of the premises and the mutual covenants and agreements contained herein, the parties hereto agree as follows:

1. Effect of Amendment; Definitions.

The Credit Agreement shall be and hereby is amended as provided in Section 2 hereof. Except as expressly amended in Section 2 hereof, the Credit Agreement shall continue in full force and effect in accordance with its respective provisions on the date hereof. As used in the Credit Agreement, the terms "Credit Agreement", "Agreement", "this Agreement", "herein", "hereinafter", "hereto", "hereof", and words of similar import shall, unless the context otherwise requires, mean the Credit Agreement as amended and modified by this Amendment.

2. Amendments.

(A) Subsection 2A.01 of the Credit Agreement shall be amended by deleting the same and substituting in lieu thereof the following:

"2A.01 AMOUNTS. The aggregate amount of the Subject Commitments shall be fifty five million dollars (\$55,000,000), but that amount may be reduced from time to time pursuant to subsection 2A.03 and the Subject Commitments may be terminated pursuant to Section 5B. The amount of each Bank's Subject Commitment (subject to such reduction or termination), and the proportion (expressed as a percentage) that it bears to all of the Subject Commitments, is set forth opposite the Bank's name below, to-wit:

| | | |
|--------------|--------|-------------------------------|
| \$15,000,000 | 27.28% | National City Bank |
| \$10,000,000 | 18.18% | NBD Bank |
| \$10,000,000 | 18.18% | KeyBank National Association |
| \$10,000,000 | 18.18% | Bank One, NA |
| \$10,000,000 | 18.18% | Harris Trust and Savings Bank |
| ----- | | ----- |
| \$55,000,000 | | Total " |

(B) Subsections 2A.02 and 2A.05 of the Credit Agreement shall be amended by deleting the references therein to "April 30, 1998" and inserting in lieu thereof "April 30, 2000."

(C) Subsection 3B.02 of the Credit Agreement shall be amended by deleting the same and substituting in lieu thereof the following:

"3B.02 LEVERAGE. Borrower will not suffer or permit the Companies' Funded Indebtedness at any time to exceed an amount equal to the Leverage Multiplier (as hereinafter defined) times the Companies' EBITDA for the four consecutive fiscal quarters most recently ended, all as determined on a consolidated basis. As used herein, "Leverage Multiplier" means (i) from the date of this Agreement to December 30, 1999, inclusive, 3.00, and (ii) on and after December 31, 1999, 2.75."

(D) Section 9 of the Credit Agreement shall be amended as follows:

(1) The definition of "Funded Indebtedness" is amended by deleting clause (c) therein and inserting the following in lieu thereof:

"(c) All obligations secured by a Lien on property owned by such person (whether or not assumed) (without regard to any limitation of the rights and remedies of the holder of such Lien or the lessor under any lease to repossession or sale of such property), excluding the State Loan and the Port Authority Lease; and"

(2) The definition of "Indebtedness for Borrowed Money" or "indebtedness for borrowed money" is amended by deleting clause (ii) therein and inserting the following in lieu thereof:

"(ii) under or in respect of any Guaranty (whether direct or indirect) of any money borrowed,"

(3) The definition of "Port Authority Lease" is amended by deleting the same and inserting the following in lieu thereof:

"PORT AUTHORITY LEASE means the Lease, dated as of October 1, 1996, between the Toledo-Lucas County

Port Authority, as lessor, and Borrower, as lessee, as amended by the First Supplemental Lease, dated as of April 1, 1997, between National City Bank, as trustee, as lessor (as assignee of all of the lessor's rights from the Toledo-Lucas County Port Authority), relating to certain real and personal property located at 14710 West Portage River S.

Road, Harris Township, Ohio 43416;"

(4) The following definitions shall be inserted in alphabetical order:

"PORT AUTHORITY BONDS means the Toledo-Lucas County Port Authority Taxable Project Development Revenue Bonds, Series 1996 (Brush Wellman Inc. Project) in the principal amount of \$13,100,000, and the Toledo-Lucas County Port Authority Taxable Project Development Revenue Bonds, Series 1997 (Brush Wellman Inc. Project) in the principal amount of \$2,175,000, both of which were issued, sold and delivered by the Toledo-Lucas County Port Authority to The Prudential Insurance Company of America;"

"STATE LOAN means the Taxable State of Ohio Revenue Note (Brush Wellman Inc. Project) (the "Note") in the principal amount of \$5,000,000 issued, sold and delivered by the Toledo-Lucas County Port Authority to the Director of Development of the State of Ohio pursuant to the Loan Agreement, dated as of October 1, 1996, between those Persons;"

(E) Exhibits A, C-1 and C-2 to the Credit Agreement are hereby deleted and Exhibits A, C-1 and C-2 attached to this Amendment are substituted in lieu thereof, respectively.

3. SUBSTITUTION OF BANKS. Borrower and each of the Banks that are parties to this Amendment hereby acknowledge and agree that by virtue of the execution and delivery of this Amendment (a) the Bank of Nova Scotia will no longer be a Bank that is a party to the Credit Agreement, and (b) Bank One, NA and Harris Trust and Savings will become Banks that are parties to the Credit Agreement as provided in Subsection 2A.01.

4. REPRESENTATIONS AND WARRANTIES.

(A) Borrower hereby represents and warrants to the Banks and NCB-Agent that all representations and warranties set forth in the Credit Agreement, as amended hereby, are true and correct in all material respects, and that this Amendment and the

Subject Notes delivered in connection with this Amendment have been executed and delivered by a duly authorized officer of Borrower and constitute the legal, valid and binding obligation of Borrower, enforceable against Borrower in accordance with their respective terms.

(B) The execution, delivery and performance by Borrower of this Amendment and its performance of the Credit Agreement and the Subject Notes delivered in connection with this Amendment have been authorized by all requisite corporate action and will not (1) violate (a) any order of any court, or any rule, regulation or order of any other agency of government, (b) the Articles of Incorporation, the Code of Regulations or any other instrument of corporate governance of Borrower, or (c) any provision of any indenture, agreement or other instrument to which Borrower is a party, or by which Borrower or any of its properties or assets are or may be bound; (2) be in conflict with, result in a breach of or constitute, alone or with due notice or lapse of time or both, a default under any indenture, agreement or other instrument referred to in (1)(c) above; or (3) result in the creation or imposition of any lien, charge or encumbrance of any nature whatsoever.

5. MISCELLANEOUS.

(A) This Amendment shall be construed in accordance with and governed by the laws of the State of Ohio, without reference to principles of conflict of laws. Borrower agrees to pay on demand all costs and expenses of the Banks and NCB-Agent, including reasonable attorneys' fees and expenses, in connection with the preparation, execution and delivery of this Amendment.

(B) The execution, delivery and performance by the Banks and NCB-Agent of this Amendment and the Subject Notes executed in connection herewith shall not constitute, or be deemed to be or construed as, a waiver of any right, power or remedy of the Banks or NCB-Agent, or a waiver of any provision of the Credit Agreement. None of the provisions of this Amendment shall constitute, or be deemed to be or construed as, a waiver of any "Default under this Agreement" or any "Event of Default," as those terms are defined in the Credit Agreement.

(C) This Amendment may be executed in two or more counterparts, each of which shall constitute an original, but all of which, when taken together, shall constitute but one instrument.

IN WITNESS WHEREOF, the parties have caused this Amendment to be duly executed as of the day and year first above written.

Address: 17876 St. Clair Avenue
Cleveland, Ohio 44110

BRUSH WELLMAN INC.

By: _____

Title: _____

Address:
Deliveries:
Metro/Ohio Division
1900 East Ninth Street
Cleveland, Ohio 44114-3484
Fax: (216) 575-9396

Mail:
Metro/Ohio Division
P.O. Box 5756
Cleveland, Ohio 44101

NATIONAL CITY BANK,
for itself and as Agent

By: _____

Title: _____

Address:

127 Public Square
Cleveland, Ohio 44114

KEYBANK NATIONAL ASSOCIATION

By: _____

Title: _____

Address:

611 Woodward
Detroit, Michigan 48226

NBD BANK

By: _____

Title: _____

Address:

600 Superior Avenue
Cleveland, Ohio 44114

BANK ONE, NA

By: _____

Title: _____

Address:

HARRIS TRUST AND SAVINGS BANK

P.O. Box 755 (111/2W)
Chicago, Illinois 60690-0755

By: _____

Title: _____

EXHIBIT A

EXTENSION REQUEST

Subject: Extension of Subject Commitments under Amended and Restated Credit Agreement dated as of December 13, 1994, as amended

Greetings:

Reference is made to the Amended and Restated Credit Agreement by and among you, the undersigned ("Borrower") and National City Bank as your agent (the "Credit Agreement") which provides for, among other things, Subject Commitments aggregating up to \$55,000,000 and available to Borrower, upon certain terms and conditions, on a revolving basis until _____, 20__ (the "Expiration Date" now in effect) subject, however, to earlier reduction or termination pursuant to the Credit Agreement.

Borrower hereby requests that the Credit Agreement be amended by deleting the date " _____, 20__ " from subsection 2A.02 (captioned "Term") and by substituting for that deleted date the date " _____, 20__ ".

In all other respects the Credit Agreement shall remain in full effect.

This letter has been executed and delivered to each of you in triplicate. If you assent to the extension, kindly send two copies of your assent to your agent who will, if the extension becomes effective, forward one such copy to Borrower and inform you of the extension.

BRUSH WELLMAN INC.

By: _____
Printed Name: _____
Title: _____

The undersigned hereby each assent to the foregoing.

National City Bank

NBD Bank

By: _____
Printed Name: _____
Title: _____

By: _____
Printed Name: _____
Title: _____

KeyBank National Association

Harris Trust and Savings
Bank

By: _____
Printed Name: _____
Title: _____

By: _____
Printed Name: _____
Title: _____

Bank One, NA

By: _____
Printed Name: _____
Title: _____

EXHIBIT C-1

AMENDED AND RESTATED NOTE

\$ _____ Cleveland, Ohio September 2, 1997

FOR VALUE RECEIVED, the undersigned, Brush Wellman Inc., an Ohio corporation, promises to pay to the order of _____, at the main office of National City Bank ("NCB"), Cleveland, Ohio, the principal sum of

_____ **DOLLARS**

(or, if less, the aggregate unpaid principal balance from time to time shown on the reverse side hereof or in the books and records of the payee), together with interest computed in the manner provided in the Credit Agreement referred to below, which principal and interest are payable in accordance with provisions in the Credit Agreement.

This Note is issued pursuant to an Amended and Restated Credit Agreement (the "Credit Agreement") dated as of December 13, 1994, as amended, modified or supplemented from time to time, by and among Borrower, the Banks that are parties thereto and NCB (as agent of the Banks for the purposes of the Credit Agreement) which establishes "Subject Commitments" (one by each Bank) aggregating fifty five million dollars (\$55,000,000) pursuant to which Borrower may obtain Subject Loans from the Banks upon certain terms and conditions.

Reference is made to the Credit Agreement for the definitions of certain terms, for provisions governing the making of Subject Loans, the acceleration of the Maturity thereof, rights of prepayment, and for other provisions to which this Note is subject. Any endorsement by the payee on the reverse side of this Note (or any allonge thereto) shall be presumptive evidence of the data so endorsed.

Borrower hereby waives diligence, presentment, demand, protest and notice of any kind whatsoever. The nonexercise by the holder of any of its rights hereunder in any particular instance shall not constitute a waiver thereof in that or any subsequent instance.

Address:
17876 St. Clair Avenue
Cleveland, Ohio 44110

Brush Wellman Inc.

By: _____
Title: _____

EXHIBIT C-2

AMENDED AND RESTATED COMPETITIVE LOAN NOTE

\$_____ Cleveland, Ohio September 2, 1997

FOR VALUE RECEIVED, the undersigned, Brush Wellman Inc., an Ohio corporation ("Maker"), promises to pay to the order of _____ ("Payee"), at its office located at the address set forth in the Credit Agreement referred to below (or at such other address as it may furnish to maker from time to time) the principal sum of _____ dollars (\$_____) (or, if less, the aggregate unpaid principal balance of all competitive loans (as defined in the Credit Agreement) made by Payee from time to time shown on the reverse side hereof or in the books and records of Payee), together with interest computed in the manner provided in the Credit Agreement referred to below, which principal and interest are payable in accordance with provisions in the Credit Agreement.

This note is issued pursuant to an Amended and Restated Credit Agreement (the "Credit Agreement") dated as of December 13, 1994, as amended, modified or supplemented from time to time, by and among Borrower, the Banks that are parties thereto and NCB (as agent of the Banks for the purposes of the Credit Agreement) which establishes "Subject Commitments" (one by each Bank) aggregating fifty five million dollars (\$55,000,000) pursuant to which Borrower may obtain Subject Loans from the Banks upon certain terms and conditions.

Reference is made to the Credit Agreement for the definitions of certain terms, for provisions governing the making of Subject Loans, the acceleration of the maturity thereof, rights of prepayment, and for other provisions to which this Note is subject. Any endorsement by the payee on the reverse side of this Note (or any allonge thereto) shall be presumptive evidence of the data so endorsed.

Borrower hereby waives diligence, presentment, demand, protest and notice of any kind whatsoever. The nonexercise by the holder of any of its rights hereunder in any particular instance shall not constitute a waiver thereof in that or any subsequent instance.

Address:
17876 St. Clair Avenue
Cleveland, Ohio 44110

Brush Wellman Inc.

By:_____

Title:_____

RIGHTS AGREEMENT

Dated as of January 27, 1998

By and Between

BRUSH WELLMAN INC.

and

**NATIONAL CITY BANK, N.A.
as Rights Agent**

TABLE OF CONTENTS

| | Page |
|---|------|
| | ---- |
| 1. Certain Definitions..... | 1 |
| 2. Appointment of Rights Agent..... | 5 |
| 3. Issue of Right Certificates..... | 6 |
| 4. Form of Right Certificates..... | 7 |
| 5. Countersignature and Registration..... | 8 |
| 6. Transfer, Split Up, Combination and Exchange of Right Certificates; Mutilated, Destroyed, Lost or Stolen Right Certificates..... | 9 |
| 7. Exercise of Rights..... | 9 |
| 8. Cancellation and Destruction of Right Certificates..... | 11 |
| 9. Company Covenants Concerning Securities and Rights..... | 11 |
| 10. Date for Certificates Issued Upon Exercise of Rights..... | 13 |
| 11. Adjustment of Purchase Price, Number and Kind of Securities or Number of Rights..... | 13 |
| 12. Certificate of Adjusted Purchase Price or Number of Securities..... | 24 |
| 13. Consolidation, Merger or Sale or Transfer of Assets or Earning Power..... | 24 |
| 14. Fractional Rights and Fractional Securities..... | 27 |
| 15. Rights of Action..... | 29 |
| 16. Agreement of Rights Holders..... | 29 |
| 17. Right Certificate Holder Not Deemed a Shareholder..... | 30 |
| 18. Concerning the Rights Agent..... | 30 |
| 19. Merger or Consolidation or Change of Name of Rights Agent..... | 31 |
| 20. Duties of Rights Agent..... | 31 |
| 21. Change of Rights Agent..... | 34 |
| 22. Issuance of New Right Certificates..... | 35 |

Page

| | |
|--|----|
| 23. Redemption..... | 35 |
| 24. Exchange..... | 36 |
| 25. Notice of Certain Events..... | 37 |
| 26. Notices..... | 38 |
| 27. Supplements and Amendments..... | 39 |
| 28. Successors; Certain Covenants..... | 40 |
| 29. Benefits of This Agreement..... | 40 |
| 30. Governing Law..... | 40 |
| 31. Severability..... | 40 |
| 32. Descriptive Headings, Etc..... | 40 |
| 33. Determinations and Actions by the Directors..... | 40 |
| 34. Counterparts..... | 41 |

| | |
|-----------|-----|
| Exhibit A | A-1 |
| Exhibit B | B-1 |
| Exhibit C | C-1 |

RIGHTS AGREEMENT

This RIGHTS AGREEMENT, dated as of January 27, 1998 (this "Agreement"), is made and entered into by and between Brush Wellman Inc., an Ohio corporation (the "Company"), and National City Bank, N.A., a national banking association (the "Rights Agent").

RECITALS

WHEREAS, on January 27, 1998 the Directors of the Company authorized and declared a dividend distribution of one right (a "Right") for each share of Common Stock, par value \$1.00 per share, of the Company (a "Common Share") outstanding as of the Close of Business (as hereinafter defined) on February 9, 1998 (the "Record Date"), each Right initially representing the right to purchase one one-hundredth of a Preferred Share (as hereinafter defined), on the terms and subject to the conditions herein set forth, and further authorized and directed the issuance of one Right (subject to adjustment as provided herein) with respect to each Common Share issued or delivered by the Company (whether originally issued or delivered from the Company's treasury) after the Record Date but prior to the earlier of the Distribution Date (as hereinafter defined) and the Expiration Date (as hereinafter defined) or as provided in Section 22.

NOW, THEREFORE, in consideration of the mutual agreements herein set forth, the parties hereto hereby agree as follows:

1. CERTAIN DEFINITIONS. For purposes of this Agreement, the following terms have the meanings indicated:

(a) "ACQUIRING PERSON" means any Person (other than the Company or any Related Person) who or which, together with all Affiliates and Associates of such Person, is the Beneficial Owner of 20% or more of the then-outstanding Common Shares; PROVIDED, HOWEVER, that a Person will not be deemed to have become an Acquiring Person solely as a result of a reduction in the number of Common Shares outstanding unless and until such time as (i) such Person or any Affiliate or Associate of such Person thereafter becomes the Beneficial Owner of additional Common Shares representing 1% or more of the then-outstanding Common Shares, other than as a result of a stock dividend, stock split or similar transaction effected by the Company in which all holders of Common Shares are treated equally, or (ii) any other Person who is the Beneficial Owner of Common Shares representing 1% or more of the then-outstanding Common Shares thereafter becomes an Affiliate or Associate of such Person. Notwithstanding the foregoing, if the Directors of the Company determine in good faith that a Person who would otherwise be an "Acquiring Person," as defined pursuant to the foregoing provisions of this paragraph (a), has attained such status

inadvertently, and such Person divests as promptly as practicable a sufficient number of Common Shares so that such Person would no longer be an "Acquiring Person," as defined pursuant to the foregoing provisions of this paragraph (a), then such Person shall not be deemed to be an "Acquiring Person" for any purposes of this Agreement.

(b) "AFFILIATE" and "ASSOCIATE" will have the respective meanings ascribed to such terms in Rule 12b-2 of the General Rules and Regulations under the Exchange Act, as in effect on the date of this Agreement.

(c) A Person will be deemed the "BENEFICIAL OWNER" of, and to "BENEFICIALLY OWN," any securities:

(i) the beneficial ownership of which such Person or any of such Person's Affiliates or Associates, directly or indirectly, has the right to acquire (whether such right is exercisable immediately or only after the passage of time) pursuant to any agreement, arrangement or understanding (whether or not in writing), or upon the exercise of any rights (including, without limitation, any conversion rights or exchange rights), warrants, options or otherwise (in each case, other than upon exercise or exchange of the Rights); PROVIDED, HOWEVER, that a Person will not be deemed the Beneficial Owner of, or to Beneficially Own, securities tendered pursuant to an offer to purchase or a tender or exchange offer made by or on behalf of such Person or any of such Person's Affiliates or Associates until such tendered securities are accepted for purchase or exchange; or

(ii) which such Person or any of such Person's Affiliates or Associates, directly or indirectly, has or shares the right to vote or dispose of, including pursuant to any agreement, arrangement or understanding (whether or not in writing); or

(iii) of which any other Person is the Beneficial Owner, if such Person or any of such Person's Affiliates or Associates has any agreement, arrangement, or understanding (whether or not in writing) with such other Person (or any of such other Person's Affiliates or Associates) with respect to acquiring, holding, voting or disposing of any securities of the Company;

PROVIDED, HOWEVER, that a Person will not be deemed the Beneficial Owner of, or to Beneficially Own, any security (A) if such Person has the right to vote such security pursuant to an agreement, arrangement or understanding (whether or not in writing) which (1) arises solely from a revocable proxy given to such Person in response to a public proxy or consent solicitation made pursuant to, and in accordance with, the applicable rules and regulations of the Exchange Act and

(2) is not also then reportable on Schedule 13D under the Exchange Act (or any

comparable or successor report), or (B) if such beneficial ownership arises solely as a result of such Person's status as a "clearing agency," as defined in

Section 3(a)(23) of the Exchange Act; PROVIDED FURTHER, HOWEVER, that nothing in this paragraph (c) will cause a Person engaged in business as an underwriter of securities to be the Beneficial Owner of, or to Beneficially Own, any securities acquired through such Person's participation in good faith in an underwriting syndicate until the expiration of 40 calendar days after the date of such acquisition, or such later date as the Directors of the Company may determine in any specific case.

(d) "BUSINESS DAY" means any day other than a Saturday, Sunday or a day on which banking institutions in the State of New York (or such other state in which the principal office of the Rights Agent is located) are authorized or obligated by law or executive order to close.

(e) "CLOSE OF BUSINESS" on any given date means 5:00 P.M., Eastern time, on such date; PROVIDED, HOWEVER, that if such date is not a Business Day it means 5:00 P.M., Eastern time, on the next succeeding Business Day.

(f) "COMMON SHARES" when used with reference to the Company means the shares of Common Stock, par value \$1.00 per share, of the Company; PROVIDED, HOWEVER, that, if the Company is the continuing or surviving corporation in a transaction described in Section 13 (a)(ii), "Common Shares" when used with reference to the Company means shares of the capital stock or units of the equity interests with the greatest aggregate voting power of the Company. "Common Shares" when used with reference to any corporation or other legal entity other than the Company, including an Issuer, means shares of the capital stock or units of the equity interests with the greatest aggregate voting power of such corporation or other legal entity.

(g) "COMPANY" means Brush Wellman Inc., an Ohio corporation.

(h) "DISTRIBUTION DATE" means the earlier of: (i) the Close of Business on the tenth calendar day after the Share Acquisition Date, or (ii) the Close of Business on the tenth Business Day (or, unless the Distribution Date shall have previously occurred, such later date as may be specified by the Directors of the Company) after the date of the commencement of a tender or exchange offer by any Person (other than the Company or any Related Person), if upon the consummation thereof such Person would be the Beneficial Owner of 20% or more of the then-outstanding Common Shares.

(i) "EXCHANGE ACT" means the Securities Exchange Act of 1934, as amended.

- (j) "EXCHANGE RATIO" has the meaning set forth in Section 24(a).
- (k) "EXERCISE VALUE" has the meaning set forth in Section 11(a)(iii).
- (l) "EXPIRATION DATE" means the earliest of (i) the Close of Business on the Final Expiration Date, (ii) the time at which the Rights are redeemed as provided in Section 23, and (iii) the time at which all exercisable Rights are exchanged as provided in Section 24.
- (m) "FINAL EXPIRATION DATE" means the tenth anniversary of the Record Date.
- (n) "FLIP-IN EVENT" means any event described in clauses (A), (B) or (C) of Section 11(a)(ii).
- (o) "FLIP-OVER EVENT" means any event described in clauses (i), (ii) or (iii) of Section 13(a).
- (p) "ISSUER" has the meaning set forth in Section 13(b).
- (q) "NASDAQ" means The NASDAQ Stock Market.
- (r) "PERSON" means any individual, firm, corporation or other legal entity, and includes any successor (by merger or otherwise) of such entity.
- (s) "PREFERRED SHARES" means shares of Serial Preferred Stock, Series A, without par value, of the Company having the rights and preferences set forth in EXHIBIT A to this Agreement.
- (t) "PURCHASE PRICE" means initially \$110.00 per one one-hundredth of a Preferred Share, subject to adjustment from time to time as provided in this Agreement.
- (u) "RECORD DATE" has the meaning set forth in the Recitals to this Agreement.
- (v) "REDEMPTION PRICE" means \$0.01 per Right, subject to adjustment by resolution of the Directors of the Company to reflect any stock split, stock dividend or similar transaction occurring after the Record Date.
- (w) "RELATED PERSON" means (i) any Subsidiary of the Company or (ii) any employee benefit or stock ownership plan of the Company or of any Subsidiary of the Company or any entity holding Common Shares for or pursuant to the terms of any such plan.
- (x) "RIGHT" has the meaning set forth in the Recitals to this Agreement.

- (y) "RIGHT CERTIFICATES" means certificates evidencing the Rights, in substantially the form attached to this Agreement as EXHIBIT B.
- (z) "RIGHTS AGENT" means National City Bank, N.A., a national banking association, unless and until a successor Rights Agent has attained such status pursuant to the terms of this Agreement, and thereafter, "Rights Agent" means such successor Rights Agent.
- (aa) "SECURITIES ACT" means the Securities Act of 1933, as amended.
- (bb) "SHARE ACQUISITION DATE" means the first date of public announcement by the Company (by press release, filing made with the Securities and Exchange Commission or otherwise) that an Acquiring Person has attained such status.
- (cc) "SUBSIDIARY" when used with reference to any Person means any corporation or other legal entity of which a majority of the voting power of the voting equity securities or equity interests is owned, directly or indirectly, by such Person; PROVIDED, HOWEVER, that for purposes of Section 13(b), "Subsidiary" when used with reference to any Person means any corporation or other legal entity of which at least 20% of the voting power of the voting equity securities or equity interests is owned, directly or indirectly, by such Person.
- (dd) "TRADING DAY" means any day on which the principal national securities exchange on which the Common Shares are listed or admitted to trading is open for the transaction of business or, if the Common Shares are not listed or admitted to trading on any national securities exchange, a Business Day.
- (ee) "TRIGGERING EVENT" means any Flip-in Event or Flip-over Event.

2. APPOINTMENT OF RIGHTS AGENT. The Company hereby appoints the Rights Agent to act as agent for the Company and the holders of the Rights (who, in accordance with Section 3, will also be, prior to the Distribution Date, the holders of the Common Shares) in accordance with the terms and conditions hereof, and the Rights Agent hereby accepts such appointment and hereby certifies that it complies with the requirements of the New York Stock Exchange governing transfer agents and registrars. The Company may from time to time act as Co-Rights Agent or appoint such Co-Rights Agents as it may deem necessary or desirable. Any actions which may be taken by the Rights Agent pursuant to the terms of this Agreement may be taken by any such Co-Rights Agent. To the extent that any Co-Rights Agent takes any action pursuant to this Agreement, such Co-Rights Agent will be entitled to all of the rights and protections of, and subject to all of the applicable duties and obligations imposed upon, the Rights Agent pursuant to the terms of this Agreement.

3. **ISSUE OF RIGHT CERTIFICATES.** (a) Until the Distribution Date, (i) the Rights will be evidenced by the certificates representing Common Shares registered in the names of the record holders thereof (which certificates representing Common Shares will also be deemed to be Right Certificates), (ii) the Rights will be transferable only in connection with the transfer of the underlying Common Shares, and (iii) the surrender for transfer of any certificates evidencing Common Shares in respect of which Rights have been issued will also constitute the transfer of the Rights associated with the Common Shares evidenced by such certificates. On or as promptly as practicable after the Record Date, the Company will send by first class, postage prepaid mail, to each record holder of Common Shares as of the Close of Business on the Record Date, at the address of such holder shown on the records of the Company as of such date, a copy of a Summary of Rights to Purchase Preferred Stock in substantially the form attached to this Agreement as EXHIBIT C.

(b) Rights will be issued by the Company in respect of all Common Shares (other than Common Shares issued upon the exercise or exchange of any Right) issued or delivered by the Company (whether originally issued or delivered from the Company's treasury) after the Record Date but prior to the earlier of the Distribution Date and the Expiration Date. Certificates evidencing such Common Shares will have stamped on, impressed on, printed on, written on, or otherwise affixed to them the following legend or such similar legend as the Company may deem appropriate and as is not inconsistent with the provisions of this Agreement, or as may be required to comply with any applicable law or with any rule or regulation made pursuant thereto or with any rule or regulation of any stock exchange or transaction reporting system on which the Common Shares may from time to time be listed or quoted, or to conform to usage:

This Certificate also evidences and entitles the holder hereof to certain Rights as set forth in a Rights Agreement between Brush Wellman Inc. and National City Bank, N.A., dated as of January 27, 1998 (the "Rights Agreement"), the terms of which are hereby incorporated herein by reference and a copy of which is on file at the principal executive offices of Brush Wellman Inc. The Rights are not exercisable prior to the occurrence of certain events specified in the Rights Agreement. Under certain circumstances, as set forth in the Rights Agreement, such Rights may be redeemed, may be exchanged, may expire, may be amended, or may be evidenced by separate certificates and no longer be evidenced by this Certificate. Brush Wellman Inc. will mail to the holder of this Certificate a copy of the Rights Agreement, as in effect on the date of mailing, without charge promptly after receipt of a written request therefor. Under certain circumstances as set forth in the Rights Agreement, Rights that are or were beneficially owned by an Acquiring Person or any

Affiliate or Associate of an Acquiring Person (as such terms are defined in the Rights Agreement) may become null and void.

(c) Any Right Certificate issued pursuant to this Section 3 that represents Rights beneficially owned by an Acquiring Person or any Associate or Affiliate thereof and any Right Certificate issued at any time upon the transfer of any Rights to an Acquiring Person or any Associate or Affiliate thereof or to any nominee of such Acquiring Person, Associate or Affiliate and any Right Certificate issued pursuant to Section 6 or 11 hereof upon transfer, exchange, replacement or adjustment of any other Right Certificate referred to in this sentence, shall be subject to and contain the following legend or such similar legend as the Company may deem appropriate and as is not inconsistent with the provisions of this Agreement, or as may be required to comply with any applicable law or with any rule or regulation made pursuant thereto or with any rule or regulation of any stock exchange on which the Rights may from time to time be listed, or to conform to usage:

The Rights represented by this Right Certificate are or were beneficially owned by a Person who was an Acquiring Person or an Affiliate or an Associate of an Acquiring Person (as such terms are defined in the Rights Agreement). This Right Certificate and the Rights represented hereby may become null and void in the circumstances specified in Section 11(a)(ii) or Section 13 of the Rights Agreement.

(d) As promptly as practicable after the Distribution Date, the Company will prepare and execute, the Rights Agent will countersign and the Company will send or cause to be sent (and the Rights Agent will, if requested, send), by first class, insured, postage prepaid mail, to each record holder of Common Shares as of the Close of Business on the Distribution Date, at the address of such holder shown on the records of the Company, a Right Certificate evidencing one Right for each Common Share so held, subject to adjustment as provided herein. As of and after the Distribution Date, the Rights will be evidenced solely by such Right Certificates.

(e) In the event that the Company purchases or otherwise acquires any Common Shares after the Record Date but prior to the Distribution Date, any Rights associated with such Common Shares will be deemed cancelled and retired so that the Company will not be entitled to exercise any Rights associated with the Common Shares so purchased or acquired.

4. FORM OF RIGHT CERTIFICATES. The Right Certificates (and the form of election to purchase and the form of assignment to be printed on the reverse thereof) will be substantially in

the form attached to this Agreement as EXHIBIT B with such changes and marks of identification or designation, and such legends, summaries or endorsements printed thereon, as the Company may deem appropriate and as are not inconsistent with the provisions of this Agreement, or as may be required to comply with any applicable law or with any rule or regulation made pursuant thereto or with any rule or regulation of any stock exchange or transaction reporting system on which the Rights may from time to time be listed or quoted, or to conform to usage. Subject to the provisions of Section 22, the Right Certificates, whenever issued, on their face will entitle the holders thereof to purchase such number of one one-hundredths of a Preferred Share as are set forth therein at the Purchase Price set forth therein, but the Purchase Price, the number and kind of securities issuable upon exercise of each Right and the number of Rights outstanding will be subject to adjustment as provided herein.

5. COUNTERSIGNATURE AND REGISTRATION. (a) The Right Certificates will be executed on behalf of the Company by its Chairman of the Board, President or any Vice President, either manually or by facsimile signature, and will have affixed thereto the Company's seal or a facsimile thereof which will be attested by the Secretary or an Assistant Secretary of the Company, either manually or by facsimile signature. The Right Certificates will be manually countersigned by the Rights Agent and will not be valid for any purpose unless so countersigned. In case any officer of the Company who signed any of the Right Certificates ceases to be such officer of the Company before countersignature by the Rights Agent and issuance and delivery by the Company, such Right Certificates, nevertheless, may be countersigned by the Rights Agent, and issued and delivered by the Company with the same force and effect as though the person who signed such Right Certificates had not ceased to be such officer of the Company; and any Right Certificate may be signed on behalf of the Company by any person who, at the actual date of the execution of such Right Certificate, is a proper officer of the Company to sign such Right Certificate, although at the date of the execution of this Rights Agreement any such person was not such officer.

(b) Following the Distribution Date, the Rights Agent will keep or cause to be kept, at the principal office of the Rights Agent designated for such purpose and at such other offices as may be required to comply with any applicable law or with any rule or regulation made pursuant thereto or with any rule or regulation of any stock exchange or any transaction reporting system on which the Rights may from time to time be listed or quoted, books for registration and transfer of the Right Certificates issued hereunder. Such books will show the names and addresses of the respective holders of the Right Certificates, the number of Rights evidenced on its face by each of the Right Certificates and the date of each of the Right Certificates.

6. TRANSFER, SPLIT UP, COMBINATION AND EXCHANGE OF RIGHT CERTIFICATES; MUTILATED, DESTROYED, LOST OR STOLEN RIGHT CERTIFICATES. (a) Subject to the provisions of Sections 7(d) and 14, at any time after the Close of Business on the Distribution Date and prior to the Expiration Date, any Right Certificate or Right Certificates representing exercisable Rights may be transferred, split up, combined or exchanged for another Right Certificate or Right Certificates, entitling the registered holder to purchase a like number of one one-hundredths of a Preferred Share (or other securities, as the case may be) as the Right Certificate or Right Certificates surrendered then entitled such holder (or former holder in the case of a transfer) to purchase. Any registered holder desiring to transfer, split up, combine or exchange any such Right Certificate or Rights Certificates must make such request in a writing delivered to the Rights Agent and must surrender the Right Certificate or Right Certificates to be transferred, split up, combined or exchanged at the principal office of the Rights Agent designated for such purpose. Thereupon or as promptly as practicable thereafter, subject to the provisions of Sections 7(d) and 14, the Company will prepare, execute and deliver to the Rights Agent, and the Rights Agent will countersign and deliver, one or more new Right Certificates as so requested. The Company may require payment of a sum sufficient to cover any tax or governmental charge that may be imposed in connection with any transfer, split up, combination or exchange of Right Certificates.

(b) Upon receipt by the Company and the Rights Agent of evidence reasonably satisfactory to them of the loss, theft, destruction or mutilation of a Right Certificate and, in case of loss, theft or destruction, of indemnity or security reasonably satisfactory to them, and, if requested by the Company, reimbursement to the Company and the Rights Agent of all reasonable expenses incidental thereto, and upon surrender to the Rights Agent and cancellation of the Right Certificate if mutilated, the Company will prepare, execute and deliver a new Right Certificate of like tenor to the Rights Agent and the Rights Agent will countersign and deliver such new Right Certificate to the registered holder in lieu of the Right Certificate so lost, stolen, destroyed or mutilated.

7. EXERCISE OF RIGHTS. (a) The registered holder of any Right Certificate may exercise the Rights evidenced thereby (except as otherwise provided herein) in whole or in part at any time after the Distribution Date and prior to the Expiration Date, upon surrender of the Right Certificate, with the form of election to purchase on the reverse side thereof duly executed, to the Rights Agent at the principal office or offices of the Rights Agent designated for such purpose, together with payment in cash, in lawful money of the United States of America by certified check or bank draft payable to the order of the Company, equal to the sum of (i) the exercise price for the total number of securities as to which such surrendered Rights are exercised and (ii) an amount equal to any applicable transfer tax

required to be paid by the holder of such Right Certificate in accordance with the provisions of Section 9(d).

(b) Upon receipt of a Right Certificate representing exercisable Rights with the form of election to purchase duly executed, accompanied by payment as described above, the Rights Agent promptly will (i) requisition from any transfer agent of the Preferred Shares (or make available, if the Rights Agent is the transfer agent) certificates representing the number of one one-hundredths of a Preferred Share to be purchased (and the Company hereby irrevocably authorizes and directs its transfer agent to comply with all such requests), or, if the Company elects to deposit Preferred Shares issuable upon exercise of the Rights hereunder with a depositary agent, requisition from the depositary agent depositary receipts representing such number of one one-hundredths of a Preferred Share as are to be purchased (and the Company hereby irrevocably authorizes and directs such depositary agent to comply with all such requests), (ii) after receipt of such certificates (or depositary receipts, as the case may be), cause the same to be delivered to or upon the order of the registered holder of such Right Certificate, registered in such name or names as may be designated by such holder, (iii) when appropriate, requisition from the Company or any transfer agent therefor (or make available, if the Rights Agent is the transfer agent) certificates representing the number of equivalent common shares to be issued in lieu of the issuance of Common Shares in accordance with the provisions of Section 11(a)(iii), (iv) when appropriate, after receipt of such certificates, cause the same to be delivered to or upon the order of the registered holder of such Right Certificate, registered in such name or names as may be designated by such holder, (v) when appropriate, requisition from the Company the amount of cash to be paid in lieu of the issuance of fractional shares in accordance with the provisions of Section 14 or in lieu of the issuance of Common Shares in accordance with the provisions of Section 11(a)(iii), (vi) when appropriate, after receipt, deliver such cash to or upon the order of the registered holder of such Right Certificate, and (vii) when appropriate, deliver any due bill or other instrument provided to the Rights Agent by the Company for delivery to the registered holder of such Right Certificate as provided by Section 11(l).

(c) In case the registered holder of any Right Certificate exercises less than all the Rights evidenced thereby, the Company will prepare, execute and deliver a new Right Certificate evidencing Rights equivalent to the Rights remaining unexercised and the Rights Agent will countersign and deliver such new Right Certificate to the registered holder of such Right Certificate or to his duly authorized assigns, subject to the provisions of Section 14.

(d) Notwithstanding anything in this Agreement to the contrary, neither the Rights Agent nor the Company will be obligated to undertake any action with respect to any purported

transfer, split up, combination or exchange of any Right Certificate pursuant to Section 6 or exercise of a Right Certificate as set forth in this Section 7 unless the registered holder of such Right Certificate has (i) completed and signed the certificate following the form of assignment or the form of election to purchase, as applicable, set forth on the reverse side of the Right Certificate surrendered for such transfer, split up, combination, exchange or exercise and (ii) provided such additional evidence of the identity of the Beneficial Owner (or former Beneficial Owner) or Affiliates or Associates thereof as the Company may reasonably request.

