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# UNITED STATES SECURITIES AND EXCHANGE COMMISSION Washington, D.C. 20549 

## FORM 10-Q

(Mark One)

区 QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the quarterly period ended July 2, 2004

## OR

## $\square$ TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the transition period from $\qquad$ to $\qquad$
Commission file number 001-15885

## BRUSH ENGINEERED MATERIALS INC.

(Exact name of Registrant as specified in charter)

Ohio
(State or other jurisdiction of incorporation or organization)
17876 St. Clair Avenue, Cleveland, Ohio
(Address of principal executive offices)

34-1919973
(I.R.S. Employer Identification No.)

44110
(Zip Code)

## 216-486-4200

Registrant's telephone number, including area code
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 $\mathbb{\text { do }} \square$

Indicate by check mark whether the registrant is an accelerated filer (as defined in Rule 12b-2 of the Act). Yes $\quad$ No

As of August 2, 2004 there were $18,943,884$ shares of Common Stock, no par value, outstanding.

## PART I FINANCIAL INFORMATION <br> BRUSH ENGINEERED MATERIALS INC. AND SUBSIDIARIES

## Item 1. Financial Statements

The consolidated financial statements of Brush Engineered Materials Inc. and its subsidiaries for the quarter ended July 2, 2004 are as follows:

Consolidated Statements of Income -
Second quarter and first half ended July 2, 2004 and June 27, 2003
Consolidated Balance Sheets -
July 2, 2004 and December 31, 2003
Consolidated Statements of Cash Flows -
First half ended July 2, 2004 and June 27, 2003
Exhibit 4(A) Letter Agreement
EX-11 Statement re Computation of Per Share Earnings
EX-31.1 302 CEO Certification
EX-31.2 302 CFO Certification
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EX-32.2 906 CFO Certification

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## Consolidated Statements of Income (Unaudited)

| (Dollars in thousands except share and per share amounts) | Second Quarter Ended |  |  |  | First Half Ended |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | July 2,$2004$ |  | $\begin{aligned} & \text { June 27, } \\ & 2003 \end{aligned}$ |  | July 2, 2004 |  | $\begin{gathered} \text { June } 27, \\ 2003 \end{gathered}$ |  |
| Net sales | \$ | 128,639 | \$ | 101,805 | \$ | 254,501 | \$ | 201,323 |
| Cost of sales |  | 99,198 |  | 82,941 |  | 195,483 |  | 165,346 |
| Gross margin |  | 29,441 |  | 18,864 |  | 59,018 |  | 35,977 |
| Selling, general and administrative expenses |  | 19,161 |  | 16,611 |  | 38,208 |  | 33,909 |
| Research and development expenses |  | 1,098 |  | 928 |  | 2,366 |  | 2,036 |
| Other-net |  | 127 |  | 230 |  | 3,319 |  | 976 |
| Operating profit (loss) |  | 9,055 |  | 1,095 |  | 15,125 |  | (944) |
| Interest expense |  | 2,389 |  | 834 |  | 4,607 |  | 1,606 |
| Income (loss) before income taxes |  | 6,666 |  | 261 |  | 10,518 |  | $(2,550)$ |
| Minority interest |  | - |  | (22) |  | - |  | (22) |
| Income taxes |  | 95 |  | 246 |  | 194 |  | 451 |
| Net income (loss) | \$ | 6,571 | \$ | 37 | \$ | 10,324 | \$ | $(2,979)$ |
| Per share of common stock: basic | \$ | 0.39 | \$ | 0.00 | \$ | 0.62 | \$ | (0.18) |
| Weighted average number of common shares outstanding |  | 6,704,568 |  | 6,563,098 |  | ,661,099 |  | ,5,562,283 |
| Per share of common stock: diluted | \$ | 0.38 | \$ | 0.00 | \$ | 0.60 | \$ | (0.18) |
| Weighted average number of common shares outstanding |  | 7,127,698 |  | 6,639,382 |  | ,107,295 |  | ,5,562,283 |

See notes to consolidated financial statements.

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## Consolidated Balance Sheets

(Unaudited)

| (Dollars in thousands) | $\begin{gathered} \text { July 2, } \\ 2004, \end{gathered}$ | $\begin{gathered} \text { Dec. 31, } \\ 2003 \end{gathered}$ |
| :---: | :---: | :---: |
| Assets |  |  |
| Current assets |  |  |
| Cash and cash equivalents | \$ 10,325 | \$ 5,062 |
| Accounts receivable | 67,950 | 55,102 |
| Inventories | 100,030 | 87,396 |
| Prepaid expenses | 5,674 | 5,454 |
| Deferred income taxes | 51 | 291 |
| Total current assets | 184,030 | 153,305 |
| Other assets | 16,006 | 18,902 |
| Long-term deferred income taxes | 1,393 | 704 |
| Property, plant and equipment | 537,679 | 535,421 |
| Less allowances for depreciation, depletion and impairment | 355,873 | 344,575 |
|  | 181,806 | 190,846 |
| Goodwill | 7,992 | 7,859 |
|  | \$391,227 | \$371,616 |
| Liabilities and Shareholders' Equity |  |  |
| Current liabilities |  |  |
| Short-term debt | \$ 25,516 | \$ 13,387 |
| Accounts payable | 16,994 | 16,038 |
| Other liabilities and accrued items | 38,200 | 37,366 |
| Income taxes | 928 | 1,373 |
| Total current liabilities | 81,638 | 68,164 |
| Other long-term liabilities | 12,219 | 14,739 |
| Retirement and post-employment benefits | 50,439 | 49,358 |
| Long-term debt | 78,581 | 85,756 |
| Minority interest in subsidiary | - | 26 |
| Shareholders' equity | 168,350 | 153,573 |
|  | \$391,227 | \$371,616 |

See notes to consolidated financial statements.

## Consolidated Statements of Cash Flows

(Unaudited)

| (Dollars in thousands) | First Half Ended |  |
| :---: | :---: | :---: |
|  | $\begin{gathered} \text { July 2, } \\ 2004 \end{gathered}$ | June 27, $2003$ |
| Net income (loss) | \$ 10,324 | (\$ 2,979) |
| Adjustments to reconcile net income (loss) to net cash used in operating activities: |  |  |
| Depreciation, depletion and amortization | 12,025 | 10,021 |
| Amortization of deferred financing costs in interest expense | 722 | 163 |
| Derivative financial instrument ineffectiveness | (1) | 58 |
| Decrease (increase) in accounts receivable | $(13,344)$ | $(10,461)$ |
| Decrease (increase) in inventory | $(12,923)$ | 5,754 |
| Decrease (increase) in prepaid and other current assets | 293 | 1,666 |
| Increase (decrease) in accounts payable and accrued expenses | 4,287 | 1,870 |
| Increase (decrease) in interest and taxes payable | $(1,033)$ | 105 |
| Increase (decrease) in deferred income taxes | (709) | 147 |
| Increase (decrease) in other long-term liabilities | (374) | 173 |
| Other - net | 1,771 | 653 |
| Net cash provided from operating activities | 1,038 | 7,170 |
| Cash flows from investing activities: |  |  |
| Payments for purchase of property, plant and equipment | $(2,959)$ | $(3,212)$ |
| Payments for mine development | (120) | (101) |
| Proceeds from other investments | 14 | - |
| Proceeds from sale of property, plant and equipment | 15 | 8 |
| Net cash (used in) investing activities | $(3,050)$ | $(3,305)$ |
| Cash flows from financing activities: |  |  |
| Proceeds from issuance/(repayment) of short-term debt | 13,557 | $(4,959)$ |
| Proceeds from issuance of long-term debt | 24 | 2,000 |
| Repayment of long-term debt | $(8,629)$ | $(4,034)$ |
| Issuance of common stock under stock option plans | 2,381 | - |
| Net cash provided from (used in) financing activities | 7,333 | $(6,993)$ |
| Effects of exchange rate changes | (58) | 78 |
| Net change in cash and cash equivalents | 5,263 | $(3,050)$ |
| Cash and cash equivalents at beginning of period | 5,062 | 4,357 |
| Cash and cash equivalents at end of period | \$ 10,325 | \$ 1,307 |

See notes to consolidated financial statements.

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## Notes to Consolidated Financial Statements

 (Unaudited)
## Note A - Accounting Policies

In management's opinion, the accompanying consolidated financial statements contain all adjustments necessary to present fairly the financial position as of July 2, 2004 and December 31, 2003 and the results of operations for the second quarter and first half ended July 2, 2004 and June 27, 2003. All of the adjustments were of a normal and recurring nature. Certain items in the prior year have been reclassified to conform to the 2004 consolidated financial statement presentation.