8. CANCELLATION AND DESTRUCTION OF RIGHT CERTIFICATES. All Right Certificates surrendered for the purpose of exercise, transfer, split up, combination or exchange will, if surrendered to the Company or to any of its stock transfer agents, be delivered to the Rights Agent for cancellation or in cancelled form, or, if surrendered to the Rights Agent, will be cancelled by it, and no Right Certificates will be issued in lieu thereof except as expressly permitted by the provisions of this Agreement. The Company will deliver to the Rights Agent for cancellation and retirement, and the Rights Agent will so cancel and retire, any other Right Certificate purchased or acquired by the Company otherwise than upon the exercise thereof. The Rights Agent will deliver all cancelled Right Certificates to the Company, or will, at the written request of the Company, destroy such cancelled Right Certificates, and in such case will deliver a certificate of destruction thereof to the Company.

9. COMPANY COVENANTS CONCERNING SECURITIES AND RIGHTS. The Company covenants and agrees that:

- (a) It will cause to be reserved and kept available out of its authorized and unissued Preferred Shares or any Preferred Shares held in its treasury, a number of Preferred Shares that will be sufficient to permit the exercise in full of all outstanding Rights in accordance with Section 7.
- (b) So long as the Preferred Shares (and, following the occurrence of a Triggering Event, Common Shares and/or other securities) issuable upon the exercise of the Rights may be listed on a national securities exchange, it will endeavor to cause, from and after such time as the Rights become exercisable, all securities reserved for issuance upon the exercise of Rights to be listed on such exchange, upon official notice of issuance upon such exercise.
- (c) It will take all such action as may be necessary to ensure that all Preferred Shares (and, following the occurrence of a Triggering Event, Common Shares and/or other securities) delivered upon exercise of Rights, at the time of delivery of the certificates for such securities, will be (subject to payment of the Purchase Price) duly authorized, validly issued, fully paid and nonassessable securities.

(d) It will pay when due and payable any and all federal and state transfer taxes and charges that may be payable in respect of the issuance or delivery of the Right Certificates and of any certificates representing securities issued upon the exercise of Rights; PROVIDED, HOWEVER, that the Company will not be required to pay any transfer tax or charge which may be payable in respect of any transfer or delivery of Right Certificates to a person other than, or the issuance or delivery of certificates or depositary receipts representing securities issued upon the exercise of Rights in a name other than that of, the registered holder of the Right Certificate evidencing Rights surrendered for exercise, or to issue or deliver any certificates or depositary receipts representing securities issued upon the exercise of any Rights until any such tax or charge has been paid (any such tax or charge being payable by the holder of such Right Certificate at the time of surrender) or until it has been established to the Company's reasonable satisfaction that no such tax is due.

(e) It will use its best efforts (i) to file on an appropriate form, as soon as practicable following the later of the Share Acquisition Date and the Distribution Date, a registration statement under the Securities Act with respect to the securities issuable upon exercise of the Rights, (ii) to cause such registration statement to become effective as soon as practicable after such filing, and (iii) to cause such registration statement to remain effective (with a prospectus at all times meeting the requirements of the Securities Act) until the earlier of (A) the date as of which the Rights are no longer exercisable for such securities and (B) the Expiration Date. The Company will also take such action as may be appropriate under, or to ensure compliance with, the securities or "blue sky" laws of the various states in connection with the exercisability of the Rights. The Company may temporarily suspend, for a period of time after the date set forth in clause (i) of the first sentence of this Section 9(e), the exercisability of the Rights in order to prepare and file such registration statement and to permit it to become effective. Upon any such suspension, the Company will issue a public announcement stating that the exercisability of the Rights has been temporarily suspended, as well as a public announcement at such time as the suspension is no longer in effect. In addition, if the Company determines that a registration statement should be filed under the Securities Act or any state securities laws following the Distribution Date, the Company may temporarily suspend the exercisability of the Rights in each relevant jurisdiction until such time as a registration statement has been declared effective and, upon any such suspension, the Company will issue a public announcement stating that the exercisability of the Rights has been temporarily suspended, as well as a public announcement at such time as the suspension is no longer in

effect. Notwithstanding anything in this Agreement to the contrary, the Rights will not be exercisable in any jurisdiction if the requisite registration or qualification in such jurisdiction has not been effected or the exercise of the Rights is not permitted under applicable law.

(f) Notwithstanding anything in this Agreement to the contrary, after the later of the Share Acquisition Date and the Distribution Date it will not take (or permit any Subsidiary to take) any action if at the time such action is taken it is reasonably foreseeable that such action will eliminate or otherwise diminish the benefits intended to be afforded by the Rights.

(g) In the event that the Company is obligated to issue other securities of the Company and/or pay cash pursuant to Section 11, 13, 14 or 24 it will make all arrangements necessary so that such other securities and/or cash are available for distribution by the Rights Agent, if and when appropriate.

10. DATE FOR CERTIFICATES ISSUED UPON EXERCISE OF RIGHTS. Each Person in whose name any certificate representing Preferred Shares (or Common Shares and/or other securities, as the case may be) is issued upon the exercise of Rights will for all purposes be deemed to have become the holder of record of the Preferred Shares (or Common Shares and/or other securities, as the case may be) represented thereby on, and such certificate will be dated, the date upon which the Right Certificate evidencing such Rights was duly surrendered and payment of the Purchase Price (and all applicable transfer taxes) was made; PROVIDED, HOWEVER, that if the date of such surrender and payment is a date upon which the transfer books of the Company for the Preferred Shares (or Common Shares and/or other securities, as the case may be) are closed, such Person will be deemed to have become the record holder of such securities on, and such certificate will be dated, the next succeeding Business Day on which the transfer books of the Company for the Preferred Shares (or Common Shares and/or other securities, as the case may be) are open. Prior to the exercise of the Rights evidenced thereby, the holder of a Right Certificate will not be entitled to any rights of a holder of any security for which the Rights are or may become exercisable, including without limitation the right to vote, to receive dividends or other distributions, or to exercise any preemptive rights, and will not be entitled to receive any notice of any proceedings of the Company, except as provided herein.

11. ADJUSTMENT OF PURCHASE PRICE, NUMBER AND KIND OF SECURITIES OR NUMBER OF RIGHTS. The Purchase Price, the number and kind of securities issuable upon exercise of each Right and the number of Rights outstanding are subject to adjustment from time to time as provided in this Section 11.

(a) (i) In the event that the Company at any time after the Record Date (A) declares a dividend on the Preferred Shares payable in Preferred Shares, (B) subdivides the outstanding Preferred Shares, (C) combines the outstanding Preferred Shares into a smaller number of Preferred Shares, or (D) issues any shares of its capital stock in a reclassification of the Preferred Shares (including any such reclassification in connection with a consolidation or merger in which the Company is the continuing or surviving corporation), except as otherwise provided in this Section 11(a), the Purchase Price in effect at the time of the record date for such dividend or of the effective date of such subdivision, combination or reclassification and/or the number and/or kind of shares of capital stock issuable on such date upon exercise of a Right, will be proportionately adjusted so that the holder of any Right exercised after such time is entitled to receive upon payment of the Purchase Price then in effect the aggregate number and kind of shares of capital stock which, if such Right had been exercised immediately prior to such date and at a time when the transfer books of the Company for the Preferred Shares were open, the holder of such Right would have owned upon such exercise (and, in the case of a reclassification, would have retained after giving effect to such reclassification) and would have been entitled to receive by virtue of such dividend, subdivision, combination or reclassification; PROVIDED, HOWEVER, that in no event shall the consideration to be paid upon the exercise of one Right be less than the aggregate par value of the shares of capital stock issuable upon exercise of one Right. If an event occurs which would require an adjustment under both this Section 11(a)(i) and Section 11(a)(ii) or Section 13, the adjustment provided for in this Section 11(a)(i) will be in addition to, and will be made prior to, any adjustment required pursuant to Section 11(a)(ii) or Section 13.

(ii) Subject to the provisions of Section 24, if:

(A) any Person becomes an Acquiring Person; or

(B) any Acquiring Person or any Affiliate or Associate of any Acquiring Person, directly or indirectly, (1) merges into the Company or otherwise combines with the Company and the Company is the continuing or surviving corporation of such merger or combination (other than in a transaction subject to Section 13), (2) merges or otherwise combines with any Subsidiary of the Company, (3) in one or more transactions (otherwise than in connection with the exercise, exchange or conversion of securities exercisable or exchangeable for or convertible into shares of any class of capital stock of the Company or any of its Subsidiaries) transfers cash, securities or any other property to the Company or any of its Subsidiaries in exchange (in whole or in part) for shares of any class of capital stock of the

Company or any of its Subsidiaries or for securities exercisable or exchangeable for or convertible into shares of any class of capital stock of the Company or any of its Subsidiaries, or otherwise obtains from the Company or any of its Subsidiaries, with or without consideration, any additional shares of any class of capital stock of the Company or any of its Subsidiaries or securities exercisable or exchangeable for or convertible into shares of any class of capital stock of the Company or any of its Subsidiaries (otherwise than as part of a pro rata distribution to all holders of shares of any class of capital stock of the Company, or any of its Subsidiaries), (4) sells, purchases, leases, exchanges, mortgages, pledges, transfers or otherwise disposes (in one or more transactions) to, from, with or of, as the case may be, the Company or any of its Subsidiaries (otherwise than in a transaction subject to Section 13), any property, including securities, on terms and conditions less favorable to the Company than the Company would be able to obtain in an arm's-length transaction with an unaffiliated third party, (5) receives any compensation from the Company or any of its Subsidiaries other than compensation as a director or a regular full-time employee, in either case at rates consistent with the Company's (or its Subsidiaries') past practices, or (6) receives the benefit, directly or indirectly (except proportionately as a shareholder), of any loans, advances, guarantees, pledges or other financial assistance or any tax credits or other tax advantage provided by the Company or any of its Subsidiaries; or

(C) during such time as there is an Acquiring Person, there is any reclassification of securities of the Company (including any reverse stock split), or any recapitalization of the Company, or any merger or consolidation of the Company with any of its Subsidiaries, or any other transaction or series of transactions involving the Company or any of its Subsidiaries (whether or not with or into or otherwise involving an Acquiring Person), other than a transaction subject to Section 13, which has the effect, directly or indirectly, of increasing by more than 1% the proportionate share of the outstanding shares of any class of equity securities of the Company or any of its Subsidiaries, or of securities exercisable or exchangeable for or convertible into equity securities of the Company or any of its Subsidiaries, of which an Acquiring Person, or any Affiliate or Associate of any Acquiring Person, is the Beneficial Owner;

then, and in each such case, proper provision will be made so that, from and after the latest of the Share Acquisition Date, the Distribution Date and the date of the occurrence of such Flip-in Event, each holder of a Right, except as provided below, will thereafter have the right to receive, upon exercise thereof in accordance with the terms of this

Agreement at an exercise price per Right equal to the product of the then-current Purchase Price multiplied by the number of one one-hundredths of a Preferred Share for which a Right was exercisable immediately prior to the date of the occurrence of such Flip-in Event (or, if any other Flip-in Event shall have previously occurred, the product of the then-current Purchase Price multiplied by the number of one one-hundredths of a Preferred Share for which a Right was exercisable immediately prior to the date of the first occurrence of a Flip-in Event), in lieu of Preferred Shares, such number of Common Shares as equals the result obtained by (x) multiplying the then-current Purchase Price by the number of one one-hundredths of a Preferred Share for which a Right was exercisable immediately prior to the date of the occurrence of such Flip-in Event (or, if any other Flip-in Event shall have previously occurred, multiplying the then-current Purchase Price by the number of one one-hundredths of a Preferred Share for which a Right was exercisable immediately prior to the date of the first occurrence of a Flip-in Event), and dividing that product by (y) 50% of the current per share market price of the Common Shares (determined pursuant to Section 11 (d)) on the date of the occurrence of such Flip-in Event. Notwithstanding anything in this Agreement to the contrary, from and after the first occurrence of a Flip-in Event, any Rights that are Beneficially Owned by (A) any Acquiring Person (or any Affiliate or Associate of any Acquiring Person), (B) a transferee of any Acquiring Person (or any such Affiliate or Associate) who becomes a transferee after the occurrence of a Flip-in Event, or (C) a transferee of any Acquiring Person (or any such Affiliate or Associate) who became a transferee prior to or concurrently with the occurrence of a Flip-in Event pursuant to either

(1) a transfer from an Acquiring Person to holders of its equity securities or to any Person with whom it has any continuing agreement, arrangement or understanding regarding the transferred Rights or (2) a transfer which the Directors of the Company have determined is part of a plan, arrangement or understanding which has the purpose or effect of avoiding the provisions of this Section 11(a)(ii), and subsequent transferees of any of such Persons, will be void without any further action and any holder of such Rights will thereafter have no rights whatsoever with respect to such Rights under any provision of this Agreement. The Company will use all reasonable efforts to ensure that the provisions of this Section 11(a)(ii) are complied with, but will have no liability to any holder of Right Certificates or any other Person as a result of its failure to make any determinations with respect to an Acquiring Person or its Affiliates, Associates or transferees hereunder. Upon the occurrence of a Flip-in Event, no Right Certificate that represents Rights that are or have become void pursuant to the provisions of this Section 11(a)(ii) will thereafter be issued pursuant to Section 3 or Section 6, and any Right Certificate delivered

to the Rights Agent that represents Rights that are or have become void pursuant to the provisions of this Section 11(a)(ii) will be cancelled. Upon the occurrence of a Flip-over Event, any Rights that shall not have been previously exercised pursuant to this Section 11(a)(ii) shall thereafter be exercisable only pursuant to Section 13 and not pursuant to this Section 11(a)(ii).

(iii) Upon the occurrence of a Flip-in Event, if there are not sufficient Common Shares authorized but unissued or issued but not outstanding to permit the issuance of all the Common Shares issuable in accordance with Section 11(a)(ii) upon the exercise of a Right, the Directors of the Company will use their best efforts promptly to authorize and, subject to the provisions of Section 9(e), make available for issuance additional Common Shares or other equity securities of the Company having equivalent voting rights and an equivalent value (as determined in good faith by the Directors of the Company) to the Common Shares (for purposes of this Section 11(a)(iii), "equivalent common shares"). In the event that equivalent common shares are so authorized, upon the exercise of a Right in accordance with the provisions of Section 7, the registered holder will be entitled to receive (A) Common Shares, to the extent any are available, and (B) a number of equivalent common shares, which the Directors of the Company have determined in good faith to have a value equivalent to the excess of (x) the aggregate current per share market value on the date of the occurrence of the most recent Flip-in Event of all the Common Shares issuable in accordance with Section 11(a)(ii) upon the exercise of a Right (the "Exercise Value") over (y) the aggregate current per share market value on the date of the occurrence of the most recent Flip-in Event of any Common Shares available for issuance upon the exercise of such Right; PROVIDED, HOWEVER, that if at any time after 90 calendar days after the latest of the Share Acquisition Date, the Distribution Date and the date of the first occurrence of a Flip-in Event, there are not sufficient Common Shares and/or equivalent common shares available for issuance upon the exercise of a Right, then the Company will be obligated to deliver, upon the surrender of such Right and without requiring payment of the Purchase Price, Common Shares (to the extent available), equivalent common shares (to the extent available) and then cash (to the extent permitted by applicable law and any agreements or instruments to which the Company is a party in effect immediately prior to the Share Acquisition Date), which securities and cash have an aggregate value equal to the excess of (1) the Exercise Value over (2) the product of the then-current Purchase Price multiplied by the number of one one-hundredths of a Preferred Share for which a Right was exercisable immediately prior to the date of the occurrence of the most recent Flip-in Event (or, if any other Flip-in Event shall have previously occurred, the product of the

then-current Purchase Price multiplied by the number of one one-hundredths of a Preferred Share for which a Right would have been exercisable immediately prior to the date of the occurrence of such Flip-in Event if no other Flip-in Event had previously occurred). To the extent that any legal or contractual restrictions prevent the Company from paying the full amount of cash payable in accordance with the foregoing sentence, the Company will pay to holders of the Rights as to which such payments are being made all amounts which are not then restricted on a pro rata basis and will continue to make payments on a pro rata basis as promptly as funds become available until the full amount due to each such Rights holder has been paid.

(b) In the event that the Company fixes a record date for the issuance of rights, options or warrants to all holders of Preferred Shares entitling them (for a period expiring within 45 calendar days after such record date) to subscribe for or purchase Preferred Shares (or securities having equivalent rights, privileges and preferences as the Preferred Shares (for purposes of this Section 11(b), "equivalent preferred shares")) or securities convertible into Preferred Shares or equivalent preferred shares at a price per Preferred Share or equivalent preferred share (or having a conversion price per share, if a security convertible into Preferred Shares or equivalent preferred shares) less than the current per share market price of the Preferred Shares (determined pursuant to Section 11(d)) on such record date, the Purchase Price to be in effect after such record date will be determined by multiplying the Purchase Price in effect immediately prior to such record date by a fraction, the numerator of which is the number of Preferred Shares outstanding on such record date plus the number of Preferred Shares which the aggregate offering price of the total number of Preferred Shares and/or equivalent preferred shares so to be offered (and/or the aggregate initial conversion price of the convertible securities so to be offered) would purchase at such current per share market price and the denominator of which is the number of Preferred Shares outstanding on such record date plus the number of additional Preferred Shares and/or equivalent preferred shares to be offered for subscription or purchase (or into which the convertible securities so to be offered are initially convertible); PROVIDED, HOWEVER, that in no event shall the consideration to be paid upon the exercise of one Right be less than the aggregate par value of the shares of capital stock issuable upon exercise of one Right. In case such subscription price may be paid in consideration part or all of which is in a form other than cash, the value of such consideration will be as determined in good faith by the Directors of the Company, whose determination will be described in a statement filed with the Rights Agent. Preferred Shares owned by or held for the account of the Company will not be deemed outstanding for the purpose of any such computation. Such adjustment will be made successively whenever such a record date is fixed, and in the event that such rights, options or warrants are not so issued, the Purchase Price

will be adjusted to be the Purchase Price which would then be in effect if such record date had not been fixed.

(c) In the event that the Company fixes a record date for the making of a distribution to all holders of Preferred Shares (including any such distribution made in connection with a consolidation or merger in which the Company is the continuing or surviving corporation) of evidences of indebtedness, cash (other than a regular periodic cash dividend), assets, stock (other than a dividend payable in Preferred Shares) or subscription rights, options or warrants (excluding those referred to in Section 11(b)), the Purchase Price to be in effect after such record date will be determined by multiplying the Purchase Price in effect immediately prior to such record date by a fraction, the numerator of which is the current per share market price of the Preferred Shares (as determined pursuant to Section 11(d)) on such record date or, if earlier, the date on which Preferred Shares begin to trade on an ex-dividend or when issued basis for such distribution, less the fair market value (as determined in good faith by the Directors of the Company, whose determination will be described in a statement filed with the Rights Agent) of the portion of the evidences of indebtedness, cash, assets or stock so to be distributed or of such subscription rights, options or warrants applicable to one Preferred Share, and the denominator of which is such current per share market price of the Preferred Shares; PROVIDED, HOWEVER, that in no event shall the consideration to be paid upon the exercise of one Right be less than the aggregate par value of the shares of capital stock issuable upon exercise of one Right. Such adjustments will be made successively whenever such a record date is fixed; and in the event that such distribution is not so made, the Purchase Price will again be adjusted to be the Purchase Price which would then be in effect if such record date had not been fixed.

(d) (i) For the purpose of any computation hereunder, the "current per share market price" of Common Shares on any date will be deemed to be the average of the daily closing prices per share of such Common Shares for the 30 consecutive Trading Days immediately prior to such date; PROVIDED, HOWEVER, that in the event that the current per share market price of the Common Shares is determined during a period following the announcement by the issuer of such Common Shares of (A) a dividend or distribution on such Common Shares payable in such Common Shares or securities convertible into such Common Shares (other than the Rights) or (B) any subdivision, combination or reclassification of such Common Shares, and prior to the expiration of 30 Trading Days after the ex-dividend date for such dividend or distribution, or the record date for such subdivision, combination or reclassification, then, and in each such case, the current per share market price will be appropriately adjusted to take into account ex-dividend trading or to reflect the current per share market price per Common Share equivalent. The closing price for each day

will be the last sale price, regular way, or, in case no such sale takes place on such day, the average of the closing bid and asked prices, regular way, in either case as reported in the principal consolidated transaction reporting system with respect to securities listed or admitted to trading on the New York Stock Exchange or, if the Common Shares are not listed or admitted to trading on the New York Stock Exchange, as reported in the principal consolidated transaction reporting system with respect to securities listed on the principal national securities exchange on which the Common Shares are listed or admitted to trading or, if the Common Shares are not listed or admitted to trading on any national securities exchange, the last quoted price or, if not so quoted, the average of the high bid and low asked prices in the over-the-counter market, as reported by Nasdaq or such other system then in use, or, if on any such date the Common Shares are not quoted by any such organization, the average of the closing bid and asked prices as furnished by a professional market maker making a market in the Common Shares selected by the Directors of the Company. If the Common Shares are not publicly held or not so listed or traded, or are not the subject of available bid and asked quotes, "current per share market price" will mean the fair value per share as determined in good faith by the Directors of the Company, whose determination will be described in a statement filed with the Rights Agent.

(ii) For the purpose of any computation hereunder, the "current per share market price" of the Preferred Shares will be determined in the same manner as set forth above for Common Shares in

Section 11(d)(i), other than the last sentence thereof. If the current per share market price of the Preferred Shares cannot be determined in the manner provided above, the "current per share market price" of the Preferred Shares will be conclusively deemed to be an amount equal to the current per share market price of the Common Shares multiplied by one hundred (as such number may be appropriately adjusted to reflect events such as stock splits, stock dividends, recapitalizations or similar transactions relating to the Common Shares occurring after the date of this Agreement). If neither the Common Shares nor the Preferred Shares are publicly held or so listed or traded, or the subject of available bid and asked quotes, "current per share market price" of the Preferred Shares will mean the fair value per share as determined in good faith by the Directors of the Company, whose determination will be described in a statement filed with the Rights Agent. For all purposes of this Agreement, the current per share market price of one one-hundredth of a Preferred Share will be equal to the current per share market price of one Preferred Share divided by one hundred.

(e) Except as set forth below, no adjustment in the Purchase Price will be required unless such adjustment would

require an increase or decrease of at least 1% in such price; PROVIDED, HOWEVER, that any adjustments which by reason of this Section 11 (e) are not required to be made will be carried forward and taken into account in any subsequent adjustment. All calculations under this Section 11 will be made to the nearest cent or to the nearest one one-millionth of a Preferred Share or one ten-thousandth of a Common Share or other security, as the case may be. Notwithstanding the first sentence of this Section 11(e), any adjustment required by this Section 11 will be made no later than the earlier of (i) three years from the date of the transaction which requires such adjustment and (ii) the Expiration Date.

(f) If as a result of an adjustment made pursuant to Section 11(a), the holder of any Right thereafter exercised becomes entitled to receive any securities of the Company other than Preferred Shares, thereafter the number and/or kind of such other securities so receivable upon exercise of any Right (and/or the Purchase Price in respect thereof) will be subject to adjustment from time to time in a manner and on terms as nearly equivalent as practicable to the provisions with respect to the Preferred Shares (and the Purchase Price in respect thereof) contained in this Section 11, and the provisions of Sections 7, 9, 10, 13 and 14 with respect to the Preferred Shares (and the Purchase Price in respect thereof) will apply on like terms to any such other securities (and the Purchase Price in respect thereof).

(g) All Rights originally issued by the Company subsequent to any adjustment made to the Purchase Price hereunder will evidence the right to purchase, at the adjusted Purchase Price, the number of one one-hundredths of a Preferred Share issuable from time to time hereunder upon exercise of the Rights, all subject to further adjustment as provided herein.

(h) Unless the Company has exercised its election as provided in Section 11(i), upon each adjustment of the Purchase Price pursuant to Section 11(b) or Section 11(c), each Right outstanding immediately prior to the making of such adjustment will thereafter evidence the right to purchase, at the adjusted Purchase Price, that number of one one-hundredths of a Preferred Share (calculated to the nearest one one-millionth of a Preferred Share) obtained by

(i) multiplying (x) the number of one one-hundredths of a Preferred Share issuable upon exercise of a Right immediately prior to such adjustment of the Purchase Price by (y) the Purchase Price in effect immediately prior to such adjustment of the Purchase Price and (ii) dividing the product so obtained by the Purchase Price in effect immediately after such adjustment of the Purchase Price.

(i) The Company may elect, on or after the date of any adjustment of the Purchase Price, to adjust the number of Rights in substitution for any adjustment in the number of one one-hundredths of a Preferred Share issuable upon the exercise of a

Right. Each of the Rights outstanding after such adjustment of the number of Rights will be exercisable for the number of one one-hundredths of a Preferred Share for which a Right was exercisable immediately prior to such adjustment. Each Right held of record prior to such adjustment of the number of Rights will become that number of Rights (calculated to the nearest one ten-thousandth) obtained by dividing the Purchase Price in effect immediately prior to adjustment of the Purchase Price by the Purchase Price in effect immediately after adjustment of the Purchase Price. The Company will make a public announcement of its election to adjust the number of Rights, indicating the record date for the adjustment, and, if known at the time, the amount of the adjustment to be made. Such record date may be the date on which the Purchase Price is adjusted or any day thereafter, but, if the Right Certificates have been issued, will be at least 10 calendar days later than the date of the public announcement. If Right Certificates have been issued, upon each adjustment of the number of Rights pursuant to this Section 11(i), the Company will, as promptly as practicable, cause to be distributed to holders of record of Right Certificates on such record date Right Certificates evidencing, subject to the provisions of Section 14, the additional Rights to which such holders are entitled as a result of such adjustment, or, at the option of the Company, will cause to be distributed to such holders of record in substitution and replacement for the Right Certificates held by such holders prior to the date of adjustment, and upon surrender thereof if required by the Company, new Right Certificates evidencing all the Rights to which such holders are entitled after such adjustment. Right Certificates so to be distributed will be issued, executed, and countersigned in the manner provided for herein (and may bear, at the option of the Company, the adjusted Purchase Price) and will be registered in the names of the holders of record of Right Certificates on the record date specified in the public announcement.

(j) Without respect to any adjustment or change in the Purchase Price and/or the number and/or kind of securities issuable upon the exercise of the Rights, the Right Certificates theretofore and thereafter issued may continue to express the Purchase Price and the number and kind of securities which were expressed in the initial Right Certificate issued hereunder.

(k) Before taking any action that would cause an adjustment reducing the Purchase Price below one one-hundredth of the then par value, if any, of the Preferred Shares or below the then par value, if any, of any other securities of the Company issuable upon exercise of the Rights, the Company will take any corporate action which may, in the opinion of its counsel, be necessary in order that the Company may validly and legally issue fully paid and nonassessable Preferred Shares or such other securities, as the case may be, at such adjusted Purchase Price.

(l) In any case in which this Section 11 otherwise requires that an adjustment in the Purchase Price be made effective as of a record date for a specified event, the Company may elect to defer until the occurrence of such event the issuance to the holder of any Right exercised after such record date the number of Preferred Shares or other securities of the Company, if any, issuable upon such exercise over and above the number of Preferred Shares or other securities of the Company, if any, issuable upon such exercise on the basis of the Purchase Price in effect prior to such adjustment; PROVIDED, HOWEVER, that the Company delivers to such holder a due bill or other appropriate instrument evidencing such holder's right to receive such additional Preferred Shares or other securities upon the occurrence of the event requiring such adjustment.

(m) Notwithstanding anything in this Agreement to the contrary, the Company will be entitled to make such reductions in the Purchase Price, in addition to those adjustments expressly required by this Section 11, as and to the extent that in its good faith judgment the Directors of the Company determines to be advisable in order that any (i) consolidation or subdivision of the Preferred Shares, (ii) issuance wholly for cash of Preferred Shares at less than the current per share market price therefor, (iii) issuance wholly for cash of Preferred Shares or securities which by their terms are convertible into or exchangeable for Preferred Shares, (iv) stock dividends, or (v) issuance of rights, options or warrants referred to in this Section 11, hereafter made by the Company to holders of its Preferred Shares is not taxable to such shareholders.

(n) Notwithstanding anything in this Agreement to the contrary, in the event that the Company at any time after the Record Date but prior to the Distribution Date (i) pays a dividend on the outstanding Common Shares payable in Common Shares, (ii) subdivides the outstanding Common Shares, (iii) combines the outstanding Common Shares into a smaller number of shares, or (iv) issues any shares of its capital stock in a reclassification of the outstanding Common Shares (including any such reclassification in connection with a consolidation or merger in which the Company is the continuing or surviving corporation), the number of Rights associated with each Common Share then outstanding, or issued or delivered thereafter but prior to the Distribution Date, will be proportionately adjusted so that the number of Rights thereafter associated with each Common Share following any such event equals the result obtained by multiplying the number of Rights associated with each Common Share immediately prior to such event by a fraction the numerator of which is the total number of Common Shares outstanding immediately prior to the occurrence of the event and the denominator of which is the total number of Common Shares outstanding immediately following the occurrence of such event. The adjustments provided for in this Section 11(n) will be made successively whenever such a dividend is paid or such a subdivision, combination or reclassification is effected.

12. CERTIFICATE OF ADJUSTED PURCHASE PRICE OR NUMBER OF SECURITIES. Whenever an adjustment is made as provided in Section 11 or Section 13, the Company will promptly (a) prepare a certificate setting forth such adjustment and a brief statement of the facts accounting for such adjustment, (b) file with the Rights Agent and with each transfer agent for the Preferred Shares and the Common Shares a copy of such certificate, and (c) if such adjustment is made after the Distribution Date, mail a brief summary of such adjustment to each holder of a Right Certificate in accordance with Section 26.

13. CONSOLIDATION, MERGER OR SALE OR TRANSFER OF ASSETS OR EARNING POWER. (a) In the event that:

(i) at any time after a Person has become an Acquiring Person, the Company consolidates with, or merges with or into, any other Person and the Company is not the continuing or surviving corporation of such consolidation or merger; or

(ii) at any time after a Person has become an Acquiring Person, any Person consolidates with the Company, or merges with or into the Company, and the Company is the continuing or surviving corporation of such merger or consolidation and, in connection with such merger or consolidation, all or part of the Common Shares is changed into or exchanged for stock or other securities of any other Person or cash or any other property; or

(iii) at any time after a Person has become an Acquiring Person, the Company, directly or indirectly, sells or otherwise transfers (or one or more of its Subsidiaries sells or otherwise transfers), in one or more transactions, assets or earning power (including without limitation securities creating any obligation on the part of the Company and/or any of its Subsidiaries) representing in the aggregate more than 50% of the assets or earning power of the Company and its Subsidiaries (taken as a whole) to any Person or Persons other than the Company or one or more of its wholly owned Subsidiaries;

then, and in each such case, proper provision will be made so that from and after the latest of the Share Acquisition Date, the Distribution Date and the date of the occurrence of such Flip-over Event (A) each holder of a Right thereafter has the right to receive, upon the exercise thereof in accordance with the terms of this Agreement at an exercise price per Right equal to the product of the then-current Purchase Price multiplied by the number of one one-hundredths of a Preferred Share for which a Right was exercisable immediately prior to the Share Acquisition Date, such number of duly authorized, validly issued, fully paid, nonassessable and freely tradeable Common Shares of the Issuer, free and clear of any liens, encumbrances and other adverse claims and not subject to any rights of call or first refusal, as equals the result obtained by (x) multiplying the then-current

Purchase Price by the number of one one-hundredths of a Preferred Share for which a Right was exercisable immediately prior to the Share Acquisition Date and dividing that product by (y) 50% of the current per share market price of the Common Shares of the Issuer (determined pursuant to Section 11(d)), on the date of the occurrence of such Flip-over Event; (B) the Issuer will thereafter be liable for, and will assume, by virtue of the occurrence of such Flip-over Event, all the obligations and duties of the Company pursuant to this Agreement; (C) the term "Company" will thereafter be deemed to refer to the Issuer; and (D) the Issuer will take such steps (including without limitation the reservation of a sufficient number of its Common Shares to permit the exercise of all outstanding Rights) in connection with such consummation as may be necessary to assure that the provisions hereof are thereafter applicable, as nearly as reasonably may be possible, in relation to its Common Shares thereafter deliverable upon the exercise of the Rights.

(b) For purposes of this Section 13, "Issuer" means (i) in the case of any Flip-over Event described in Sections 13(a)(i) or (ii) above, the Person that is the continuing, surviving, resulting or acquiring Person (including the Company as the continuing or surviving corporation of a transaction described in

Section 13(a)(ii) above), and (ii) in the case of any Flip-over Event described in Section 13(a)(iii) above, the Person that is the party receiving the greatest portion of the assets or earning power (including without limitation securities creating any obligation on the part of the Company and/or any of its Subsidiaries) transferred pursuant to such transaction or transactions; PROVIDED, HOWEVER, that, in any such case, (A) if (1) no class of equity security of such Person is, at the time of such merger, consolidation or transaction and has been continuously over the preceding 12-month period, registered pursuant to Section 12 of the Exchange Act, and (2) such Person is a Subsidiary, directly or indirectly, of another Person, a class of equity security of which is and has been so registered, the term "Issuer" means such other Person; and (B) in case such Person is a Subsidiary, directly or indirectly, of more than one Person, a class of equity security of two or more of which are and have been so registered, the term "Issuer" means whichever of such Persons is the issuer of the equity security having the greatest aggregate market value. Notwithstanding the foregoing, if the Issuer in any of the Flip-over Events listed above is not a corporation or other legal entity having outstanding equity securities, then, and in each such case, (x) if the Issuer is directly or indirectly wholly owned by a corporation or other legal entity having outstanding equity securities, then all references to Common Shares of the Issuer will be deemed to be references to the Common Shares of the corporation or other legal entity having outstanding equity securities which ultimately controls the Issuer, and (y) if there is no such corporation or other legal entity having outstanding equity securities, (I) proper provision will be made so that the Issuer creates or otherwise makes available for purposes of the exercise of the

Rights in accordance with the terms of this Agreement, a kind or kinds of security or securities having a fair market value at least equal to the economic value of the Common Shares which each holder of a Right would have been entitled to receive if the Issuer had been a corporation or other legal entity having outstanding equity securities; and (II) all other provisions of this Agreement will apply to the issuer of such securities as if such securities were Common Shares.

(c) The Company will not consummate any Flip-over Event if, (i) at the time of or immediately after such Flip-over Event, there are or would be any rights, warrants, instruments or securities outstanding or any agreements or arrangements in effect which would eliminate or substantially diminish the benefits intended to be afforded by the Rights, (ii) prior to, simultaneously with or immediately after such Flip-over Event, the shareholders of the Person who constitutes, or would constitute, the Issuer for purposes of Section 13(a) shall have received a distribution of Rights previously owned by such Person or any of its Affiliates or Associates, or (iii) the form or nature of the organization of the Issuer would preclude or limit the exercisability of the Rights. In addition, the Company will not consummate any Flip-over Event unless the Issuer has a sufficient number of authorized Common Shares (or other securities as contemplated in Section 13(b) above) which have not been issued or reserved for issuance to permit the exercise in full of the Rights in accordance with this Section 13 and unless prior to such consummation the Company and the Issuer have executed and delivered to the Rights Agent a supplemental agreement providing for the terms set forth in subsections (a) and (b) of this Section 13 and further providing that as promptly as practicable after the consummation of any Flip-over Event, the Issuer will:

(A) prepare and file a registration statement under the Securities Act with respect to the Rights and the securities issuable upon exercise of the Rights on an appropriate form, and use its best efforts to cause such registration statement to (1) become effective as soon as practicable after such filing and (2) remain effective (with a prospectus at all times meeting the requirements of the Securities Act) until the Expiration Date;

(B) take all such action as may be appropriate under, or to ensure compliance with, the securities or "blue sky" laws of the various states in connection with the exercisability of the Rights; and

(C) deliver to holders of the Rights historical financial statements for the Issuer and each of its Affiliates which comply in all respects with the requirements for registration on Form 10 under the Exchange Act.

(d) The provisions of this Section 13 will similarly apply to successive mergers or consolidations or sales or other transfers. In the event that a Flip-over Event occurs at any time after the occurrence of a Flip-in Event, except for Rights that have become void pursuant to Section 11(a)(ii), Rights that shall not have been previously exercised will cease to be exercisable in the manner provided in Section 11(a)(ii) and will thereafter be exercisable in the manner provided in Section 13(a).

14. FRACTIONAL RIGHTS AND FRACTIONAL SECURITIES. (a) The Company will not be required to issue fractions of Rights or to distribute Right Certificates which evidence fractional Rights. In lieu of such fractional Rights, the Company will pay as promptly as practicable to the registered holders of the Right Certificates with regard to which such fractional Rights otherwise would be issuable, an amount in cash equal to the same fraction of the current market value of one Right. For the purposes of this Section 14(a), the current market value of one Right is the closing price of the Rights for the Trading Day immediately prior to the date on which such fractional Rights otherwise would have been issuable. The closing price for any day is the last sale price, regular way, or, in case no such sale takes place on such day, the average of the closing bid and asked prices, regular way, in either case as reported in the principal consolidated transaction reporting system with respect to securities listed or admitted to trading on the New York Stock Exchange or, if the Rights are not listed or admitted to trading on the New York Stock Exchange, as reported in the principal consolidated transaction reporting system with respect to securities listed on the principal national securities exchange on which the Rights are listed or admitted to trading or, if the Rights are not listed or admitted to trading on any national securities exchange, the last quoted price or, if not so quoted, the average of the high bid and low asked prices in the over-the-counter market, as reported by Nasdaq or such other system then in use, or, if on any such date the Rights are not quoted by any such organization, the average of the closing bid and asked prices as furnished by a professional market maker making a market in the Rights selected by the Directors of the Company. If the Rights are not publicly held or are not so listed or traded, or are not the subject of available bid and asked quotes, the current market value of one Right will mean the fair value thereof as determined in good faith by the Directors of the Company, whose determination will be described in a statement filed with the Rights Agent.

(b) Following the occurrence of a Triggering Event, the Company will not be required to issue fractions of Preferred Shares (other than fractions which are integral multiples of one one-hundredth of a Preferred Share) upon exercise of the Rights or to distribute certificates which evidence fractional Preferred Shares (other than fractions which are integral multiples of one one-hundredth of a Preferred Share). Fractions of Preferred

Shares in integral multiples of one one-hundredth of a Preferred Share may, at the election of the Company, be evidenced by depositary receipts pursuant to an appropriate agreement between the Company and a depositary selected by it, provided that such agreement provides that the holders of such depositary receipts have all the rights, privileges and preferences to which they are entitled as beneficial owners of the Preferred Shares represented by such depositary receipts. In lieu of fractional Preferred Shares that are not integral multiples of one one-hundredth of a Preferred Share, the Company may pay to any Person to whom or which such fractional Preferred Shares would otherwise be issuable an amount in cash equal to the same fraction of the current market value of one Preferred Share. For purposes of this Section 14(b), the current market value of one Preferred Share is the closing price of the Preferred Shares (as determined in the same manner as set forth for Common Shares in the second sentence of Section 11(d)(i)) for the Trading Day immediately prior to the date of such exercise; PROVIDED, HOWEVER, that if the closing price of the Preferred Shares cannot be so determined, the closing price of the Preferred Shares for such Trading Day will be conclusively deemed to be an amount equal to the closing price of the Common Shares (determined pursuant to the second sentence of Section 11(d)(i)) for such Trading Day multiplied by one hundred (as such number may be appropriately adjusted to reflect events such as stock splits, stock dividends, recapitalizations or similar transactions relating to the Common Shares occurring after the date of this Agreement); PROVIDED FURTHER, HOWEVER, that if neither the Common Shares nor the Preferred Shares are publicly held or listed or admitted to trading on any national securities exchange, or the subject of available bid and asked quotes, the current market value of one Preferred Share will mean the fair value thereof as determined in good faith by the Directors of the Company, whose determination will be described in a statement filed with the Rights Agent.

(c) Following the occurrence of a Triggering Event, the Company will not be required to issue fractions of Common Shares or other securities issuable upon exercise or exchange of the Rights or to distribute certificates which evidence any such fractional securities. In lieu of issuing any such fractional securities, the Company may pay to any Person to whom or which such fractional securities would otherwise be issuable an amount in cash equal to the same fraction of the current market value of one such security. For purposes of this Section 14(c), the current market value of one Common Share or other security issuable upon the exercise or exchange of Rights is the closing price thereof (as determined in the same manner as set forth for Common Shares in the second sentence of Section 11(d)(i)) for the Trading Day immediately prior to the date of such exercise or exchange; PROVIDED, HOWEVER, that if neither the Common Shares nor any such other securities are publicly held or listed or admitted to trading on any national securities exchange, or the subject of available bid and asked quotes, the current market value of one Common Share or such other security will mean the

fair value thereof as determined in good faith by the Directors of the Company, whose determination will mean the fair value thereof as be described in a statement filed with the Rights Agent.

15. **RIGHTS OF ACTION.** All rights of action in respect of this Agreement, excepting the rights of action given to the Rights Agent under Section 18, are vested in the respective registered holders of the Right Certificates (and, prior to the Distribution Date, the registered holders of the Common Shares); and any registered holder of any Right Certificate (or, prior to the Distribution Date, of the Common Shares), without the consent of the Rights Agent or of the holder of any other Right Certificate (or, prior to the Distribution Date, of the holder of any Common Shares), may in his own behalf and for his own benefit enforce, and may institute and maintain any suit, action or proceeding against the Company to enforce, or otherwise act in respect of, his right to exercise the Rights evidenced by such Right Certificate in the manner provided in such Right Certificate and in this Agreement. Without limiting the foregoing or any remedies available to the holders of Rights, it is specifically acknowledged that the holders of Rights would not have an adequate remedy at law for any breach of this Agreement and will therefore be entitled to specific performance of the obligations under this Agreement, and injunctive relief against actual or threatened violations of the obligations of any Person subject to this Agreement.

16. **AGREEMENT OF RIGHTS HOLDERS.** Every holder of a Right by accepting the same consents and agrees with the Company and the Rights Agent and with every other holder of a Right that:

(a) Prior to the Distribution Date, the Rights are transferable only in connection with the transfer of the Common Shares.

(b) After the Distribution Date, the Right Certificates are transferable only on the registry books of the Rights Agent if surrendered at the principal office of the Rights Agent designated for such purpose, duly endorsed or accompanied by a proper instrument of transfer.

(c) The Company and the Rights Agent may deem and treat the person in whose name the Right Certificate (or, prior to the Distribution Date, the associated Common Share certificate) is registered as the absolute owner thereof and of the Rights evidenced thereby (notwithstanding any notations of ownership or writing on the Right Certificate or the associated Common Share certificate made by anyone other than the Company or the Rights Agent) for all purposes whatsoever, and neither the Company nor the Rights Agent will be affected by any notice to the contrary.

(d) Such holder expressly waives any right to receive any fractional Rights and any fractional securities upon exercise or exchange of a Right, except as otherwise provided in Section 14.

(e) Notwithstanding anything in this Agreement to the contrary, neither the Company nor the Rights Agent will have any liability to any holder of a Right or other Person as a result of its inability to perform any of its obligations under this Agreement by reason of any preliminary or permanent injunction or other order, decree or ruling issued by a court of competent jurisdiction or by a governmental, regulatory or administrative agency or commission, or any statute, rule, regulation or executive order promulgated or enacted by any governmental authority, prohibiting or otherwise restraining performance of such obligation; PROVIDED, HOWEVER, that the Company will use its best efforts to have any such order, decree or ruling lifted or otherwise overturned as soon as possible.

17. RIGHT CERTIFICATE HOLDER NOT DEEMED A SHAREHOLDER. No holder, as such, of any Right Certificate will be entitled to vote, receive dividends, or be deemed for any purpose the holder of Preferred Shares or any other securities of the Company which may at any time be issuable upon the exercise of the Rights represented thereby, nor will anything contained herein or in any Right Certificate be construed to confer upon the holder of any Right Certificate, as such, any of the rights of a shareholder of the Company or any right to vote for the election of Directors or upon any matter submitted to shareholders at any meeting thereof, or to give or withhold consent to any corporate action, or to receive notice of meetings or other actions affecting shareholders (except as provided in Section 25), or to receive dividends or subscription rights, or otherwise, until the Right or Rights evidenced by such Right Certificate shall have been exercised in accordance with the provisions of this Agreement or exchanged pursuant to the provisions of Section 24.

18. CONCERNING THE RIGHTS AGENT. (a) The Company will pay to the Rights Agent reasonable compensation for all services rendered by it hereunder and, from time to time, on demand of the Rights Agent, its reasonable expenses and counsel fees and other disbursements incurred in the administration and execution of this Agreement and the exercise and performance of its duties hereunder. The Company will also indemnify the Rights Agent for, and hold it harmless against, any loss, liability, suit, action, proceeding or expense, incurred without negligence, bad faith, or willful misconduct on the part of the Rights Agent, for anything done or omitted to be done by the Rights Agent in connection with the acceptance and administration of this Agreement, including the costs and expenses of defending against any claim of liability arising therefrom, directly or indirectly.

(b) The Rights Agent will be protected and will incur no liability for or in respect of any action taken, suffered, or omitted by it in connection with its administration of this Agreement in reliance upon any Right Certificate or certificate evidencing Preferred Shares or Common Shares or other securities of the Company, instrument of assignment or transfer, power of attorney, endorsement, affidavit, letter, notice, direction, consent, certificate, statement or other paper or document believed by it to be genuine and to be signed, executed, and, where necessary, verified or acknowledged, by the proper Person or Persons.

19. MERGER OR CONSOLIDATION OR CHANGE OF NAME OF RIGHTS AGENT. (a) Any corporation into which the Rights Agent or any successor Rights Agent may be merged or with which it may be consolidated, or any corporation resulting from any merger or consolidation to which the Rights Agent or any successor Rights Agent is a party, or any corporation succeeding to the corporate trust business of the Rights Agent or any successor Rights Agent, will be the successor to the Rights Agent under this Agreement without the execution or filing of any paper or any further act on the part of any of the parties hereto, provided that such corporation would be eligible for appointment as a successor Rights Agent under the provisions of Section 21. If at the time such successor Rights Agent succeeds to the agency created by this Agreement any of the Right Certificates shall have been countersigned but not delivered, any such successor Rights Agent may adopt the countersignature of the predecessor Rights Agent and deliver such Right Certificates so countersigned; and if at that time any of the Right Certificates shall not have been countersigned, any successor Rights Agent may countersign such Right Certificates either in the name of the predecessor Rights Agent or in the name of the successor Rights Agent; and in all such cases such Right Certificates will have the full force provided in the Right Certificates and in this Agreement.

(b) If at any time the name of the Rights Agent changes and at such time any of the Right Certificates have been countersigned but not delivered, the Rights Agent may adopt the countersignature under its prior name and deliver Right Certificates so countersigned; and if at that time any of the Right Certificates have not been countersigned, the Rights Agent may countersign such Right Certificates either in its prior name or in its changed name; and in all such cases such Right Certificates will have the full force provided in the Right Certificates and in this Agreement.

20. DUTIES OF RIGHTS AGENT. The Rights Agent undertakes the duties and obligations imposed by this Agreement upon the following terms and conditions, by all of which the Company and the holders of Right Certificates, by their acceptance thereof, will be bound:

(a) The Rights Agent may consult with legal counsel (who may be legal counsel for the Company), and the opinion of such counsel will be full and complete authorization and protection to the Rights Agent as to any action taken or omitted by it in good faith and in accordance with such opinion.

(b) Whenever in the performance of its duties under this Agreement the Rights Agent deems it necessary or desirable that any fact or matter be proved or established by the Company prior to taking or suffering any action hereunder, such fact or matter (unless other evidence in respect thereof be herein specifically prescribed) may be deemed to be conclusively proved and established by a certificate signed by any one of the Chairman of the Board, the President, any Vice President, the Secretary or the Treasurer of the Company and delivered to the Rights Agent, and such certificate will be full authorization to the Rights Agent for any action taken or suffered in good faith by it under the provisions of this Agreement in reliance upon such certificate.

(c) The Rights Agent will be liable hereunder only for its own negligence, bad faith or willful misconduct.

(d) The Rights Agent will not be liable for or by reason of any of the statements of fact or recitals contained in this Agreement or in the Right Certificates (except its countersignature thereof) or be required to verify the same, but all such statements and recitals are and will be deemed to have been made by the Company only.

(e) The Rights Agent will not be under any responsibility in respect of the validity of this Agreement or the execution and delivery hereof (except the due execution and delivery hereof by the Rights Agent) or in respect of the validity or execution of any Right Certificate (except its countersignature thereof); nor will it be responsible for any breach by the Company of any covenant contained in this Agreement or in any Right Certificate; nor will it be responsible for any adjustment required under the provisions of Sections 11 or 13 (including any adjustment which results in Rights becoming void) or responsible for the manner, method or amount of any such adjustment or the ascertaining of the existence of facts that would require any such adjustment (except with respect to the exercise of Rights evidenced by Right Certificates after actual notice of any such adjustment); nor will it by any act hereunder be deemed to make any representation or warranty as to the authorization or reservation of any shares of stock or other securities to be issued pursuant to this Agreement or any Right Certificate or as to whether any shares of stock or other securities

will, when issued, be duly authorized, validly issued, fully paid and nonassessable.

(f) The Company will perform, execute, acknowledge and deliver or cause to be performed, executed, acknowledged and delivered all such further and other acts, instruments and assurances as may reasonably be required by the Rights Agent for the carrying out or performing by the Rights Agent of the provisions of this Agreement.

(g) The Rights Agent is hereby authorized and directed to accept instructions with respect to the performance of its duties hereunder from any one of the Chairman of the Board, the President, any Vice President, the Secretary or the Treasurer of the Company, and to apply to such officers for advice or instructions in connection with its duties, and it will not be liable for any action taken or suffered to be taken by it in good faith in accordance with instructions of any such officer.

(h) The Rights Agent and any shareholder, director, officer, or employee of the Rights Agent may buy, sell, or deal in any of the Rights or other securities of the Company or become pecuniarily interested in any transaction in which the Company may be interested, or contract with or lend money to the Company or otherwise act as fully and freely as though it were not Rights Agent under this Agreement. Nothing herein precludes the Rights Agent from acting in any other capacity for the Company or for any other Person.

(i) The Rights Agent may execute and exercise any of the rights or powers hereby vested in it or perform any duty hereunder either itself or by or through its attorneys or agents, and the Rights Agent will not be answerable or accountable for any act, default, neglect or misconduct of any such attorneys or agents or for any loss to the Company resulting from any such act, default, neglect or misconduct, provided reasonable care was exercised in the selection and continued employment thereof. The Rights Agent will not be under any duty or responsibility to ensure compliance with any applicable federal or state securities laws in connection with the issuance, transfer or exchange of Right Certificates.

(j) If, with respect to any Right Certificate surrendered to the Rights Agent for exercise, transfer, split up, combination or exchange, either (i) the certificate attached to the form of assignment or form of election to purchase, as the case may be, has either not been completed or indicates an affirmative response to clause 1 or 2 thereof, or (ii) any other actual or suspected irregularity exists, the Rights Agent will not take any further action with respect to such requested exercise, transfer, split up, combination or exchange without first

consulting with the Company, and will thereafter take further action with respect thereto only in accordance with the Company's written instructions.

21. CHANGE OF RIGHTS AGENT. The Rights Agent or any successor Rights Agent may resign and be discharged from its duties under this Agreement upon 30 calendar days' notice in writing mailed to the Company and to each transfer agent of the Preferred Shares or the Common Shares by registered or certified mail, and to the holders of the Right Certificates by first class mail. The Company may remove the Rights Agent or any successor Rights Agent upon 30 calendar days' notice in writing, mailed to the Rights Agent or successor Rights Agent, as the case may be, and to each transfer agent of the Preferred Shares and the Common Shares by registered or certified mail, and to the holders of the Right Certificates by first class mail. If the Rights Agent resigns or is removed or otherwise becomes incapable of acting, the Company will appoint a successor to the Rights Agent. If the Company fails to make such appointment within a period of 30 calendar days after giving notice of such removal or after it has been notified in writing of such resignation or incapacity by the resigning or incapacitated Rights Agent or by the holder of a Right Certificate (who will, with such notice, submit his Right Certificate for inspection by the Company), then the registered holder of any Right Certificate may apply to any court of competent jurisdiction for the appointment of a new Rights Agent. Any successor Rights Agent, whether appointed by the Company or by such a court, will be a corporation or other legal entity organized and doing business under the laws of the United States or of the State of Ohio or New York (or of any other state of the United States so long as such corporation is authorized to do business as a banking institution in the State of Ohio or New York), in good standing, having a principal office in the State of Ohio or New York, which is authorized under such laws to exercise corporate trust or stock transfer powers and is subject to supervision or examination by federal or state authority and which has at the time of its appointment as Rights Agent a combined capital and surplus of at least \$50 million. After appointment, the successor Rights Agent will be vested with the same powers, rights, duties, and responsibilities as if it had been originally named as Rights Agent without further act or deed; but the predecessor Rights Agent will deliver and transfer to the successor Rights Agent any property at the time held by it hereunder, and execute and deliver any further assurance, conveyance, act, or deed necessary for the purpose. Not later than the effective date of any such appointment, the Company will file notice thereof in writing with the predecessor Rights Agent and each transfer agent of the Preferred Shares or the Common Shares, and mail a notice thereof in writing to the registered holders of the Right Certificates. Failure to give any notice provided for in this Section 21, however, or any defect therein, will not affect the legality or validity of the resignation or removal of the Rights Agent or the appointment of the successor Rights Agent, as the case may be.

22. **ISSUANCE OF NEW RIGHT CERTIFICATES.** Notwithstanding any of the provisions of this Agreement or of the Rights to the contrary, the Company may, at its option, issue new Right Certificates evidencing Rights in such form as may be approved by its Directors to reflect any adjustment or change in the Purchase Price per share and the number or kind of securities issuable upon exercise of the Rights made in accordance with the provisions of this Agreement. In addition, in connection with the issuance or sale by the Company of Common Shares following the Distribution Date and prior to the Expiration Date, the Company (a) will, with respect to Common Shares so issued or sold pursuant to the exercise, exchange or conversion of securities (other than Rights) issued prior to the Distribution Date which are exercisable or exchangeable for, or convertible into Common Shares, and (b) may, in any other case, if deemed necessary, appropriate or desirable by the Directors of the Company, issue Right Certificates representing an equivalent number of Rights as would have been issued in respect of such Common Shares if they had been issued or sold prior to the Distribution Date, as appropriately adjusted as provided herein as if they had been so issued or sold; PROVIDED, HOWEVER, that (i) no such Right Certificate will be issued if, and to the extent that, in its good faith judgment the Directors of the Company determine that the issuance of such Right Certificate could have a material adverse tax consequence to the Company or to the Person to whom or which such Right Certificate otherwise would be issued and (ii) no such Right Certificate will be issued if, and to the extent that, appropriate adjustment otherwise has been made in lieu of the issuance thereof.

23. **REDEMPTION.** (a) Prior to the Expiration Date, the Directors of the Company may, at their option, redeem all but not less than all of the then-outstanding Rights at the Redemption Price at any time prior to the Close of Business on the later of (i) the Distribution Date and (ii) the date of the first occurrence of a Triggering Event. Any such redemption will be effective immediately upon the action of the Directors of the Company ordering the same, unless such action of the Directors of the Company expressly provides that such redemption will be effective at a subsequent time or upon the occurrence or nonoccurrence of one or more specified events (in which case such redemption will be effective in accordance with the provisions of such action of the Directors of the Company).

(b) Immediately upon the effectiveness of the redemption of the Rights as provided in Section 23(a), and without any further action and without any notice, the right to exercise the Rights will terminate and the only right thereafter of the holders of Rights will be to receive the Redemption Price, without interest thereon. Promptly after the effectiveness of the redemption of the Rights as provided in Section 23(a), the Company will publicly announce such redemption and, within 10 calendar days thereafter, will give notice of such redemption to the holders of the then-outstanding Rights by mailing such notice to all such

holders at their last addresses as they appear upon the registry books of the Company; PROVIDED, HOWEVER, that the failure to give, or any defect in, any such notice will not affect the validity of the redemption of the Rights. Any notice that is mailed in the manner herein provided will be deemed given, whether or not the holder receives the notice. The notice of redemption mailed to the holders of Rights will state the method by which the payment of the Redemption Price will be made. The Company may, at its option, pay the Redemption Price in cash, Common Shares (based upon the current per share market price of the Common Shares (determined pursuant to Section 11(d)) at the time of redemption), or any other form of consideration deemed appropriate by the Directors of the Company (based upon the fair market value of such other consideration, determined by the Directors of the Company in good faith) or any combination thereof. The Company may, at its option, combine the payment of the Redemption Price with any other payment being made concurrently to holders of Common Shares and, to the extent that any such other payment is discretionary, may reduce the amount thereof on account of the concurrent payment of the Redemption Price. If legal or contractual restrictions prevent the Company from paying the Redemption Price (in the form of consideration deemed appropriate by the Directors) at the time of redemption, the Company will pay the Redemption Price, without interest, promptly after such time as the Company ceases to be so prevented from paying the Redemption Price.

(c) At any time following the Share Acquisition Date, the Directors of the Company may relinquish the right to redeem the Rights under this Section 23 by duly adopting a resolution to that effect. Immediately upon adoption of such resolution, the rights of the Directors of the Company to redeem the Rights will terminate without further action and without any notice. Promptly after adoption of such a resolution, the Company will publicly announce such action; PROVIDED, HOWEVER, that the failure to give, or any defect in, any such notice will not affect the validity of the action of the Directors of the Company.

24. EXCHANGE. (a) The Directors of the Company may, at their option, at any time after the later of the Share Acquisition Date and the Distribution Date, exchange all or part of the then-outstanding and exercisable Rights (which will not include Rights that have become void pursuant to the provisions of Section 11(a)(ii)) for Common Shares at an exchange ratio of one Common Share per Right, appropriately adjusted to reflect any stock split, stock dividend or similar transaction occurring after the Record Date (such exchange ratio being hereinafter referred to as the "Exchange Ratio"). Any such exchange will be effective immediately upon the action of the Directors of the Company ordering the same, unless such action of the Directors of the Company expressly provides that such exchange will be effective at a subsequent time or upon the occurrence or nonoccurrence of one or more specified events (in which case such

exchange will be effective in accordance with the provisions of such action of the Directors of the Company). Notwithstanding the foregoing, the Directors of the Company will not be empowered to effect such exchange at any time after any Person (other than the Company or any Related Person), who or which, together with all Affiliates and Associates of such Person, becomes the Beneficial Owner of 50% or more of the then-outstanding Common Shares.

(b) Immediately upon the effectiveness of the exchange of any Rights as provided in Section 24(a), and without any further action and without any notice, the right to exercise such Rights will terminate and the only right with respect to such Rights thereafter of the holder of such Rights will be to receive that number of Common Shares equal to the number of such Rights held by such holder multiplied by the Exchange Ratio. Promptly after the effectiveness of the exchange of any Rights as provided in Section 24(a), the Company will publicly announce such exchange and, within 10 calendar days thereafter, will give notice of such exchange to all of the holders of such Rights at their last addresses as they appear upon the registry books of the Rights Agent; PROVIDED, HOWEVER, that the failure to give, or any defect in, such notice will not affect the validity of such exchange. Any notice that is mailed in the manner herein provided will be deemed given, whether or not the holder receives the notice. Each such notice of exchange will state the method by which the exchange of the Common Shares for Rights will be effected and, in the event of any partial exchange, the number of Rights which will be exchanged. Any partial exchange will be effected pro rata based on the number of Rights (other than Rights which have become void pursuant to the provisions of Section 11(a)(ii)) held by each holder of Rights.

(c) In any exchange pursuant to this Section 24, the Company, at its option, may substitute for any Common Share exchangeable for a Right (i) equivalent common shares (as such term is used in Section 11(a)(iii)), (ii) cash, (iii) debt securities of the Company, (iv) other assets, or (v) any combination of the foregoing, in any event having an aggregate value, as determined in good faith by the Directors of the Company (whose determination will be described in a statement filed with the Rights Agent), equal to the current market value of one Common Share (determined pursuant to Section 11(d)) on the Trading Day immediately preceding the date of the effectiveness of the exchange pursuant to this Section 24.

25. NOTICE OF CERTAIN EVENTS. (a) If, after the Distribution Date, the Company proposes (i) to pay any dividend payable in stock of any class to the holders of Preferred Shares or to make any other distribution to the holders of Preferred Shares (other than a regular periodic cash dividend), (ii) to offer to the holders of Preferred Shares rights, options or warrants to subscribe for or to purchase any additional Preferred Shares or shares of stock of any class or any other securities,

rights, or options, (iii) to effect any reclassification of its Preferred Shares (other than a reclassification involving only the subdivision of outstanding Preferred Shares), (iv) to effect any consolidation or merger into or with, or to effect any sale or other transfer (or to permit one or more of its Subsidiaries to effect any sale or other transfer), in one or more transactions, of assets or earning power (including without limitation securities creating any obligation on the part of the Company and/or any of its Subsidiaries) representing more than 50% of the assets and earning power of the Company and its Subsidiaries, taken as a whole, to any other Person or Persons other than the Company or one or more of its wholly owned Subsidiaries, (v) to effect the liquidation, dissolution or winding up of the Company, or (vi) to declare or pay any dividend on the Common Shares payable in Common Shares or to effect a subdivision, combination or reclassification of the Common Shares then, in each such case, the Company will give to each holder of a Right Certificate, to the extent feasible and in accordance with Section 26, a notice of such proposed action, which specifies the record date for the purposes of such stock dividend, distribution or offering of rights, options or warrants, or the date on which such reclassification, consolidation, merger, sale, transfer, liquidation, dissolution or winding up is to take place and the date of participation therein by the holders of the Common Shares and/or Preferred Shares, if any such date is to be fixed, and such notice will be so given, in the case of any action covered by clause (i) or (ii) above, at least 10 calendar days prior to the record date for determining holders of the Preferred Shares for purposes of such action, and, in the case of any such other action, at least 10 calendar days prior to the date of the taking of such proposed action or the date of participation therein by the holders of the Common Shares and/or Preferred Shares, whichever is the earlier.

(b) In case any Triggering Event occurs, then, in any such case, the Company will as soon as practicable thereafter give to the Rights Agent and each holder of a Right Certificate, in accordance with Section 26, a notice of the occurrence of such event, which specifies the event and the consequences of the event to holders of Rights.

26. NOTICES. (a) Notices or demands authorized by this Agreement to be given or made by the Rights Agent or by the holder of any Right Certificate to or on the Company will be sufficiently given or made if sent by first class mail, postage prepaid, addressed (until another address is filed in writing with the Rights Agent) as follows:

Brush Wellman Inc. 17876 St. Clair Avenue Cleveland, OH 44110

Attention: Secretary

(b) Subject to the provisions of Section 21 hereof, any notice or demand authorized by this Agreement to be given or made by the Company or by the holder of any Right Certificate to or on the Rights Agent will be sufficiently given or made if sent by first-class mail, postage prepaid, addressed (until another address is filed in writing with the Company) as follows:

National City Bank, N.A.

Corporate Trust Administration
629 Euclid Avenue, Suite 635
Cleveland, OH 44114

Attention: Vice President - Administration

(c) Notices or demands authorized by this Agreement to be given or made by the Company or the Rights Agent to the holder of any Right Certificate (or, if prior the Distribution Date, to the holder of any certificate evidencing Common Shares) will be sufficiently given or made if sent by first class mail, postage prepaid, addressed to such holder at the address of such holder as shown on the registry books of the Company.

27. SUPPLEMENTS AND AMENDMENTS. Prior to the time at which the Rights cease to be redeemable pursuant to Section 23, and subject to the last sentence of this Section 27, the Company may in its sole and absolute discretion, and the Rights Agent will if the Company so directs, supplement or amend any provision of this Agreement in any respect without the approval of any holders of Rights or Common Shares. From and after the time at which the Rights cease to be redeemable pursuant to Section 23, and subject to the last sentence of this Section 27, the Company may, and the Rights Agent will if the Company so directs, supplement or amend this Agreement without the approval of any holders of Rights or Common Shares in order (a) to cure any ambiguity, (b) to correct or supplement any provision contained herein which may be defective or inconsistent with any other provisions herein, (c) to shorten or lengthen any time period hereunder, or (d) to supplement or amend the provisions hereunder in any manner which the Company may deem desirable; provided that no such supplement or amendment shall adversely affect the interests of the holders of Rights as such (other than an Acquiring Person or an Affiliate or Associate of an Acquiring Person), and no such supplement or amendment shall cause the Rights again to become redeemable or cause this Agreement again to become supplementable or amendable otherwise than in accordance with the provisions of this sentence. Without limiting the generality or effect of the foregoing, this Agreement may be supplemented or amended to provide for such voting powers for the Rights and such procedures for the exercise thereof, if any, as the Directors of the Company may determine to be appropriate. Upon the delivery of a certificate from an officer of the Company which states that the proposed supplement or amendment is in compliance with the terms of this Section 27, the Rights Agent will execute such supplement or amendment; PROVIDED, HOWEVER, that the failure or refusal of

the Rights Agent to execute such supplement or amendment will not affect the validity of any supplement or amendment adopted by the Directors of the Company, any of which will be effective in accordance with the terms thereof. Notwithstanding anything in this Agreement to the contrary, no supplement or amendment may be made which decreases the stated Redemption Price to an amount less than \$0.01 per Right.

28. **SUCCESSORS; CERTAIN COVENANTS.** All the covenants and provisions of this Agreement by or for the benefit of the Company or the Rights Agent will be binding on and inure to the benefit of their respective successors and assigns hereunder.

29. **BENEFITS OF THIS AGREEMENT.** Nothing in this Agreement will be construed to give to any Person other than the Company, the Rights Agent, and the registered holders of the Right Certificates (and, prior to the Distribution Date, the Common Shares) any legal or equitable right, remedy or claim under this Agreement. This Agreement will be for the sole and exclusive benefit of the Company, the Rights Agent, and the registered holders of the Right Certificates (or prior to the Distribution Date, the Common Shares).

30. **GOVERNING LAW.** This Agreement, each Right and each Right Certificate issued hereunder will be deemed to be a contract made under the internal substantive laws of the State of Ohio and for all purposes will be governed by and construed in accordance with the internal substantive laws of such State applicable to contracts to be made and performed entirely within such State.

31. **SEVERABILITY.** If any term, provision, covenant or restriction of this Agreement is held by a court of competent jurisdiction or other authority to be invalid, void or unenforceable, the remainder of the terms, provisions, covenants and restrictions of this Agreement will remain in full force and effect and will in no way be affected, impaired or invalidated; **PROVIDED, HOWEVER,** that nothing contained in this Section 31 will affect the ability of the Company under the provisions of Section 27 to supplement or amend this Agreement to replace such invalid, void or unenforceable term, provision, covenant or restriction with a legal, valid and enforceable term, provision, covenant or restriction.

32. **DESCRIPTIVE HEADINGS, ETC.** Descriptive headings of the several Sections of this Agreement are inserted for convenience only and will not control or affect the meaning or construction of any of the provisions hereof. Unless otherwise expressly provided, references herein to Sections, paragraphs and Exhibits are to Sections, paragraphs and Exhibits of or to this Agreement.

33. **DETERMINATIONS AND ACTIONS BY THE DIRECTORS.** For all purposes of this Agreement, any calculation of the number of Common Shares outstanding at any particular time, including for

purposes of determining the particular percentage of such outstanding Common Shares of which any Person is the Beneficial Owner, will be made in accordance with the last sentence of Rule 13d-3(d)(1)(i) of the General Rules and Regulations under the Exchange Act. The Directors of the Company will have the exclusive power and authority to administer this Agreement and to exercise all rights and powers specifically granted to the Directors of the Company or to the Company, or as may be necessary or advisable in the administration of this Agreement, including without limitation the right and power to (a) interpret the provisions of this Agreement and (b) make all determinations deemed necessary or advisable for the administration of this Agreement (including any determination as to whether particular Rights shall have become void). All such actions, calculations, interpretations and determinations (including, for purposes of clause (ii) below, any omission with respect to any of the foregoing) which are done or made by the Directors of the Company in good faith will (i) be final, conclusive and binding on the Company, the Rights Agent, the holders of the Rights and all other parties and (ii) not subject the Directors of the Company to any liability to any Person, including without limitation the Rights Agent and the holders of the Rights.

34. COUNTERPARTS. This Agreement may be executed in any number of counterparts and each of such counterparts will for all purposes be deemed to be an original, and all such counterparts will together constitute but one and the same instrument.

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IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be duly executed and their respective corporate seals to be hereunto affixed and attested, all as of the day and year first above written.

[SEAL]

Attest:

BRUSH WELLMAN INC.

By:

Michael C. Hasychak
Treasurer and Secretary

Gordon D. Harnett
Chairman of the Board,
President and Chief
Executive Officer

[SEAL]

Attest:

NATIONAL CITY BANK, N.A.

By:

David B. Davis
Vice President

J. Dean Presson
Vice President

EXHIBIT A

TERMS OF PREFERRED SHARES

DIVISION A-1

SERIAL PREFERRED STOCK, SERIES A

SECTION 1. There is established hereby a series of Serial Preferred Stock that shall be designated, "Serial Preferred Stock, Series A" (hereinafter sometimes called this "Series" or the "Series A Preferred Shares") and that shall have the terms set forth in this Division A-1.

SECTION 2. The number of shares of this Series shall be 450,000.

SECTION 3. (a) The holders of record of Series A Preferred Shares shall be entitled to receive, when and as declared by the Board of Directors in accordance with the terms hereof, out of fund legally available for the purpose, cumulative quarterly dividends payable in cash on the first day of January, April, July and October in each year (each such date being referred to herein as a "Quarterly Dividend Payment Date"), commencing on the first Quarterly Dividend Payment Date after the first issuance of a Series A Preferred Share or fraction of a Series A Preferred Share in an amount per share (rounded to the nearest cent) equal to the lesser of (i) \$1.50 or (ii) subject to the provision for adjustment hereinafter set forth, 100 times the aggregate per share amount of all cash dividends, and 100 times the aggregate per share amount (payable in kind) of all non-cash dividends or other distributions, other than a dividend payable in shares of Common Stock, or a subdivision of the outstanding Common Stock (by reclassification or otherwise), declared on the Common Stock since the immediately preceding Quarterly Dividend Payment Date, or, with respect to the first Quarterly Dividend Payment Date, since the first issuance of any Series A Preferred Share or fraction of a Series A Preferred Share. In the event the Corporation shall at any time declare or pay any dividend on the Common Stock payable in Common Stock, or effect a subdivision or combination or consolidation of the outstanding shares of Common Stock (by reclassification or otherwise than by payment of a dividend in Common Stock) into a greater or lesser number of shares of Common Stock, then in each such case the amount to which holders of Series A Preferred Shares were entitled immediately prior to such event under clause (ii) of the preceding sentence shall be adjusted by multiplying such amount by a fraction the numerator of which is the number of shares of Common Stock outstanding immediately after such event and the denominator of which is the number of shares of Common Stock that were outstanding immediately prior to such event.

(b) Dividends shall begin to accrue and be cumulative on outstanding Series A Preferred Shares from the Quarterly Dividend Payment Date next preceding the date of issue of such Series A Preferred Shares, unless the date of issue of such shares is prior to the record date for the First Quarterly Dividend Payment Date, in which case dividends on such shares shall begin to accrue from the date of issue of such shares, or unless the date of issue is a Quarterly Dividend Payment Date or is a date after the record date for the determination of holders of shares of Series A Preferred Shares entitled to receive a quarterly dividend and before such Quarterly Dividend Payment Date, in either of which events such dividends shall begin to accrue and be cumulative from such Quarterly Dividend Payment Date. Accrued but unpaid dividends shall not bear interest. No dividends shall be paid upon or declared and set apart for any Series A Preferred Shares for any dividend period unless at the same time a dividend for the same dividend period, ratably in proportion to the respective annual dividend rates fixed therefor, shall be paid upon or declared and set apart for all Serial Preferred Stock of all series then outstanding and entitled to receive such dividend. The Board of Directors may fix a record date for the determination of holders of Series A Preferred Shares entitled to receive payment of a dividend or distribution declared thereon, which record date shall be no more than 40 days prior to the date fixed for the payment thereof.

SECTION 4. Subject to the provisions of Section 6(b)(iii) of Division A and in accordance with Section 4 of Division A, the Series A Preferred Shares shall be redeemable from time to time at the option of the Board of Directors of the Corporation, as a whole or in part, at any time at a redemption price per share equal to one hundred times the then applicable Purchase Price as defined in that certain Rights Agreement, dated as of January 27, 1998, between the Corporation and National City Bank, N.A. (the "Rights Agreement"), as the same may from time to time be amended in accordance with its terms, which Purchase Price is as of January 27, 1998, subject to adjustment from time to time as provided in the Rights Agreement. Copies of the Rights Agreement are available from the Company upon request. In the event that fewer than all of the outstanding Series A Preferred Shares are to be redeemed, the number of shares to be redeemed shall be as determined by the Board of Directors and the shares to be redeemed shall be selected pro rata or by lot in such manner as shall be determined by the Board of Directors.

SECTION 5. (a) In the event of any voluntary or involuntary liquidation, dissolution or winding up of the affairs of the Corporation (hereinafter referred to as a "Liquidation"), no distribution shall be made to the holders of shares of stock ranking junior (either as to dividends or upon Liquidation) to the Series A Preferred Shares, unless, prior thereto, the holders of Series A Preferred Shares shall have received at least an amount per share equal to one hundred times the then-applicable Purchase Price as defined in the Rights Agreement, as the same

may be from time to time amended in accordance with its terms, which Purchase Price is as of January 27, 1998, subject to adjustment from time to time as provided in the Rights Agreement, plus an amount equal to accrued and unpaid dividends and distributions thereon, whether or not earned or declared, to the date of such payment, provided that the holders of shares of Series A Preferred Shares shall be entitled to receive an aggregate amount per share, subject to the provision for adjustment hereinafter set forth, equal to 100 times the aggregate amount to be distributed per share to holders of Common Stock (the "Series A Liquidation Preference").

(b) In the event, however, that the net assets of the Corporation are not sufficient to pay in full the amount of the Series A Liquidation Preference and the liquidation preferences of all other series of Serial Preferred Stock, if any, which rank on a parity with the Series A Preferred Shares as to distribution of assets in Liquidation, all shares of this Series and of such other Serial Preferred Stock shall share ratably in the distribution of assets (or proceeds thereof) in Liquidation in proportion to the full amounts to which they are respectively entitled.

(c) In the event the Corporation shall at any time declare or pay any dividend on the Common Stock payable in Common Stock, or effect a subdivision or combination or consolidation of the outstanding Common Stock (by reclassification or otherwise than by payment of a dividend in Common Stock) into a greater or lesser number of shares of Common Stock, then in each such case the amount to which holders of Series A Preferred Shares were entitled immediately prior to such event pursuant to the proviso set forth in paragraph

(a) above, shall be adjusted by multiplying such amount by a fraction the numerator of which is the number of shares of Common Stock outstanding immediately after such event and the denominator of which is the number of shares of Common Stock that were outstanding immediately prior to such event.

(d) The merger or consolidation of the Corporation into or with any other corporation, or the merger of any other corporation into it, or the sale, lease or conveyance of all or substantially all the property or business of the Corporation, shall not be deemed to be a Liquidation for the purposes of this Section 5.

SECTION 6. The Series A Preferred Shares shall not be convertible into Common Stock.

EXHIBIT B

FORM OF RIGHT CERTIFICATE

Certificate No. R- _____ Rights

NOT EXERCISABLE AFTER FEBRUARY 9, 2008 (SUBJECT TO POSSIBLE EXTENSION AT THE OPTION OF THE COMPANY) OR EARLIER IF REDEEMED, EXCHANGED OR AMENDED. THE RIGHTS ARE SUBJECT TO REDEMPTION, EXCHANGE AND AMENDMENT AT THE OPTION OF THE COMPANY, ON THE TERMS SET FORTH IN THE RIGHTS AGREEMENT. UNDER CERTAIN CIRCUMSTANCES SPECIFIED IN THE RIGHTS AGREEMENT, RIGHTS THAT ARE OR WERE BENEFICIALLY OWNED BY AN ACQUIRING PERSON OR AN AFFILIATE OR AN ASSOCIATE OF AN ACQUIRING PERSON (AS SUCH TERMS ARE DEFINED IN THE RIGHTS AGREEMENT) OR A TRANSFEREE THEREOF MAY BECOME NULL AND VOID.

Right Certificate

BRUSH WELLMAN INC.

This certifies that _____, or registered assigns, is the registered owner of the number of Rights set forth above, each of which entitles the owner thereof, subject to the terms, provisions, and conditions of the Rights Agreement, dated as of January 27, 1998 (the "Rights Agreement"), between Brush Wellman Inc., an Ohio corporation (the "Company"), and National City Bank, N.A., a national banking association (the "Rights Agent"), to purchase from the Company at any time after the Distribution Date (as such term is defined in the Rights Agreement) and prior to 5:00 P.M. (Eastern time) on the Expiration Date (as such term is defined in the Rights Agreement) at the principal office or offices of the Rights Agent designated for such purpose, one one-hundredth of a fully paid nonassessable share of Serial Preferred Stock, Series A, without par value (the "Preferred Shares"), of the Company, at a purchase price of [INSERT INITIAL PURCHASE PRICE] per one one-hundredth of a Preferred Share (the "Purchase Price"), upon presentation and surrender of this Right Certificate with the Form of Election to Purchase and related Certificate duly executed. If this Right Certificate is exercised in part, the holder will be entitled to receive upon surrender hereof another Right Certificate or Right Certificates for the number of whole Rights not exercised. The number of Rights evidenced by this Right Certificate (and the number of one one-hundredths of a Preferred Share which may be purchased upon exercise thereof) set forth above, and the Purchase Price set forth above, are the number and Purchase Price as of the date of

the Rights Agreement, based on the Preferred Shares as constituted at such date.