## Note B - Inventories

| (Dollars in thousands) | $\begin{gathered} \text { July 2, } \\ 2004 \end{gathered}$ | $\begin{gathered} \text { Dec. 31, } \\ 2003 \end{gathered}$ |
| :---: | :---: | :---: |
| Principally average cost: |  |  |
| Raw materials and supplies | \$ 23,655 | \$ 24,990 |
| Work in process | 74,631 | 65,212 |
| Finished goods | 28,457 | 20,637 |
| Gross inventories | 126,743 | 110,839 |
| Excess of average cost over LIFO |  |  |
| Inventory value | 26,713 | 23,443 |
| Net inventories | \$100,030 | \$ 87,396 |

## Note C - Comprehensive Income (Loss)

The reconciliation between net income (loss) and comprehensive income (loss) for the second quarter and first half ended July 2, 2004 and June 27, 2003 is as follows:

| (Dollars in thousands) | Second QuarterEnded |  | First Half Ended |  |
| :---: | :---: | :---: | :---: | :---: |
|  | July 2, 2004 | $\begin{gathered} \text { June 27, } \\ 2003 \end{gathered}$ | July 2, 2004 | $\begin{gathered} \text { June 27, } \\ 2003 \end{gathered}$ |
| Net income (loss) | \$6,571 | \$ 37 | \$10,324 | \$(2,979) |
| Cumulative translation adjustment | (356) | 3 | (131) | (70) |
| Change in the fair value of derivative financial instruments | 1,424 | $(3,065)$ | 2,353 | $(1,900)$ |
| Comprehensive income (loss) | \$7,639 | \$(3,025) | \$12,546 | \$(4,949) |

## Note D - Segment Reporting

| $\quad$Metal <br> (Dollars in thousands) | Micro- <br> Electronics | Total <br> Segments | All <br> Other | Total |  |
| :--- | ---: | ---: | ---: | ---: | ---: |
| Second Quarter 2004 | $\$ 77,129$ | $\$ 51,510$ | $\$ 128,639$ | $\$$ | - |
| Revenues from external customers | 856 | 391 | 1,247 | 6,185 | $7,4,432$ |
| Intersegment revenues | 1,795 | 4,804 | 6,599 | 2,456 | 9,055 |
| Operating profit |  |  |  |  |  |
| Second Quarter 2003 | $\$ 60,670$ | $\$ 37,650$ | $\$ 98,320$ | $\$ 3,485$ | $\$ 101,805$ |
| Revenues from external customers | 817 | 246 | 1,063 | 4,081 | 5,144 |
| Intersegment revenues | $(2,775)$ | 3,473 | 698 | 397 | 1,095 |

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| Metal <br> (Dollars in thousands) | Micro- <br> Electronics | Total <br> Segments | All <br> Other | Total |  |
| :--- | ---: | ---: | ---: | ---: | ---: |
| First Half 2004 | $\$ 153,087$ | $\$ 101,414$ | $\$ 254,501$ | $\$$ | - |
| Revenues from external customers | 2,070 | 687 | 2,757 | 11,482 | 14,239 |
| Intersegment revenues | 4,971 | 10,293 | 15,264 | $(139)$ | 15,125 |
| Operating profit (loss) |  |  |  |  |  |
| First Half 2003 | $\$ 121,877$ | $\$ 75,961$ | $\$ 197,838$ | $\$ 3,485$ | $\$ 201,323$ |
| Revenues from external customers | 1,718 | 518 | 2,236 | 7,654 | 9,890 |
| Intersegment revenues | $(6,199)$ | 6,010 | $(189)$ | $(755)$ | $(944)$ |

## Note E - Income Taxes

A tax provision or benefit was not applied against the income or loss before income taxes in the second quarter and the first half of 2004 and 2003 for certain domestic and foreign taxes as a result of the deferred tax valuation allowance recorded in 2003 and previous periods in accordance with SFAS 109, "Accounting for Income Taxes" due to the uncertainty regarding full utilization of the Company's deferred income taxes. The valuation allowance was reduced offsetting a portion of the net tax expense in both the second quarter and first half of 2004 as well as in the second quarter 2003. The valuation allowance was increased in the first half of 2003 offsetting the net tax benefit in that period. The Company intends to maintain the valuation allowance until additional realization events occur, including the generation of future sustainable taxable income, that would support reversal of all or a portion of the allowance. The tax expense was $\$ 0.1$ million in the second quarter 2004 and $\$ 0.2$ million in the second quarter 2003 while the year-to-date tax expense was $\$ 0.2$ million in 2004 and $\$ 0.5$ million in 2003. The expense in each period represents taxes from various state and local jurisdictions and foreign taxes from Japan and Singapore only.

The remaining tax valuation available to be reversed against future income was approximately $\$ 16.2$ million at the end of the second quarter of 2004.

## Note F - Pensions and Other Post-retirement Benefits

| (Dollars in thousands) | Pension Benefits Second Quarter Ended |  | Other Benefits Second Quarter Ended |  |
| :---: | :---: | :---: | :---: | :---: |
|  | $\begin{gathered} \text { July 2, } \\ 2004 \end{gathered}$ | $\begin{aligned} & \text { June 27, } \\ & 2003 \end{aligned}$ | $\begin{gathered} \text { July 2, } \\ 2004 \end{gathered}$ | $\begin{aligned} & \text { June 27, } \\ & 2003 \end{aligned}$ |
| Components of net periodic benefit cost |  |  |  |  |
| Service cost | \$ 1,060 | \$ 1,029 | \$ 70 | \$ 69 |
| Interest cost | 1,725 | 1,667 | 696 | 704 |
| Expected return on plan assets | $(2,267)$ | $(2,340)$ | - | - |
| Amortization of transition obligation/(asset) | - | (90) | - | - |
| Amortization of prior service cost | 162 | 162 | (28) | (28) |
| Amortization of net loss/(gain) | (3) | (7) | 122 | 83 |
| Net periodic benefit cost | \$ 677 | \$ 421 | \$860 | \$828 |

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| (Dollars in thousands) | Pension Benefits First Half Ended |  | Other Benefits First Half Ended |  |
| :---: | :---: | :---: | :---: | :---: |
|  | July 2, 2004 | $\begin{gathered} \text { June 27, } \\ 2003 \end{gathered}$ | July 2, $2004$ | $\begin{gathered} \text { June 27, } \\ 2003 \end{gathered}$ |
| Components of net periodic benefit cost |  |  |  |  |
| Service cost | \$ 2,121 | \$ 2,058 | \$ 140 | \$ 137 |
| Interest cost | 3,450 | 3,334 | 1,392 | 1,409 |
| Expected return on plan assets | $(4,535)$ | $(4,679)$ | - | - |
| Amortization of transition obligation/(asset) | - | (181) | - | - |
| Amortization of prior service cost | 323 | 323 | (56) | (56) |
| Amortization of net loss/(gain) | (5) | (13) | 243 | 166 |
| Net periodic benefit cost | \$ 1,354 | \$ 842 | \$1,719 | \$1,656 |

## Employer Contributions

No contributions were made to the pension plan in the first half of 2004 and, as a result of recently enacted legislation, the previously estimated contribution of $\$ 1.7$ million to be made in 2004, as disclosed in the financial statements for the year ended December 31, 2003, will not be required.

## Impact of Recently Issued Accounting Pronouncement

In December 2003, the Financial Accounting Standards Board (FASB) issued FASB Staff Position (FSP) No. 106-1, "Accounting and Disclosure Requirements Related to the Medicare Prescription Drug, Improvement and Modernization Act of 2003." In accordance with FSP No. 106-1, the Company has elected to defer recognizing the effects of the Medicare Prescription Drug, Improvement and Modernization Act of 2003 (the Act) in the accounting for the health care benefits under SFAS No. 106, "Employers' Accounting for Postretirement Benefits Other Than Pensions," and in providing disclosures related to the health care benefits required by revised SFAS No. 132, "Employers' Disclosures about Pensions and Other Postretirement Benefits." In May 2004, the FASB issued FSP No. 106-2, "Accounting and Disclosure Requirements Related to the Medicare Prescription Drug, Improvement and Modernization Act of 2003." FSP No. 106-2, which requires measures of the accumulated postretirement benefit obligation and net periodic postretirement benefit cost to reflect the effects of the Act, supersedes FSP No. 106-1. FSP No. 106-2 is effective for interim or annual periods beginning after June 15, 2004. The net periodic postretirement benefit costs above do not reflect the effect of the Act. Management has not yet determined the effect FSP No. 106-2 will have on the Company's results of operations, financial condition or liquidity.

## Note G - Stock-Based Compensation

The Company has adopted the disclosure only provisions of SFAS No. 123, "Accounting for Stock-Based Compensation" and applies the intrinsic value method in accordance with APB Opinion No. 25, "Accounting for Stock Issued to Employees" and related interpretations in accounting for its stock incentive plan. In accordance with SFAS No. 148, "Accounting for Stock-Based Compensation-Transition and Disclosure," the

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following table presents the effect on net income/(loss) and net income/(loss) per share had compensation cost for the Company's stock plans been determined consistent with SFAS No. 123.

| (Dollars in thousands except per share amounts) | Second QuarterEnded |  | First Half Ended |  |
| :---: | :---: | :---: | :---: | :---: |
|  | July 2, 2004 | $\begin{gathered} \text { June 27, } \\ 2003 \end{gathered}$ | $\begin{gathered} \text { July } 2, \\ 2004 \end{gathered}$ | $\begin{gathered} \text { June 27, } \\ 2003 \end{gathered}$ |
| Net income/(loss), as reported | \$6,571 | \$ 37 | \$10,324 | \$(2,979) |
| Less stock-based compensation expense determined under fair value method for all stock options, net of related income tax benefit | 722 | 353 | 1224 | 581 |
| Pro forma net income/(loss) | \$5,849 | \$ (316) | \$ 9,100 | \$(3,560) |
| Basic income/(loss) per share, as reported | \$ 0.39 | \$ - | \$ 0.62 | \$ (0.18) |
| Diluted income/(loss) per share, as reported | 0.38 | 0.00 | 0.60 | (0.18) |
| Basic income/(loss) per share, pro forma | 0.35 | (0.02) | 0.55 | (0.21) |
| Diluted income/(loss) per share, pro forma | 0.34 | (0.02) | 0.53 | (0.21) |

The fair value was estimated on the grant date using the Black-Scholes option pricing model with the following assumptions for options issued:

|  | Second Quarter Ended |  | First Half Ended |  |
| :---: | :---: | :---: | :---: | :---: |
|  | $\begin{gathered} \text { July 2, } \\ 2004 \end{gathered}$ | $\begin{gathered} \text { June 27, } \\ 2003 \end{gathered}$ | $\begin{gathered} \text { July 2, } \\ 2003 \end{gathered}$ | $\begin{gathered} \text { June 27, } \\ 2002 \end{gathered}$ |
| Risk free interest rates | 1.81\% | 2.64\% | 3.26\% | 3.64\% |
| Dividend yield | 0\% | 0\% | 0\% | 0\% |
| Volatility | 41.8\% | 39.5\% | 41.8\% | 39.5\% |
| Expected lives (in years) | 6 | 8 | 6 | 8 |

## Note H - Subsequent Event

Subsequent to the end of the second quarter 2004, the Company issued 2,250,000 shares of common stock at a price of $\$ 18.75$ per share. The proceeds, net of underwriting discounts and fees, were approximately $\$ 38.5$ million. The Company initially used the proceeds to pay down $\$ 5.0$ million of the borrowings under the $\$ 35.0$ million subordinated note and the outstanding borrowings under the revolving credit agreement. A portion of the proceeds was also held as cash for general corporate purposes. In addition, 115,000 shares of common stock were issued to the holders of the stock warrants (which were initially granted in the fourth quarter 2003 as part of the debt refinancing) as the holders exercised their rights under those warrants. As a result of the stock issuance, the total outstanding shares of common stock increased by $2,365,000$ shares and shareholders' equity increased by the amount of the net proceeds.

## Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations

## FORWARD-LOOKING STATEMENTS

Portions of the narrative set forth in this document that are not statements of historical or current facts are forward-looking statements. Our actual future performance may materially differ from that contemplated by the forward-looking statements as a result of a variety of factors. These factors include, in addition to those mentioned elsewhere herein:

- health issues, litigation and regulation relating to mining bertrandite ore and producing and using beryllium-containing materials;
- our ability to achieve and sustain profitability;


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- significant cyclical fluctuations in our customers' businesses;
- the availability of competitive substitute materials for beryllium-containing materials;
- our ability to complete and integrate acquisitions successfully;
- risks associated with our international operations;
- the availability and prices of raw materials;
- seasonal fluctuations in our net sales;
- natural disasters, equipment failures, interruptions in energy supplies and other unexpected events that may affect our business or our customers' businesses;
- increases in energy costs;
- rapid changes in technology, which may make our existing products obsolete;
- our ability to deliver products that are free of defects and meet our customers' specifications;
- risks associated with our lengthy sales and development cycle;
- risks associated with terrorists attacks;
- risks associated with our pension and retiree health obligations;
- risks associated with our tax position;
- risks associated with our indebtedness and our ability to access the financial markets on favorable terms;
- fluctuations in currency exchange rates; and
- our reliance on funds from our subsidiaries.

Although we believe that the expectations reflected in the forward-looking statements are reasonable, we cannot guarantee our future results, level of activity, performance or achievement.

## OVERVIEW

We are an integrated producer of engineered materials used in a variety of electrical, electronic, thermal and structural applications. We manufacture and distribute high-performance beryllium-copper and beryllium-nickel alloys, beryllium metal products, precious metal products, engineered material systems and electronic products. Major applications and markets for these materials include telecommunications and computer, automotive electronics, optical media, industrial components, appliance, aerospace and defense.

Our financial results for the second quarter 2004 were a strong improvement over the prior year once again and the diluted earnings per share of $\$ 0.60$ for the first six months of the year is the highest first half earnings since 1997. Sales grew in the second quarter 2004 over the second quarter 2003 as well as over the first quarter of this year. Our end-use markets and our penetration of those markets with our existing and new products continued to show improvements in 2004. Gross margins grew once again as a result of the higher sales as well as from improved manufacturing performance while the operating profit of $\$ 9.1$ million in the second quarter 2004 was an $\$ 8.0$ million increase over the second quarter 2003.

Accounts receivable and inventories increased in the first half of 2004 as a result of and in support of the growth in sales. Debt, in turn, increased in order to finance a portion of this working capital growth.

Subsequent to the end of the second quarter 2004, we strengthened our balance sheet by completing a $\$ 38.5$ million new share offering. The offering improves our ability to fund future growth opportunities and requirements. The proceeds were initially used primarily to reduce

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## RESULTS OF OPERATIONS

| Millions, except per share data | Second Quarter Ended |  | First Half Ended |  |
| :---: | :---: | :---: | :---: | :---: |
|  | $\begin{gathered} \text { July } 2, \\ 2004 \end{gathered}$ | $\begin{gathered} \text { June 27, } \\ 2003 \end{gathered}$ | July 2, 2004 | $\begin{gathered} \text { June 27, } \\ 2003 \end{gathered}$ |
| Sales | \$128.6 | \$101.8 | \$254.5 | \$201.3 |
| Operating Profit (Loss) | 9.1 | 1.1 | 15.1 | (0.9) |
| Net Income (Loss) | 6.6 | 0.0 | 10.3 | (3.0) |
| Diluted E.P.S. | \$ 0.38 | \$ 0.00 | \$ 0.60 | \$ (0.18) |

Sales of $\$ 128.6$ million in the second quarter 2004 were $26 \%$ higher than the second quarter 2003 while year-to-date sales of $\$ 254.5$ million were also $26 \%$ higher than the first six months of 2003. Sales have grown for six consecutive quarters over the comparable period in the prior year. Improved demand from our key end-use markets, including telecommunications and computer, optical media and data storage markets, was responsible for the majority of the growth in sales in the second quarter 2004, while the continuing development of new products and applications contributed to the growth as well.

Our sales are affected by metal prices as changes in precious metal and a portion of the changes in base metal prices, primarily copper, may be passed on to our customers. Sales may also be impacted by foreign currency exchange rates, as changes in the value of the dollar relative to the euro, yen and pound sterling will affect the translated value of foreign currency denominated sales. We estimate that these two factors combined accounted for $\$ 5.2$ million of the $\$ 26.8$ million growth in the second quarter 2004 sales and $\$ 11.6$ million of the $\$ 53.2$ million growth in the year-to-date sales.