As provided in the Rights Agreement, the Purchase Price and/or the number and/or kind of securities issuable upon the exercise of the Rights evidenced by this Right Certificate are subject to adjustment upon the occurrence of certain events.

This Right Certificate is subject to all of the terms, provisions and conditions of the Rights Agreement, which terms, provisions and conditions are hereby incorporated herein by reference and made a part hereof and to which Rights Agreement reference is hereby made for a full description of the rights, limitations of rights, obligations, duties and immunities of the Rights Agent, the Company and the holders of the Right Certificates, which limitations of rights include the temporary suspension of the exercisability of the Rights under the circumstances specified in the Rights Agreement. Copies of the Rights Agreement are on file at the above-mentioned office of the Rights Agent and can be obtained from the Company without charge upon written request therefor. Terms used herein with initial capital letters and not defined herein are used herein with the meanings ascribed thereto in the Rights Agreement.

Pursuant to the Rights Agreement, from and after the first occurrence of a Flip-in Event, any Rights that are Beneficially Owned by (i) any Acquiring Person (or any Affiliate or Associate of any Acquiring Person), (ii) a transferee of any Acquiring Person (or any such Affiliate or Associate) who becomes a transferee after the occurrence of a Flip-in Event, or (iii) a transferee of any Acquiring Person (or any such Affiliate or Associate) who became a transferee prior to or concurrently with the occurrence of a Flip-in Event pursuant to either (a) a transfer from an Acquiring Person to holders of its equity securities or to any Person with whom it has any continuing agreement, arrangement or understanding regarding the transferred Rights or (b) a transfer which the Directors of the Company have determined is part of a plan, arrangement or understanding which has the purpose or effect of avoiding certain provisions of the Rights Agreement, and subsequent transferees of any of such Persons, will be void without any further action and any holder of such Rights will thereafter have no rights whatsoever with respect to such Rights under any provision of the Rights Agreement. From and after the occurrence of a Flip-in Event, no Right Certificate will be issued that represents Rights that are or have become void pursuant to the provisions of the Rights Agreement, and any Right Certificate delivered to the Rights Agent that represents Rights that are or have become void pursuant to the provisions of the Rights Agreement will be cancelled.

This Right Certificate, with or without other Right Certificates, may be transferred, split up, combined or exchanged for another Right Certificate or Right Certificates entitling the

holder to purchase a like number of one one-hundredths of a Preferred Share (or other securities, as the case may be) as the Right Certificate or Right Certificates surrendered entitled such holder (or former holder in the case of a transfer) to purchase, upon presentation and surrender hereof at the principal office of the Rights Agent designated for such purpose, with the Form of Assignment (if appropriate) and the related Certificate duly executed.

Subject to the provisions of the Rights Agreement, the Rights evidenced by this Certificate may be redeemed by the Company at its option at a redemption price of \$.01 per Right or may be exchanged in whole or in part. The Rights Agreement may be supplemented and amended by the Company, as provided therein.

The Company is not required to issue fractions of Preferred Shares (other than fractions which are integral multiples of one one-hundredth of a Preferred Share, which may, at the option of the Company, be evidenced by depositary receipts) or other securities issuable upon the exercise of any Right or Rights evidenced hereby. In lieu of issuing such fractional Preferred Shares or other securities, the Company may make a cash payment, as provided in the Rights Agreement.

No holder of this Right Certificate, as such, will be entitled to vote or receive dividends or be deemed for any purpose the holder of the Preferred Shares or of any other securities of the Company which may at any time be issuable upon the exercise of the Right or Rights represented hereby, nor will anything contained herein or in the Rights Agreement be construed to confer upon the holder hereof, as such, any of the rights of a shareholder of the Company or any right to vote for the election of directors or upon any matter submitted to shareholders at any meeting thereof, or to give or withhold consent to any corporate action, or to receive notice of meetings or other actions affecting shareholders (except as provided in the Rights Agreement), or to receive dividends or subscription rights, or otherwise, until the Right or Rights evidenced by this Right Certificate have been exercised in accordance with the provisions of the Rights Agreement.

This Right Certificate will not be valid or obligatory for any purpose until it has been countersigned by the Rights Agent.

WITNESS the facsimile signature of the proper officers of the Company and its corporate seal. Dated as of _____, ____.

[SEAL]

ATTEST:

BRUSH WELLMAN INC.

Michael C. Hasychak
Secretary

By: -----
Gordon D. Harnett
Chairman of the Board,
President and Chief
Executive Officer

Countersigned:

NATIONAL CITY BANK, N.A.

By: -----
Authorized Signature

Form of Reverse Side of Right Certificate

FORM OF ASSIGNMENT

(To be executed by the registered holder if such holder desires to transfer the Right Certificate)

FOR VALUE RECEIVED, _____ hereby sells, assigns and transfers unto

(Please print name and address of transferee)

this Right Certificate, together with all right, title and interest therein, and does hereby irrevocably constitute and appoint _____ Attorney, to transfer the within Right Certificate on the books of the within-named Company, with full power of substitution.

Dated: _____, _____

Signature

Signature Guaranteed:

CERTIFICATE

The undersigned hereby certifies by checking the appropriate boxes that:

(1) the Rights evidenced by this Right Certificate ☐ are ☐ are not being sold, assigned, transferred, split up, combined or exchanged by or on behalf of a Person who is or was an Acquiring Person or an Affiliate or Associate of any such Person (as such terms are defined in the Rights Agreement); and

(2) after due inquiry and to the best knowledge of the undersigned, it
☐ did ☐ did not acquire the Rights evidenced by this Right Certificate from any Person who is, was or became an Acquiring Person or an Affiliate or Associate of an Acquiring Person.

Dated: _____, _____

Signature

B-6

FORM OF ELECTION TO PURCHASE

(To be executed if holder desires to exercise the Right Certificate)

To BRUSH WELLMAN INC.:

The undersigned hereby irrevocably elects to exercise _____ Rights represented by this Right Certificate to purchase the one one-hundredths of a Preferred Share or other securities issuable upon the exercise of such Rights and requests that certificates for such securities be issued in the name of and delivered to:

Please insert social security or other identifying number: _____

(Please print name and address)

If such number of Rights is not all the Rights evidenced by this Right Certificate, a new Right Certificate for the balance remaining of such Rights will be registered in the name of and delivered to:

Please insert social security or other identifying number: _____

(Please print name and address)

Dated: _____, _____

Signature

Signature Guaranteed:

CERTIFICATE

The undersigned hereby certifies by checking the appropriate boxes that:

(1) the Rights evidenced by this Right Certificate ☐ are ☐ are not being exercised by or on behalf of a Person who is or was an Acquiring Person or an Affiliate or Associate of any such Person (as such terms are defined pursuant to the Rights Agreement); and

(2) after due inquiry and to the best knowledge of the undersigned, it
☐ did ☐ did not acquire the Rights evidenced by this Right Certificate from any Person who is, was, or became an Acquiring Person or an Affiliate or Associate of an Acquiring Person.

Dated: _____, _____

Signature

NOTICE

SIGNATURES ON THE FOREGOING FORM OF ASSIGNMENT AND FORM OF ELECTION TO PURCHASE AND IN THE RELATED CERTIFICATES MUST CORRESPOND TO THE NAME AS WRITTEN UPON THE FACE OF THIS RIGHT CERTIFICATE IN EVERY PARTICULAR, WITHOUT ALTERATION OR ENLARGEMENT OR ANY CHANGE WHATSOEVER.

SIGNATURES MUST BE GUARANTEED BY AN ELIGIBLE GUARANTOR INSTITUTION (BANKS, STOCKBROKERS, SAVINGS AND LOAN ASSOCIATIONS AND CREDIT UNIONS WITH MEMBERSHIP IN AN APPROVED MEDALLION SIGNATURE PROGRAM) PURSUANT TO RULE 17AD-15 UNDER THE SECURITIES EXCHANGE ACT OF 1934, AS AMENDED.

EXHIBIT C

SUMMARY OF RIGHTS TO PURCHASE PREFERRED STOCK

The Directors (the "Directors") of Brush Wellman Inc. (the "Company") have declared a dividend distribution of one right (a "Right") for each outstanding share of Common Stock, par value \$1.00 per share (the "Common Shares"), of the Company. The distribution is payable on February 9, 1998 (the "Record Date") to the shareholders of record as of the close of business on the Record Date. Each Right entitles the registered holder thereof to purchase from the Company one one-hundredth of a share of Serial Preferred Stock, Series A, without par value (the "Preferred Shares"), of the Company at a price (the "Purchase Price") of [INSERT INITIAL PURCHASE PRICE] per one one-hundredth of a Preferred Share, subject to adjustment. The description and terms of the Rights are set forth in a Rights Agreement, dated as of January 27, 1998 (the "Rights Agreement"), between the Company and National City Bank, N.A., as Rights Agent (the "Rights Agent").

Under the Rights Agreement, the Rights will be evidenced by the certificates evidencing Common Shares until the earlier of (the "Distribution Date"): (i) the close of business on the tenth calendar day following the first date (the "Share Acquisition Date") of public announcement that a person (other than the Company, a subsidiary or employee benefit or stock ownership plan of the Company or any subsidiary or any entity holding Common Shares for or pursuant to the terms of any such plan), together with its affiliates and associates, has acquired beneficial ownership of 20% or more of the then-outstanding Common Shares (any such person being hereinafter called an "Acquiring Person") or (ii) the close of business on the tenth business day (or such later date as may be specified by the Directors) following the commencement of a tender offer or exchange offer by any person (other than the Company, a subsidiary or employee benefit or stock ownership plan of the Company or any subsidiary or any entity holding Common Shares for or pursuant to the terms of any such plan), the consummation of which would result in beneficial ownership by such person of 20% or more of the then-outstanding Common Shares.

The Rights Agreement provides that, until the Distribution Date, the Rights may be transferred with and only with the Common Shares. Until the Distribution Date (or earlier redemption or expiration of the Rights), any certificate evidencing Common Shares of the Company issued upon transfer or new issuance of the Common Shares will contain a notation incorporating the Rights Agreement by reference. Until the Distribution Date (or earlier redemption or expiration of the Rights), the surrender for transfer of any certificates evidencing Common Shares will also constitute the transfer of the Rights associated with such certificates. As soon as practicable following the Distribution

Date, separate certificates evidencing the Rights ("Rights Certificates") will be mailed to holders of record of Common Shares as of the close of business on the Distribution Date and such separate Rights Certificates alone will evidence the Rights. No Right is exercisable at any time prior to the Distribution Date. The Rights will expire on the tenth anniversary of the Record Date (the "Final Expiration Date") unless earlier redeemed, exchanged or amended by the Company as described below. Until a Right is exercised, the holder thereof, as such, will have no rights as a shareholder of the Company, including the right to vote or to receive dividends.

The Purchase Price payable, and the number of the Preferred Shares or other securities issuable, upon exercise of the Rights will be subject to adjustment from time to time to prevent dilution (i) in the event of a stock dividend on, or a subdivision, combination or reclassification of, the Preferred Shares, (ii) upon the grant to holders of Preferred Shares of certain rights or warrants to subscribe for or purchase the Preferred Shares at a price, or securities convertible into the Preferred Shares with a conversion price, less than the then-current market price of the Preferred Shares, or (iii) upon the distribution to holders of the Preferred Shares of evidences of indebtedness, cash (excluding regular periodic cash dividends), assets, stock (excluding dividends payable in the Preferred Shares) or subscription rights or warrants (other than those referred to above). The number of Rights associated with each Preferred Share will be subject to adjustment in the event of a stock dividend on the Common Shares payable in Common Shares or a subdivision, combination or reclassification of Common Shares occurring, in any such case, prior to the Distribution Date.

Subject to the Company's Second Amended and Restated Articles of Incorporation, the Preferred Shares issuable upon exercise of the Rights will be redeemable from time to time at the option of the Directors, in whole or in part, at a redemption price per share equal to one hundred times the then applicable Purchase Price. In the event that fewer than all of the outstanding Preferred Shares are to be redeemed, the number of shares to be redeemed shall be as determined by the Board of Directors and the shares to be redeemed shall be selected pro rata or by lot in such manner as determined by the Directors. The holders of the Preferred Shares will be entitled to receive, when and as declared by the Directors in accordance with the Company's Second Amended and Restated Articles of Incorporation, cumulative quarterly dividends payable in cash on the first day of January, April, July and October in each year (a "Quarterly Dividend Payment Date"), commencing on the first Quarterly Dividend Payment Date after the first issuance of a Preferred Share or fraction thereof.

Rights will be exercisable to purchase Preferred Shares only after the Distribution Date occurs and prior to the occurrence of a Flip-in Event as described below. A Distribution Date resulting from the commencement of a tender offer or exchange offer described in clause (ii) of the second paragraph of this summary could precede the occurrence of a Flip-in Event and thus result in the Rights being exercisable to purchase Preferred Shares. A Distribution Date resulting from any occurrence described in clause (i) of the second paragraph of this summary would necessarily follow the occurrence of a Flip-in Event and thus result in the Rights being exercisable to purchase Common Shares or other securities as described below.

Under the Rights Agreement, in the event (a "Flip-in Event") that (i) any person, together with its affiliates and associates, becomes the beneficial owner of 20% or more of the outstanding Common Shares, (ii) any Acquiring Person or any affiliate or associate thereof merges into or combines with the Company and the Company is the surviving corporation, (iii) any Acquiring Person or any affiliate or associate thereof effects certain other transactions with the Company, or (iv) during such time as there is an Acquiring Person the Company effects certain transactions, in each case as described in the Rights Agreement, then, in each such case, proper provision will be made so that from and after the latest of the Share Acquisition Date, the Distribution Date and the date of the occurrence of such Flip-in Event each holder of a Right, other than Rights that are or were owned beneficially by an Acquiring Person (which, from and after the date of a Flip-in Event, will be void), will have the right to receive, upon exercise thereof at the then-current exercise price of the Right, that number of Common Shares (or, under certain circumstances, an economically equivalent security or securities of the Company) that at the time of such Flip-in Event have a market value of two times the exercise price of the Right.

In the event (a "Flip-over Event") that, at any time after a person has become an Acquiring Person, (i) the Company merges with or into any person and the Company is not the surviving corporation, (ii) any person merges with or into the Company and the Company is the surviving corporation, but all or part of the Common Shares are changed or exchanged for stock or other securities of any other person or cash or any other property, or (iii) 50% or more of the Company's assets or earning power, including securities creating obligations of the Company, are sold, in each case as described in the Rights Agreement, then, and in each such case, proper provision will be made so that, from and after the latest of the Share Acquisition Date, the Distribution Date and the date of the occurrence of such Flip-over Event each holder of a Right, other than Rights which have become void, will thereafter have the right to receive, upon the exercise thereof at the then-current exercise price of the Right,

that number of shares of common stock (or, under certain circumstances, an economically equivalent security or securities) of such other person that at the time of such Flip-over Event have a market value of two times the exercise price of the Right.

From and after the date of the first occurrence of a Flip-in Event, Rights (other than any Rights that have become void) will be exercisable as described above, upon payment of the aggregate exercise price in cash. In addition, at any time after the later of the Share Acquisition Date and the Distribution Date and prior to the acquisition by any person or group of affiliated or associated persons of 50% or more of the outstanding Common Shares, the Company may exchange the Rights (other than any rights that have become void), in whole or in part, at an exchange ratio of one Common Share per Right (subject to adjustment).

With certain exceptions, no adjustment in the Purchase Price will be required until cumulative adjustments require an adjustment in the Purchase Price of at least 1%. The Company will not be required to issue fractional Preferred Shares (other than fractions that are integral multiples of one one-hundredth of a Preferred Share, which may, at the option of the Company, be evidenced by depositary receipts) or fractional Common Shares or other securities issuable upon the exercise of Rights. In lieu of issuing such securities, the Company may make a cash payment, as provided in the Rights Agreement.

The Company may, at its option, redeem the Rights in whole, but not in part, at a price of \$.01 per Right, subject to adjustment (the "Redemption Price"), at any time prior to the close of business on the later of (i) the Distribution Date and (ii) date of the first occurrence of a Flip-in Event or Flip-over Event. Immediately upon any redemption of the Rights, the right to exercise the Rights will terminate and the only right of the holders of Rights will be to receive the Redemption Price.

The Rights Agreement may be amended by the Company without the approval of any holders of Rights Certificates, including amendments that increase or decrease the Purchase Price, that add other events requiring adjustment to the Purchase Price payable and the number of the Preferred Shares or other securities issuable upon the exercise of the Rights or that modify procedures relating to the redemption of the Rights, except that no amendment may be made that decreases the stated Redemption Price to an amount less than \$.01 per Right.

The Directors will have the exclusive power and authority to administer the Rights Agreement and to exercise all rights and powers specifically granted to the Directors or to the Company therein, or as may be necessary or advisable in the

administration of the Rights Agreement, including without limitation the right and power to interpret the provisions of the Rights Agreement and to make all determinations deemed necessary or advisable for the administration of the Rights Agreement (including any determination to redeem or not redeem the Rights or to amend or not amend the Rights Agreement). All such actions, calculations, interpretations and determinations (including any omission with respect to any of the foregoing) which are done or made by the Directors in good faith will be final, conclusive and binding on the Company, the Rights Agent, the holders of the Rights and all other parties and will not subject the Directors to any liability to any person, including without limitation the Rights Agent and the holders of the Rights.

A copy of the Rights Agreement has been filed with the Securities and Exchange Commission as an exhibit to a Registration Statement on Form 8-A. A copy of the Rights Agreement is available free of charge from the Company.

This summary description of the Rights is as of the Record Date, does not purport to be complete and is qualified in its entirety by reference to the Rights Agreement, which is incorporated herein by this reference.

Exhibit 13

BRUSH WELLMAN INC.

1997

ANNUAL REPORT

.....SUSTAINABLE GROWTH

[PHOTO]

INVESTING FOR

Cover: Brush Wellman's sales have grown dramatically since 1992. To equip the Company for Sustainable Growth in the future, Brush Wellman is in the midst of a major expansion and upgrading of its capabilities, highlighted by an investment of \$117 million in its Elmore, Ohio facility. This new facility will significantly boost capacity, reduce production costs, improve working capital utilization and enable the Company to offer improved service to customers. The new facility should be fully operational by the end of 1998.

METAL SYSTEMS GROUP
(Approximately 70% of Sales)

ALLOY PRODUCTS are tailored metallurgically to specific customer performance requirements. Copper beryllium alloys exhibit high electrical and thermal conductivities, high strength and hardness, good formability and excellent resistance to corrosion, wear and fatigue. These properties make the alloys ideal choices for a variety of demanding applications in computers, telecommunications, automotive electronics, energy systems, plastic molds and consumer products.

BERYLLIUM is a unique material exhibiting physical and mechanical properties unmatched by any other metal. It is one of the lightest structural materials known, yet has specific stiffness six times greater than steel. It possesses high heat absorbing capability and has dimensional stability over a wide range of temperatures. Beryllium Products, including AlBeMet(R) and Brush Wellman's new E-Materials, are used primarily in defense and commercial aerospace applications.

ENGINEERED MATERIAL SYSTEMS, manufactured by Technical Materials,Inc., are combinations of precious and non-precious metals in continuous strip form and are used in complex electronic and electrical components in telecommunications systems, automobiles and computers.

MICROELECTRONICS GROUP
(Approximately 30% of Sales)

PRECIOUS METAL PRODUCTS are produced by Williams Advanced Materials Inc. for a variety of high reliability applications in electrical and electronic interconnection, packaging and processing markets, principally in North America and the Far East.

CERAMIC PRODUCTS offer unique solutions for thermal management applications. Beryllia ceramic is an effective electrical insulator and it has excellent thermal conductivity. It has high strength and hardness, and a low dielectric constant. Ceramic Products are used in automotive and power electronic systems, wireless telecommunications, thermoelectric cooling systems, and lasers.

CIRCUITS PROCESSING TECHNOLOGY INC.
produces thick-film substrates for use in high-frequency wireless telecommunications applications, both ground and satellite based.

FINANCIAL HIGHLIGHTS

| (Dollars in millions except per share amounts) | 1997 | 1996 | % Change |
|--|----------|----------|----------|
| | ----- | ----- | ----- |
| Sales | \$ 433.8 | \$ 376.3 | +15% |
| Net Income | 25.6 | 24.5 | +5% |
| Net Income per share (diluted) | 1.56 | 1.53 | +2% |
| Dividends per share | 0.46 | 0.42 | +10% |
| Shareholders' equity per share (diluted) | 14.41 | 13.72 | +5% |

| | | | | | |
|-----------------------------------|---------|---------|---------|---------|---------|
| | 93 | 94 | 95 | 96 | 97 |
| | -- | -- | -- | -- | -- |
| NET SALES (in millions) | \$295.5 | \$345.9 | \$369.6 | \$376.3 | \$433.8 |
| NET INCOME (in millions) | \$ 6.5 | \$ 18.9 | \$ 20.7 | \$ 24.5 | \$ 25.6 |
| NET INCOME PER SHARE (diluted) | \$ 0.40 | \$ 1.15 | \$ 1.27 | \$ 1.53 | \$ 1.56 |
| RETURN ON SHAREHOLDERS' EQUITY | 3.8% | 9.9% | 10.3% | 11.2% | 10.8% |

BRUSH WELLMAN INC.

is a leading international supplier of high performance engineered materials. It is the only fully-integrated producer of beryllium, beryllium-containing alloys and beryllia ceramic in the world. Brush Wellman also produces engineered material systems through Technical Materials, Inc. and precious metal products through Williams Advanced Materials Inc., both wholly-owned subsidiaries.

Brush Wellman materials continue to find new applications in a widening array of markets. Manufacturers of electronic equipment and computers, telecommunications systems, automobiles, aerospace products and systems, medical equipment, home appliances and high performance recreational goods specify the Company's high-quality materials in applications where superior performance and reliability are essential.

Brush Wellman has nine production facilities in the United States, and it markets its products through Company-owned Technical Service and Distribution Centers in Japan, Germany, the United Kingdom and the United States, a joint-venture service center in Singapore, and through a network of independent distributors throughout the world. The Company is headquartered in Cleveland, Ohio, the city in which the Company was founded in 1931. Brush Wellman stock is traded on the New York Stock Exchange, identified with the symbol, "BW".

TO OUR SHAREHOLDERS

On behalf of all employees of Brush Wellman, I am pleased and encouraged to report the achievement of another all-time sales and production record in 1997. The fact that Brush Wellman sales grew by 15% despite the strong dollar and capacity constraints in our Alloy Products business is a credit to the hard work and innovation of our employees and provides evidence of the growing acceptance of our engineered materials in high-reliability applications throughout the world. Sales have now increased for five consecutive years and have established new record levels in each of the last four years. Clearly, we are succeeding in developing new applications for our products and are effectively delivering high-quality products, on time, to our customers. In the 1996 Annual Report, Brush Wellman's strategy for the future was articulated as focusing on three major strategic thrusts: improve our base business, expand alloy and build a microelectronics business. During 1997, we made progress on each of these issues. Improvements were made in yield, productivity and operating performance in Ceramic Products and Beryllium Products, and we continue to identify areas for additional improvement. Alloy Products' performance was strong, both in North America and overseas, despite the translation effects of the strong dollar. We are proceeding on schedule with our Alloy Strip expansion project and the Brush Engineered Bronze facility opened in the fourth quarter. In addition, we achieved strong sales increases in microelectronics applications at Williams Advanced Materials Inc. and Ceramic Products. Our 1997 Annual Report details our progress in 1997 and provides an outline of our strategy for sustainable growth in the years ahead.

1997 FINANCIAL RESULTS

For the year 1997, Brush Wellman Inc. reported diluted earnings per share of \$1.56, basic earnings per share of \$1.58 and net income of \$25.6 million. This compares with 1996 diluted earnings of \$1.53 per share, basic earnings per share of \$1.55 and net income of \$24.5 million. Sales during 1997 totaled a record \$434 million, a 15% increase over 1996 sales of \$376 million, which had represented the previous record. Brush Wellman's sales have now increased for five consecutive years, and have established new sales records in each of the past four years. During 1997 the Company achieved sales increases in all major product lines.

Throughout the year, Brush Wellman's earnings were adversely affected by currency exchange rates. The stronger dollar reduced earnings by 24 cents per share for the full year 1997, compared with 1996. A strong dollar, relative to comparative periods, tends to reduce sales and income from the Company's overseas operations due to currency translation effects. Actual production volumes are generally unaffected by changes in currency exchange rates because overseas sales are typically priced in local currencies. In addition, earnings were pressured by business and product mix shifts, a higher tax rate, costs associated with the company owned life insurance program and start-up costs associated with Brush Engineered Bronze. Despite these unusual factors, Brush Wellman's earnings increased in 1997.

Brush Wellman's capital expenditures increased in 1997, reflecting investments in Alloy Strip, Brush Engineered Bronze and Mine Development. Capital expenditures are expected to remain high in 1998. In addition, Brush Wellman is financing a considerable amount of the Alloy Strip expansion via a combination of operating and synthetic lease arrangements.

Our balance sheet remains strong. Long-term debt as a percent of total capital was 7% at the end of 1997. This ratio will grow in 1998, however, with our major expansion and upgrading of our Alloy Strip capability. The leasing obligations mentioned above will be in addition to long-term debt reflected on the balance sheet. Management remains committed to maintaining the Company's strong financial condition. Our debt and leasing arrangements are detailed in Notes E and F, pages 13 and 14.

PRODUCT AND MARKET SUMMARY

We look at our various products in two major groups:
the Metal Systems Group and the Microelectronics Group.

METAL SYSTEMS GROUP

The Metal Systems Group represents approximately 70% of sales, and includes Alloy Products, Engineered Material Systems (produced by the Company's subsidiary, Technical Materials, Inc.), and Beryllium Products. Alloy Products' sales grew in 1997 relative to 1996, both domestically and overseas. This continuing strength reflects high levels of demand for these materials in electronics applications and our continuing success in developing new applications in automotive electronics, telecommunications, appliances, commercial aircraft and plastic mold materials markets. In addition, Alloy Strip production continues at full capacity, creating strains on the manufacturing system, cost pressures and limiting our short-term growth. These strains should begin to be relieved as the new Alloy Strip capacity becomes operational. Start up on the new casting facility occurred on schedule during the fourth quarter 1997. The new rolling equipment should be operational in the second half 1998. The Company's new Brush Engineered Bronze facility began operating in the fourth quarter and is now shipping high quality specialty alloys to customers. Technical Materials, Inc. (TMI) also had a very strong year, posting significant increases in sales and profit. Over the past five years TMI has consistently contributed to Brush Wellman's growth and profitability. Sales of Beryllium Products also grew in 1997. The Company is encouraged by the success in developing new applications for AlBeMet(R), in aerospace, commercial satellites, industrial and high-performance automotive applications. Beryllium Products operated at a loss for the whole of 1997 but was profitable for the second half of the year. The Company's international sales grew by 31% in 1997, despite the translation effects from a stronger dollar.

MICROELECTRONICS GROUP

Our Microelectronics Group includes Precious Metal Products (produced by Williams Advanced Materials Inc., a Brush Wellman subsidiary), Ceramic Products and Circuits Processing Technology. The Microelectronics Group represents slightly less than 30% of Brush Wellman sales.

Sales of the Company's Williams Advanced Materials Inc. (WAM) subsidiary increased dramatically in 1997 and established an all-time record. The profitability of precious metal products continued to increase in 1997. Sales of vapor deposition products were particularly strong. This performance was the result of the team at WAM's success in developing new markets and adapting to rapidly changing customer requirements. However, WAM sales, though profitable, tend to contribute lower margins because of their high precious metal content. In addition, volatility in the worldwide platinum and palladium markets during the second and third quarters of 1997 caused WAM's profitability to be less than it otherwise would have been. Despite this external pressure, WAM's contribution to sales and earnings was considerably higher than in 1996.

Ceramic Products' sales grew in 1997, particularly in wireless telecommunications applications. Sales of CuPack, our family of high performance direct bond copper packages also grew significantly in 1997. Brush Wellman Ceramic Products offer thermal management solutions for electronics applications in wireless telecommunications, automotive, computer and satellite markets. Circuits Processing Technology (CPT) also made a positive contribution.

Additional details of sales and financial performance during 1996 are contained in Management's Discussion and Analysis, beginning on page 22.

STRATEGIC REVIEW

The decade of the 1990's has been one of transition and growth for Brush Wellman. Sales have grown steadily over the past five years, from a low of \$265 million in 1992, to a record \$434 million in 1997. This is an average annual growth rate of over 10%, a rate considerably more robust than the United States economy over the same period. This performance is especially gratifying considering the structural changes that occurred in the Company's market base. At the beginning of the decade, defense and mainframe computer applications represented nearly 70% of the Company's sales. The end of the Cold War and the major changes in mainframe computer design resulted in dramatic reductions in demand for our materials. By 1997, these two markets represented less than 10% of the Company's sales.

Data processing/electronics, including personal computers, data storage devices and related connectors, switches relays and microelectronic components accounted for more than 30% of sales in 1997. Telecommunications, automotive electronics, appliances, plastic molds, commercial aviation and consumer products are now important markets for our products. This transition in Brush Wellman's business was the result of the successful implementation of a strategic, targeted marketing and product development plan. Most of the growth the Company has achieved in recent years has been in new or improved products.

International marketing has been another major strategic effort, and overseas sales have contributed greatly to the Company's growth. The largest overseas customer concentrations are in Germany, Japan, the United Kingdom, Switzerland and Singapore. International sales represented 32% of the Company's total in 1997, and achieved an all-time record despite the translation effects of the strong dollar.

THE FUTURE: BRUSH WELLMAN'S STRATEGY FOR SUSTAINABLE GROWTH

Brush Wellman is the world's leading producer of beryllium materials. Any strategy for the future must recognize and build upon this unique core competency. Our materials can simultaneously provide light weight and strength, or thermal conductivity and electrical insulating properties. They can withstand high temperatures, readily conduct electricity and resist stress and fatigue. Because of their unique combinations of properties, materials produced by Brush Wellman can enable our customers to produce safer, smaller, more reliable and more efficient products, improve productivity and reduce costs, over the life of their products. Given the continuing trends toward miniaturization, weight reduction, increased electronic content, and the heightened awareness of the costs of component failure and repair-related downtime, we are convinced that our materials have the potential to capture a far greater portion of the worldwide specialty materials market.

Brush Wellman sales and earnings have grown consistently throughout the past five years. During 1997, this improved

"Our investments . . . are designed to allow Brush Wellman to reposition itself in the materials marketplace, thereby creating opportunities for growth."

performance began to be reflected in our returns to shareholders, as the price of Brush Wellman stock increased by 50% from the beginning through the end of the year. Improving shareholder value will continue to be an important priority in 1998. To do that, we realize that we must achieve earnings growth, and improve our asset utilization. We also realize that we must continue to demonstrate the success of our Alloy Products' growth strategy, including a successful start-up of our Alloy Strip expansion.

For the longer term, we remain focused on three major Strategic Thrusts:

- o First, improve the base business,
- o Second, become the worldwide leader in specialty nonferrous alloys, and
- o Third, build a microelectronics business.

Improve the Base.....

Despite the progress made in 1997, there remain opportunities to improve the base business. In particular, many opportunities for improvement have been identified in Ceramic Products, Beryllium Products, our Elmore operation, and business systems.

Ceramic Products' profitability improvement efforts are concentrated on cost reduction, focusing on yield improvements, and the pursuit of Direct Bond Copper and Copper Tungsten as major new opportunities for growth. We achieved a major turnaround in Ceramic profitability in 1997, but this product area continued to operate at a loss throughout the year. Thus, Ceramic remains an area for profit improvement focus.

Beryllium Products' profitability is being enhanced through a combination of cost reduction efforts, product and process improvements, and growth in sales of AlBeMet(R). Beryllium Products lost money for 1997 overall, but was profitable during the second half and is expected to continue improving this year.

We are determined to improve the efficiency of our Elmore, Ohio operation, which is by far the largest in the Company. The Alloy expansion will help considerably, but it will only get us part of the way to being a truly world class operation. In 1998 we are challenging ourselves to make demonstrable progress in cost, quality and worker safety at our Elmore operation.

In addition, during 1998 we are continuing our program to convert all business systems for the year 2000. Details of our year 2000 compliance program can be found in Management's Discussion and Analysis, page 25.

... Become the Global Leader in Non-Ferrous Specialty Alloys ...

Our second strategic thrust involves expanding our alloy capabilities, with the goal to become the global leader in non-ferrous specialty alloys. Alloy has enjoyed good growth over the past five years, led by Alloy 174 strip. This lower-priced, patented copper beryllium alloy has become a major part of the product mix in terms of dollar sales and an even larger portion of Alloy production in terms of pounds. Traditional alloy strip has also continued to grow over the past few years. However, despite our sales gains, copper beryllium represents a small proportion of non-ferrous alloys. We are convinced that our products have the potential to capture a much larger share of this market, if we make some fundamental changes. Specifically, the keys to positioning Alloy to be the world's leader in specialty, high-performance non-ferrous alloys are: expand capacity, introduce new alloys, broaden international marketing capabilities, fully utilize organizational strengths and expand the range of alloy product offerings by adding specialty, non-beryllium-containing alloys to our product line.

In May 1996, the Board of Directors approved a plan for a major expansion and upgrading of our alloy strip capabilities, involving the investment of \$117 million. The goals of this investment are to increase capacity, reduce costs, improve service and optimize working capital utilization. In addition, the new capacity will incorporate advanced environmental, health and safety technology, so as to be the safest work place reasonably

achievable, and have minimal impact on the external environment.

The expansion involves the installation of a new cast shop, hot and cold rolling mills, annealing, pickling and finishing equipment. The new cast shop will increase the capacity, improve the quality and reduce the cost of all our alloy products.

This project is not simply an expansion of existing capabilities. Rather, it is designed to allow Brush Wellman to reposition itself in the materials marketplace, and thereby create major opportunities for growth. By reducing our costs and allowing us to produce strip in much larger coils, the new capacity will enable Brush Wellman to compete for many applications which were not accessible to us before. The combination of our quality, technical abilities and the properties of our materials with world class production facilities, a lower cost structure and greater casting and rolling capacity should position Brush Wellman to be a formidable competitor in the worldwide copper-based specialty alloys market as we approach the 21st century.

Ground was officially broken on the expansion in June 1996. Casting began in November 1997. Remaining construction is proceeding on schedule, and the new capacity should be fully operational by the fourth quarter.

The project is being financed primarily off-balance sheet, through a combination of:

- o an Operating Lease arrangement with the Toledo Port Authority for the building, amounting to just under \$19 million,
- o a Synthetic Lease on equipment, involving the participation of several banks, which could total \$62 million, and
- o the balance, or about \$36 million, will be financed through a combination of cash outlays and debt. This financing arrangement not only enhances the project from a balance sheet and cash flow standpoint, but it also involves a very attractive total financing cost over the life of the project. Over the long run, the expansion should significantly enhance the Company's ability to provide a superior return on investment, and thus improve shareholder value.

The expansion is obviously a major and necessary step, but to maximize growth potential in the non-ferrous alloys market, we must also introduce new alloys. Traditionally, our alloy products have been confined to the highest end, "premium" niche of the market. Today, through a combination of product development and capacity expansion, we are taking steps to offer products with significant competitive advantages for the larger, "specialty" segment of the market. We are now introducing a new alloy family, Alloy 171, directed at large volume users in the automotive, telecommunications, computer and appliance markets. Thus far, the interest in this new alloy system among potential users is very strong. Alloy 171 has been approved for design in major connector applications in the United States and internationally. We also continue to broaden international marketing capabilities. We have been very successful in Europe and Japan in recent years. Our work in these markets will intensify as we move forward. In addition, we are broadening our scope to the ASIAN region through our joint venture Distribution Center in Singapore, which opened in 1997.

Over the years, we have built a strong Alloy Marketing organization. Moving forward, we are identifying ways to utilize this organizational strength to do a more effective job of target market and account development, particularly in international markets.

We intend to exploit opportunities in non-beryllium alloys. The new Brush Engineered Bronze, a family of specialty alloys in rod, bar and tube form, is currently being introduced, supported by a \$12 million, 50,000 square foot greenfield expansion in Lorain, Ohio. This facility began casting specialty non-ferrous alloys during the fourth quarter 1997. The addition of Brush Engineered Bronze to our product line further strengthens our position in the specialty alloys business. It represents another step toward our goal to be the world's leading producer of high-quality, specialty non-ferrous alloys..

...BUILD A MICROELECTRONICS BUSINESS

Our third strategic thrust involves building a microelectronics business. The Microelectronics Group competes for a multi-billion dollar worldwide market, and currently represents approximately 30% of Brush Wellman's sales. We have an

established marketing and sales presence in this business with a range of products which meet the high performance requirements of the microelectronics industry. We believe that by executing a strategy based on internal growth and acquisition, we will be able to significantly expand our presence in these attractive, fast growing worldwide markets.

Our strategic vision for microelectronics involves exploiting growth opportunities for materials and value-added package components. Williams Advanced Materials has been very successful in expanding its markets over the past few years. WAM is positioned to continue developing new markets and applications for precious metal materials both in North America and Asia, through its facility in Singapore. Beryllium Oxide Ceramic materials grew in 1997 in wireless telecommunications applications. This material provides solutions to thermal management problems which are presented by high-frequency or high-power microelectronics, particularly in small spaces. We are also exploring certain metal matrix composites and powder metal materials. Our value-added components include CuPack and other direct bond copper components as well as the thick-film substrate package components produced by Circuits Processing Technology Inc. These value-added components offer alternative thermal management solutions, focusing on high-performance, wireless telecommunications. Our growth plans for the future involve internal development by maximizing our organizational and technical strengths, interunit synergy and targeted acquisitions.

DIVIDEND INCREASE

In August, the Board of Directors approved a 9% increase in the quarterly cash dividend to a rate of 12 cents per share. This raised the annualized dividend rate to 48 cents per share from the previous rate of 44 cents.

SHARE REPURCHASE

In May, the Board of Directors granted the authority for share repurchases, in the open market, of a maximum of one million shares over the next four years. The plan is intended to offset dilution due to issuance of stock through the incentive compensation plans, and to provide the Company the option of acquiring shares of Brush Wellman when such investment appears especially attractive. During 1997, Brush Wellman repurchased 205,600 shares.

ORGANIZATION

In May, the Board of Directors elected Mr. Brian J. Derry Vice President Operations. In this position, Mr. Derry is responsible for all of the Company's Alloy and Beryllium manufacturing operations in Delta, Utah, Elmore, Ohio and Reading, Pennsylvania.

Mr. Derry joins Brush Wellman with over twenty-five years of operations management experience, most recently for the Ethyl Corporation, a \$1.5 billion manufacturer of fuel additives in Richmond, Virginia, and also for General Electric Company's Plastics Group and Allied Chemical Company. We are very pleased that Brian has joined Brush Wellman. He has quickly become an important contributor to the accomplishment of our objectives.

In August, Mr. James P. Mooney resigned from the Board of Directors. Mr. Mooney is Chairman and Chief Executive Officer of The OM Group, Inc. He had joined the Brush Wellman Board of Directors in October 1996, but was unable to continue on the Board due to scheduling conflicts. He made a positive impact on Brush Wellman during his short tenure on our Board. We wish him and OM Group continued success in the future.

Three long-standing members -- Mr. Henry G. Piper, Mr. Gerald C. McDonough and Mr. Frank B. Carr -- retired from the Board of Directors during 1997. Mr. Piper originally joined the Company in 1959 and rose through the ranks to Chairman, President and CEO, before retiring in 1991. He had served on the Board of Directors since 1967.

Mr. McDonough had been a member of the Board since 1983. During his fourteen years of service on the Board, he was an immense help to the Company, and a strong advocate of shareholder interests.

Mr. Carr retired from the Board in December, in accordance with the Company's mandatory retirement policy for Directors who reach age 70. Brush Wellman is grateful to Mr. Carr for his twenty-seven years of service as a Director. He contributed greatly to the Company's success for nearly three decades. All three of these

long-standing Board members served with distinction. We wish them well on their retirement from the Board.

We also welcomed two new Directors in 1997. Mr. Joseph P. Keithley was appointed to the Board of Directors in June. Mr. Keithley, 49, is the Chairman of the Board, President and Chief Executive Officer of Keithley Instruments, Inc. in Cleveland, Ohio.

In December Brush Wellman announced the appointment of Mr. William R. Robertson to its Board of Directors. Mr. Robertson, 56, is a Managing Partner of Kirtland Capital. Prior to joining Kirtland, Mr. Robertson was President of National City Corporation. He is a Director of National City Corporation and National City Bank.

We are very pleased that Mr. Keithley and Mr. Robertson have joined our Board of Directors. They bring to the Board a wealth of knowledge and understanding of high technology industry, finance and capital markets as well as management expertise.

ENVIRONMENTAL, HEALTH AND SAFETY ISSUES

In solid form, the form in which it is nearly always used, beryllium and beryllium alloys pose no special health risk. However, for nearly fifty years, it has been known that inhalation of very fine airborne particles of beryllium may cause a lung disorder, known as chronic beryllium disease (CBD). Chronic beryllium disease is a lung condition that occurs in that small minority of persons whose immune systems react to beryllium in the lungs. The large majority of people do not have an adverse reaction to beryllium exposure. The risk of CBD is generally confined to workplaces in which operations are performed that generate beryllium-containing dust or fumes. At Brush Wellman, efforts in regard to CBD focus on two fronts: prevention and treatment.

In terms of prevention, we continue to work -- and to invest resources -- to protect workers from potentially harmful exposures to airborne beryllium. During 1997 we continued to implement changes in work practices in certain operations to more effectively limit potential for harmful exposure. In addition, in May 1997, the Board of Directors authorized investing an additional \$2.5 million for capital improvements to our Beryllium Products operation in Elmore, Ohio aimed specifically at further reducing the potential for employee exposure to airborne beryllium.

Our efforts to develop more effective treatments involve a continuing commitment to medical research. In 1997 we completed surveillance blood testing of employees in Utah and presented results of this work and the related Epidemiological Study to the employees. This work is part of an ongoing effort to increase the medical understanding of CBD, with a goal of developing more effective treatments, and hopefully, a cure for the condition. We also continue to support the work of the Beryllium Industry Science Advisory Committee.

OUTLOOK

Looking forward, demand for our products is at an all time high and continues to grow. We should begin to see some of the benefits of our capital investment program in 1998. Brush Engineered Bronze is now operating. In addition, successful trial heats on the new casting equipment in Elmore were conducted in the fourth quarter, and material from this new equipment is now beginning to feed our commercial alloy production stream. The new alloy strip rolling and finishing equipment in Elmore is scheduled to be operational by the fourth quarter of 1998. However we are currently operating at capacity in this, our largest product line, and will likely remain capacity constrained until the new equipment is in operation. In addition, our profits will continue to suffer from currency pressures if the dollar remains at its current high levels or strengthens further.

For the longer term, Brush Wellman remains committed to its strategic plan to increase shareholder value through a combination of actions focused on improving our base, becoming the worldwide leader in specialty, non-ferrous alloys, and building a microelectronics business. Our plans are ambitious, but I am convinced that we have a unique combination of products, processes, technology, facilities, a global distribution system, financial resources and, most importantly, competent and dedicated people. The employees of Brush Wellman can be proud that we have met the challenges of the past decade, and I look forward with enthusiasm to achieving our goals of significant and sustainable growth in sales, earnings and shareholder returns in the years ahead.

*/s/ Gordon D. Harnett
Gordon D. Harnett
Chairman of the Board
President and Chief Executive Officer*

March 1998

Consolidated Statements of Income

Brush Wellman Inc. and Subsidiaries Years ended December 31, 1997, 1996 and 1995

(Dollars in thousands except per share amounts)

| | 1997 ---- | 1996 ---- | 1995 ---- |
|--|--------------|--------------|--------------|
| Net Sales | \$ 433,801 | \$ 376,279 | \$ 369,618 |
| Cost of sales..... | 320,792 | 267,713 | 268,732 |
| | ----- | ----- | ----- |
| Gross Margin..... | 113,009 | 108,566 | 100,886 |
| Selling, administrative and general expenses..... | 68,953 | 64,991 | 62,736 |
| Research and development expenses | 7,707 | 8,309 | 7,814 |
| Other-- net | 325 | 961 | 1,250 |
| | ----- | ----- | ----- |
| Operating Profit..... | 36,024 | 34,305 | 29,086 |
| Interest expense | 553 | 1,128 | 1,653 |
| | ----- | ----- | ----- |
| INCOME BEFORE INCOME TAXES | 35,471 | 33,177 | 27,433 |
| | ----- | ----- | ----- |
| Income taxes: | | | |
| Currently payable | 8,506 | 9,825 | 9,547 |
| Deferred | 1,368 | (1,139) | (2,803) |
| | ----- | ----- | ----- |
| | 9,874 | 8,686 | 6,744 |
| | ----- | ----- | ----- |
| NET INCOME | \$ 25,597 | \$ 24,491 | \$ 20,689 |
| | ===== | ===== | ===== |
| Net income per share of Common Stock--basic..... | \$ 1.58 | \$ 1.55 | \$ 1.28 |
| | ===== | ===== | ===== |
| Average number of shares of Common Stock outstanding-basic..... | 16,214,718 | 15,846,358 | 16,159,508 |
| Net income per share of Common Stock--diluted..... | \$ 1.56 | \$ 1.53 | \$ 1.27 |
| | ===== | ===== | ===== |
| Average number of shares of Common Stock outstanding--diluted..... | 16,429,468 | 15,980,481 | 16,289,795 |

See notes to consolidated financial statements.

Consolidated Statements of Cash Flows

Brush Wellman Inc. and Subsidiaries Years ended December 31, 1997, 1996 and 1995

(Dollars in thousands)

| | 1997 | 1996 | 1995 |
|--|-----------|-----------|-----------|
| | ---- | ---- | ---- |
| Cash Flows from Operating Activities: | | | |
| Net Income | \$ 25,597 | \$ 24,491 | \$ 20,689 |
| Adjustments to Reconcile Net Income to Net Cash | | | |
| Provided from Operating Activities: | | | |
| Depreciation, depletion and amortization | 18,695 | 18,537 | 18,042 |
| Amortization of mine development | 634 | 4,417 | 2,869 |
| Decrease (Increase) in accounts receivable | (12,652) | (557) | (308) |
| Decrease (Increase) in inventory | 3,653 | (2,946) | 874 |
| Decrease (Increase) in prepaid and other current assets | (4,001) | (460) | (1,951) |
| Increase (Decrease) in accounts payable and accrued expenses | 10,126 | 1,158 | (1,856) |
| Increase (Decrease) in interest and taxes payable | (2,536) | (1,327) | 1,050 |
| Increase (Decrease) in deferred income tax | 1,466 | (1,189) | (1,284) |
| Increase (Decrease) in other long-term liabilities | 962 | 1,954 | 2,061 |
| Other--net | (1,550) | 966 | (589) |
| | ----- | ----- | ----- |
| NET CASH PROVIDED FROM OPERATING ACTIVITIES | 40,394 | 45,044 | 39,597 |
| Cash Flows from Investing Activities: | | | |
| Payments for purchase of property, plant and equipment | (53,155) | (26,825) | (24,244) |
| Payments for mine development | (9,526) | (3,663) | (787) |
| Other investments--net | (1,686) | (4,909) | 718 |
| | ----- | ----- | ----- |
| NET CASH USED IN INVESTING ACTIVITIES | (64,367) | (35,397) | (24,313) |
| Cash Flows from Financing Activities: | | | |
| Proceeds from issuance of short-term debt | 6,997 | 552 | 5,845 |
| Proceeds from issuance of long-term debt | -- | 8,305 | -- |
| Repayment of long-term debt | (960) | (813) | (758) |
| Repayment of short-term debt | (93) | (2,149) | (5,000) |
| Purchase of treasury stock | (4,927) | (6,656) | (2,826) |
| Issuance of Common Stock under stock option plans | 5,872 | 1,460 | 1,141 |
| Payments of dividends | (7,285) | (6,489) | (5,489) |
| | ----- | ----- | ----- |
| NET CASH USED IN FINANCING ACTIVITIES | (396) | (5,790) | (7,087) |
| Effects of Exchange Rate Changes on Cash & Cash Equivalents | (210) | (1,661) | 915 |
| | ----- | ----- | ----- |
| NET CHANGE IN CASH AND CASH EQUIVALENTS | (24,579) | 2,196 | 9,112 |
| CASH AND CASH EQUIVALENTS AT BEGINNING OF YEAR | 31,749 | 29,553 | 20,441 |
| | ----- | ----- | ----- |
| CASH AND CASH EQUIVALENTS AT END OF YEAR | \$ 7,170 | \$ 31,749 | \$ 29,553 |
| | ===== | ===== | ===== |

See notes to consolidated financial statements

Consolidated Balance Sheets

Brush Wellman Inc. and Subsidiaries

December 31, 1997 and 1996

(Dollars in thousands)

| | 1997 | 1996 |
|---|------------|------------|
| | ---- | ---- |
| ASSETS | | |
| CURRENT ASSETS | | |
| Cash and cash equivalents..... | \$ 7,170 | \$31,749 |
| Accounts receivable (less allowance of \$1,059 for 1997 and \$954 for 1996)..... | 62,812 | 52,211 |
| Inventories..... | 90,714 | 96,324 |
| Prepaid expenses and deferred income taxes..... | 18,215 | 16,949 |
| | ----- | ----- |
| TOTAL CURRENT ASSETS | 178,911 | 197,233 |
| OTHER ASSETS..... | 31,319 | 28,326 |
| Property, Plant and Equipment | | |
| Land..... | 5,043 | 5,186 |
| Buildings..... | 85,721 | 80,057 |
| Machinery and equipment..... | 312,088 | 274,903 |
| Construction in progress..... | 26,735 | 19,405 |
| Allowances for depreciation..... | (272,192) | (256,690) |
| | ----- | ----- |
| | 157,395 | 122,861 |
| Mineral resources..... | .5,693 | 5,693 |
| Mine development..... | 28,409 | 18,883 |
| Allowances for amortization and depletion..... | (17,875) | (17,217) |
| | ----- | ----- |
| | 16,227 | 7,359 |
| PROPERTY, PLANT AND EQUIPMENT-- NET | 173,622 | 130,220 |
| | ----- | ----- |
| | \$ 383,852 | \$ 355,779 |
| | ===== | ===== |
| LIABILITIES AND SHAREHOLDERS' EQUITY | | |
| CURRENT LIABILITIES | | |
| Short-term debt..... | \$ 28,877 | \$ 25,670 |
| Accounts payable..... | 13,519 | 7,713 |
| Salaries and wages..... | 12,341 | 9,672 |
| Taxes other than income taxes..... | 2,611 | 2,212 |
| Other liabilities and accrued items..... | 13,628 | 13,810 |
| Dividends payable..... | 1,967 | 1,789 |
| Income taxes..... | 5,369 | 8,195 |
| | ----- | ----- |
| TOTAL CURRENT LIABILITIES | 78,312 | 69,061 |
| OTHER LONG-TERM LIABILITIES | 8,200 | 6,906 |
| RETIREMENT AND POST-EMPLOYMENT BENEFITS | 39,825 | 40,365 |
| LONG-TERM DEBT | 17,905 | 18,860 |
| DEFERRED INCOME TAXES | 2,797 | 1,330 |
| SHAREHOLDERS' EQUITY | | |
| Serial Preferred Stock, no par value; 5,000,000 shares authorized, none issued | -- | -- |
| Common Stock, \$1 par value | | |
| Authorized 45,000,000 shares; issued 22,227,006 shares (21,908,885 for 1996)..... | 22,227 | 21,909 |
| Additional paid-in capital..... | 59,583 | 53,650 |
| Retained income..... | 254,174 | 236,043 |
| | ----- | ----- |
| | 335,984 | 311,602 |
| Less: Common Stock in treasury, 5,843,561 shares in 1997 (5,618,377 in 1996)..... | 96,639 | 91,357 |
| Other Equity transactions..... | 2,532 | 988 |
| | ----- | ----- |
| TOTAL SHAREHOLDERS' EQUITY | 236,813 | 219,257 |
| | ----- | ----- |
| | \$ 383,852 | \$ 355,779 |
| | ===== | ===== |

See notes to consolidated financial statements

Consolidated Statements of Shareholders' Equity

Brush Wellman Inc and Subsidiaries Years ended December 31, 1997, 1996 and 1995

(Dollars in thousands except per share amounts)

| | Common Stock | Additional Paid-In Capital | Retained Income | Common Stock In Treasury | Other |
|---|-----------------|----------------------------------|--------------------|--------------------------------|------------|
| BALANCES AT JANUARY 1, 1995 | \$ 21,215 | \$ 44,258 | \$203,341 | \$ (81,874) | |
| Net income..... | | | 20,689 | | |
| Declared dividends .36 per share | | | (5,821) | | |
| Proceeds from sale of 71,270 shares under option plans. | 71 | 910 | | | |
| Income tax benefit from employees' stock options..... | | 160 | | | |
| Other equity transactions..... | 44 | 330 | | (1) | \$ (194) |
| Purchase of shares for treasury..... | | | | (2,826) | |
| BALANCES AT DECEMBER 31, 1995 | 21,330 | 45,658 | 218,209 | (84,701) | (194) |
| Net income | | | 24,491 | | |
| Declared dividends \$.42 per share..... | | | (6,657) | | |
| Proceeds from sale of 93,710 shares under option plans. | 94 | 1,211 | | | |
| Income tax benefit from employees' stock options..... | | 155 | | | |
| Purchase of business..... | 368 | 5,296 | | | |
| Other equity transactions..... | 117 | 1,330 | | | (794) |
| Purchase of shares for treasury..... | | | | (6,656) | |
| BALANCES AT DECEMBER 31, 1996 | 21,909 | 53,650 | 236,043 | (91,357) | (988) |
| Net income..... | | | 25,597 | | |
| Declared dividends \$.46 per share..... | | | (7,463) | | |
| Proceeds from sale of 309,196 shares under option plans | 309 | 4,821 | | | |
| Income tax benefit from employees' stock options..... | | 742 | | | |
| Other equity transactions..... | 9 | 370 | (3) | | (1,544) |
| Forfeiture of restricted stock..... | | | | (355) | |
| Purchase of shares for treasury..... | | | | (4,927) | |
| BALANCES AT DECEMBER 31, 1997 | \$ 22,227 | \$ 59,583 | \$ 254,174 | \$ (96,639) | \$ (2,532) |
| | ===== | ===== | ===== | ===== | ===== |

See notes to consolidated financial statements

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Brush Wellman Inc. and Subsidiaries
December 31, 1997

NOTE A - ACCOUNTING POLICIES

ORGANIZATION: The Company is a manufacturer of engineered materials used in the computer and related electronics, telecommunications and automotive electronic markets. The Company also sells into the aerospace/defense and appliance/consumer markets. The majority of sales are to customers in North America, Western Europe and the Pacific rim. Major products sold are beryllium alloys, beryllium, engineered material systems, precious metals, ceramics and thick film circuits. The Company is vertically integrated and distributes its products through a combination of Company-owned facilities and outside distributors and agents.

USE OF ESTIMATES: The preparation of financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect the amounts reported in the financial statements and accompanying notes. Actual results may differ from those estimates.

CONSOLIDATION: The consolidated financial statements include the accounts of Brush Wellman Inc. and its subsidiaries, all of which are wholly owned. Intercompany accounts and transactions are eliminated in consolidation.

CASH EQUIVALENTS: All highly liquid investments with a put option or maturity of three months or less when purchased are considered to be cash equivalents.

INVENTORIES: Inventories are stated at the lower of cost or market. The cost of domestic inventories except ore and supplies is principally determined using the last-in, first-out (LIFO) method. The remaining inventories are stated principally at average cost.

PROPERTY, PLANT AND EQUIPMENT: Property, plant and equipment is stated on the basis of cost. Depreciation is computed principally by the straight-line method, except certain facilities for which depreciation is computed by the sum-of-the-years digits or units-of-production method. Depreciable lives that may be used in computing the annual provision for depreciation by class of asset are as follows:

| | Years |
|------------------------------|---------------|
| | ----- |
| Land improvements..... | 5 to 25 |
| Buildings..... | 10 to 40 |
| Leasehold improvements..... | Life of lease |
| Machinery and equipment..... | 3 to 15 |
| Furniture and fixtures..... | 4 to 15 |
| Automobiles and trucks..... | 2 to 8 |
| Research equipment..... | 6 to 12 |

MINERAL RESOURCES AND MINE DEVELOPMENT: Property acquisition costs and mining costs associated with waste rock removal are recorded at cost and are depleted or amortized by the units of production method based on recoverable proven beryllium reserves. Exploration and pre-production mine development expenses are charged to operations in the period in which they are incurred.

INTANGIBLE ASSETS: The cost of intangible assets is amortized by the straight-line method over the periods estimated to be benefited, which is generally twenty years or less.

ASSET IMPAIRMENT: In the event that facts and circumstances indicate that the carrying value of long-lived and intangible assets may be impaired, an evaluation of recoverability would be performed. If an evaluation is required, the estimated future cash flow associated with the asset would be compared to the asset's carrying amount to determine if a write-down may be required.

DERIVATIVES: Forward foreign exchange currency contracts are marked-to-market using the applicable rates and any unrealized losses are taken to income. Realized gains and losses on forward contracts and commodity swaps and realized gains on foreign currency options are taken to income when the financial instrument matures. Option premiums are classified as prepaid expenses and amortized over the term of the option.

REVENUE RECOGNITION: The Company recognizes revenue when goods are shipped and title passes to the customer.

ADVERTISING COSTS: The Company expenses all advertising costs as incurred. Advertising costs were immaterial for the years presented in the consolidated financial statements.

INCOME TAXES: The Company uses the liability method as required by Statement of Financial Accounting Standards (SFAS) No. 109 in measuring the provision for income taxes and recognizing deferred tax assets and liabilities on the balance sheet. This statement requires that deferred income taxes reflect the tax consequences of currently enacted rates for differences between the tax bases of assets and liabilities and

their financial reporting amounts.

RECLASSIFICATION: Certain amounts in prior years have been reclassified to conform with the 1997 consolidated financial statement presentation.

NET INCOME PER SHARE: The Company adopted SFAS No. 128, "Earnings per Share" in 1997 as prescribed, replacing the presentation of primary and fully diluted earnings per share (EPS) with a presentation of basic and diluted EPS. Basic EPS is computed by dividing income available to common stockholders by the weighted average number of common shares outstanding for the period. Diluted EPS reflects the assumed conversion of all dilutive common stock equivalents as appropriate under the treasury stock method. The EPS for all periods reported herein have been restated to comply with SFAS No. 128, including the quarterly results for 1996 and 1997.

ENVIRONMENTAL REMEDIATION: The Company adopted the Statement of Position ("SOP") 96-1, "Environmental Remediation Liabilities" in the first quarter of 1997. The adoption did not have a material impact on its financial position or results of operations. Contingencies, including environmental remediation liabilities, are further outlined in Note M to the Consolidated Financial Statements.

NEW PRONOUNCEMENTS: In 1997, the Financial Accounting Standards Board issued SFAS No. 130, "Reporting Comprehensive Income," and SFAS No. 131, "Disclosures about Segments of an Enterprise and Related Information." These pronouncements set forth certain public reporting requirements and standards, but do not necessitate any changes in accounting practices nor will they affect reported earnings. The Company is studying the impact of these new requirements on its reporting and will adopt them as prescribed in 1998.

NOTE B - ACQUISITIONS

In October 1996, the Company acquired the Common Stock of Circuits Processing Technology, Inc. for Company Common Stock. This transaction was accounted for as a purchase and did not have a material impact on operations.

NOTE C - INVENTORIES

Inventories in the consolidated balance sheets are summarized as follows:

| (Dollars in thousands) | DECEMBER 31 | |
|----------------------------------|-------------|----------|
| | 1997 | 1996 |
| Principally average cost: | ----- | ----- |
| Raw materials and supplies..... | \$17,331 | \$20,210 |
| In process..... | 58,666 | 55,242 |
| Finished..... | 37,008 | 42,536 |
| | ----- | ----- |
| | 113,005 | 117,988 |
| Excess of average cost over LIFO | | |
| inventory value..... | 22,291 | 21,664 |
| | ----- | ----- |
| | \$90,714 | \$96,324 |
| | ===== | ===== |

Inventories aggregating \$66,221,000 and \$67,730,000 are stated at LIFO at December 31, 1997 and 1996, respectively.

NOTE D - INTEREST

Interest expense associated with active construction and mine development projects is capitalized and amortized over the future useful lives of the related assets. Interest paid was \$2,560,000, \$2,168,000 and \$2,284,000 in 1997, 1996 and 1995, respectively. Interest costs capitalized and the amounts amortized are as follows:

| (Dollars in thousands) | 1997 | 1996 | 1995 |
|------------------------------------|---------|---------|---------|
| | ----- | ----- | ----- |
| Interest incurred..... | \$2,371 | \$2,103 | \$2,099 |
| Less capitalized interest..... | 1,818 | 975 | 446 |
| | ----- | ----- | ----- |
| | \$ 553 | \$1,128 | \$1,653 |
| | ===== | ===== | ===== |
| Amortization, included principally | | | |
| in cost of sales..... | \$ 600 | \$ 573 | \$ 578 |
| | ===== | ===== | ===== |

In 1986, the Company purchased company-owned life insurance policies insuring the lives of certain United States employees. The contracts are recorded at cash surrender value, net of policy loans, in other assets. The net contract (income) expense, including interest expense recorded in Selling, Administrative and General expenses, was \$1,075,000, (\$190,000) and \$954,000 in 1997, 1996 and 1995, respectively. The related interest expense was \$3,081,000, \$5,115,000 and \$4,788,000, respectively.

NOTE E - DEBT

A summary of long-term debt follows:

| (Dollars in thousands) | DECEMBER 31 | |
|--|-------------|----------|
| | 1997 | 1996 |
| | ---- | ---- |
| 9.60% - 9.68% medium-term notes, \$5 million | | |
| payable in each of 1997 and 2000..... | \$ 5,000 | \$10,000 |
| Variable rate industrial development revenue bonds | | |
| payable in installments beginning in 2005..... | 3,000 | 3,000 |
| 5.45% - 6.45% industrial development revenue bonds | | |
| payable in equal installments through 2000..... | 2,400 | 3,200 |
| Variable rate industrial development | | |
| revenue bonds payable in 2016..... | 8,305 | 8,305 |
| Variable rate note payable in equal installments | | |
| through 1999 (paid off in 1997)..... | 0 | 253 |
| | ----- | ----- |
| 4.90% note payable in yen in equal installments | | |
| through 1997 (converted to short-term debt)..... | 0 | 706 |

| | | |
|--|----------|----------|
| | ----- | ----- |
| | 18,705 | 25,464 |
| Current portion of long-term debt..... | (800) | (6,604) |
| | ----- | ----- |
| | \$17,905 | \$18,860 |
| | ===== | ===== |

Maturities on long-term debt instruments as of December 31, 1997, are as follows:

| | | |
|-----------------|-------|--------|
| 1998..... | \$ | 800 |
| 1999..... | | 800 |
| 2000..... | | 5,800 |
| 2001..... | | 0 |
| 2002..... | | 0 |
| Thereafter..... | | 11,305 |
| | ----- | |
| | \$ | 18,705 |
| | ===== | |

The Company has a revolving credit agreement with five banks which provides a maximum availability of \$55,000,000 through April 30, 2000. At December 31, 1997, there were no borrowings outstanding against this agreement.

The Company established a \$10,000,000 multi-currency line of credit during 1997. At December 31, 1997 a short-term loan of 513,600,000 yen (\$3,948,000) was outstanding.

Included in short-term debt is \$28,077,000 (\$19,066,000 at December 31, 1996) outstanding under lines of credit totaling \$82,894,000 (\$114,612,000 at December 31, 1996). The \$82,894,000 lines of credit consist of \$40,000,000, \$35,519,000 and \$7,375,000 of domestic, foreign and precious metal (primarily gold) denominated debt respectively. The domestic lines of \$40,000,000 are uncommitted, unsecured and renewed annually. The foreign lines are uncommitted, unsecured and renewed annually. The precious metal facility is secured and renewed annually. Of the amount outstanding, \$20,702,000 is payable in foreign currencies and \$7,375,000 is denominated in precious metal, primarily gold. Also included in short-term debt is \$800,000 representing the current maturity of an industrial development revenue bond. The average rate on short-term debt was 3.0% and 3.5% as of December 31, 1997 and 1996, respectively.

NOTES TO CONSOLIDATED STATEMENTS (CONTINUED)

The Company has a private placement agreement whereby the Company can issue up to an aggregate of \$75,000,000 of medium-term notes (\$5,000,000 outstanding at December 31, 1997). The notes bear a fixed interest rate and may have maturities from nine months to thirty years from date of issue as agreed upon in each case by the purchaser and the Company.

During November 1996, the Company entered into an agreement with the Lorain Port Authority, Ohio to issue \$8,305,000 in variable rate industrial revenue bonds, maturing in 2016. The variable rate ranged from 3.32% to 4.79% during 1997.

During December 1995, the Company entered into an interest rate swap agreement to manage its interest rate exposure on the \$3,000,000 variable rate industrial development revenue bond. The Company converted the variable rate to a fixed rate of 6.03% under the interest rate swap agreement that matures in 2002.

The loan agreements include certain restrictive covenants covering the incurrence of additional debt, interest coverage, and maintenance of working capital, tangible net worth (as defined) and debt to earnings ratio.

NOTE F - LEASING ARRANGEMENTS

The Company leases warehouse and manufacturing space, and manufacturing and computer equipment under operating leases with terms ranging up to 25 years. Rent expense amounted to \$4.3 million, \$4.7 million and \$ 4.1 million during 1997, 1996, and 1995, respectively. The future estimated minimum lease payments under non-cancelable operating leases with initial lease terms in excess of one year at December 31, 1997, are as follows: 1998 - \$3.6 million; 1999 - \$ 7.6 million; 2000 - \$ 7.4 million; 2001 - \$7.1 million; 2002 - \$ 3.1 million; and thereafter - \$22.3 million.

The Company has agreements for the construction and operating leases of a production facility and certain equipment to be located in that facility. The new facility and related equipment will be owned by third parties and have an estimated cost of \$81.1 million. Start-up of this facility, which will be phased in over time, began in the fourth quarter of 1997. Lease payments for the facility continue through 2011 with options for renewal. Lease payments of the related equipment commence in 1999 and continue through the initial lease term expiring in 2001. The Company has options to renew the lease of the equipment for seven one-year periods and to purchase the equipment for its estimated fair value at the end of each term. The lease provides for a substantial residual value guarantee by the Company at the termination of the lease.

The Company has guaranteed performance under the construction contracts for the building and equipment. The estimated minimum payments under these leases are included in the preceding paragraph.

The lease agreements include restrictive covenants covering certain liquidity ratios, maintenance of tangible net worth (as defined) and maximum rental expenses.

NOTE G - DERIVATIVE FINANCIAL INSTRUMENTS AND FAIR VALUE INFORMATION

DERIVATIVE FINANCIAL INSTRUMENTS

The Company has a program in place to manage foreign currency risk. As part of that program, the Company has entered into forward contracts to hedge anticipated foreign currency transactions, primarily foreign sales. The purpose of the program is to protect against the reduction in value of the foreign currency transactions from adverse exchange rate movements. Should the dollar strengthen significantly, the decrease in the value of the foreign currency transactions will be partially offset by the gains on the hedge contracts.

All hedge contracts mature in two years or less. At year end, the Company was in a net unrealized gain position on its forward contracts that was not material to the Company. Therefore, the fair market value of the forward contracts approximates their nominal value as of the balance sheet date. The contracted amounts of the Company's outstanding forward contracts as of December 31, 1997 and December 31, 1996 were as follows:

| (DOLLARS IN THOUSANDS) | 1997 | 1996 |
|------------------------|-----------|-----------|
| Currency: | ----- | ----- |
| Deutschemark..... | \$ 10,650 | \$ 9,300 |
| Yen..... | 10,950 | 7,400 |
| Sterling..... | 4,328 | 8,293 |
| | ----- | ----- |
| Total..... | \$ 25,928 | \$ 24,993 |
| | ===== | ===== |

CASH AND CASH EQUIVALENTS

Included in cash equivalents at December 31, 1996 were \$12.4 million in variable rate demand notes which are investments in debt securities that are revalued every seven days and puttable to the remarketing agent with seven days' notice. The notes are guaranteed by letters of credit from highly rated financial institutions. The carrying amounts reported in the balance sheet for cash and cash equivalents approximate fair value. There were no investments of this type at December 31, 1997.

LONG- AND SHORT-TERM DEBT

The fair value of the Company's debt (which had a carrying value of \$46,782,000) at December 31, 1997 was estimated at \$48,289,000 using a discounted cash flow analysis based on the Company's current incremental borrowing rates for similar types of borrowing arrangements. At December 31, 1996, the fair value of the Company's \$44,530,000 of debt was estimated at \$45,915,000 using the same procedure.

OTHER SWAP ARRANGEMENTS

The Company has commodity swap agreements to hedge a portion of anticipated copper purchases through 1999. Under these agreements, the Company receives or makes payments based on the difference between a specified price and the market price of copper. The fair value of these contracts at December 31, 1997 was \$11.9 million (notional amount \$12.9 million).

INTEREST RATE SWAP AGREEMENTS

In December, 1996, the Company entered into an interest rate swap agreement to hedge the variable rate payments to be made during the initial

term of an equipment lease (see Note F to the Consolidated Financial Statements). The Company has accounted for the swap as a hedge effectively fixing the estimated lease payments through the initial lease term. The fair value of this contract was a negative \$1.2 million at December 31, 1997. The fair value approximated the notional value at December 31, 1996.

In December 1995, the Company entered into an interest rate swap, converting to a fixed rate from a variable rate on a \$3,000,000 industrial revenue development bond. The fair value of this swap at December 31, 1997 and December 31, 1996 approximated its notional value.

NOTE H - CAPITAL STOCK

The Company has 5,000,000 shares of Serial Preferred Stock authorized (no par value), none of which has been issued. Certain terms of the Serial Preferred Stock, including dividends, redemption and conversion, will be determined by the Board of Directors prior to issuance.

On January 27, 1998, the Company's Board of Directors adopted a new share purchase rights plan and declared a dividend distribution of one right for each share of Common Stock outstanding as of the close of business on February 9, 1998. The plan allows for new shares issued after February 9, 1998 to receive one right subject to certain limitations and exceptions. Each right entitles the shareholder to buy one one-hundredth of a share of Serial Preferred Stock, Series A, at an initial exercise price of \$110. 450,000 unissued shares of Serial Preferred Stock will be designated as Series A Preferred Stock. Each share of Series A Preferred Stock will be entitled to participate in dividends on an equivalent basis with one hundred shares of Common Stock. Each share of Series A Preferred Stock will be entitled to one vote. The rights will not be exercisable and will not be evidenced by separate right certificates until a specified time after any person or group acquires beneficial ownership of 20% or more (or announces a tender offer for 20% or more) of Brush Wellman Common Stock. The rights expire on January 27, 2008, and can be redeemed for 1 cent per right under certain circumstances.

In May 1997, the Company's Board of Directors authorized the repurchase of up to 1,000,000 shares of its Common Stock (not to exceed 250,000 shares per year) over a four year period. Through December 31, 1997, the Company repurchased 205,600 shares at a total cost of \$4.9 million.

In December 1995, the Company's Board of Directors authorized a repurchase of up to 1,000,000 shares of its Common Stock. Through December 31, 1996, the Company repurchased 524,400 shares at a total cost of \$9,481,000 under this program. In May 1996, the Company's Board of Directors withdrew the authority for additional share re-purchases.

The 1995 Stock Incentive Plan authorizes the granting of five categories of incentive awards: performance restricted shares, performance shares, performance units, restricted shares and option rights. In 1997, a total of 9,000 special restricted shares (1,200 were subsequently forfeited) were granted to certain employees. In 1996, a total of 116,653 performance restricted shares and 118,127 performance shares were granted to certain employees. The market value of the performance restricted shares and the performance shares adjusted for management's expectation of reaching the Management Objectives as outlined in the plan agreement, and the related dividends on the performance restricted shares have been recorded as deferred compensation-restricted stock and are a component of other equity transactions of shareholders' equity. Deferred compensation is amortized over the vesting period and amounted to \$270,000 and \$188,000 in 1997 and 1996, respectively.

Option rights entitle the optionee to purchase common shares at a price equal to or greater than market value on the date of grant. Option rights outstanding under the 1995 Stock Incentive Plan and previous plans generally become exercisable over a four-year period and expire ten years from the date of the grant. In 1995, the Company's right to grant options on a total of 228,565 shares (under the Company's 1979, 1984 and 1989 stock option plans) were terminated upon shareholder approval of the 1995 Stock Incentive Plan. No further stock awards will be made under the Company's 1979, 1984 and 1989 stock option plans except to the extent that shares become available for grant under these plans by reason of termination of options previously granted.

The 1990 Stock Option Plan for Non-Employee Directors provides for a one-time grant of 5,000 options to each non-employee director at an option price equal to the fair market value of the shares at the date of the grant. Options are non-qualified and become exercisable six months after the date of grant. The options generally expire ten years after the date they were granted.

The Company has adopted the disclosure-only provisions of SFAS No. 123, "Accounting for Stock Based Compensation", but applies APB Opinion No. 25 and related interpretation in accounting for its stock incentive plan. If the Company had elected to recognize compensation expense for its stock incentive plan awards based on the estimated fair value of the awards on the grant dates, consistent with the method prescribed by SFAS No. 123 by amortizing the expense over the options' vesting periods, the pro forma net income and earnings per share (E.P.S.) would have been as noted below:

| (IN THOUSANDS OF DOLLARS) | | 1997 | 1996 | 1995 |
|---------------------------|-------------|----------|----------|----------|
| Net income | As reported | \$25,597 | \$24,491 | \$20,689 |
| | Pro forma | \$25,263 | \$24,255 | \$20,662 |
| Basic E.P.S. | As reported | \$ 1.58 | \$ 1.55 | \$ 1.28 |
| | Pro forma | \$ 1.56 | \$ 1.53 | \$ 1.28 |
| Diluted E.P.S. | As reported | \$ 1.56 | \$ 1.53 | \$ 1.27 |
| | Pro forma | \$ 1.54 | \$ 1.52 | \$ 1.27 |

Note: The pro forma disclosures shown are not representative of the effects on net income and earnings per share in future years.

The weighted average fair value of the Company's stock options used to compute the pro forma net income and earnings per share disclosures is \$4.99, \$5.96 and \$5.48 for 1997, 1996 and 1995, respectively. The fair

Notes to Consolidated Statements continued

value is the estimated present value at grant date using the Black-Scholes option-pricing model with the following weighted average assumptions for the various grants in 1997, 1996 and 1995:

| | 1997 | 1996 | 1995 |
|------------------------------|---------|----------|---------|
| Risk-free interest rate..... | 6.15% | 6.88% | 7.75% |
| Dividend yield..... | 2.00% | 2.03% | 1.54% |
| Volatility of stock..... | 29.90% | 29.35% | 30.90% |
| Expected life of option..... | 4 years | 10 years | 4 years |

A summary of option activity during the years 1997, 1996 and 1995 follows:

| | Shares | Range of Option Prices | Weighted Avg. Exercise Price |
|---------------------------------------|-----------|---------------------------|---------------------------------|
| Outstanding at December 31, 1994..... | 1,578,300 | \$11.81 to \$38.94 | \$18.58 |
| Granted..... | 210,400 | \$17.69 to \$19.81 | \$17.74 |
| Exercised..... | (71,270) | \$12.00 to \$17.25 | \$13.77 |
| Canceled..... | (55,690) | \$12.00 to \$38.94 | \$29.34 |
| Outstanding at December 31, 1995..... | 1,661,740 | \$11.81 to \$38.94 | \$18.32 |
| Granted..... | 35,000 | \$18.63 to \$19.06 | \$18.69 |
| Exercised..... | (93,710) | \$12.00 to \$15.75 | \$13.93 |
| Canceled..... | (58,460) | \$12.00 to \$38.94 | \$30.98 |
| Outstanding at December 31, 1996..... | 1,544,570 | \$11.81 to \$38.94 | \$18.12 |
| Granted..... | 212,550 | \$18.13 to \$21.81 | \$18.26 |
| Exercised..... | (309,696) | \$12.00 to \$22.06 | \$16.65 |
| Canceled..... | (107,040) | \$13.56 to \$38.94 | \$28.79 |
| Outstanding at December 31, 1997..... | 1,340,384 | \$11.81 to \$29.94 | \$17.62 |

At December 31, 1997, options for 1,141,774 shares (1,375,730 shares at December 31, 1996) were exercisable with a weighted average remaining life of 5.5 years and 4.9 years for 1997 and 1996, respectively, and a weighted average exercise price of \$17.58 and \$18.28 for 1997 and 1996, respectively. The outstanding options as of December 31, 1997, may be divided into the following ranges:

| Range of Option Prices | Outstanding | Exercisable | Average Remaining Life |
|---------------------------|-------------|-------------|---------------------------|
| \$11.81 to \$17.69 | 789,334 | 724,274 | 5.06 |
| \$18.63 to \$25.50 | 544,050 | 410,500 | 6.16 |
| \$28.38 to \$29.94 | 7,000 | 7,000 | 0.79 |
| Total | 1,340,384 | 1,141,774 | |

As of December 31, 1997, there were 194,757 shares (334,112 at December 31, 1996) available for future grants.