International sales, including direct exports from the United States as well as sales from foreign operations, were $\$ 41.8$ million, or $33 \%$ of sales, in the second quarter 2004, compared to $\$ 32.7$ million, or $32 \%$ of sales, in the second quarter 2003. For the first half of the year, international sales were $\$ 83.1$ million ( $33 \%$ of sales) in 2004 and $\$ 62.5$ million ( $31 \%$ of sales) in 2003. International sales have grown $33 \%$ in the first six months of 2004 over 2003.

For the first six months of the year, the new sales orders received have exceeded the orders shipped by approximately $7 \%$.

The gross margin of $\$ 29.4$ million was $23 \%$ of sales in the second quarter 2004, an improvement over the gross margin of $\$ 18.9$ million and $19 \%$ of sales generated in the second quarter 2003. For the first six months of the year, gross margin was $\$ 59.0$ million in 2004 and $\$ 36.0$ million in 2003. The gross margin improved to $23 \%$ of sales in the first half of 2004 compared to $18 \%$ of sales in the first half of 2003 . The margin growth in the quarter and the first half of the year is due to a combination of higher volumes, improved manufacturing efficiencies and changes in product mix. These benefits were partially offset by the impact of the higher cost of copper.

Selling, general and administrative expenses (SG\&A) were $\$ 19.2$ million, or $15 \%$ of sales, in the second quarter 2004, compared to $\$ 16.6$ million, or $16 \%$ of sales, in the second quarter 2003. SG\&A expenses for the first half of the year were $\$ 38.2$ million, or $15 \%$ of sales, in 2004 and $\$ 33.9$ million, or $17 \%$ of sales, in 2003. Incentive compensation expense was $\$ 1.8$ million higher in the second quarter and $\$ 2.9$ million higher for the first half of 2004 than the comparable periods in 2003 due to the higher level of profitability in 2004. The currency impact on the translation of the international subsidiaries' expenses was an unfavorable $\$ 0.3$ million in the second quarter 2004 and an unfavorable $\$ 0.6$ million in the first half of the year. Other expenses increased in support of the higher volumes of business.

Research and development expenses (R\&D) were $\$ 1.1$ million in the second quarter 2004 and $\$ 2.4$ million in the first half of 2004 compared to $\$ 0.9$ million and $\$ 2.0$ million in the respective periods of 2003 . R\&D expenses were $1 \%$ of sales in both the first half of 2004 and the first half of 2003. R\&D expenses increased in 2004 in support of product development and process improvement activities.

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Other-net expense was $\$ 0.1$ million in the second quarter 2004 compared to $\$ 0.2$ million in the second quarter 2003. For the year, other-net expense was $\$ 3.3$ million in 2004 and $\$ 1.0$ million in 2003. Foreign currency exchange losses were $\$ 1.2$ million higher in the second quarter and $\$ 2.4$ million higher in the first six months of 2004 than the comparable periods of 2003 . The expense on the directors' deferred compensation plan was $\$ 0.5$ million lower in the second quarter 2004 than it was in the second quarter 2003 while the year-to-date expense was $\$ 0.2$ million higher in 2004 than in 2003. Changes in the expense are driven primarily by changes in our stock price. We recorded a gain of $\$ 0.5$ million on the valuation of an interest rate swap in the second quarter 2004 while the 2004 year-to-date valuation adjustment was breakeven. Changes in the swap's valuation were caused primarily by movements in the interest rate yield curve over the future term of the swap. Other-net also includes bad debts, which were slightly lower in 2004 than 2003, metal financing fees, cash discounts, amortization of intangible assets, gain or loss on the sale of fixed assets and other non-operating items.

Operating profit was $\$ 9.1$ million in the second quarter 2004 compared to $\$ 1.1$ million in the second quarter 2003. The year-to-date operating profit of $\$ 15.1$ million in 2004 was a $\$ 16.0$ million improvement over the $\$ 0.9$ million loss in the first half of 2003 . The improved profitability in both the second quarter and the first half of 2004 was due to the margin generated by the higher sales and manufacturing improvements offset in part by the higher copper cost and expenses. Approximately $30 \%$ of the sales growth in the quarter and first half of the year flowed through to operating profit.

Interest expense was $\$ 2.4$ million in the second quarter 2004 and $\$ 0.8$ million in the second quarter 2003 while the expense of $\$ 4.6$ million in the first half of 2004 was $\$ 3.0$ million higher in 2004 than in 2003. Interest expense was higher in 2004 mainly due to the change in debt levels; balance sheet debt increased as a result of the purchase of previously leased assets as part of the debt refinancing in December 2003 and from financing the increase in working capital elements in 2004.

Income before income taxes improved from $\$ 0.3$ million in the second quarter 2003 to $\$ 6.7$ million in the second quarter 2004. For the first half of 2004, income before income taxes was $\$ 10.5$ million compared to a loss of $\$ 2.6$ million in the first half of 2003.

A tax provision or benefit was not applied against the income or loss before income taxes in the second quarter or year-to-date periods in 2004 or 2003 for certain domestic and foreign taxes as a result of the deferred tax valuation allowance recorded in previous periods in accordance with SFAS No. 109, "Accounting for Income Taxes", due to the uncertainty regarding the full utilization of the deferred income tax assets. The valuation allowance was reduced in the second quarter and first half of 2004, offsetting a portion of the tax expense, while in 2003, the valuation allowance was reduced in the second quarter but increased in the first six months offsetting a net tax benefit in that period. The tax expense of $\$ 0.1$ million in the second quarter 2004 and $\$ 0.2$ million in the second quarter 2003 as well as the year-to-date expense of $\$ 0.2$ million in 2004 and $\$ 0.5$ million in 2003 represents taxes from various state and local jurisdictions and Japan and Singapore only.

Net income was $\$ 6.6$ million in the second quarter 2004 compared to breakeven in the second quarter 2003 while net income was $\$ 10.3$ million in the first half of 2004, a $\$ 13.3$ million improvement over the net loss of $\$ 3.0$ million in the first half of 2003.

We aggregate our businesses into two reportable segments - the Metal Systems Group and the Microelectronics Group (MEG). Our mining and extraction operations, as managed by Brush Resources Inc., a wholly owned subsidiary, and various corporate and administrative functions and their related expenses, are not part of either group and are included in the "All Other" column in the segment reporting details in Note D to the consolidated financial statements. The operating profit within All Other increased in the second quarter 2004 over the second quarter 2003 in part due to the previously discussed differences in the interest rate swap and the directors' deferred compensation plan valuation adjustments as well as from improved profitability from Brush Resources.

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## Metal Systems Group

|  |  | arter |  | nded |
| :---: | :---: | :---: | :---: | :---: |
| Millions | $\begin{gathered} \text { July 2, } \\ 2004 \end{gathered}$ | $\begin{gathered} \text { June 27, } \\ 2003 \end{gathered}$ | $\begin{gathered} \text { July 2, } \\ 2004 \end{gathered}$ | $\begin{gathered} \text { June 27, } \\ 2003 \end{gathered}$ |
| Sales | \$77.1 | \$60.7 | \$153.1 | \$121.9 |
| Operating Profit (Loss) | \$ 1.8 | \$ (2.8) | \$ 5.0 | \$ (6.2) |

The Metal Systems Group consists of Alloy Products, our largest unit, Technical Materials, Inc. (TMI), a wholly owned subsidiary, and Beryllium Products. Sales by each of these units were as follows:

|  | Millions | $\underset{\text { Ended }}{\substack{\text { Second Quarter }}}$ |  | First Half Ended |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | July 2, 2004 | $\begin{gathered} \text { June } 27, \\ 2003 \end{gathered}$ | July 2, 2004 | $\begin{gathered} \text { June 27, } \\ 2003 \end{gathered}$ |
| Alloy Products |  | \$54.7 | \$42.1 | \$107.2 | \$82.5 |
| TMI |  | 14.6 | 10.7 | 28.4 | 22.6 |
| Beryllium Products |  | 7.8 | 7.9 | 17.5 | 16.8 |

Alloy Products manufactures and sells copper and nickel-based alloy systems, the majority of which also contain beryllium, and consists of two major product families - strip and bulk products. Strip products, which include precision strip and thin diameter rod and wire, are sold into the telecommunications and computer, automotive and appliance markets. Major applications for these products include connectors, contacts, switches, relays and shielding. Bulk products are alloys manufactured into rod, tube, plate, bar and other customized forms that are sold into the industrial component, plastic tooling, undersea telecommunications and heavy equipment markets. Applications for bulk products include plastic mold tooling, bushings, bearings and welding rods.

Alloy Products' sales were $\$ 54.7$ million in the second quarter 2004, a $\$ 12.6$ million improvement over the second quarter 2003 while sales of $\$ 107.2$ million in the first half of 2004 improved $\$ 24.7$ million (or $30 \%$ ) over the first half of 2003 . Strip product volumes increased $29 \%$ in the quarter and $35 \%$ for the first half of 2004 while bulk product volumes grew $28 \%$ in the quarter and $21 \%$ in the first six months of the year. Within strip products, thin diameter rod and wire showed the largest percentage growth. Sales of non-beryllium containing products, while still minor, also improved during the second quarter 2004. The majority of the growth in sales from Alloy Products resulted from improvements in the underlying markets, including telecommunications and computer, automotive (particularly in Europe) and industrial components. Sales of new products, used in heavy equipment, oil and gas and other applications, contributed to the growth as well. Demand from the plastic tooling market and for undersea telecommunication applications remained soft in 2004.

TMI manufactures specialty strip products, including clad inlay and overlay metals, precious and base metal electroplated systems, electron beam welded systems, contour profiled systems and solder coated systems. Applications for TMI products include connectors, contacts and semiconductors. TMI's sales were $\$ 14.6$ million in the second quarter 2004 versus $\$ 10.7$ million in the second quarter 2003 and $\$ 28.4$ million in the first half of 2004 compared to $\$ 22.6$ million in the first half of 2003. The growth in TMI's sales was due to increased demand from the telecommunications and computer market. Automotive and other market segment sales were stable. TMI continues to develop new market and product applications, a portion of which are anticipated to startup in the coming quarters.

Beryllium Products manufactures pure beryllium and beryllium aluminum composites used in high-performance applications that require high stiffness and/or low density. Sales by Beryllium Products were $\$ 7.8$ million in the second quarter 2004, down slightly from sales of $\$ 7.9$ million in the second quarter 2003 while sales in the first half of 2004 were $\$ 17.5$ million, a $\$ 0.7$ million increase over the comparable period in 2003. Demand for defense and government-related applications and from the medical and electronics markets remained strong in the first half of 2004 while demand from the specialty automotive market declined in 2004.

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The first shipment under the Webb telescope material supply contract in the first quarter of 2004 also contributed to the year-to-date growth.

The gross margin on Metal System Group sales was $\$ 18.4$ million in the second quarter 2004 and $\$ 10.1$ million in the second quarter 2003. The second quarter gross margin also improved from $17 \%$ of sales in 2003 to $24 \%$ of sales in 2004 . For the first six months of the year, gross margin was $\$ 38.1$ million, or $25 \%$ of sales, in 2004 and $\$ 19.9$ million, or $16 \%$ of sales, in 2003 . The margin on the higher sales volumes accounted for approximately $\$ 5.3$ million of the margin improvement in the quarter and $\$ 10.3$ million of the year-to-date improvement. Changes in the cost of copper cannot be passed on to customers in all cases and, as a result, the higher cost of copper reduced margins by an estimated $\$ 2.1$ million in the quarter and $\$ 4.2$ million for the first six months. The purchase of the previously leased assets as part of the December 2003 refinancing reduced manufacturing overhead expenses by approximately $\$ 1.5$ million in the quarter and $\$ 3.1$ million for the first six months of 2004 as the depreciation expense on the owned assets was less than the prior lease expense. The remaining margin growth was due to operational improvements, including yields and efficiencies, at the various manufacturing facilities, and from changes in the product mix (i.e., sales of higher margin products grew more than lower margin products). The exchange rate impact on margins was favorable in the first half of 2004 as compared to 2003 while inventory valuation adjustments and various overhead manpower costs were higher in the current year than last year.

SG\&A, R\&D and other-net expenses of $\$ 16.6$ million were $\$ 3.7$ million higher in the second quarter 2004 than in the second quarter 2003. June 2004 year-to-date expenses of $\$ 33.2$ million were $\$ 7.1$ million higher than the comparable period in 2003. Incentive compensation expenses, exchange losses and the currency impact on the translation of the international subsidiaries all contributed to the increased expenses in the quarter and the first half of the year. Various sales volume-related expenses, including commissions and travel, were also higher in the current year.

The operating profit for the Metal Systems Group was $\$ 1.8$ million in the second quarter 2004 compared to an operating loss of $\$ 2.8$ million in 2003 while year-to-date operating profit of $\$ 5.0$ million was an $\$ 11.2$ million improvement over the $\$ 6.2$ million loss in 2003. The growth in profitability resulted from the increased margin from the higher sales volumes, manufacturing improvements and other causes offset in part by the negative impact of the cost of copper and higher expenses.

## Microelectronics Group

|  | Millions | Second QuarterEnded |  | First Half Ended |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | July 2, 2004 | $\begin{gathered} \text { June } 27, \\ 2003 \end{gathered}$ | July 2, 2004 | $\begin{gathered} \text { June 27, } \\ 2003 \end{gathered}$ |
| Sales |  | \$51.5 | \$37.7 | \$101.4 | \$76.0 |
| Operating Profit |  | \$ 4.8 | \$ 3.5 | \$ 10.3 | \$ 6.0 |

The MEG includes Williams Advanced Materials Inc. (WAM), a wholly owned subsidiary, and Electronic Products. Sales by each unit were as follows:

|  | Second Quarter Ended |  | First Half Ended |  |
| :---: | :---: | :---: | :---: | :---: |
| Millions | $\begin{gathered} \text { July 2, } \\ 2004 \end{gathered}$ | $\begin{aligned} & \text { June 27, } \\ & 2003 \end{aligned}$ | $\begin{gathered} \text { July 2, } \\ 2004 \end{gathered}$ | $\begin{gathered} \text { June } 27, \\ 2003 \end{gathered}$ |
| WAM | \$43.5 | \$29.8 | \$85.6 | \$60.3 |
| Electronic Products | 8.0 | 7.9 | 15.8 | 15.7 |

WAM manufactures precious, non-precious and specialty metal products, including vapor deposition targets, frame lid assemblies, clad and precious metal preforms, high temperature braze materials and ultra-fine wire. The cost of the precious metal sold by WAM is passed through to the customer and WAM generates its margin on its fabrication efforts and not on the particular metal sold. Metal prices were higher in the second quarter and first half of 2004 than in the comparable periods in 2003, thereby increasing sales without a

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proportional flow through to margins. The growth in the underlying volumes was less than the $46 \%$ growth in sales in the quarter and $42 \%$ growth in sales in the first half of the year.

WAM's sales growth was driven by the continued strong demand for targets for digital versatile disc (DVD) applications from the optical media market and for thin film materials from the data storage market. Demand from the wireless sector of the microelectronics market for frame lids and other materials was also strong in 2004 while demand from the smaller markets for WAM's products, including defense and medical, contributed to the sales growth in the first half of 2004 as well. WAM continued its efforts to develop new products, including materials for semiconductor applications, which offer long-term growth potential.

Electronic Products consists of Brush Ceramic Products Inc. and Zentrix Technologies Inc., two wholly owned subsidiaries. These operations produce beryllia ceramics, electronic packages and circuitry for sale into the telecommunications and computer, medical, electronics, automotive and defense markets. Sales of beryllia ceramics and electronic packages were higher in both the second quarter and the first half of 2004 than in the comparable period in 2003. The demand for these materials from the telecommunications and computer market, including wireless applications, improved in 2004, while demand from the automotive market remained relatively flat. Sales of circuitry declined in the second quarter and the first half of 2004, offsetting the majority of the growth in the other products, as the demand for defense applications softened and demand for commercial applications for circuits has been slow to develop.

The gross margin on MEG sales was $\$ 10.0$ million in the second quarter 2004 and $\$ 8.2$ million in the second quarter 2003. For the first half of the year, the gross margin was $\$ 20.9$ million, or $21 \%$ of sales, in 2004 and $\$ 15.7$ million, also $21 \%$ of sales, in 2003. Higher sales volumes generated approximately $\$ 3.7$ million of the second quarter margin improvement and $\$ 6.4$ million of the year-to-date improvement. Manufacturing overhead expenses were $\$ 0.4$ million higher in the second quarter 2004 and $\$ 0.5$ million higher in the first half of 2004 than the comparable periods of 2003. Manufacturing efficiencies continued to improve in 2004, particularly within the Buffalo, New York and the Tucson, Arizona operations. The product mix within the MEG was unfavorable in both the second quarter and year-to-date periods in 2004.