NOTE I - INCOME TAXES

Income before income taxes and income taxes are comprised of the following components, respectively:

| (DOLLARS IN THOUSANDS) | 1997 | 1996 | 1995 |
|--------------------------------|----------|----------|----------|
| Income before income taxes: | | | |
| Domestic..... | \$30,993 | \$28,750 | \$20,480 |
| Foreign..... | 4,478 | 4,427 | 6,953 |
| Total before income taxes..... | \$35,471 | \$33,177 | \$27,433 |
| Income taxes: | | | |
| Current income taxes: | | | |
| Domestic..... | \$ 5,982 | \$ 7,736 | \$6,779 |
| Foreign..... | 2,524 | 2,089 | 2,768 |
| Total current..... | 8,506 | 9,825 | 9,547 |
| Deferred income taxes: | | | |
| Principally domestic..... | 1,368 | (1,139) | (2,803) |
| Total income taxes..... | \$ 9,874 | \$ 8,686 | \$ 6,744 |

A reconciliation of the federal statutory and effective income tax rates follows:

| | 1997 | 1996 | 1995 |
|---------------------------------------|-------|-------|-------|
| | ---- | ---- | ---- |
| Federal statutory rate | 35.0% | 35.0% | 35.0% |
| State and local income taxes, net | | | |
| of federal tax effect..... | 1.7 | 1.1 | 2.1 |
| Effect of excess of percentage | | | |
| depletion over cost depletion..... | (5.5) | (4.9) | (5.5) |
| Company-owned life insurance..... | (1.5) | (3.6) | (4.9) |
| Difference due to book and tax basis | | | |
| of assets of acquired businesses..... | 0.4 | 1.1 | 0.4 |
| Taxes on foreign income - net..... | (1.2) | (1.2) | (2.2) |
| Other items..... | (1.1) | (1.3) | (0.3) |
| | ---- | ---- | ---- |
| Effective tax rate..... | 27.8% | 26.2% | 24.6% |
| | ===== | ===== | ===== |

Included in income taxes currently payable, as shown in the Consolidated Statements of Income, are \$935,000, \$585,000 and \$904,000 of state and local income taxes in 1997, 1996 and 1995, respectively.

The Company made domestic and foreign income tax payments, net of refunds, of \$10,507,000, \$11,144,000 and \$8,087,000 in 1997, 1996 and 1995, respectively.

Under Statement 109, deferred tax assets and liabilities are determined based on temporary differences between the financial reporting bases and the tax bases of assets and liabilities. Deferred tax assets and (liabilities) recorded in the consolidated balance sheets consist of the following at December 31:

| (DOLLARS IN THOUSANDS) | 1997 | 1996 |
|---|----------|----------|
| | ----- | ----- |
| Postretirement benefits other than pensions | \$12,455 | \$12,391 |
| Alternative minimum tax credit..... | 5,582 | 5,155 |
| Other reserves..... | 7,095 | 6,592 |
| Environmental reserves..... | 1,666 | 1,236 |
| Inventory | -- | 380 |
| Miscellaneous..... | 652 | 744 |
| | ----- | ----- |
| Total deferred tax assets..... | 27,450 | 26,498 |
| | | |
| Depreciation..... | (9,765) | (9,693) |
| Pensions..... | (3,946) | (3,851) |
| Mine development..... | (4,139) | (2,005) |
| Capitalized interest expense..... | (1,179) | (1,358) |
| Inventory | (198) | -- |
| | ----- | ----- |
| Total deferred tax liabilities..... | (19,227) | (16,907) |
| | ----- | ----- |
| Net deferred tax asset | \$ 8,223 | \$ 9,591 |
| | ===== | ===== |

NOTE J - EARNINGS PER SHARE

Years ended December 31, 1997, 1996, and 1995.

The following table sets forth the computation of basic and diluted earnings per share (E.P.S.):

| | 1997 | 1996 | 1995 |
|---|--------------|--------------|---------------|
| | ----- | ----- | ----- |
| Numerator for basic and diluted E.P.S.: | | | |
| Net income..... | \$25,597,000 | \$24,491,000 | \$ 20,689,000 |
| Denominator: | | | |
| Denominator for basic E.P.S. | | | |
| Weighted-average shares | | | |
| outstanding..... | 16,214,718 | 15,846,358 | 16,159,508 |
| Effect of diluted securities: | | | |
| Employee stock options..... | 194,189 | 112,440 | 129,859 |
| Performance restricted stock | 18,680 | 12,857 | 428 |
| Special restricted stock..... | 1,881 | 8,826 | -- |
| | ----- | ----- | ----- |
| Diluted potential common shares..... | 214,750 | 134,123 | 130,287 |
| Denominator for diluted E.P.S. | | | |
| Adjusted weighted-average shares | | | |
| outstanding..... | 16,429,468 | 15,980,481 | 16,289,795 |
| | ===== | ===== | ===== |
| Basic E.P.S..... | \$1.58 | \$1.55 | \$1.28 |
| | ===== | ===== | ===== |
| Diluted E.P.S..... | \$1.56 | \$1.53 | \$1.27 |
| | ===== | ===== | ===== |

NOTE K - PENSIONS

The Company and its subsidiaries have noncontributory pension plans covering substantially all U.S. employees. Plans provide benefits based on the participants' years of service and compensation or stated amounts for each year of service. The Company's funding policy is to make the minimum actuarially computed annual contributions required by applicable regulations. No contributions were made in 1997, 1996 or 1995.

A summary of the components of net periodic pension cost (credits) for pension plans follows (in thousands):

| DEFINED BENEFIT PLANS: | 1997 | 1996 | 1995 |
|------------------------------------|----------|----------|----------|
| Service cost-benefits earned | | | |
| during the year..... | \$ 2,509 | \$2,591 | \$ 1,942 |
| Interest cost on projected | | | |
| benefit obligation..... | 4,916 | 4,958 | 4,512 |
| Actual return (increase)/decrease | | | |
| on plan assets..... | (15,433) | (11,084) | (12,684) |
| Net amortization and deferral..... | 7,903 | 3,890 | 5,759 |
| | ----- | ----- | ----- |
| Total (credit) expense..... | \$ (105) | \$ 355 | \$ (471) |
| | ===== | ===== | ===== |

The following table sets forth the funded status of the Company's plans and the amounts recognized in the consolidated balance sheets at December 31 (in thousands):

| | PLANS WHOSE ASSETS EXCEED ACCUMULATED BENEFITS | |
|---|--|-----------|
| | 1997 | 1996 |
| Actuarial present value of benefit obligations: | | |
| Vested benefit obligation..... | \$54,983 | \$ 51,898 |
| | ===== | ===== |
| Accumulated benefit obligation..... | \$58,688 | \$ 56,288 |
| | ===== | ===== |
| Plan assets at fair value..... | \$96,372 | \$ 84,819 |
| Projected benefit obligation..... | (70,665) | (68,264) |
| | ----- | ----- |
| Plan assets in excess of projected benefit obligation.... | 25,707 | 16,555 |
| Unrecognized net (gain) or loss..... | (13,772) | (3,577) |
| Unrecognized net assets, at date of adopting SFAS 87, net of amortization..... | (3,308) | (4,015) |
| Unrecognized prior service cost..... | 2,980 | 2,365 |
| | ----- | ----- |
| Net pension asset recognized at December 31.... | \$11,607 | \$ 11,328 |
| | ===== | ===== |

Assumptions used in accounting for the pension plans were:

| | 1997 | 1996 | 1995 |
|--|-------|-------|-------|
| | ---- | ---- | ---- |
| Weighted-average discount rate..... | 7.25% | 7.50% | 7.25% |
| Rate of increase in compensation levels..... | 5% | 5% | 5% |
| Expected long-term rate of return on assets..... | 9% | 9% | 9% |

Plan assets consist primarily of listed common stocks, corporate and government bonds and short-term investments.

The Company also has accrued unfunded retirement arrangements for certain U.S. employees and directors. At December 31, 1997, the projected benefit obligation was \$2,041,000 (\$1,910,000 in 1996). A corresponding accumulated benefit obligation of \$1,835,000 (\$1,747,000 in 1996) has

NOTES TO CONSOLIDATED STATEMENTS (CONTINUED)

been recognized as a liability in the balance sheet and is included in retirement and post-employment benefits. Certain foreign subsidiaries have funded and accrued unfunded retirement arrangements which are not material to the consolidated financial statements.

The Company also sponsors a defined contribution plan available to substantially all U.S. employees. Company contributions to the plan are based on matching a percentage of employee savings up to a specified savings level. The Company's contribution was \$2,207,000 in 1997, \$1,844,000 in 1996 and \$1,683,000 in 1995.

NOTE L - OTHER POSTRETIREMENT BENEFIT PLANS

In addition to the Company's defined benefit pension plans and deferred contribution plans, the Company currently provides postretirement medical and death benefits to certain full-time employees and spouses, excluding those of subsidiaries. Employees hired on or after January 3, 1994 are not eligible for postretirement health benefits. The Company also provides medical benefits to certain retired employees and spouses from an operation that was divested in 1985.

Covered employees become eligible at age 55 with 10 years of service. Certain employees, excluding those of subsidiaries, who retired after June 30, 1992 receive credits, based on years of service up to 30, to be used toward the purchase of medical benefits. Contributions toward the cost of medical benefits are required from retirees with less than 30 years of service and also for increases in the cost of medical benefits due to inflation. Employees who retired prior to July 1, 1992 generally had less stringent eligibility criteria and contribution rates, and account for the majority of the postretirement benefit obligation.

The following table presents the plan's funded status and the amounts recognized in the Company's consolidated balance sheets (in thousands):

| | DECEMBER 31, 1997 | 1996 |
|--|----------------------|----------|
| | ---- | ---- |
| Actuarial present value of accumulated postretirement benefit obligation: | | |
| Retirees..... | \$21,505 | \$22,477 |
| Fully eligible active plan participants..... | 5,382 | 5,371 |
| Other active plan participants..... | 3,888 | 3,995 |
| | ----- | ----- |
| | 30,775 | 31,843 |
| Plan assets..... | -- | -- |
| Unrecognized net gain/(loss)..... | 5,875 | 4,612 |
| | ----- | ----- |
| Accrued postretirement benefit obligation..... | \$36,650 | \$36,455 |
| | ===== | ===== |

Net periodic postretirement benefit cost includes the following components (in thousands):

| | 1997 | 1996 | 1995 |
|--|---------|---------|---------|
| | ---- | ---- | ---- |
| Service cost..... | \$ 312 | \$ 385 | \$ 304 |
| Interest cost..... | 2,174 | 2,277 | 2,409 |
| Amortization of (gain)/loss..... | (230) | (25) | (140) |
| | ----- | ----- | ----- |
| Net periodic postretirement benefit cost | \$2,256 | \$2,637 | \$2,573 |
| | ===== | ===== | ===== |

The weighted-average annual assumed rate of increase in the per capita cost of covered benefits (i.e., health care cost trend rate) used in determining the accumulated postretirement benefit obligation as of December 31, 1997 is 6.25% for retirees age 65 and over and 8.00% for retirees under age 65 in 1998, and both are assumed to decrease gradually to 4.75% until 2005 and remain at that level thereafter. The health care cost trend rate assumption has a significant effect on the amounts reported. For example, increasing the assumed health care cost trend rates by one percentage point in each year would increase the accumulated postretirement benefit obligation as of December 31, 1997 by \$1,773,000 and the aggregate of the service and interest cost components of net periodic postretirement benefit cost for 1997 by \$121,000. This increase would apply only to employees who retired prior to July 1, 1992.

The weighted-average discount rate used in determining the accumulated postretirement benefit obligation was 7.25% at December 31, 1997, 7.50% at December 31, 1996 and 7.25% at December 31, 1995.

NOTE M - CONTINGENCIES AND COMMITMENTS

The Company is from time to time involved in various legal and other proceedings that relate to the ordinary course of operating its business, including, but not limited to: employment-related actions; product liability claims; and workers' compensation claims.

While the Company is unable to predict the outcome of current proceedings, based upon the facts currently known to it, the Company does not believe that resolution of these proceedings will have a material adverse effect on the financial condition or operations of the Company.

The Company has an active program for environmental compliance which includes the identification of environmental projects and estimating their impact on the Company's financial performance and available resources. Environmental expenditures that relate to current operations, such as wastewater treatment and control of airborne emissions, are either expensed or capitalized as appropriate. For projects involving remediation, estimates of the probable costs are made and the Company established undiscounted reserves of \$5.1 million at December 31, 1997 (\$4.0 million at December 31, 1996). These reserves cover existing or currently foreseen projects. Expenditures are charged to the reserve which is adjusted from time to time as additional projects are identified and for which probable costs of remediation can be estimated. The current portion of the reserve is included in the balance sheet as other liabilities and accrued items while the long-term portion is included under other long-term liabilities.

As of December 31, 1997, the Company has outstanding commitments of \$8.2 million to purchase capital equipment.

NOTES TO CONSOLIDATED STATEMENTS (CONTINUED)

Note N - OPERATIONS BY GEOGRAPHIC AREA

Years ended December 31, 1997, 1996 and 1995

(Dollars in thousands)

| | 1997 | | | |
|---|---------------------------------------|---|-------------------------------|--------------|
| | OPERATIONS IN THE UNITED STATES | INTERNATIONAL DISTRIBUTION SUBSIDIARIES | ADJUSTMENTS & ELIMINATIONS | CONSOLIDATED |
| Sales to unaffiliated customers..... | \$345,100 | \$ 88,701 | | \$433,801 |
| Transfers between operations..... | 62,844 | | (\$62,844) | |
| Net Sales..... | \$407,944 | \$88,701 | (\$62,844) | \$433,801 |
| | ===== | ===== | ===== | ===== |
| Operating profit (loss) | \$ 33,438 | \$ 4,888 | (\$ 2,302) | \$ 36,024 |
| | ===== | ===== | ===== | |
| Interest expense..... | | | | (553) |
| | | | | ----- |
| Income before income taxes..... | | | | 35,471 |
| | | | | ===== |
| Identifiable assets at December 31, 1997..... | \$321,760 | \$45,606 | (\$ 4,449) | \$362,917 |
| | ===== | ===== | ===== | |
| Corporate assets..... | | | | 20,935 |
| | | | | ----- |
| Total assets at December 31, 1997..... | | | | \$383,852 |
| | | | | ===== |
| | | | | |
| | 1996 | | | |
| | OPERATIONS IN THE UNITED STATES | INTERNATIONAL DISTRIBUTION SUBSIDIARIES | ADJUSTMENTS & ELIMINATIONS | CONSOLIDATED |
| Sales to unaffiliated customers..... | \$ 301,451 | \$ 74,828 | | \$ 376,279 |
| Transfers between operations..... | 43,190 | | (\$43,190) | |
| Net Sales..... | \$ 344,641 | \$ 74,828 | (\$43,190) | \$ 376,279 |
| | ===== | ===== | ===== | ===== |
| Operating profit (loss) | \$ 29,591 | \$ 4,783 | (\$ 69) | \$ 34,305 |
| | ===== | ===== | ===== | ===== |
| Interest expense..... | | | | (1,128) |
| | | | | ===== |
| Income before income taxes..... | | | | \$ 33,177 |
| Identifiable assets at December 31, 1996..... | \$298,832 | \$43,812 | (\$ 5,237) | \$ 337,407 |
| | ===== | ===== | ===== | ===== |
| Corporate assets..... | | | | 18,372 |
| | | | | ----- |
| Total assets at December 31, 1996..... | | | | \$ 355,779 |
| | | | | ===== |
| | | | | |
| | 1995 | | | |
| | OPERATIONS IN THE UNITED STATES | INTERNATIONAL DISTRIBUTION SUBSIDIARIES | ADJUSTMENTS & ELIMINATIONS | CONSOLIDATED |
| Sales to unaffiliated customers..... | \$278,455 | \$91,163 | | \$369,618 |
| Transfers between operations..... | 54,065 | | (\$54,065) | |
| Net Sales..... | \$332,520 | \$91,163 | (\$54,065) | \$369,618 |
| | ===== | ===== | ===== | ===== |
| Operating profit (loss) | \$ 24,932 | \$ 7,378 | (\$3,224) | \$ 29,086 |
| | ===== | ===== | ===== | ===== |
| Interest expense..... | | | | (1,653) |
| | | | | ===== |
| Income before income taxes..... | | | | \$ 27,433 |
| Identifiable assets at December 31, 1995..... | \$287,977 | \$44,718 | (\$ 4,835) | \$327,860 |
| | ===== | ===== | ===== | ===== |
| Corporate assets..... | | | | 3,993 |
| | | | | ----- |
| Total assets at December 31, 1995..... | | | | \$331,853 |
| | | | | ===== |

Transfers between operations are accounted for in the same manner as sales to unaffiliated customers. Corporate assets are principally cash and cash equivalents, property, plant and equipment, and investments.

Total international sales were \$142,423,000 in 1997, \$108,402,000 in 1996, and \$127,289,000 in 1995. These are comprised of exports from United States operations and direct sales by international distribution subsidiaries, primarily in Europe. Most of these sales represent products manufactured in the United States.

Export sales from United States operations amounted to \$53,722,000 in 1997, \$33,574,000 in 1996, and \$36,126,000 in 1995.

Notes to Consolidated Statements (continued)

NOTE O - QUARTERLY DATA (UNAUDITED)

Years ended December 31, 1997 and 1996

(Dollars in thousands except per share amounts)

| | 1997 | | | | |
|---|------------------|-------------------|------------------|-------------------|------------|
| | First Quarter | Second Quarter | Third Quarter | Fourth Quarter | Total |
| Net Sales..... | \$99,688 | \$ 113,374 | \$ 109,073 | \$ 111,666 | \$ 433,801 |
| Gross Profit..... | 25,691 | 29,786 | 27,227 | 30,305 | 113,009 |
| Percent of Sales | 25.8% | 26.3% | 25.0% | 27.1% | 26.1% |
| Net Income | 6,490 | 7,489 | 3,989 | 7,629 | 25,597 |
| Earnings Per Share of Common Stock: | | | | | |
| Basic | 0.40 | 0.46 | 0.25 | 0.47 | 1.58 |
| Diluted | 0.40 | 0.46 | 0.24 | 0.46 | 1.56 |
| Dividends Per Share of Common Stock | 0.11 | 0.11 | 0.12 | 0.12 | 0.46 |
| Stock price range | | | | | |
| High..... | 19.25 | 22.13 | 26.81 | 25.87 | |
| Low | 16.25 | 17.75 | 20.94 | 23.06 | |

| | 1996 | | | | |
|--|------------------|-------------------|------------------|-------------------|-----------|
| | First Quarter | Second Quarter | Third Quarter | Fourth Quarter | Total |
| Net Sales..... | \$93,801 | \$104,349 | \$88,312 | \$89,817 | \$376,279 |
| Gross Profit..... | 24,793 | 31,649 | 23,728 | 28,396 | 108,566 |
| Percent of Sales..... | 26.4% | 30.3% | 26.9% | 31.6% | 28.9% |
| Net Income..... | 5,155 | 8,144 | 4,565 | 6,627 | 24,491 |
| Earnings Per Share of Common Stock: | | | | | |
| Basic..... | 0.33 | 0.52 | 0.29 | 0.41 | 1.55 |
| Diluted..... | 0.32 | 0.51 | 0.29 | 0.41 | 1.53 |
| Dividends Per Share of Common Stock..... | 0.10 | 0.10 | 0.11 | 0.11 | 0.42 |
| Stock price range | | | | | |
| High..... | 19.88 | 19.38 | 20.50 | 19.50 | |
| Low..... | 17.00 | 17.25 | 17.88 | 16.13 | |

REPORT OF ERNST & YOUNG LLP INDEPENDENT AUDITORS

Board of Directors and Shareholders
Brush Wellman Inc.

We have audited the accompanying consolidated balance sheets of Brush Wellman Inc. and subsidiaries as of December 31, 1997 and 1996, and the related consolidated statements of income, shareholders' equity, and cash flows for each of the three years in the period ended December 31, 1997. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with generally accepted auditing standards. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the consolidated financial position of Brush Wellman Inc. and subsidiaries at December 31, 1997 and 1996, and the consolidated results of their operations and their cash flows for each of the three years in the period ended December 31, 1997 in conformity with generally accepted accounting principles.

/s/ Ernst & Young LLP

*Cleveland, Ohio
January 27, 1998*

REPORT OF MANAGEMENT

The management of Brush Wellman Inc. is responsible for the contents of the financial statements which are prepared in conformity with generally accepted accounting principles. The financial statements necessarily include amounts based on judgments and estimates. Financial information elsewhere in the annual report is consistent with that in the financial statements.

The Company maintains a comprehensive accounting system which includes controls designed to provide reasonable assurance as to the integrity and reliability of the financial records and the protection of assets. However, there are inherent limitations in the effectiveness of any system of internal controls and, therefore, it provides only reasonable assurance with respect to financial statement preparation. An internal audit staff is employed to regularly test and evaluate both internal accounting controls and operating procedures, including compliance with the Company's statement of policy regarding ethical and lawful conduct. The role of the independent auditors is to provide an objective review of the financial statements and the underlying transactions in accordance with generally accepted auditing standards.

The Audit Committee of the Board of Directors, comprised of directors who are not members of management, meets regularly with management, the independent auditors and the internal auditors to ensure that their respective responsibilities are properly discharged. The independent auditors and the internal audit staff have full and free access to the Audit Committee.

*/s/ Carl Cramer
Carl Cramer
Vice President Finance and Chief Financial Officer*

MANAGEMENT'S DISCUSSION AND ANALYSIS

FORWARD-LOOKING INFORMATION

Portions of narrative set forth in this Annual Report that are not historical in nature are forward-looking statements. The Company's actual future performance may differ from that contemplated by the forward-looking statements as a result of a variety of factors that include, in addition to those mentioned elsewhere herein, the condition of the markets which the Company services, the success of the Company's strategic plans, the timely and successful completion of pending capital expansions and the conclusion of pending litigation matters in accordance with the Company's expectation that there will be no materially adverse effects.

RESULTS OF OPERATIONS 1997 TO 1996 COMPARISON

Sales in 1997 were a record \$433.8 million, a 15% improvement over 1996 sales of \$376.3 million. Sales have increased for five consecutive years, establishing record highs in each of the past four years. Diluted earnings per share grew to \$1.56 in 1997 from \$1.53 in 1996.

Metal Systems sales, which are approximately 70% of total sales, increased in 1997 over 1996. The primary markets for these products are telecommunications, automotive and electronics. Aerospace, defense and plastic tooling are smaller, but important markets as well. Major products included in Metal Systems are beryllium, beryllium alloy strip and bulk and engineered materials. These products offer a wide variety of performance characteristics that are ideal in high reliability applications, and enable customers to improve efficiencies and lower costs. Depending upon their form and application, these products can provide superior electrical conductivity, formability, wear resistance and high strength and hardness. Applications for these materials include connectors, switches, relays, mold tooling, bushings, contacts and structural components.

Alloy strip sales posted significant gains in 1997 over 1996 in the domestic and international markets. Pounds shipped increased at a higher rate than the sale values as a large portion of the additional sales was in relatively lower priced alloys. The translation rate differences also adversely affected international sales. Strip production was near capacity for most of the year. The new casting facility in Elmore, Ohio, part of the three-year \$117 million alloy expansion project, started up on schedule late in the fourth quarter 1997. In addition to increasing capacity, this equipment is designed to lower costs and improve quality of beryllium alloy products. The strip mill portion of the expansion project is scheduled to be completed in the summer of 1998.

Sales of alloy bulk products declined year on year due to lower sales to the recreation and leisure market. The Company has now developed new alloys and marketing strategies in attempts to regain its share in this profitable, but somewhat seasonal and inconsistent, market. Bulk product sales to other markets increased slightly in 1997 over 1996. To augment the markets served by its traditional beryllium alloy bulk products, the Company recently completed construction of a new facility in Lorain, Ohio, to produce a specialty family of non-beryllium containing alloys in rod, bar and tube form. Production in limited quantities began in the fourth quarter 1997 and the facility is anticipated to be fully operational in 1998.

Sales of engineered material systems once again demonstrated strong growth in the current year continuing a five-year trend of improving revenues and profits. Engineered material systems include clad inlay or overlay metals, contour profiling of metals, electron beam welded metal systems, precious and base metal electroplating and solder-coated metal systems, or any combinations of these systems. Capital investments to support and expand these product offerings were made in 1997 and are planned to continue in 1998.

Beryllium sales also grew in 1997 from 1996. AlBeMet(R) sales, while still relatively small, increased in the current year and the Company is encouraged by its potential commercial applications. Investment cast products also offer an opportunity for growth. Beryllium metal sales, primarily for defense applications, were flat year on year.

Sales of Microelectronic Group products, which include precious metals, ceramics and thick film circuits, increased dramatically in 1997 from 1996 to account for approximately 30% of the Company's total sales. The majority of the sales growth was in precious metals, primarily physical vapor deposition targets used in the optical data storage and hybrid electronic markets. Revenues from the Company's gold refining operations increased in 1997 as well. Because of the high precious metal content, the cost of which is passed through to customers, these sales have a lower margin percent than the average margins earned on the Company's other products. While profitable, the large increase in precious metal sales has the effect of lowering the Company's overall gross margin percent.

Ceramic sales were higher in 1997 than 1996 on the strength of additional base beryllia ceramic sales to the telecommunications market. Direct bond copper sales increased slightly, but their profitability remained disappointing. Thick film circuit sales from Circuits Processing Technology, Inc. ("CPT") were a minor contributor to the increased sales in 1997 from 1996.

International operations consist of distribution centers in Germany, England and Japan, a marketing office in Singapore and a precious metal finishing facility in Singapore. In addition, in 1997, the Company entered into a joint venture in Singapore to provide slitting and distribution facilities for beryllium alloys. Sales by international operations totaled \$88.7 million in 1997 compared to \$74.8 million in 1996. Sales by these operations are predominantly in their respective currencies while the majority of the underlying cost of sales is incurred in dollars. In 1997, the U.S. dollar on average strengthened 11% against the yen and 14% against the deutschmark from 1996, thereby reducing the comparative translated value of these sales and resulting margins. The dollar's value against the yen and the deutschmark was higher at December 31, 1997 than the average value for 1997. Direct exports to unaffiliated customers were \$53.7 million in 1997 and \$33.6 million in 1996. The majority of these sales are to North America and

western Europe and are denominated in dollars. International markets are essentially the same as in the U.S.

As outlined in Note G to the Consolidated Financial Statements, the Company has a foreign currency hedge program to protect against adverse currency movements. Should the dollar strengthen significantly, the decrease in value of foreign currency transactions will be partially offset by gains on the hedge contracts. As of December 31, 1997, outstanding hedge contracts totaled \$25.9 million, compared to \$25.0 million at year end 1996.

Gross margin was \$113.0 million in 1997, a gain of \$4.4 million from 1996. However, the margin percentage declined to 26.1% of sales from 28.9%. The two major causes for the decline in the percentage were the effects of the stronger dollar and the large increase in precious metal products that carry smaller margins as previously discussed. Capacity constraints at several facilities created additional cost pressures (increased overtime, limited availability of the optimal equipment, etc.). Tempering these effects was the increase in beryllium strip sales earning greater margins. The Utah beryllium extraction facility operated at very efficient levels in 1997. The cost of copper, typically passed through to beryllium alloy customers, was essentially flat year on year. Selling prices in general were fairly stable during 1997.

Selling, administrative and general expenses were \$69.0 million or 15.9% of sales in 1997 compared to \$65.0 million or 17.2% of sales in 1996. Costs associated with the start-up of the new facility in Lorain, Ohio and charges for the company-owned life insurance program were two main causes for the increase. The expense portion of the new computer based information system project, begun in 1996, continued into 1997.

Research and development (R&D) expenses were \$7.7 million or 1.8% of sales in 1997, a decline from \$8.3 million or 2.2% of sales in 1996. Expenses were lower in 1997 in part because of reimbursements for R&D work performed under government contracts. Additionally, two major initiatives in 1996 achieved their objectives in early 1997 and, therefore, caused a reduction in expenditures. The Company is planning on increasing its investment and staffing in R&D in order to continue developing new products and technologies.

Other-net expense was \$0.3 million in 1997 and \$1.0 million in 1996. Foreign currency hedge gains were higher in 1997 than 1996 while goodwill expense was lower in 1997. Partially offsetting these benefits was an increase in the cost of financing the consigned platinum and palladium stocks that support a portion of the precious metal business. Major disruptions to the supply of metal in the international markets in the summer of 1997 caused the higher rates. By the end of 1997, financing rates had significantly declined, although they still were higher than the typically nominal rates of prior years. The Company has taken additional measures to reduce its exposures.

Interest expense was \$0.6 million in 1997 versus \$1.1 million in 1996 net of capitalized interest associated with long-term capital projects of \$1.9 million in 1997 and \$1.0 million in 1996. The higher incurred interest expense in 1997 was the result of increased borrowings, as the weighted average interest rate declined slightly in 1997 from 1996.

Income before income taxes was \$35.5 million in 1997, an increase of \$2.3 million from 1996. As explained above, this improvement was due to higher sales volume generating an increase in margin that was partially offset by an unfavorable currency effect and higher expenses.

The Company's effective tax rate was 27.8% of pre-tax earnings in 1997 compared to 26.2% in 1996. Higher earnings and a decreased tax benefit from the company-owned life insurance program caused the increase in the rate. Adjustments to the statutory tax rate are detailed in Note I to the Consolidated Financial Statements.

Comparative basic earnings per share were \$1.58 in 1997 and \$1.55 in 1996. Diluted earnings per share were \$1.56 in 1997 and \$1.53 in 1996. All earnings per share calculations have been restated to comply with SFAS No. 128, which revised the methodology for determining the weighted average shares outstanding. (See Note J to the Consolidated Financial Statements for a reconciliation of basic and diluted earnings per share.)

1996 TO 1995 COMPARISON

Worldwide sales in 1996 were \$376.3 million compared to \$369.6 million achieved in 1995. The revenue growth came primarily from domestic beryllium alloy products and engineered material systems. The resulting profits grew faster than sales, as diluted earnings per share were \$1.53 in 1996, an improvement of 20% over the prior year.

Worldwide sales of beryllium alloys increased in 1996 over 1995. Domestically, sales of beryllium copper precision strip, rod and wire were higher as shipments to the automotive electronics and telecommunications markets grew. Sales of bulk products (bar, tube, plate, custom fabricated parts) also increased in 1996, further penetrating the aerospace, plastic tooling and various industrial markets. The recreation and leisure market emerged as a potentially large application for bulk products; however, with a limited customer base, sales into this market are seasonal and inconsistent from year to year.

International sales of beryllium alloys declined in 1996 compared to 1995 as a result of softening economic conditions in Germany and other portions of western Europe. The sales growth in Japan and the Pacific rim slowed down from recent years, but modest improvements were still recorded. The stronger dollar in 1996 relative to 1995 also contributed to the reported international sales decline, as foreign currency sales are translated into fewer dollars compared to 1995. The domestic beryllium alloy growth more than offset the international decline.

Sales of engineered material systems grew in 1996 over 1995. The gains came primarily from the telecommunications market, with some

additional contribution from the automotive market as well. Semiconductor shipments were quite strong in the first part of the year, but a major market slow down adversely affected second half sales.

Precious metal sales were down in 1996 from 1995's levels, but sales in the second half 1996 were higher than in the second half 1995. An anticipated decline in frame lid assemblies occurred due to a major customer's re-design to a non-precious metal material in the second quarter 1995. Efforts to broaden the product offering have been successful through the continued development of physical/vapor deposition products and services and high temperature braze alloys. Fine wire sales remained minor. International sales declined in 1996 from 1995, reflecting the drop-off in frame lid assembly shipments.

Beryllium sales slowed slightly in 1996 as compared to 1995. Defense applications remain the largest portion of these sales, but at significantly lower levels resulting from reduced government defense spending in recent years. Commercial applications, particularly those using AlBeMet (R) (a beryllium aluminum alloy) are beginning to develop. AlBeMet(R)'s high stiffness and low density provide excellent properties for a variety of aerospace and telecommunications applications.

Ceramic sales slipped in 1996 from 1995 levels due to a slowdown in shipments of base business beryllia ceramic to the telecommunications and automotive industries. The growth in direct bond copper products was not sufficient to compensate as these products continue to experience development delays.

CPT was acquired in late October 1996 by the Company and contributed a minor amount to sales and profits. CPT, which produces thick film circuits using a proprietary etching process, gives the Company an additional entree into the micro-electronics market.

Sales from international operations totaled \$74.8 million in 1996 compared to \$91.2 million in 1995. Direct exports to unaffiliated customers totaled \$33.6 million in 1996 and \$36.1 million in 1995.

Cost of sales declined by \$1.0 million in 1996 from 1995 on higher sales, resulting in a \$7.7 million improvement in gross profit. Improved operating efficiencies, including higher yields on certain products, better utilization of available capacity, effective use of recycled materials and strong cost control measures, increased the gross margin to 28.9% of sales in 1996 from 27.3% in 1995. Stable prices and product mix helped to offset the negative margin impact of the stronger dollar. The lower copper cost in 1996, as compared to 1995, was passed through to the customer and thus had no impact on gross margin.

Selling, administrative and general expenses of \$65.0 million represent a 4% increase over the prior year. Expenses associated with the first phase of implementing an enterprise-wide information system caused a portion of the increase. The project will carry over into 1997 and beyond. Additional administrative and legal expenses were incurred to support and structure the alloy expansion project and the related financial arrangements. Compensation plans carried higher costs in 1996 and certain sales volume related expenses increased in 1996 as well.

Research and development (R&D) expenses grew to \$8.3 million or 2.2% of sales in 1996 from \$7.8 million or 2.1% of sales in 1995. The increase is predominantly from efforts to develop a new high quality, low cost precision beryllium copper strip and in-house investment casting technology. The R&D staffing was also increased. Expenditures on non-beryllium alloy R&D were flat.

Other-net expense was \$1.0 million in 1996 and \$1.3 million in 1995. Foreign currency gains account for the improvement.

Interest expense fell to \$1.1 million in 1996 from \$1.7 million in 1995. These figures are net of capitalized interest associated with long-term capital projects of \$1.0 million in 1996 and \$0.4 million in 1995. The weighted average interest rate was essentially unchanged year on year.

Income before income taxes was \$33.2 million in 1996, a 20.9% improvement from 1995. Slightly higher sales and significantly improved margins were responsible for the increase.

An effective tax rate of 26.2% of pre-tax earnings was used in 1996, an increase from the 24.6% rate in 1995. Increased pre-tax earnings, reduced foreign tax benefits and a reduction in the allowable tax benefits from the Company-owned life insurance program as a result of a change in the tax law caused the higher rate. Adjustments to the statutory tax rate are detailed in Note I to the Consolidated Financial Statements.

Comparative basic earnings per share were \$1.55 in 1996 and \$1.28 in 1995 and diluted earnings per share were \$1.53 in 1996 and \$1.27 in 1995.

FINANCIAL POSITION

CAPITAL RESOURCES AND LIQUIDITY

Cash flow from operations was \$40.4 million in 1997 down from \$45.0 million in 1996. Accounts receivable increased \$12.7 million since the prior year end as a result of the 24% growth in fourth quarter sales; the collection period remains essentially unchanged. Inventory declined by \$3.7 million in large part as a result of the strong demand for the Company's products. The cash balance at December 31, 1997, was \$7.2 million compared to \$31.7 million at the prior year end. As discussed below, the increase in capital expenditures is the main cause for the decline in cash.

The aforementioned \$117 million alloy expansion project begun in 1996 is being financed, in part, by two operating leases totaling

approximately \$81.1 million (See Note F to the Consolidated Financial Statements). Payments under the facility lease began in December 1997 and payments under the equipment lease will begin in 1999. Equipment lease payments are graduated to increase over time.

Capital expenditures for property, plant and equipment totaled \$53.2 million, excluding items under lease. Included in this total is the construction cost of the new manufacturing facility in Lorain, Ohio, which was financed in part by tax-advantaged industrial revenue bonds, a portion of the alloy expansion project in Elmore, Ohio, and new plating lines and related equipment at the Lincoln, Rhode Island facility. Capital expenditures in 1997 were significantly higher than in

recent years and expenditures in 1998 are anticipated to approximate 1997's level.

New bertrandite mine pits in Utah were developed at a total cost of \$13.2 million, including \$3.7 million expended in 1996. The pits have an average life of four to five years.

In 1996, the Company initiated a project to implement a new computer-based information system replacing the majority of its older systems. The new system was designed primarily to improve the efficiency of information flow, but it also mitigates the requirements to make numerous legacy systems year 2000 compliant. The new system is anticipated to be substantially implemented by the end of 1998 and have a capitalized cost of approximately \$15 million. Year 2000 compliant costs for the remaining legacy systems are estimated at approximately five cents per share in 1998. The Company anticipates that the majority of its systems will be year 2000 compliant by the end of 1998. The Company does not believe it is materially dependent upon any vendor or customer who may have a year 2000 compliance problem.

Short-term debt at year end 1997 was \$28.9 million, an increase of \$3.2 million from the prior year end. Included in this amount is \$0.8 million of the current portion of long-term debt with the balance denominated in precious metals and foreign currencies to provide hedges for assets so denominated. Credit lines amounting to \$54.8 million are available for additional borrowing. The precious metal facility is committed, secured and renewed annually. All other lines are uncommitted, unsecured and renewed annually.

Long-term debt on the balance sheet was \$17.9 million at December 31, 1997, compared to \$18.9 million at December 31, 1996. Long-term available financial resources include \$70 million of medium-term notes and \$55 million under a revolving credit agreement.

The Company repurchased 205,600 shares of Common Stock at a cost of \$4.9 million in 1997 under a program authorized by the Board of Directors in the second quarter 1997. The purpose of the program is to help offset the dilutive effect of exercisable stock options and other stock-based compensation. Common stock was used to acquire CPT in the fourth quarter 1996, increasing the number of outstanding shares. Dividends paid in 1997 were \$7.3 million, an increase of \$0.8 million from 1996. The quarterly dividend per share increased to \$0.12 from \$0.11 in the third quarter 1997 following a similar increase in the third quarter 1996.

Funds being generated from operations plus the available borrowing capacity are believed adequate to support operating requirements, capital expenditures, remediation projects, dividends and small acquisitions. Excess cash, if any, is invested in money market instruments and other high quality investments.