SG\&A, R\&D and net-other expenses were $\$ 0.4$ million higher in the second quarter 2004 than in the second quarter 2003 and $\$ 0.9$ million higher in the first half 2004 than in the comparable period in 2003. Increased administrative costs, including legal and worker's compensation expenses, along with the higher incentive compensation expense were the main causes of the change in expenses between periods.

The operating profit for the MEG was $\$ 4.8$ million in the second quarter 2004 and $\$ 10.3$ million in the first half of 2004. Operating profit was $\$ 3.5$ million and $\$ 6.0$ million in the respective periods in 2003 . The MEG's operating profit was $10 \%$ of sales in the first half of 2004 compared to $8 \%$ of sales in the first half of 2003.

## LEGAL

One of the our subsidiaries, Brush Wellman Inc., is a defendant in proceedings in various state and federal courts brought by plaintiffs alleging that they have contracted, or have been placed at risk of contracting, chronic beryllium disease or other lung conditions as a result of exposure to beryllium. Plaintiffs in beryllium cases seek recovery under theories of intentional tort and various other legal theories and seek compensatory and punitive damages, in many cases of an unspecified sum. Spouses of some plaintiffs claim loss of consortium.

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The following table summarizes the activity associated with beryllium cases. Settlement payment and dismissal for a single case may not occur in the same period.

|  | Quarter Ended |  |
| :--- | :---: | :---: |
|  | July 2, 2004 | April 2, 2004 |
| Total cases pending | 13 | 14 |
| Total plaintiffs | 32 | 34 |
| Number of claims (plaintiffs) filed during period ended | $0(0)$ | $2(9)$ |
| Number of claims (plaintiffs) settled during period ended | $1(2)$ | $1(1)$ |
| Aggregate cost of settlements during period ended (dollars in thousands) | 6 | $\$ 4$ |
| Number of claims (plaintiffs) otherwise dismissed | $0(0)$ | $2(7)$ |
| Number of claims (plaintiffs) voluntarily withdrawn | $0(0)$ | $0(0)$ |

Additional beryllium claims may arise. We believe that we have substantial defenses in these cases and intend to contest the suits vigorously. Employee cases, in which plaintiffs have a high burden of proof, have historically involved relatively small losses to us. Third party plaintiffs (typically employees of customers or contractors) face a lower burden of proof than do employees or former employees, but these cases are generally covered by varying levels of insurance. Included in the thirteen cases pending as of July 2, 2004 were three purported class actions involving eighteen plaintiffs. We are also aware of a fourth purported class action, although the case has not been served on us. A reserve was recorded for beryllium litigation of $\$ 1.4$ million at July 2, 2004 and $\$ 2.9$ million at December 31, 2003. A receivable was recorded of $\$ 2.0$ million at July 2, 2004 and $\$ 3.2$ million at December 31, 2003 from our insurance carriers as recoveries for insured claims. An additional $\$ 0.9$ million was reserved for insolvencies at the end of each period. These insolvencies relate to claims still outstanding as well as claims for which partial payments have been received.

Although it is not possible to predict the outcome of pending litigation against our subsidiaries and us, we provide for costs related to these matters when a loss is probable and the amount is reasonably estimable. Litigation is subject to many uncertainties, and it is possible that some of these actions could be decided unfavorably in amounts exceeding our reserves. An unfavorable outcome or settlement of a pending beryllium case or additional adverse media coverage could encourage the commencement of additional similar litigation. We are unable to estimate our potential exposure to unasserted claims.

While we are unable to predict the outcome of the current or future beryllium proceedings, based upon currently known facts and assuming collectibility of insurance, we do not believe that resolution of these proceedings will have a material adverse effect on our financial condition or cash flow. However, our results of operations could be materially affected by unfavorable results in one or more of these cases.

Standards for exposure to beryllium are under review by the United States Occupational Safety and Health Administration, and by private standard-setting organizations. One result of these reviews might be more stringent worker safety standards. More stringent standards, as well as other factors such as the adoption of beryllium disease compensation programs and publicity related to these reviews may also affect buying decisions by the users of beryllium-containing products. If the standards are made more stringent or our customers decide to reduce their use of beryllium-containing products, our operating results, liquidity and capital resources could be materially adversely affected. The extent of the adverse effect would depend on the nature and extent of the changes to the standards, the cost and ability to meet the new standards, the extent of any reduction in customer use and other factors that cannot be estimated.

## FINANCIAL POSITION

Cash flow provided from operations was $\$ 1.0$ million in the first six months of 2004. Cash received from the sale of goods was $\$ 241.1$ million while cash used for goods and expenses totaled $\$ 234.3$ million and cash paid for interest and taxes totaled $\$ 5.8$ million in the first half of 2004. The cash balance was $\$ 10.3$ million at the end of the second quarter 2004, an increase of $\$ 5.2$ million since the end of 2003 .

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The accounts receivable balance was $\$ 68.0$ million at July 2, 2004 compared to $\$ 55.1$ million at December 31, 2003. The main cause for the increase in receivables was the higher sales in the current year. The days sales outstanding (DSO), a measure of the average collection period, was 47.5 days as of the end of the second quarter, only a slight increase compared to the DSO of 47.0 days at the end of the fourth quarter 2003.

The inventory balance at the end of the second quarter was $\$ 100.0$ million, an increase of $\$ 12.6$ million during the first half of the year. As with receivables, the inventory increase was in support of the higher sales volumes. Inventory turns, a measure of how quickly inventory on average is sold, improved slightly in the second quarter 2004 compared to the fourth quarter 2003. The majority of the inventory increase was in the Metal Systems Group. The increase in Alloy Products’ inventory was a combination of higher volumes and as a result of the higher copper prices while inventory within Beryllium Products increased to support the shipments to be made in the second half of the year under the Webb telescope program. Inventories within Brush Resources also increased as a result of campaigning the production schedule in the first half of the year in order to operate the facility more efficiently.

We terminated the company-owned life insurance program in the second quarter 2004 and received $\$ 0.8$ million representing the cash surrender value of the policies as of the termination date net of the outstanding loans.

Goodwill increased by $\$ 0.1$ million during 2004 as a result of buying out the minority partner in the Taiwan joint venture.

Accounts payable and other liabilities and accrued items increased $\$ 1.8$ million due to the higher level of business activity in 2004.

Capital expenditures for property, plant and equipment and mine development were $\$ 3.1$ million in the first half of 2004. Spending at the Elmore, Ohio facility totaled $\$ 1.2$ million in support of various Metal Systems Group operations while spending by WAM totaled $\$ 0.9$ million. Capital spending has averaged $\$ 1.5$ million per quarter for the last ten quarters. While discreet pieces of equipment may be nearing capacity limitations, we believe that existing manufacturing capacity, coupled with alternative processes and sources for materials, is generally adequate to meet current demand.

Total balance sheet debt was $\$ 104.1$ million at the end of the second quarter 2004, an increase of $\$ 5.0$ million for the year. The debt increased mainly in support of the higher working capital requirements. Short-term debt increased $\$ 12.1$ million during the year, which included $\$ 2.9$ million of long-term debt that became current. Long-term debt decreased $\$ 7.1$ million in the first six months of the year.

Subsequent to the end of the second quarter, we completed a stock offering of 2.3 million new shares. The net proceeds, after deducting the estimated fees, were approximately $\$ 38.5$ million. The majority of the proceeds were initially used to repay outstanding borrowings under the revolving credit agreement. We retain the ability to re-borrow these funds under the revolving credit agreement in the future. We also used $\$ 5.0$ million of the proceeds to repay a portion of the $\$ 35.0$ million long-term subordinated note. The remaining portion of the stock proceeds were initially held as cash to be used for general corporate purposes.

Precious metal consigned inventories increased $\$ 8.4$ million in the first six months of 2004 in order to support the higher level of business within WAM and TMI. The notional balance of key off-balance sheet leases was reduced by $\$ 0.6$ million during the first six months of 2004 as a result of the scheduled payments.

We received $\$ 2.4$ million from the exercise of 153,000 employee stock options during the first half of 2004, the majority of which was in the first quarter.

Cash provided from operations was $\$ 7.2$ million in the first half of 2003 as the working capital changes and the effects of depreciation more than offset the net loss. Cash received for the sale of goods totaled $\$ 190.9$ million while cash paid for goods and expenses was $\$ 182.1$ million and cash paid for interest and taxes was $\$ 1.6$ million in the first half of 2003 . Cash balances totaled $\$ 1.3$ million at the end of the second quarter 2003, a reduction of $\$ 3.0$ million during the year as cash was used to fund capital expenditures and reduce debt. Accounts receivable increased $\$ 10.8$ million in the first half of 2003 due to sales volumes and a longer

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DSO while inventories decreased $\$ 5.1$ million due to ongoing programs to improve inventory utilization as well as yield and manufacturing improvements. Capital expenditures were $\$ 3.3$ million in the first half of 2003 with the MEG accounting for $\$ 1.9$ million of that total. Balance sheet debt declined $\$ 6.6$ million in the first half of 2003.

## CRITICAL ACCOUNTING POLICIES

Deferred Taxes: A valuation allowance was initially recorded against domestic and certain foreign deferred tax assets in the fourth quarter 2002 as a result of our then recent cumulative losses. The deferred tax benefits related to losses incurred in the first half of 2003 were offset by an increase in the valuation allowance. However, in the first half of 2004, the deferred tax valuation allowance was reduced to offset the domestic federal and certain foreign tax expense that would have been recorded against pre-tax income. In subsequent periods when we generate pre-tax income, a federal tax expense will not be recorded to the extent that the remaining valuation allowance can be used to offset that expense. Once a consistent pattern of pre-tax income is established or other events occur that indicate that the deferred tax assets will be realized, additional portions or all of the remaining valuation allowance will be reversed back to income. Should we generate pre-tax losses in subsequent periods, a tax benefit will not be recorded and the valuation allowance will be increased. Despite the valuation allowance, we retain the ability to utilize the benefits of the domestic loss carry-forwards and other deferred tax assets on future tax returns.

The recently terminated company-owned life insurance program had provided tax savings and cash benefits for a number of years after its inception in 1986. However, subsequent changes in the tax code served to reduce and eventually eliminate those benefits and current projections showed that continuing the program would result in a net cash outlay and expense going forward. While termination of the program did not impact income before income taxes on the consolidated statement of income, it did generate a tax liability calculated on the gross book value of the outstanding policies. This tax liability was offset by the use of a net operating loss carry-forward, which in turn resulted in a $\$ 5.3$ million reduction in the deferred tax valuation allowance available to reverse against future income. Our projections show that the future annual savings from eliminating the program should exceed this reduction in the available valuation allowance.

Pensions. As a result of recently enacted legislation, we do not believe that the previously estimated pension plan contribution of $\$ 1.7$ million, as disclosed in our annual report to shareholders for the year ended December 31, 2003, will be required to be made in 2004.

For additional information regarding our critical accounting policies, please refer to pages 25 to 27 of our annual report to shareholders for the period ended December 31, 2003.

## MARKET RISK DISCLOSURES

The Company is exposed to movements in base metal prices, primarily copper. Portions of this exposure are covered by passing the change in prices through to our customers. We currently do not have any copper swaps or other derivative financial instruments in place to hedge the remaining exposure due to credit constraints. Therefore, margins will continue to be adversely affected to the extent that prices for copper remain high and we cannot pass through this higher cost in the form of price increases to our customers.

For additional information regarding our market risk disclosures, please refer to pages 27 and 28 of our annual report to shareholders for the period ended December 31, 2003.

## OUTLOOK

While the new sales order entry rate slowed down slightly toward the end of the second quarter, the order entry rate for the quarter and year exceeded the sales level. Our sales often will soften in the third quarter from the second quarter in a given year due to customers' normal seasonal slowdowns, including slowdowns in the automotive market due to the change over to the new model year, and plant vacation shutdowns, particularly in Europe. While we anticipate that this will be the case in 2004, we also anticipate that third quarter 2004 sales will be at least $20 \%$ higher than the sales in the third quarter 2003.

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The lower projected sales level in the third quarter as compared to the second quarter, coupled with our plans to reduce inventories, will affect production levels in the quarter. Copper costs also remain high, putting pressures on margins. However, the improved yields and other manufacturing improvements achieved to date should continue into the coming quarter.

The proceeds from the share offering and the resulting pay down of debt improves our debt to equity ratio and will reduce interest expense in subsequent periods. The offering also improves our liquidity and financing flexibility, as the capacity under the revolving credit agreement remains available for future borrowings.

## Item 3. Quantitative and Qualitative Disclosure about Market Risk

For information regarding the Company's market risks, please refer to pages 27 and 28 of the Company's annual report to shareholders for the period ended December 31, 2003.

## Item 4. Controls and Procedures

As of the end of the period covered by this report, the Company carried out an evaluation, under the supervision and with the participation of the Company's management, including the Company's President, Chairman and Chief Executive Officer, and Vice President Finance and Chief Financial Officer, of the effectiveness of the design and operation of the Company's disclosure controls and procedures pursuant to Exchange Act Rule 13a-15(e). Based upon that evaluation, the Company's management has concluded that the Company's disclosure controls and procedures are effective. There have been no changes in the Company's internal control over financial reporting identified in connection with the evaluation required by Exchange Act Rule 13a-15(d) that occurred during the Company's last fiscal quarter that have materially affected, or are reasonably likely to materially affect, the Company's internal control over financial reporting.

## PART II OTHER INFORMATION

## Item 1. Legal Proceedings

We and our subsidiaries are subject, from time to time, to a variety of civil and administrative proceedings arising out of their normal operations, including, without limitation, product liability claims, health, safety and environmental claims and employment-related actions. Among such proceedings are the cases described below.

## Beryllium Claims

As of July 2, 2004, our subsidiary, Brush Wellman Inc., was a defendant in 13 proceedings in various state and federal courts brought by plaintiffs alleging that they have contracted, or have been placed at risk of contracting, chronic beryllium disease or other lung conditions as a result of exposure to beryllium. Plaintiffs in beryllium cases seek recovery under theories of intentional tort and various other legal theories and seek compensatory and punitive damages, in many cases of an unspecified sum. Spouses of some plaintiffs claim loss of consortium.

The following table summarizes the associated activity with beryllium cases. Settlement payment and dismissal for a single case may not occur in the same period.

|  | Quarter Ended <br> July 2, 2004 | Quarter Ended <br> April 2,2004 |
| :--- | :---: | :---: |
| Total cases pending | 13 | 14 |
| Total plaintiffs | 32 | 34 |
| Number of claims (plaintiffs) filed during period ended | $0(0)$ | $2(9)$ |
| Number of claims (plaintiffs) settled during period ended | $1(2)$ | $1(1)$ |
| Aggregate cost of settlements during period ended (dollars in thousands) | 6 | $\$ 4$ |
| Number of claims (plaintiffs) otherwise dismissed | $0(0)$ | $2(7)$ |
| Number of claims (plaintiffs) voluntarily withdrawn | $0(0)$ | $0(0)$ |

Additional beryllium claims may arise. Management believes that we have substantial defenses in these cases and intends to contest the suits vigorously. Employee cases, in which plaintiffs have a high burden of proof, have historically involved relatively small losses to us. Third-party plaintiffs, typically employees of customers or contractors, face a lower burden of proof than do employees or former employees, but these cases are generally covered by varying levels of insurance. A reserve was recorded for beryllium litigation of $\$ 1.4$ million at July 2 , 2004 and $\$ 2.2$ million at April 2, 2004. A receivable was recorded of $\$ 2.0$ million at July 2, 2004 and $\$ 2.7$ million at April 2, 2004 from our insurance carriers as recoveries for insured claims. An additional $\$ 0.9$ million was reserved for insolvencies at the end of each period. These insolvencies relate to claims still outstanding as well as claims for which partial payments have been received.

Although it is not possible to predict the outcome of the litigation pending against us and our subsidiaries, we provide for costs related to these matters when a loss is probable and the amount is reasonably estimable. Litigation is subject to many uncertainties, and it is possible that some of these actions could be decided unfavorably in amounts exceeding our reserves. An unfavorable outcome or settlement of a pending beryllium case or additional adverse media coverage could encourage the commencement of additional similar litigation. We are unable to estimate our potential exposure to unasserted claims.

While we are unable to predict the outcome of the current or future beryllium proceedings, based upon currently known facts and assuming collectibility of insurance, we do not believe that resolution of these proceedings with have a material adverse effect on the financial condition or our cash flow. However, our results of operations could be materially affected by unfavorable results in these cases. As of July 2, 2004, four purported class actions were pending, although one case was not served on us.