Cash flow from operating activities in 1996 was \$45.0 million. Cash balances increased \$2.2 million while total balance sheet debt increased \$4.8 million during 1996. Capital expenditures and mine development expenditures were \$30.5 million in 1996. The Company re-purchased \$6.7 million of Common Stock and paid \$6.5 million in dividends in 1996.

ORE RESERVES

The Company's reserves of beryllium-bearing bertrandite ore are located in Juab County, Utah. An ongoing drilling program has generally added to proven reserves. Proven reserves are the measured quantities of ore commercially recoverable through the open pit method. Probable reserves are the estimated quantities of ore known to exist, principally at greater depths, but prospects for commercial recovery are indeterminable. Ore dilution that occurs during mining approximates 7%. About 87% of beryllium in ore is recovered in the extraction process. The Company augments its proven reserves of bertrandite ore through the purchase of imported beryl ore (approximately 4% beryllium) which is also processed at the Utah extraction plant.

| | 1997 | 1996 | 1995 | 1994 | 1993 |
|---|--------|--------|--------|--------|--------|
| | ---- | ---- | ---- | ---- | ---- |
| Proven bertrandite ore reserves at year end (thousands of dry tons) | 6,924 | 6,763 | 6,927 | 6,747 | 6,786 |
| Grade % beryllium..... | 0.249% | 0.249% | 0.249% | 0.251% | 0.251% |
| Probable bertrandite ore reserves at year-end (thousands of dry tons) | 6,750 | 7,432 | 7,346 | 7,559 | 7,594 |
| Grade % beryllium..... | 0.277% | 0.281 | 0.281 | 0.279 | 0.279% |
| Bertrandite ore processed (thousands of dry tons, diluted) | 110 | 97 | 96 | 79 | 92 |
| Grade % beryllium, diluted..... | 0.229% | 0.236% | 0.232% | 0.240% | 0.232% |

INFLATION AND CHANGING PRICES

The prices of certain major raw materials, including copper, nickel, gold and other precious metals purchased by the Company, fluctuate during a given year. Such changes in costs are generally reflected in selling price adjustments. The prices of labor and other factors of production generally increase with inflation. Additions to capacity, while more expensive over time, usually result in greater productivity or improved yields. However, market factors, alternative materials and competitive pricing affect the Company's ability to offset wage and benefit increases.

The Company employs the last-in, first-out (LIFO) inventory valuation method domestically to more closely match current costs with revenues.

ENVIRONMENTAL MATTERS

As indicated in Note M to the Consolidated Financial Statements, the Company maintains an active program of environmental compliance. For projects involving remediation, estimates of the probable costs are made and the Company has reserved \$5.1 million at December 31, 1997 (\$4.0 million at December 31, 1996). This reserve covers existing and currently foreseen projects.

SELECTED FINANCIAL DATA

Brush Wellman Inc. and Subsidiaries (Dollars in thousands except per share amounts)

| | 1997 | 1996 | 1995 | 1994 | 1993 |
|---|------------|------------|------------|------------|------------|
| | ---- | ---- | ---- | ---- | ---- |
| FOR THE YEAR | | | | | |
| Net Sales..... | \$433,801 | \$376,279 | \$369,618 | \$345,878 | \$295,478 |
| Cost of sales..... | 320,792 | 267,713 | 268,732 | 253,938 | 227,686 |
| Gross profit..... | 113,009 | 108,566 | 100,886 | 91,940 | 67,792 |
| Operating profit..... | 36,024 | 34,305 | 29,086 | 25,098 | 10,658 |
| Interest expense..... | 553 | 1,128 | 1,653 | 2,071 | 2,952 |
| Income (loss) from continuing operations | | | | | |
| before income taxes..... | 35,471 | 33,177 | 27,433 | 23,027 | 7,706 |
| Income taxes (benefit)..... | 9,874 | 8,686 | 6,744 | 4,477 | 1,248 |
| Net Income (loss) | 25,597 | 24,491 | 20,689 | 18,550 | 6,458 |
| Earnings Per share of Common Stock: | | | | | |
| Basic Net Income (loss)..... | 1.58 | 1.55 | 1.28 | 1.15 | 0.40 |
| Diluted Net Income (loss)..... | 1.56 | 1.53 | 1.27 | 1.15 | 0.40 |
| Dividends Per share of Common Stock..... | 0.46 | 0.42 | 0.36 | 0.26 | 0.20 |
| Depreciation and amortization..... | 19,329 | 22,954 | 20,911 | 19,619 | 21,720 |
| Capital expenditures..... | 53,155 | 26,825 | 24,244 | 17,214 | 11,901 |
| Mine development expenditures..... | 9,526 | 3,663 | 787 | 543 | 814 |
| YEAR-END POSITION | | | | | |
| Working Capital..... | 100,599 | 128,172 | 125,156 | 116,708 | 105,272 |
| Ratio of current assets to current liabilities..... | 2 .3 to 1 | 2.9 to 1 | 2.9 to 1 | 2.8 to 1 | 3.1 to 1 |
| Property and equipment: | | | | | |
| At cost..... | 463,689 | 404,127 | 374,367 | 350,811 | 337,342 |
| Cost less depreciation and impairment..... | 173,622 | 130,220 | 121,194 | 116,763 | 118,926 |
| Total assets..... | 383,852 | 355,779 | 331,853 | 317,133 | 293,372 |
| Other long-term liabilities..... | 48,025 | 47,271 | 45,445 | 43,354 | 40,663 |
| Long-term debt..... | 17,905 | 18,860 | 16,996 | 18,527 | 24,000 |
| Shareholders' equity..... | 236,813 | 219,257 | 200,302 | 186,940 | 172,075 |
| Book value per share | | | | | |
| Basic..... | 14.60 | 13.84 | 12.40 | 11.61 | 10.70 |
| Diluted..... | 14.41 | 13.72 | 12.30 | 11.57 | 10.69 |
| Average Number of shares of stock outstanding | | | | | |
| Basic..... | 16,214,718 | 15,846,358 | 16,159,508 | 16,102,350 | 16,087,250 |
| Diluted..... | 16,429,468 | 15,980,481 | 16,289,795 | 16,156,159 | 16,093,696 |
| Shareholders of record..... | 2,329 | 2,407 | 2,351 | 2,521 | 2,566 |
| Number of employees..... | 2,160 | 1,926 | 1,856 | 1,833 | 1,803 |

| | 1992 ---- | 1991 ---- | 1990 ---- | 1989 ---- | 1988 ---- | 1987 ---- |
|---|--------------|--------------|--------------|--------------|--------------|--------------|
| FOR THE YEAR | | | | | | |
| Net Sales..... | \$265,034 | \$267,473 | \$297,390 | \$317,828 | \$345,838 | \$307,571 |
| Cost of sales..... | 192,944 | 202,080 | 212,841 | 233,165 | 239,554 | 211,885 |
| Gross profit..... | 72,090 | 65,383 | 84,549 | 84,663 | 106,284 | 95,686 |
| Operating profit..... | 16,949 | (57,354) | 28,132 | 29,195 | 54,704 | 48,788 |
| Interest expense..... | 3,206 | 3,755 | 3,359 | 2,860 | 2,843 | 2,965 |
| Income (loss) from continuing operations | | | | | | |
| before income taxes..... | 13,743 | (61,109) | 24,773 | 26,335 | 51,861 | 45,823 |
| Income taxes (benefit)..... | 3,243 | (17,091) | 7,214 | 7,793 | 19,344 | 19,658 |
| Net Income (loss) | 10,500 | (44,018) | 17,559 | 18,542 | 32,517 | 26,165 |
| Earnings Per share of Common Stock: | | | | | | |
| Basic Net Income (loss)..... | 0.65 | (2.74) | 1.09 | 1.10 | 1.79 | 1.39 |
| Diluted Net Income (loss)..... | 0.65 | (2.74) | 1.09 | 1.10 | 1.79 | 1.39 |
| Dividends Per share of Common Stock..... | 0.26 | 0.59 | 0.71 | 0.67 | 0.63 | 0.59 |
| Depreciation and amortization..... | 20,180 | 22,759 | 24,070 | 24,077 | 23,405 | 22,098 |
| Capital expenditures..... | 13,604 | 13,605 | 16,160 | 19,946 | 22,645 | 18,464 |
| Mine development expenditures..... | 848 | 6,389 | 5,699 | 259 | 503 | 581 |
| YEAR-END POSITION | | | | | | |
| Working Capital..... | 88,616 | 80,427 | 87,570 | 78,346 | 92,530 | 109,063 |
| Ratio of current assets to current liabilities..... | 2.5 to 1 | 2.2 to 1 | 2.4 to 1 | 2.1 to 1 | 2.4 to 1 | 2.6 to 1 |
| Property and equipment: | | | | | | |
| At cost..... | 332,971 | 321,981 | 307,088 | 292,708 | 279,927 | 266,543 |
| Cost less depreciation and impairment..... | 127,991 | 132,579 | 143,635 | 141,639 | 143,180 | 144,829 |
| Total assets..... | 310,039 | 307,296 | 338,982 | 338,279 | 357,751 | 367,473 |
| Other long-term liabilities..... | 40,332 | 38,029 | 9,356 | 9,087 | 9,547 | 10,333 |
| Long-term debt..... | 33,808 | 34,946 | 26,673 | 21,076 | 29,908 | 25,481 |
| Shareholders' equity..... | 168,824 | 162,264 | 215,891 | 211,769 | 232,840 | 242,673 |
| Book value per share | | | | | | |
| Basic..... | 10.50 | 10.10 | 13.40 | 12.60 | 12.82 | 12.90 |
| Diluted..... | 10.48 | 10.09 | 13.40 | 12.59 | 12.81 | 12.88 |
| Average Number of shares of stock outstanding | | | | | | |
| Basic..... | 16,080,554 | 16,069,902 | 16,108,479 | 16,805,701 | 18,159,338 | 18,815,020 |
| Diluted..... | 16,111,090 | 16,080,568 | 16,116,210 | 16,820,735 | 18,173,092 | 18,840,193 |
| Shareholders of record..... | 2,762 | 3,116 | 3,446 | 3,820 | 4,014 | 4,212 |
| Number of employees..... | 1,831 | 1,943 | 2,079 | 2,160 | 2,602 | 2,564 |

See notes to consolidated financial statements.

BRUSH WELLMAN INC.

DIRECTORS

Albert C. Bersticker (2),(3),(4)
Chairman and Chief Executive Officer,
Ferro Corporation

Charles F. Brush, III (1), (4)
Personal Investments

David L. Burner (1), (4)
Chairman and Chief Executive Officer,
BF Goodrich Co.

Gordon D. Harnett (2)
Chairman of the Board
President and Chief Executive Officer
Brush Wellman Inc.

Joseph P. Keithley (3), (4)
Chairman, President and CEO
Keithley Instruments, Inc.

William P. Madar (1), (2), (3), (4)
Chairman of the Board,
Nordson Corporation

Robert M. McInnes (2), (3), (4)
Retired President and Chief Executive Officer, Pickands Mather & Co.

William R. Robertson (1), (4)
Managing Partner
Kirtland Capital Partners

John Sherwin, Jr. (1), (2), (4)
President, Mid-Continent Ventures, Inc.

- 1 Audit Committee
- 2 Executive Committee
- 3 Governance Committee
- 4 Organization and Compensation Committee

OFFICERS

Gordon D. Harnett (1), (2)
Chairman of the Board
President and Chief Executive Officer

Carl Cramer (1), (2)
Vice President Finance
Chief Financial Officer

Brian J. Derry (1), (2)
Vice President, Operations

Stephen Freeman (1), (2)
Vice President, Alloy Products

Craig B. Harlan (1), (2)
Vice President, International

Andrew J. Sandor (1), (2)

Vice President, Alloy Technology

Daniel A. Skoch (1), (2)
Vice President
Administration and Human Resources

Michael D. Anderson (2)
Vice President, Beryllium Products

Jordan P. Frazier (2)
General Manager, Ceramic Products

Alfonso T. Lubrano (2)
President, Technical Materials, Inc.

John J. Paschall (2)
President, Williams Advanced Materials Inc.

John J. Pallam (1)
Vice President, General Counsel

Michael C. Hasychak (1)
Treasurer and Secretary

James P. Marrotte (1)
Controller

William M. Christoff (1)
Assistant Treasurer - Taxes,
Assistant Secretary

1 Corporate Officers
2 Executive Officers

OFFICES AND FACILITIES

MANUFACTURING FACILITIES

Delta, Utah
Elmore, Ohio
Lorain, Ohio
Reading, Pennsylvania
Buffalo, New York
Fremont, California
Lincoln, Rhode Island
Newburyport, Massachusetts
San Diego, California
Tucson, Arizona

RESEARCH FACILITIES AND ADMINISTRATIVE OFFICES

Cleveland, Ohio

SERVICE AND DISTRIBUTION CENTERS

Elmhurst, Illinois
Fairfield, New Jersey
Torrance, California
Warren, Michigan
Singapore
Stuttgart, Germany
Theale, England
Tokyo/Fukaya, Japan

SUBSIDIARIES

Circuits Processing Technology Inc.
San Diego, California
Technical Materials, Inc.
Lincoln, Rhode Island
Williams Advanced Materials Inc.
Buffalo, New York,
Singapore
Brush Wellman GmbH,
Stuttgart, Germany
Brush Wellman Limited,
Theale, England
Brush Wellman (Japan), Ltd,
Tokyo, Japan
Brush Wellman (Singapore) Pte Ltd,
Singapore

CORPORATE DATA

ENVIRONMENTAL POLICY

Brush Wellman Inc. considers Environmental, Health and Safety as integral parts of our business strategy and necessary for our success. It is the policy of Brush Wellman to design, manufacture and distribute all products and to manage and dispose of all materials in a safe, environmentally sound manner. We are committed to utilizing our resources and technical capabilities to their fullest extent to protect the health and safety of our employees, our customers, the general public and the environment.

The health and safety of our employees is of paramount importance. No operation or task will be conducted unless it can be performed in a safe manner.

Through education and training, we shall promote a culture which establishes individual ownership of environmental, health, and safety responsibility throughout the organization and empowers everyone to continuously improve all working conditions. Each employee will maintain an awareness of safe work practices and endeavor to prevent conditions which may result in an unsafe situation or harm the environment. It is the responsibility of each employee to promptly notify management of any adverse situation.

We shall make every effort to minimize, to the lowest feasible level, occupational and environmental exposure to all potentially hazardous materials.

We will go beyond regulatory compliance, striving for continuous improvement in all our environmental, health and safety control efforts.

The Company will provide medical surveillance and preventive health maintenance programs for the early detection of occupational diseases.

The Management Team at each location will diligently respond to employee concerns and is directly responsible for developing and implementing programs for ensuring that their operations comply with this policy. The Environmental, Health and Safety staff provides support by:

- maintaining liaison with appropriate government agencies and interpreting and communicating regulations;
- providing technical guidance and assisting in the development of policies and performance standards; and
- conducting independent review and assessment of all operations to audit compliance with environmental, safety and health policies.

All employees are expected to follow the intent and spirit of this policy and incorporate sound health, safety and environmental practices in the conduct of their jobs.

This policy applies to all Brush Wellman business units worldwide.

ANNUAL MEETING

The Annual Meeting of Shareholders will be held on May 5, 1998 at 11:00 a.m. at The Forum, One Cleveland Center, 1375 East Ninth Street, Cleveland, Ohio

INVESTOR INFORMATION

Brush Wellman maintains an active program of communication with shareholders, securities analysts and other members of the investment community. Management makes regular presentations in major financial centers around the world. To obtain:

- additional copies of the Annual Report
- SEC Form 10K/10Q
- product literature,

please contact:

Timothy Reid
Vice President, Corporate Communications Corporate Headquarters.

Brush Wellman maintains a site on the World Wide Web. The web site, which can be accessed via the internet at [HTTP://WWW.BRUSHWELLMAN.COM](http://WWW.BRUSHWELLMAN.COM) is designed to provide useful, timely information about Brush Wellman to customers, potential customers, investors, employees and the general public.

DIVIDEND REINVESTMENT PLAN

Brush Wellman has a plan for its shareholders which provides automatic reinvestment of dividends toward the purchase of additional shares of the Company's common stock. For a brochure describing the plan please contact our transfer agent, National City Bank, at 1-800-622-6757.

AUDITORS

Ernst & Young LLP
1300 Huntington Building
Cleveland, Ohio 44115

TRANSFER AGENT AND REGISTRAR

National City Bank
Corporate Trust Operations
P.O.Box 92301
Cleveland, OH 44193-0900
For shareholder inquiries, call: 1-800-622-6757

STOCK LISTING

New York Stock Exchange/Symbol: BW

CORPORATE HEADQUARTERS

Brush Wellman Inc.
17876 St. Clair Ave.
Cleveland, Ohio 44110
(216) 486-4200 - Facsimile: (216) 383-4091

**BRUSH WELLMAN
ENGINEERED MATERIALS**

17876 St. Clair Avenue

Cleveland, Ohio 44110

216/486-4200

EXHIBIT 21

Subsidiaries of Registrant

The Company has the following subsidiaries, all of which are wholly owned and included in the consolidated financial statements.

| Name of Subsidiary ----- | State or Country of Incorporation ----- |
|--------------------------------------|---|
| Brush Wellman GmbH | Germany |
| Brush Wellman (Japan), Ltd. | Japan |
| Brush Wellman Limited | England |
| Brush Wellman (Singapore), Pte Ltd. | Singapore |
| Circuits Processing Technology Inc. | California |
| Technical Materials, Inc. | Ohio |
| Williams Advanced Materials Inc. | New York |
| Williams Advanced Materials Pte Ltd. | Singapore |

Exhibit 23

Consent of Independent Auditors

We consent to the incorporation by reference in this Annual Report (Form 10-K) of Brush Wellman Inc. of our report dated January 27, 1998, included in the 1997 Annual Report to Shareholders of Brush Wellman Inc.

Our audits also included the financial statement schedule of Brush Wellman Inc. listed in Item 14(a)2. This schedule is the responsibility of the Company's management. Our responsibility is to express an opinion based on our audits. In our opinion, the financial statement schedule, referred to above, when considered in relation to the basic financial statements taken as a whole, presents fairly in all material respects the information set forth therein.

We also consent to the incorporation by reference in the following Registration Statements and Post-Effective Amendments of our report dated January 27, 1998, with respect to the consolidated financial statements incorporated herein by reference and our report included in the preceding paragraph with respect to the financial statement schedule included in this Annual Report (Form 10-K) of Brush Wellman Inc. for the year ended December 31, 1997:

Registration Statement Number 33-60709 on Form S-8 dated June 29, 1995;

Registration Statement Number 33-48866 on Form S-8 dated June 27, 1992;

Registration Statement Number 33-45323 on Form S-8 dated February 3, 1992;

Post-Effective Amendment Number 1 to Registration Statement Number 33-28950 on Form S-8 dated February 3, 1992;

Registration Statement Number 33-35979 on Form S-8 dated July 20, 1990;

Registration Statement Number 33-28605 on Form S-8 dated May 5, 1989;

Registration Statement Number 2-90724 on Form S-8 dated April 27, 1984;

Post-Effective Amendment Number 3 to Registration Statement Number 2-64080 on Form S-8 dated April 22, 1983.

ERNST & YOUNG LLP

Cleveland, Ohio
March 25, 1998

EXHIBIT 24

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS, that each of the undersigned directors and officers of BRUSH WELLMAN INC., an Ohio corporation (the "Corporation"), hereby constitutes and appoints Gordon D. Harnett, Carl Cramer, Michael C. Hasychak, Leigh B. Trevor and Louis Rorimer, and each of them, their true and lawful attorney or attorneys-in-fact, with full power of substitution and revocation, for them and in their names, place and stead, to sign on their behalf as a director or officer, or both, as the case may be, of the Corporation, an Annual Report pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934 on Form 10-K for the fiscal year ended December 31, 1997, and to sign any and all amendments to such Annual Report, and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission granting unto said attorney or attorneys-in-fact, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in and about the premises, as fully to all intents and purposes as they might or could do in person, hereby ratifying and confirming all that said attorney or attorneys-in-fact or any of them or their substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

IN WITNESS WHEREOF, the undersigned have hereunto set their hands as of the 3rd day of March, 1998.

/s/ Gordon D. Harnett

*Gordon D. Harnett, Chairman, President,
Chief Executive Officer and Director
(Principal Executive Officer)*

/s/ William P. Madar

William P. Madar, Director

/s/ Albert C. Bersticker

Albert C. Bersticker, Director

/s/ Robert M. McInnes

Robert M. McInnes, Director

/s/ Charles F. Brush, III

Charles F. Brush, III, Director

/s/ William R. Robertson

William R. Robertson, Director

/s/ David L. Burner

David L. Burner, Director

/s/ John Sherwin, Jr.

John Sherwin, Jr., Director

/s/ Joseph P. Keithley

Joseph P. Keithley, Director

/s/ Carl Cramer

*Carl Cramer, Vice President
Finance and Chief Financial Officer
(Principal Financial and Accounting Officer)*

ARTICLE 5

MULTIPLIER: 1,000

| PERIOD TYPE | YEAR |
|----------------------------|-------------|
| FISCAL YEAR END | DEC 31 1997 |
| PERIOD START | JAN 01 1997 |
| PERIOD END | DEC 31 1997 |
| CASH | 7,170 |
| SECURITIES | 0 |
| RECEIVABLES | 62,812 |
| ALLOWANCES | 1,058 |
| INVENTORY | 90,714 |
| CURRENT ASSETS | 178,911 |
| PP&E | 463,689 |
| DEPRECIATION | 290,067 |
| TOTAL ASSETS | 383,852 |
| CURRENT LIABILITIES | 78,312 |
| BONDS | 17,905 |
| PREFERRED MANDATORY | 0 |
| PREFERRED | 0 |
| COMMON | 22,227 |
| OTHER SE | 214,586 |
| TOTAL LIABILITY AND EQUITY | 383,852 |
| SALES | 433,801 |
| TOTAL REVENUES | 433,801 |
| CGS | 320,792 |
| TOTAL COSTS | 397,452 |
| OTHER EXPENSES | 172 |
| LOSS PROVISION | 153 |
| INTEREST EXPENSE | 553 |
| INCOME PRETAX | 35,471 |
| INCOME TAX | 9,874 |
| INCOME CONTINUING | 25,597 |
| DISCONTINUED | 0 |
| EXTRAORDINARY | 0 |
| CHANGES | 0 |
| NET INCOME | 25,597 |
| EPS PRIMARY | 1.58 |
| EPS DILUTED | 1.56 |

ARTICLE 5

RESTATED:

MULTIPLIER: 1,000

| PERIOD TYPE | YEAR | YEAR |
|----------------------------|-------------|-------------|
| FISCAL YEAR END | DEC 31 1996 | DEC 31 1995 |
| PERIOD START | JAN 01 1996 | JAN 01 1995 |
| PERIOD END | DEC 31 1996 | DEC 31 1995 |
| CASH | 31,749 | 29,553 |
| SECURITIES | 0 | 0 |
| RECEIVABLES | 52,211 | 52,532 |
| ALLOWANCES | 954 | 1,015 |
| INVENTORY | 96,324 | 92,727 |
| CURRENT ASSETS | 197,233 | 191,747 |
| PP&E | 404,127 | 374,367 |
| DEPRECIATION | 273,907 | 253,173 |
| TOTAL ASSETS | 355,779 | 331,853 |
| CURRENT LIABILITIES | 69,061 | 66,591 |
| BONDS | 18,860 | 16,996 |
| PREFERRED MANDATORY | 0 | 0 |
| PREFERRED | 0 | 0 |
| COMMON | 21,909 | 21,330 |
| OTHER SE | 197,348 | 178,972 |
| TOTAL LIABILITY AND EQUITY | 355,779 | 331,853 |
| SALES | 376,279 | 369,618 |
| TOTAL REVENUES | 376,279 | 369,618 |
| CGS | 267,713 | 268,732 |
| TOTAL COSTS | 341,013 | 339,282 |
| OTHER EXPENSES | 896 | 1,047 |
| LOSS PROVISION | 65 | 203 |
| INTEREST EXPENSE | 1,128 | 1,653 |
| INCOME PRETAX | 33,177 | 27,433 |
| INCOME TAX | 8,686 | 6,744 |
| INCOME CONTINUING | 24,491 | 20,689 |
| DISCONTINUED | 0 | 0 |
| EXTRAORDINARY | 0 | 0 |
| CHANGES | 0 | 0 |
| NET INCOME | 24,491 | 20,689 |
| EPS PRIMARY | 1.55 | 1.28 |
| EPS DILUTED | 1.53 | 1.27 |

Exhibit 99

FORM 11-K

**FOR ANNUAL REPORTS OF EMPLOYEE STOCK PURCHASE, SAVINGS
AND SIMILAR PLANS PURSUANT TO SECTION 15(d) OF THE
SECURITIES EXCHANGE ACT OF 1934**

(Mark One)

**[X] ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934 [FEE
REQUIRED]**

For the fiscal year ended December 31, 1997 OR

**[] TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934 [NO FEE
REQUIRED]**

For the transition period from _____ to _____

Commission file number 1-7006

**BRUSH WELLMAN INC.
SAVINGS AND INVESTMENT PLAN**
(Full Title of the Plan)

BRUSH WELLMAN INC.
17876 St. Clair Avenue
Cleveland, Ohio 44110

(Name of issuer of the securities held
pursuant to the plan and the address
of its principal executive office.)

**BRUSH WELLMAN INC.
SAVINGS AND INVESTMENT PLAN**

REQUIRED INFORMATION

Page No.

| | |
|---|------|
| 1. Report of Independent Auditors. | 1 |
| 2. Statements of Financial Condition - December 31, 1997 and December 31, 1996 | 2-3 |
| 3. Statements of Income and Changes in Plan Equity - Plan years ended December 31, 1997, December 31, 1996 and December 31, 1995. | 4-7 |
| 4. Notes to Financial Statements. | 8-16 |
| 5. Schedules required to be filed under ERISA. | |
| a. Schedule of Assets held for Investment Purposes. | 17 |
| b. Schedule of Reportable Transactions. | 18 |
| 6. Consent of Independent Auditors. | 19 |

Pursuant to the requirements of the Securities Exchange Act of 1934, the Plan has duly caused this annual report to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Cleveland, State of Ohio, on the ____ day of March, 1998.

**BRUSH WELLMAN INC.
SAVINGS AND INVESTMENT PLAN**

By */s/ Dennis L. Habrat*

*Member of the Administrative
Committee*

[WESLEY, MILLS & COMPANY LETTERHEAD]

Report of Independent Auditors

Administrative Committee of
Brush Wellman Inc. Savings
and Investment Plan

We have audited the financial statements of Brush Wellman Inc. Savings and Investment Plan listed in the Annual Report on Form 11-K as of and for the years ended December 31, 1997 and 1996 and 1995. These financial statements are the responsibility of the Plan's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with generally accepted auditing standards. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements listed in the Annual Report on Form 11-K present fairly, in all material respects, the financial position of Brush Wellman Inc. Savings and Investment Plan at December 31, 1997 and 1996, the results of its operations and changes in its plan equity for the years ended December 31, 1997 and 1996 and 1995 in conformity with generally accepted accounting principles.

Our audits were made for the purpose of forming an opinion on the financial statements taken as a whole. The accompanying supplemental schedules of assets held for investment purposes as of December 31, 1997 and reportable transactions for the year ended December 31, 1997 are presented for purposes of complying with the Department of Labor's Rules and Regulations for Reporting and Disclosure under the Employee Retirement Income Security Act of 1974, and are not a required part of the financial statements. The supplemental schedules have been subjected to the auditing procedures applied in our audit of the financial statements and, in our opinion, are fairly stated in all material respects in relation to the financial statements taken as a whole.

Wesley, Mills & Company

/s/ Wesley, Mills & Company

March 11, 1998

BRUSH WELLMAN INC.
SAVINGS AND INVESTMENT PLAN
STATEMENT OF FINANCIAL CONDITION
DECEMBER 31, 1997

| ASSETS | GROWTH | INTERNATIONAL | INCOME | S&P 500 INDEX | ASSET ALLOCATION | FIXED INCOME |
|---|--------------|---------------|-------------|------------------|---------------------|-----------------|
| ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| Brush Wellman Inc. Common Stock (cost \$22,143,106) | | | | | | |
| Janus Fund (cost \$12,892,394) | \$13,986,318 | | | | | |
| Templeton Foreign Fund (cost \$6,678,891) | | \$6,897,662 | | | | |
| PFAMCO Equity Income Fund (cost \$8,273,176) | | | \$9,583,620 | | | |
| Northern Trust Collective Stock Index Fund (cost \$10,773,413) | | | | \$14,505,606 | | |
| Vanguard Asset Allocation Fund (cost \$7,760,450) | | | | | \$8,873,272 | |
| PIMCO Total Return Fund (cost \$6,900,971) | | | | | | \$7,202,491 |
| Northern Trust Short-Term Investment Fund (cost \$6,422,214) | | | | | | |
| Participant Promissory Notes (cost \$3,498,440) | | | | | | |
| Employee Benefits Money Market Fund (cost \$134,905) | | | | | | |
| | ----- | ----- | ----- | ----- | ----- | ----- |
| | 13,986,318 | 6,897,662 | 9,583,620 | 14,505,606 | 8,873,272 | 7,202,491 |
| Dividends Receivable | | | | | | 37,250 |
| Interest Receivable | | | | | | |
| Other | | | | | | |
| | ----- | ----- | ----- | ----- | ----- | ----- |
| | | | | | | 37,250 |
| | ----- | ----- | ----- | ----- | ----- | ----- |
| TOTAL ASSETS | \$13,986,318 | \$6,897,662 | \$9,583,620 | \$14,505,606 | \$8,873,272 | \$7,239,741 |
| | ===== | ===== | ===== | ===== | ===== | ===== |

LIABILITIES & PLAN EQUITY

| | | | | | | |
|---------------------------------|--------------|-------------|-------------|--------------|-------------|-------------|
| ----- | | | | | | |
| Plan Equity | 13,986,318 | 6,897,662 | 9,583,620 | 14,505,606 | 8,873,272 | 7,239,741 |
| | ----- | ----- | ----- | ----- | ----- | ----- |
| TOTAL LIABILITIES & PLAN EQUITY | \$13,986,318 | \$6,897,662 | \$9,583,620 | \$14,505,606 | \$8,873,272 | \$7,239,741 |
| | ===== | ===== | ===== | ===== | ===== | ===== |

| ASSETS | MONEY MARKET | STOCK FUND | PAYSOP FUND | LOAN FUND | TOTAL |
|---|-----------------|---------------|----------------|--------------|--------------|
| ----- | ----- | ----- | ----- | ----- | ----- |
| Brush Wellman Inc. Common Stock (cost \$22,143,106) | | \$27,483,732 | \$321,612 | | \$27,805,344 |
| Janus Fund (cost \$12,892,394) | | | | | 13,986,318 |
| Templeton Foreign Fund (cost \$6,678,891) | | | | | 6,897,662 |
| PFAMCO Equity Income Fund (cost \$8,273,176) | | | | | 9,583,620 |
| Northern Trust Collective Stock Index Fund (cost \$10,773,413) | | | | | 14,505,606 |
| Vanguard Asset Allocation Fund (cost \$7,760,450) | | | | | 8,873,272 |
| PIMCO Total Return Fund (cost \$6,900,971) | | | | | 7,202,491 |
| Northern Trust Short-Term Investment Fund (cost \$6,422,214) | \$6,422,214 | | | | 6,422,214 |
| Participant Promissory Notes (cost \$3,498,440) | | | | \$3,498,440 | 3,498,440 |
| Employee Benefits Money Market Fund (cost \$134,905) | | 133,782 | 1,123 | | 134,905 |
| | ----- | ----- | ----- | ----- | ----- |
| | 6,422,214 | 27,617,514 | 322,735 | 3,498,440 | 98,909,872 |
| Dividends Receivable | | 134,127 | 1,575 | | 135,702 |
| Interest Receivable | 30,647 | 751 | 5 | | 68,653 |
| Other | | | | | |
| | ----- | ----- | ----- | ----- | ----- |
| | 30,647 | 134,878 | 1,580 | | 204,355 |
| | ----- | ----- | ----- | ----- | ----- |
| TOTAL ASSETS | \$6,452,861 | \$27,752,392 | \$324,315 | \$3,498,440 | \$99,114,227 |
| | ===== | ===== | ===== | ===== | ===== |

LIABILITIES & PLAN EQUITY

| | | | | | |
|-------------|-----------|------------|---------|-----------|------------|
| ----- | | | | | |
| Plan Equity | 6,452,861 | 27,752,392 | 324,315 | 3,498,440 | 99,114,227 |

| | | | | | |
|---------------------------------|-------------|--------------|-----------|-------------|--------------|
| | ----- | ----- | ----- | ----- | ----- |
| TOTAL LIABILITIES & PLAN EQUITY | \$6,452,861 | \$27,752,392 | \$324,315 | \$3,498,440 | \$99,114,227 |
| | ===== | ===== | ===== | ===== | ===== |

See accompanying notes to financial statements.

BRUSH WELLMAN INC.
SAVINGS AND INVESTMENT PLAN
STATEMENT OF FINANCIAL CONDITION
DECEMBER 31, 1996

| ASSETS | GROWTH | INTERNATIONAL | INCOME | S&P 500 INDEX | ASSET ALLOCATION | FIXED INCOME |
|--|--------------|---------------|-------------|------------------|---------------------|-----------------|
| ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| Brush Wellman Inc. Common Stock (cost \$21,316,961) | | | | | | |
| Janus Fund (cost \$9,140,759) | \$10,368,651 | | | | | |
| Templeton Foreign Fund (cost \$5,334,105) | | \$6,029,302 | | | | |
| PFAMCO Equity Income Fund (cost \$5,793,594) | | | \$6,407,987 | | | |
| Northern Trust Collective Stock Index Fund (cost \$7,548,719) | | | | \$9,625,596 | | |
| Vanguard Asset Allocation Fund (cost \$6,851,379) | | | | | \$6,890,813 | |
| PIMCO Total Return Fund (cost \$6,304,014) | | | | | | \$6,631,102 |
| Northern Trust Short-Term Investment Fund (cost \$6,805,573) | | | | | | |
| Participant Promissory Notes (cost \$3,256,882) | | | | | | |
| Employee Benefits Money Market Fund (cost \$102,828) | | | | | | |
| | ----- | ----- | ----- | ----- | ----- | ----- |
| | 10,368,651 | 6,029,302 | 6,407,987 | 9,625,596 | 6,890,813 | 6,631,102 |
| Dividends Receivable | | | | | | 35,758 |
| Interest Receivable | | | | | | |
| Other | | | 106,649 | | | |
| | ----- | ----- | ----- | ----- | ----- | ----- |
| | | | 106,649 | | | 35,758 |
| | ----- | ----- | ----- | ----- | ----- | ----- |
| TOTAL ASSETS | \$10,368,651 | \$6,029,302 | \$6,514,636 | \$9,625,596 | \$6,890,813 | \$6,666,860 |
| | ===== | ===== | ===== | ===== | ===== | ===== |

LIABILITIES & PLAN EQUITY

| | | | | | | |
|---------------------------------|--------------|-------------|-------------|-------------|-------------|-------------|
| ----- | | | | | | |
| Plan Equity | 10,368,651 | 6,029,302 | 6,514,636 | 9,625,596 | 6,890,813 | 6,666,860 |
| | ----- | ----- | ----- | ----- | ----- | ----- |
| TOTAL LIABILITIES & PLAN EQUITY | \$10,368,651 | \$6,029,302 | \$6,514,636 | \$9,625,596 | \$6,890,813 | \$6,666,860 |
| | ===== | ===== | ===== | ===== | ===== | ===== |

| ASSETS | MONEY MARKET | STOCK FUND | PAYSOP FUND | LOAN FUND | TOTAL |
|--|-----------------|---------------|----------------|--------------|--------------|
| ----- | ----- | ----- | ----- | ----- | ----- |
| Brush Wellman Inc. Common Stock (cost \$21,316,961) | | \$17,763,305 | \$222,406 | | \$17,985,711 |
| Janus Fund (cost \$9,140,759) | | | | | 10,368,651 |
| Templeton Foreign Fund (cost \$5,334,105) | | | | | 6,029,302 |
| PFAMCO Equity Income Fund (cost \$5,793,594) | | | | | 6,407,987 |
| Northern Trust Collective Stock Index Fund (cost \$7,548,719) | | | | | 9,625,596 |
| Vanguard Asset Allocation Fund (cost \$6,851,379) | | | | | 6,890,813 |
| PIMCO Total Return Fund (cost \$6,304,014) | | | | | 6,631,102 |
| Northern Trust Short-Term Investment Fund (cost \$6,805,573) | \$6,757,471 | | | | 6,757,471 |
| Participant Promissory Notes (cost \$3,256,882) | | | | \$3,256,882 | 3,256,882 |
| Employee Benefits Money Market Fund (cost \$102,828) | | 88,991 | 13,837 | | 102,828 |
| | ----- | ----- | ----- | ----- | ----- |
| | 6,757,471 | 17,852,296 | 236,243 | 3,256,882 | 74,056,343 |
| Dividends Receivable | | 119,317 | 1,496 | | 156,571 |
| Interest Receivable | 30,302 | 500 | 65 | | 30,867 |
| Other | | | | | 106,649 |
| | ----- | ----- | ----- | ----- | ----- |
| | 30,302 | 119,817 | 1,561 | | 294,087 |
| | ----- | ----- | ----- | ----- | ----- |
| TOTAL ASSETS | \$6,787,773 | \$17,972,113 | \$237,804 | \$3,256,882 | \$74,350,430 |
| | ===== | ===== | ===== | ===== | ===== |

LIABILITIES & PLAN EQUITY

| | | | | | |
|-------------|-----------|------------|---------|-----------|------------|
| ----- | | | | | |
| Plan Equity | 6,787,773 | 17,972,113 | 237,804 | 3,256,882 | 74,350,430 |

| | | | | | |
|---------------------------------|-------------|--------------|-----------|-------------|--------------|
| | ----- | ----- | ----- | ----- | ----- |
| TOTAL LIABILITIES & PLAN EQUITY | \$6,787,773 | \$17,972,113 | \$237,804 | \$3,256,882 | \$74,350,430 |
| | ===== | ===== | ===== | ===== | ===== |

See accompanying notes to financial statements.

BRUSH WELLMAN INC.
SAVINGS AND INVESTMENT PLAN
STATEMENT OF INCOME AND CHANGES IN PLAN EQUITY
YEAR ENDED DECEMBER 31, 1997

| | GROWTH | INTERNATIONAL | INCOME | S&P 500 INDEX | ASSET ALLOCATION | FIXED INCOME |
|--|-----------------|---------------|----------------|------------------|---------------------|-----------------|
| | ----- | ----- | ----- | ----- | ----- | ----- |
| Investment Income: | | | | | | |
| Dividends | \$589,960 | \$322,339 | \$244,109 | \$196,820 | \$285,646 | |
| Interest | 506 | 293 | 342 | 542 | 319 | \$426,821 |
| Other Income (Expense) | | | | | | |
| | ----- | ----- | ----- | ----- | ----- | ----- |
| | 590,466 | 322,632 | 244,451 | 197,362 | 285,965 | 426,821 |
| Realized Gain (Loss) on Investments--Note E | 2,015,682 | 580,554 | 1,269,377 | 1,504,561 | 545,573 | 266,798 |
| Unrealized Appreciation (Depreciation) on Investments--Note F | (133,969) | (476,424) | 696,051 | 1,655,317 | 1,073,388 | (25,567) |
| Contributions--Note B Company 401(k) | 1,495,850 | 881,985 | 768,668 | 1,073,326 | 702,802 | 569,428 |
| | ----- | ----- | ----- | ----- | ----- | ----- |
| | 1,495,850 | 881,985 | 768,668 | 1,073,326 | 702,802 | 569,428 |
| Investment Election Change | (100,358) | (104,166) | 509,790 | 898,543 | 140,557 | (347,350) |
| Loan Transfers | 32,148 | 62,807 | 6,952 | (93,106) | 743 | (32,498) |
| Unallocated Loan Payments | | | | | | |
| Withdrawals and Terminations--Note C | 282,152 | 399,028 | 426,305 | 355,993 | 766,569 | 284,751 |
| | ----- | ----- | ----- | ----- | ----- | ----- |
| Income and Changes in Plan Equity | 3,617,667 | 868,360 | 3,068,984 | 4,880,010 | 1,982,459 | 572,881 |
| Plan Equity at Beginning of the Year | 10,368,651 | 6,029,302 | 6,514,636 | 9,625,596 | 6,890,813 | 6,666,860 |
| | ----- | ----- | ----- | ----- | ----- | ----- |
| PLAN EQUITY AT END OF THE YEAR | \$13,986,318 | \$6,897,662 | \$9,583,620 | \$14,505,606 | \$8,873,272 | \$7,239,741 |
| | ===== | ===== | ===== | ===== | ===== | ===== |
| | MONEY MARKET | STOCK FUND | PAYSOP FUND | LOAN FUND | TOTAL | |
| | ----- | ----- | ----- | ----- | ----- | |
| Investment Income: | | | | | | |
| Dividends | | \$512,954 | \$6,170 | | \$2,157,998 | |
| Interest | \$376,814 | 16,269 | 397 | \$253,118 | 1,075,421 | |
| Other Income (Expense) | | 23,624 | (1,557) | | 22,067 | |
| | ----- | ----- | ----- | ----- | ----- | |
| | 376,814 | 552,847 | 5,010 | 253,118 | 3,255,486 | |
| Realized Gain (Loss) on Investments--Note E | | 129,878 | (52,977) | | 6,259,446 | |
| Unrealized Appreciation (Depreciation) on Investments--Note F | | 8,830,479 | 163,010 | | 11,782,285 | |
| Contributions--Note B Company 401(k) | 384,661 | 2,113,241 | | | 2,113,241 | |
| | ----- | ----- | ----- | ----- | ----- | |
| | 384,661 | 440,310 | | | 6,317,030 | |
| | ----- | ----- | ----- | ----- | ----- | |
| | 384,661 | 2,553,551 | | | 8,430,271 | |
| Investment Election Change | 151,572 | (1,134,258) | (14,330) | | | |
| Loan Transfers | (41,032) | (37,296) | | 67,743 | (33,539) | |
| Unallocated Loan Payments | | | | 33,539 | 33,539 | |
| Withdrawals and Terminations--Note C | 1,206,927 | 1,114,922 | 14,202 | 112,842 | 4,963,691 | |
| | ----- | ----- | ----- | ----- | ----- | |
| Income and Changes in Plan Equity | (334,912) | 9,780,279 | 86,511 | 241,558 | 24,763,797 | |
| Plan Equity at Beginning of the Year | 6,787,773 | 17,972,113 | 237,804 | 3,256,882 | 74,350,430 | |
| | ----- | ----- | ----- | ----- | ----- | |
| PLAN EQUITY AT END OF THE YEAR | \$6,452,861 | \$27,752,392 | \$324,315 | \$3,498,440 | \$99,114,227 | |
| | ===== | ===== | ===== | ===== | ===== | |

See accompanying notes to financial statements.

BRUSH WELLMAN INC.
SAVINGS AND INVESTMENT PLAN
STATEMENT OF INCOME AND CHANGES IN PLAN EQUITY
YEAR ENDED DECEMBER 31, 1996

| | GROWTH | INTERNATIONAL | INCOME | S&P 500 INDEX | ASSET ALLOCATION | ASSET ALLOCATION |
|--|-----------------|-----------------|---------------|------------------|---------------------|---------------------|
| | ----- | ----- | ----- | ----- | ----- | ----- |
| Investment Income: | | | | | | |
| Dividends | \$78,618 | \$155,189 | \$178,089 | \$196,318 | \$59,791 | \$184,120 |
| Interest | | | | 40 | | |
| Other Income (Expense) | (140,542) | (49,661) | (52,745) | 1,051 | | 753 |
| | ----- | ----- | ----- | ----- | ----- | ----- |
| | (61,924) | 105,528 | 125,344 | 197,409 | 59,791 | 184,873 |
| Realized Gain (Loss) on Investments--Note E | 1,400,469 | 223,270 | 1,108,472 | 722,676 | 501,151 | 376,090 |
| Unrealized Appreciation (Depreciation) on Investments--Note F | 224,826 | 567,238 | (75,051) | 791,262 | (312,645) | 39,434 |
| Contributions--Note B Company 401(k) | 1,235,328 | 768,459 | 633,965 | 771,948 | 338,277 | 282,974 |
| | ----- | ----- | ----- | ----- | ----- | ----- |
| | 1,235,328 | 768,459 | 633,965 | 771,948 | 338,277 | 282,974 |
| Investment Election Change: 7/1/96 Plan Change | | | | | (5,927,322) | 5,927,322 |
| Current Year Changes | 693,444 | (279,414) | 298,540 | 531,373 | (272,484) | 168,495 |
| Loan Transfers | 5,708 | 4,535 | (34,396) | 5,128 | 12,176 | (13,856) |
| Unallocated Loan Payments | | | | | | |
| Withdrawals and Terminations--Note C | 396,728 | 134,326 | 322,488 | 448,605 | 209,694 | 74,519 |
| | ----- | ----- | ----- | ----- | ----- | ----- |
| Income and Changes in Plan Equity | 3,101,123 | 1,255,290 | 1,734,386 | 2,571,191 | (5,810,750) | 6,890,813 |
| Plan Equity at Beginning of the Year | 7,267,528 | 4,774,012 | 4,780,250 | 7,054,405 | 5,810,750 | 0 |
| | ----- | ----- | ----- | ----- | ----- | ----- |
| PLAN EQUITY AT END OF THE YEAR | \$10,368,651 | \$6,029,302 | \$6,514,636 | \$9,625,596 | \$0 | \$6,890,813 |
| | ===== | ===== | ===== | ===== | ===== | ===== |
| | FIXED INCOME | MONEY MARKET | STOCK FUND | PAYSOP FUND | LOAN FUND | TOTAL |
| | ----- | ----- | ----- | ----- | ----- | ----- |
| Investment Income: | | | | | | |
| Dividends | | | \$442,822 | \$7,080 | | \$1,302,027 |
| Interest | \$429,974 | \$346,350 | 6,117 | 1,118 | \$251,904 | 1,035,503 |
| Other Income (Expense) | | | 1,374 | (1,469) | | (241,239) |
| | ----- | ----- | ----- | ----- | ----- | ----- |
| | 429,974 | 346,350 | 450,313 | 6,729 | 251,904 | 2,096,291 |
| Realized Gain (Loss) on Investments--Note E | 53,664 | | (45,347) | | | 4,340,445 |
| Unrealized Appreciation (Depreciation) on Investments--Note F | (199,966) | | (998,240) | (11,142) | | 25,716 |
| Contributions--Note B Company 401(k) | 619,396 | 423,544 | 1,910,402 | | | 1,910,402 |
| | ----- | ----- | 401,965 | | | 5,475,856 |
| | 619,396 | 423,544 | 2,312,367 | | | 7,386,258 |
| Investment Election Change: 7/1/96 Plan Change | | | | | | |
| Current Year Changes | (544,791) | (57,542) | (531,725) | (5,896) | | |
| Loan Transfers | 16,034 | (93,033) | (107,586) | | 82,865 | (122,425) |
| Unallocated Loan Payments | | | | | (87,732) | (87,732) |
| Withdrawals and Terminations--Note C | 279,031 | 427,521 | 774,612 | 11,168 | 92,213 | 3,170,905 |
| | ----- | ----- | ----- | ----- | ----- | ----- |
| Income and Changes in Plan Equity | 95,280 | 191,798 | 305,170 | (21,477) | 154,824 | 10,467,648 |
| Plan Equity at Beginning of the Year | 6,571,580 | 6,595,975 | 17,666,943 | 259,281 | 3,102,058 | 63,882,782 |
| | ----- | ----- | ----- | ----- | ----- | ----- |
| PLAN EQUITY AT END OF THE YEAR | \$6,666,860 | \$6,787,773 | \$17,972,113 | \$237,804 | \$3,256,882 | \$74,350,430 |
| | ===== | ===== | ===== | ===== | ===== | ===== |

BRUSH WELLMAN INC.
SAVINGS AND INVESTMENT PLAN
STATEMENT OF INCOME AND CHANGES IN PLAN EQUITY
YEAR ENDED DECEMBER 31, 1995

| | GROWTH | INTERNATIONAL | INCOME | S&P 500 INDEX | ASSET ALLOCATION | FIXED INCOME | MONEY MARKET |
|--|-------------|---------------|-------------|------------------|---------------------|-----------------|-----------------|
| | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| Investment Income: | | | | | | | |
| Dividends | \$ 230,704 | \$ 120,175 | \$ 118,087 | \$ 126,716 | \$ 175,358 | \$ 37,345 | \$ 335 |
| Interest | 3 | 62 | (57) | 1,406 | (88) | 369,523 | 384,180 |
| Other Income (Expense) | 145,446 | 52,799 | 160,893 | 215 | (5,789) | 130 | 411 |
| | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| | 376,153 | 173,036 | 278,923 | 128,337 | 169,481 | 406,998 | 384,926 |
| Realized Gain (Loss) on Investments--Note E | 110,541 | 177,639 | 84,078 | 332,016 | 417,723 | 143,684 | |
| Unrealized Appreciation (Depreciation) on Investments--Note F | 1,003,066 | 127,958 | 689,444 | 1,285,614 | 312,645 | 527,054 | |
| Contributions--Note B Company 401(k) | 1,095,412 | 827,949 | 572,343 | 597,024 | 679,023 | 698,659 | 514,984 |
| | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| | 1,095,412 | 827,949 | 572,343 | 597,024 | 679,023 | 698,659 | 514,984 |
| Plan Merger -- Note A | | | | | | | 501 |
| Investment Election Change: | | | | | | | |
| 1/1/95 Plan Change | 4,298,945 | 3,712,726 | 2,976,847 | 4,587,494 | 5,167,817 | 5,192,931 | 6,663,511 |
| Current Year Changes | 541,260 | (75,928) | 308,292 | 367,108 | (718,922) | (47,775) | (93,355) |
| Loan Transfers | (22,439) | 3,922 | (9,258) | (20,141) | (19,177) | (119,899) | (83,478) |
| Unallocated Loan Payments | | | | | | | |
| Withdrawals and Terminations--Note C | 135,410 | 173,290 | 120,419 | 223,047 | 197,840 | 230,072 | 791,114 |
| | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| Income and Changes in Plan Equity | 7,267,528 | 4,774,012 | 4,780,250 | 7,054,405 | 5,810,750 | 6,571,580 | 6,595,975 |
| Plan Equity at Beginning of the Year | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| PLAN EQUITY AT END OF THE YEAR | \$7,267,528 | \$4,774,012 | \$4,780,250 | \$7,054,405 | \$5,810,750 | \$6,571,580 | \$6,595,975 |
| | ===== | ===== | ===== | ===== | ===== | ===== | ===== |

See accompanying notes to financial statements.

BRUSH WELLMAN INC.
SAVINGS AND INVESTMENT PLAN
STATEMENT OF INCOME AND CHANGES IN PLAN EQUITY
YEAR ENDED DECEMBER 31, 1995

| | INCOME FUND | EQUITY FUND A | EQUITY FUND B | EQUITY FUND C | STOCK FUND | PAYSOP FUND |
|--|----------------|------------------|------------------|------------------|---------------|----------------|
| Investment Income: | | | | | | |
| Dividends | | | | | \$352,679 | \$3,568 |
| Interest | | | | | 10,744 | 1,291 |
| Other Income (Expense) | | | | | 192,317 | 3,647 |
| | | | | | 555,740 | 8,506 |
| Realized Gain (Loss) on Investments--Note E | 214,089 | 474,999 | (12,619) | 5,888 | (82,030) | |
| Unrealized Appreciation (Depreciation) on Investments--Note F | (201,462) | (472,705) | 14,214 | (2,813) | (157,861) | 1,385 |
| Contributions--Note B Company | | | | | 1,815,838 | |
| 401(k) | | | | | 442,057 | |
| | | | | | 2,257,895 | |
| Plan Merger -- Note A | 2,174,657 | 221,971 | 266,585 | 363,013 | 687,127 | |
| Investment Election Change: | | | | | | |
| 1/1/95 Plan Change | (17,434,297) | (6,400,676) | (2,818,083) | (5,693,929) | (275,286) | |
| Current Year Changes | | | | | (255,586) | (2,722) |
| Loan Transfers | | | | | (121,062) | |
| Unallocated Loan Payments | | | | | | |
| Withdrawals and Terminations--Note C | | | | | 721,484 | 11,547 |
| Income and Changes in Plan Equity | (15,247,013) | (6,176,411) | (2,549,903) | (5,327,841) | 1,887,453 | (4,378) |
| Plan Equity at Beginning of the Year | 15,247,013 | 6,176,411 | 2,549,903 | 5,327,841 | 15,779,490 | 263,659 |
| PLAN EQUITY AT END OF THE YEAR | \$0 | \$0 | \$0 | \$0 | \$17,666,943 | \$259,281 |
| | ===== | ===== | ===== | ===== | ===== | ===== |
| | LOAN FUND | TOTAL | | | | |
| Investment Income: | | | | | | |
| Dividends | | \$1,164,967 | | | | |
| Interest | \$182,910 | 949,974 | | | | |
| Other Income (Expense) | | 550,069 | | | | |
| | 182,910 | 2,665,010 | | | | |
| Realized Gain (Loss) on Investments--Note E | | 1,866,008 | | | | |
| Unrealized Appreciation (Depreciation) on Investments--Note F | | 3,126,539 | | | | |
| Contributions--Note B Company | | 1,815,838 | | | | |
| 401(k) | | 5,427,451 | | | | |
| | | 7,243,289 | | | | |
| Plan Merger -- Note A | 133,074 | 3,846,928 | | | | |
| Investment Election Change: | | | | | | |
| 1/1/95 Plan Change | 22,000 | | | | | |
| Current Year Changes | | 22,372 | | | | |
| Loan Transfers | 391,532 | | | | | |
| Unallocated Loan Payments | 154,810 | 154,810 | | | | |
| Withdrawals and Terminations--Note C | 154,064 | 2,758,287 | | | | |

| | | |
|--------------------------------------|-------------|--------------|
| Income and Changes in Plan Equity | 730,262 | 16,166,669 |
| Plan Equity at Beginning of the Year | 2,371,796 | 47,716,113 |
| | ----- | ----- |
| PLAN EQUITY AT END OF THE YEAR | \$3,102,058 | \$63,882,782 |
| | ===== | ===== |

See accompanying notes to financial statements.

**NOTES TO FINANCIAL STATEMENTS
BRUSH WELLMAN INC.
SAVINGS AND INVESTMENT PLAN**

DECEMBER 31, 1997, DECEMBER 31, 1996 AND DECEMBER 31, 1995

NOTE A - The accounting records of the Brush Wellman Inc. Savings and Investment Plan (Plan) are maintained on the accrual basis. Investments are stated at current market value. Investment in securities traded on national securities exchanges are valued at the latest reported closing price. Investment in participant units of the Northern Trust Short-Term Investment Fund, Managed Guaranteed Investment Contract Fund and the Employee Benefits Money Market Fund are stated at market value as determined by the Trustee. Cost is determined by the average cost method.

The preparation of financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

Effective January 1, 1995 the Williams Advanced Materials Inc. Savings and Investment Plan was merged into the Plan. Prior to the merger, the plans separately covered eligible employees at Brush Wellman Inc. and its subsidiary Williams Advanced Materials Inc. There were no substantial changes in eligibility, Company contributions, plan benefits or value of plan assets as a result of the merger. The transferred net assets were recognized in the accounts of the Plan, at the balances as previously carried in the accounts of the Williams Advanced Materials Inc. Savings and Investment Plan. The changes in net assets of the combined plans are included in the accompanying Statement of Income and Changes in Plan Equity from January 1, 1995.

NOTE B - The Plan is a defined contribution plan which covers certain eligible employees with one year of eligibility service with Brush Wellman Inc. (Company). An employee shall be credited with a year of eligibility service if he is credited with at least 1,000 hours of service in any twelve consecutive month period beginning with date of hire or rehire of the employee (or an anniversary of the latest such date).

The Plan provides for basic contributions on behalf of employees up to 6% of their earnings through either salary reduction or employee after-tax contributions. Basic contributions were matched by the Company at the rate of 50% of such contributions. The rate at which such basic contributions are matched by the Company may be decreased or increased (up to 100%) by action of the Company's Board of Directors.

An employee who makes basic contributions of 6% of earnings may also make supplemental contributions of up to 9% of earnings which are not matched by Company contributions and which may be made in any combination of salary reduction and/or after-tax contributions.

An employee's contributions made to the Plan on a salary reduction basis may not exceed certain maximum amounts. The maximum amounts were \$9,500 in 1997, \$9,500 in 1996 and \$9,240 in 1995. All employee and Company matching contributions are fully vested at all times.

Participants may direct that their basic, supplemental and transfer contributions (as described in the Plan) be invested in one or more of the following: Growth Fund, International Fund, Income Fund, S&P 500 Index Fund, Asset Allocation Fund, Fixed Income Fund, Money Market Fund and the Company Stock Fund in increments of 1%. Prior to March 3, 1995, participant contribution directions were allowed at 10% increments. All Company matching contributions are invested in the Company Stock Fund except with respect to Participants age 55 or older who may transfer such contributions to other investment funds. Prior to March 3, 1995 the minimum age for the exception was 59 1/2.

The Growth Fund invests primarily in the Janus Fund. The objective of the fund is to produce capital appreciation; dividend income is a secondary source of return. The fund invests primarily in the stocks of companies and industries that are experiencing increasing demand for their products and services. There were 1,253 participants in the fund at the end of the Plan year.

The International Fund invests primarily in the Templeton Foreign Fund. The objective of the fund is to produce capital appreciation. The fund primarily invests in stocks of companies located outside of the United States. There were 903 participants in the fund at the end of the Plan year.

The Income Fund invests primarily in the PFAMCO Equity Income Fund. The objective of the fund is to seek current income from stocks in each industry that have low prices relative to their earnings and high dividend yields. The fund will usually be fully invested in stocks. There were 884 participants in the fund at the end of the Plan year.

The S&P 500 Index Fund invests primarily in the Northern Trust Collective Stock Index Fund. The objective of the fund is to produce returns that match the returns of the Standard & Poor's 500 Stock Index. The fund proportionately invests in each of the stocks that comprise the Standard & Poor's 500 Stock Index. There were 1,068 participants in the fund at the end of the Plan year.

The Asset Allocation Fund invests primarily in the Vanguard Asset Allocation Fund. The objective of the fund is to maximize total returns consistent with reasonable risk using a combination of stocks, bonds, and money market investments. Prior to July 1, 1996, the Asset Allocation Fund invested primarily in the Phoenix Total Return Fund. There were 847 participants in the fund at the end of the Plan year.

The Fixed Income Fund invests primarily in the PIMCO Total Return Fund. The objective of the fund is to seek current income and capital appreciation. The fund invests in bonds with an average maturity of three to six years and will generally be invested in high quality securities including U.S. Government bonds, corporate bonds, mortgage-related securities and money market investments. There were 626 participants in the fund at the end of the Plan year.

The Money Market Fund invests primarily in the Northern Trust Short-Term Investment Fund. The objective of the fund is to maximize current income on cash reserves to the extent consistent with principal preservation and maintenance of liquidity. The fund invests in high-grade money market instruments with short maturities. There were 496 participants in the fund at the end of the Plan year.

The Company Stock Fund invests primarily in Brush Wellman Inc. Common Stock. There were 1,796 participants in the fund at the end of the Plan year.

On July 1, 1996 the Plan changed the investment choice for the Asset Allocation Fund from the Phoenix Total Return Fund to the Vanguard Asset Allocation Fund. All assets from the Phoenix Fund were transferred into the Vanguard Fund effective this date.

Prior to January 1, 1995 participants could direct their basic, supplemental and transfer contributions (as described in the Plan) be invested in one or more of the following; Income Fund, Equity Fund A, Equity Fund B, Equity Fund C and the Company Stock Fund in increments of 10%.

The Income Fund invests primarily in the Managed Guaranteed Investment Contract Fund, the objective of which is to achieve high current income with stability of principal. The fund is primarily invested in Guaranteed Investment Contracts.

Equity Fund A invests primarily in the Fidelity U.S. Equity Index Fund. This fund is a growth and income fund. It seeks a yield that corresponds with the total return of the Standard & Poor's 500 Stock Index. The fund's share price will fluctuate and dividend amounts will vary.

Equity Fund B invests primarily in the Fidelity Fund. This fund seeks long-term capital growth and current return on capital and will select some securities for their income characteristics, which may limit the potential for growth. The fund's share price and dividend income will fluctuate as the value and yields of the securities in its investment portfolio fluctuate.

Equity Fund C invests primarily in Fidelity Puritan Fund. This fund is a growth and income fund. It seeks capital growth in addition to regular quarterly dividends. It invests in a broadly diversified portfolio of common stocks, preferred stocks and bonds, including lower-quality, high yield debt securities. The fund's share price will fluctuate and dividend amounts will vary.

The Plan, as originally adopted, included a Payroll Stock Ownership Plan (PAYSOP) feature that applied through 1986. Under the PAYSOP, the Company made contributions based upon a percentage of payroll and was afforded an additional credit against federal income tax up to the amount allowable by the Internal Revenue Code. The PAYSOP contribution by the Company, which could be in Common Stock of the Company or cash used to purchase Common Stock of the Company, was a percentage of the compensation paid to all employees who made salary reduction contributions to the Plan at any time during the year and who were members of the Plan as of the last pay period of such year. The shares of Common Stock of the Company contributed or purchased were allocated equally to all eligible participants.

A participant may borrow funds from his account, excluding his interest in the PAYSOP Fund, provided such loan is secured by the participant's interest in his account and evidenced by a promissory note executed by the participant. The promissory notes are held in trust as a separate fund, Loan Fund, of the Plan.

Prior to June 1, 1989, participants who were employees of Williams Advanced Materials Inc. could have directed a portion of their contributions to be used to purchase insurance policies that were excluded from the former Williams Advanced Materials Inc. Savings and Investment Plan assets. Life insurance policies on the lives of participants, purchased under the former Williams Advanced Materials Inc. Savings and Investment Plan prior to July 1, 1989, may continue to be held.

All costs and expenses incurred in connection with the administration of the Plan for 1997, 1996, and 1995 were paid by the Company.

Information concerning the Plan agreement and the vesting and benefit provisions is contained in the Summary Plan Description. Copies of this pamphlet are available from the Plan administrator.

NOTE C - At retirement, death or other termination, a participant (or his death beneficiary) is eligible to receive a distribution of all employee, Company matching and PAYSOP contributions credited to the employee's account plus or minus any net gain or loss thereon.

The value of distributions and withdrawals is based on the value of a participant's account on the valuation date immediately preceding the date of distribution or withdrawal and is deducted from the participant's account as of such valuation date.

Distribution to a participant or a person designated by the participant as his death beneficiary is made under one of the following methods as elected by the participant:

(i) Lump sum payment in cash; or

(ii) Lump sum payment in cash, except that a participant's interest in the Company Stock Fund and the PAYSOP Fund will be paid in full shares of Common Stock of the Company, with any fractional shares being paid in cash.

NOTE D - Shares of face value by investment as of December 31, 1997 and December 31, 1996 are as follows:

| Investment ----- | Shares By Investment ----- | |
|---|-------------------------------|--------------|
| | 1997 ---- | 1996 ---- |
| Janus Fund | 561,700 | 424,076 |
| Templeton Fund | 693,232 | 581,979 |
| PFAMCO Equity Income Fund | 629,259 | 472,565 |
| Northern Trust Collective Stock Index Fund | 767,899 | 617,421 |
| Vanguard Asset Allocation Fund | 421,533 | 384,103 |
| PIMCO Total Return Fund | 679,480 | 631,534 |
| Northern Trust Short-Term Investment Fund | 6,422,213 | 6,757,471 |
| Brush Wellman Inc. Common Stock | 1,134,912 | 1,213,246 |
| Employee Benefit Money Market Fund | 134,905 | 68,776 |

In addition, \$3,498,440 and \$3,256,882 were invested in Participant Promissory Notes as of December 31, 1997 and December 31, 1996, respectively.

On July 1, 1996 the Vanguard Asset Allocation Fund replaced the Phoenix Total Return Fund.

NOTE E: The net realized gain (loss) on sales of investments for the Plan years ended December 31, 1997 December 31, 1996 and December 31, 1995 is as follows:

| 1997 | | | | |
|---|-----------|-------------|-------------|-------------|
| Investment | Shares | Cost | Proceeds | Gain(Loss) |
| Janus Fund | 48,746 | \$1,735,953 | \$3,751,635 | \$2,015,682 |
| Templeton Fund | 92,636 | 764,231 | 1,344,785 | 580,554 |
| PFAMCO Equity Income Fund | 41,321 | 1,210,205 | 2,479,582 | 1,269,377 |
| Northern Trust Collective Stock Index Fund | 87,600 | 1,720,132 | 3,224,693 | 1,504,561 |
| Vanguard Asset Allocation Fund | 72,313 | 363,499 | 909,072 | 545,573 |
| PIMCO Total Return Fund | 169,306 | 330,159 | 596,957 | 266,798 |
| Brush Wellman Inc. Common Stock | 61,873 | 1,003,412 | 1,080,313 | 76,901 |
| | | | | \$6,259,446 |
| 1996 | | | | |
| Investment | Shares | Cost | Proceeds | Gain(Loss) |
| Janus Fund | 32,450 | \$665,430 | \$2,065,899 | \$1,400,469 |
| Templeton Fund | 97,393 | 879,703 | 1,102,973 | 223,270 |
| PFAMCO Equity Income Fund | 54,403 | 640,837 | 1,749,309 | 1,108,472 |
| Northern Trust Collective Stock Index Fund | 75,307 | 872,895 | 1,595,571 | 722,676 |
| Phoenix Total Return Fund | 396,623 | 6,033,647 | 6,534,798 | 501,151 |
| Vanguard Asset Allocation Fund | 8,232 | 146,556 | 522,646 | 376,090 |
| PIMCO Total Return Fund | 142,677 | 1,416,931 | 1,470,595 | 53,664 |
| Brush Wellman Inc. Common Stock | 48,137 | 928,849 | 883,502 | (45,347) |
| | | | | \$4,340,445 |
| 1995 | | | | |
| Investment | Shares | Cost | Proceeds | Gain(Loss) |
| Janus Fund | 33,940 | \$650,645 | \$761,186 | \$110,541 |
| Templeton Fund | 103,753 | 917,868 | 1,095,507 | 177,639 |
| PFAMCO Equity Income Fund | 53,330 | 589,799 | 673,877 | 84,078 |
| Northern Trust Collective Stock Index Fund | 87,493 | 932,548 | 1,264,564 | 332,016 |
| Phoenix Total Return Fund | 82,342 | 1,225,019 | 1,642,742 | 417,723 |
| PIMCO Total Return Fund | 117,292 | 1,144,388 | 1,288,072 | 143,684 |
| Brush Wellman Inc. Common Stock | 59,224 | 1,150,567 | 1,068,537 | (82,030) |
| Managed Guaranteed Investment Contract Fund | 1,729,438 | 17,296,476 | 17,510,565 | 214,089 |
| Fidelity U.S. Equity Index Portfolio | 378,019 | 5,919,589 | 6,394,588 | 474,999 |
| Fidelity Fund Inc. | 153,786 | 2,856,184 | 2,843,565 | (12,619) |
| Fidelity Puritan Fund | 379,472 | 5,617,162 | 5,623,050 | 5,888 |
| | | | | \$1,866,008 |

The Department of Labor requires that realized gains and losses be calculated using current cost (cost at the beginning of the Plan Year) rather than historical cost. Realized gains under the current cost method for the year ended December 31, 1997 are as follows:

| | Realized Gain/(Loss) |
|--|-------------------------|
| Brush Wellman Inc. Common Stock | \$125,135 |
| Janus Fund | 2,042,395 |
| Templeton Fund | 609,425 |
| PFAMCO Equity Income Fund | 1,283,234 |
| Northern Trust Collective Stock Index Fund | 1,564,425 |
| Vanguard Asset Allocation Fund | 555,302 |
| PIMCO Total Return Fund | 250,693 |
| | \$6,430,609 |

NOTE F - The unrealized appreciation (depreciation) of investments for the Plan years ended December 31, 1997, December 31, 1996 and December 31, 1995 is as follows:

| | Balance January 1 1997 | Change | Balance December 31 1997 |
|--|------------------------------|--------------|--------------------------------|
| | ----- | ----- | ----- |
| Janus Fund | \$1,227,892 | (\$133,969) | \$1,093,923 |
| Templeton Fund | 695,196 | (476,424) | 218,772 |
| PFAMCO Equity Income Fund | 614,393 | 696,051 | 1,310,444 |
| Northern Trust Collective Stock Index Fund | 2,076,876 | 1,655,317 | 3,732,193 |
| Vanguard Asset Allocation Fund | 39,434 | 1,073,388 | 1,112,822 |
| PIMCO Total Return Fund | 327,088 | (25,567) | 301,521 |
| Brush Wellman Inc. Common Stock | (3,331,250) | 8,993,489 | 5,662,239 |
| | | ----- | |
| | | \$11,782,285 | |
| | | ===== | |
| | | | |
| | Balance January 1 1996 | Change | Balance December 31 1996 |
| | ----- | ----- | ----- |
| Janus Fund | \$1,003,066 | \$224,826 | \$1,227,892 |
| Templeton Fund | 127,958 | 567,238 | 695,196 |
| PFAMCO Equity Income Fund | 689,444 | (75,051) | 614,393 |
| Northern Trust Collective Stock Index Fund | 1,285,614 | 791,262 | 2,076,876 |
| Phoenix Total Return Fund | 312,645 | (312,645) | 0 |
| Vanguard Asset Allocation Fund | 0 | 39,434 | 39,434 |
| PIMCO Total Return Fund | 527,054 | (199,966) | 327,088 |
| Brush Wellman Inc. Common Stock | (2,321,868) | (1,009,382) | (3,331,250) |
| | | ----- | |
| | | \$25,716 | |
| | | ===== | |

| | Balance January 1 1995 | Change | Balance December 31 1995 |
|---|------------------------------|-------------|--------------------------------|
| Janus Fund | | \$1,003,066 | \$1,003,066 |
| Templeton Fund | | 127,958 | 127,958 |
| PFAMCO Equity Income Fund | | 689,444 | 689,444 |
| Northern Trust Collective Stock Index Fund | | 1,285,614 | 1,285,614 |
| Phoenix Total Return Fund | | 312,645 | 312,645 |
| PIMCO Total Return Fund | | 527,054 | 527,054 |
| Northern Trust Short-Term Investment Fund | | | |
| Brush Wellman Inc. Common Stock: | | | |
| -Brush Wellman Savings & Investment Plan | (\$2,219,813) | (102,055) | (2,321,868) |
| -Williams Advanced Materials Savings & Investment Plan | 54,421 | (54,421) | |
| Managed Guaranteed Investment Contract Fund: | | | |
| -Brush Wellman Savings & Investment Plan | 176,253 | (176,253) | |
| -Williams Advanced Materials Savings & Investment Plan | 25,209 | (25,209) | |
| Fidelity U.S. Equity Index Portfolio: | | | |
| -Brush Wellman Savings & Investment Plan | 461,819 | (461,819) | |
| -Williams Advanced Materials Savings & Investment Plan | 10,886 | (10,886) | |
| Fidelity Fund Inc.: | | | |
| -Brush Wellman Savings & Investment Plan | (6,359) | 6,359 | |
| -Williams Advanced Materials Savings & Investment Plan | (7,855) | 7,855 | |
| Fidelity Puritan Fund: | | | |
| -Brush Wellman Savings & Investment Plan | 17,658 | (17,658) | |
| -Williams Advanced Materials Savings & Investment Plan | (14,845) | 14,845 | |
| | | ----- | |
| | | \$3,126,539 | |
| | | ===== | |

The Department of Labor requires that unrealized appreciation and depreciation be calculated using current cost rather than historical cost. Unrealized gains and losses under the current cost method for the year ended December 31, 1997 are as follows:

| | Change in Unrealized Gain/(Loss) |
|--|-------------------------------------|
| Janus Fund | (\$160,682) |
| Templeton Fund | (505,295) |
| PFAMCO Equity Income Fund | 682,194 |
| Northern Trust Collective Stock Index Fund | 1,595,453 |
| Vanguard Asset Allocation Fund | 1,063,659 |
| PIMCO Total Return Fund | (9,462) |
| Brush Wellman Inc. Common Stock | 8,945,255 |
| | ----- |
| | \$11,611,122 |
| | ===== |

NOTE G - The Internal Revenue Service has determined that the Plan is qualified under Internal Revenue Code Section 401(a) and that the related trust is, therefore, tax-exempt under Code Section 501(a).

Continued qualification of the Plan depends upon timely adoption and operational application of certain amendments required as a result of the Tax Reform Act of 1986 (Act). In the Company's opinion, the Plan is operating in compliance with the applicable provisions of the Act.

The Company is allowed a federal income tax deduction for its employer matching contributions to the Plan.

The Plan provides, among other things, for contributions to be made to the Plan pursuant to a qualified cash or deferred arrangement (CODA) under Section 401(k) of the IRC. CODA contributions made to the Trust for a participant will reduce a participant's current compensation and will not be included in the gross income of the participant for federal income tax purposes in the year made. Such amounts will, however, be considered as part of the participant's gross income for purposes of Social Security taxes.

Non-CODA contributions withheld under the Plan from a participant through payroll deductions will be included in the gross income of the participant in the year withheld and are not deductible by the participant for federal income tax purposes.

A participant does not become subject to federal income taxes as a result of their participation in the Plan until the assets in their account are withdrawn by, or distributed to, the participant.

NOTE H - The Plan was restated on January 1, 1995. Subsequent amendments Nos. 1 and 2, also effective January 1, 1995, provide for certain provisions concerning member contributions, distributions and key employee testing procedures.

NOTE I - Effective January 1, 1995 the Williams Advanced Materials Inc. Savings and Investment Plan was merged into the Plan. Prior to the merger, the plans covered eligible employees at Brush Wellman Inc. and its subsidiary, Williams Advanced Materials Inc., there were no substantial changes in eligibility, Company contributions, plan benefits or value of plan assets as a result of the merger. The transferred net assets have been recognized in the accounts of the Plan, at their balances as previously carried in the accounts of the Williams Advanced Materials Inc. Savings and Investment Plan. The changes in net assets of the combined plans are included in the accompanying Statement of Changes in Net Assets available for benefits from January 1, 1995.

BRUSH WELLMAN INC.
SAVINGS & INVESTMENT PLAN
DECEMBER 31, 1997

SCHEDULE OF ASSETS HELD FOR INVESTMENT PURPOSES:

| INVESTMENTS ----- | DESCRIPTION ----- | COST ---- | CURRENT VALUE ----- |
|--|----------------------------------|--------------|---------------------------|
| Brush Wellman Inc. Common Stock | Common Stock | \$22,143,106 | \$27,805,344 |
| Janus Fund | Mutual Fund | \$12,892,394 | \$13,986,318 |
| Templeton Fund | Mutual Fund | \$6,678,891 | \$6,897,662 |
| PFAMCO Equity Income Fund | Mutual Fund | \$8,273,176 | \$9,583,620 |
| Northern Trust Collective Stock Index Fund | Mutual Fund | \$10,773,413 | \$14,505,606 |
| Vanguard Asset Allocation Fund | Mutual Fund | \$7,760,450 | \$8,873,272 |
| PIMCO Total Return Fund | Mutual Fund | \$6,900,971 | \$7,202,491 |
| Northern Trust Short-Term Investment Fund | Bank Common/ Collective Trust | \$6,422,214 | \$6,422,214 |
| Participant Promissory Notes | Participant Loans | \$3,498,440 | \$3,498,440 |
| Employee Benefit Money Market Fund | Bank Common/ Collective Trust | \$134,905 | \$134,905 |

BRUSH WELLMAN INC.
SAVINGS & INVESTMENT PLAN
SCHEDULE OF REPORTABLE TRANSACTIONS
DECEMBER 31, 1997

| TRANSACTION DESCRIPTION | PURCHASES | | SALES | | GAIN/(LOSS) |
|--|-----------|----------------|---------|----------------|-------------|
| | # TRANS | COST | # TRANS | PROCEEDS | |
| Brush Wellman Inc. Common Stock | 31 | \$2,435,779.51 | 21 | \$1,420,909.45 | \$76,901.48 |
| Janus Fund | 107 | 9,477,705.19 | 89 | 1,077,406.69 | 281,311.75 |
| Northern Trust Collective Stock Index Fund | 126 | 4,445,557.80 | 69 | 1,130,876.67 | 485,402.99 |
| PIMCO Total Return Fund | 77 | 2,270,873.38 | 71 | 1,673,916.65 | 88,134.04 |

CONSENT OF INDEPENDENT AUDITORS

We consent to the incorporation by reference in the Annual Report on Form 10-K under the Securities Exchange Act of 1934 of Brush Wellman Inc. for the year ended December 31, 1997 of our report dated March 11, 1998, with respect to the financial statements and schedules of the Brush Wellman Inc. Savings and Investment Plan included in this Annual Report (11-K) for the year ended December 31, 1997.

Wesley, Mills & Company

/s/ Wesley, Mills & Company

*Cleveland, Ohio
March 11, 1998*

End of Filing