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Standards for exposure to beryllium are under review by the United States Occupational Safety and Health Administration and by other standard-setting organizations. One result of these reviews might be more stringent worker safety standards. More stringent standards, as well as other factors such as the adoption of beryllium disease compensation programs and publicity related to these reviews, may also affect buying decisions by the users of beryllium-containing products. If the standards are made more stringent or our customers decide to reduce their use of beryllium-containing products, our operating results, liquidity and capital resources could be materially adversely affected. The extent of the adverse effect would depend on the nature and extent of the changes to the standards, the cost and ability to meet the new standards, the extent of any reduction in customer use and other factors that cannot be estimated.

During the second quarter of 2004, the number of beryllium cases decreased from 14 (involving 34 plaintiffs) as of April 2, 2004 to 13 cases (involving 32 plaintiffs) as of July 2, 2004. During the second quarter, one third party case (involving two plaintiffs), in which the plaintiff appealed a defense verdict, was settled and dismissed. One third party case (involving one plaintiff) was settled; however, the Company is awaiting final court dismissal. One case was filed in the quarter; however, the Company has not been served with process.

The 13 pending beryllium cases as of July 2,2004 fall into two categories: 10 cases involving third-party individual plaintiffs, with ten individuals (and four spouses who have filed claims as part of their spouse's case); and three purported class actions, involving 18 individuals, as discussed more fully below. Claims brought by third-party plaintiffs (typically employees of our customers or contractors) are generally covered by varying levels of insurance.

The first purported class action is John Wilson, et al. v. Brush Wellman Inc., originally filed in Court of Common Pleas, Cuyahoga County, Ohio, case number 00-401890-CV, on February 14, 2000. The named plaintiffs are John Wilson, Daniel A. Martin, Joseph A. Szenderski, Larry Strang, Hubert Mays, Michael Fincher and Reginald Hohenberger. Mr. Szenderski was voluntarily dismissed by the court on September 27, 2000. Mr. Szenderski filed a separate claim, which is now settled and dismissed. The only defendant is Brush Wellman. The trial court denied class certification on February 12, 2002, and the Court of Appeals, Ohio 8th District, remanded on October 17, 2002. The case was appealed to Ohio Supreme Court, case number 03-0048, and oral arguments were heard on December 16, 2003. The plaintiffs purport to sue on behalf of a class of workers who belonged to unions in the Northwestern Ohio Building Construction Trades Council who worked in Brush Wellman's Elmore plant from 1953-1999. They have brought claims for negligence, strict liability, statutory product liability, ultrahazardous activities and punitive damages and seek establishment of a fund for medical surveillance and screening. The plaintiffs are seeking that Brush Wellman pay for a reasonable medical surveillance and screening program for plaintiffs and class members, punitive damages, interest, costs and attorneys' fees.

The second purported class action is Manuel Marin, et al . v. Brush Wellman Inc., filed in Superior Court of California, Los Angeles County, case number BC299055, on July 15, 2003. The named plaintiffs are Manuel Marin, Lisa Marin, Garfield Perry and Susan Perry. The defendants are Brush Wellman, Appanaitis Enterprises, Inc. and Doe Defendants 1 through 100. The Company filed a demurrer on November 17, 2003, and a hearing took place on July 14, 2004. The plaintiffs allege that they have been sensitized to beryllium while employed at The Boeing Company. The plaintiffs' wives claim loss of consortium. The plaintiffs purport to represent two classes of approximately 250 members each, one consisting of workers who worked at Boeing or its predecessors and are beryllium sensitized and the other consisting of their spouses. They have brought claims for negligence, strict liability-design defect, strict liability-failure to warn, fraudulent concealment, breach of implied warranties and unfair business practices. The plaintiffs seek injunctive relief, medical monitoring, medical and health care provider reimbursement, attorneys' fees and costs, revocation of business license, and compensatory and punitive damages. Mr. Marin and Mr. Perry represent current and past employees of Boeing in California; and Ms. Marin and Ms. Perry are their spouses.

The third purported class action is Neal Parker, et al. v. Brush Wellman Inc., filed in Superior Court of Fulton County, State of Georgia, case number 2004CV80827, on January 29, 2004. The case was removed to U.S. District Court for Northern District of Georgia, case number $04-\mathrm{CV}-606$, on March 4, 2004. The named

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plaintiffs are Neal Parker, Wilbert Carlton, Stephen King, Ray Burns, Deborah Watkins, Leonard Ponder, Barbara King and Patricia Burns. The defendants are Brush Wellman; Schmiede Machine and Tool Corporation; Thyssenkrupp Materials NA Inc., d/b/a Copper and Brass Sales; Axsys Technologies, Inc.; Alcoa, Inc.; McCann Aerospace Machining Corporation; Cobb Tool, Inc. and Lockheed Martin Corporation. Messrs. Parker, Carlton, King and Burns and Ms. Watkins are current employees of Lockheed. Mr. Ponder is a retired employee, and Ms. King and Ms. Burns are family members. The plaintiffs have brought claims for negligence, strict liability, fraudulent concealment, civil conspiracy and punitive damages. The plaintiffs seek a permanent injunction requiring the defendants to fund a court-supervised medical monitoring program, attorneys' fees and punitive damages.

The Company is aware of a fourth purported class action, although the Company has not been served with process. That case is George Paz, et al. V. Brush Engineered Materials, Inc., et al., filed in the U.S. District Court for the Southern District of Mississippi, case number 1:04CV597 on June 30, 2004. The named plaintiffs are George Paz, Barbara Faciane, Joe Lewis, Donald Jones, Ernest Bryan, Gregory Condiff, Karla Condiff, Odie Ladner, Henry Polk, Roy Tootle, William Stewart, Margaret Ann Harris, Judith Lemon, Theresa Ladner and Yolanda Paz. The defendants are Brush Engineered Materials, Inc.; Brush Wellman Inc.; Wess-Del, Inc.; and the Boeing Company. Plaintiffs seek the establishment of a medical monitoring trust fund as a result of their alleged exposure to products containing beryllium, attorneys' fees and expenses, and general and equitable relief. The plaintiffs purport to sue on behalf of a class of present or former Defense Contract Management Administration (DCMA) employees who conducted quality assurance work at Stennis Space Center and the Boeing Company at its facility in Canoga Park, California; present and former employees of Boeing at Stennis; and spouses and children of those individuals. Messrs. Paz and Lewis and Ms. Faciane represent current and former DCMA employees at Stennis. Mr. Jones represents DCMA employees at Canoga Park. Messrs. Bryan, Condiff, Ladner, Park, Polk, Tootle and Stewart, and Ms. Condiff represent Boeing employees at Stennis. Ms. Harris, Ms. Lemon, Ms. Ladner and Ms. Paz are family members.

## Other Claims

The Company, one of its subsidiaries, Brush Wellman Inc., and the Brush Beryllium Co. are defendants in Robert Schultz v. Brush Engineered Materials Inc., et al., filed in Circuit Court, Third Judicial Circuit, Madison County, Illinois, case number 04-L-191 on May 14, 2004. There are 73 other named defendants. Plaintiff alleges that he has contracted asbestos-related diseases as a result of working with and around the products of the defendants. He seeks compensatory and punitive damages.

## Item 4. Submission of Matters to a Vote of Security Holders

(a) The Company’s Annual Meeting of Shareholders for 2004 was held on May 4, 2004.
(b) At the Annual Meeting, three directors were elected to serve for a term of three years by the following vote:

|  | Shares Voted "For" | Shares Voted "Against" | Shares Voted "Abstaining" | $\begin{gathered} \text { Shares } \\ \text { "Non-Voted" } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: |
| Joseph P. Keithley | 15,561,543 | -0- | 467,975 | -0- |
| William R. Robertson | 15,481,431 | -0- | 548,087 | -0- |
| John Sherwin, Jr. | 15,534,329 | -0- | 495,189 | -0- |

The following directors continued their term of office after the meeting: Albert C. Bersticker, Gordon D. Harnett, David H. Hoag, William B. Lawrence, William P. Madar, William G. Pryor and N. Mohan Reddy.

## Item 6. Exhibits and Reports on Form 8-K

(a) Exhibits

4(a) Post-Closing Letter Agreement dated December 4, 2003 among the Company, Bank One, N.A., as agent, and the other parties to the Credit Agreement dated as of the date hereof, and Associated Waivers.

11 Statement re computation of per share earnings (filed as Exhibit 11 to Part I of this report).
31.1 Rule 13a-14(a) Certification
31.2 Rule 13a-14(a) Certification
32.1 Certification Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
32.2 Certification Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
(b) Reports on Form 8-K

In a report on Form 8-K filed April 29, 2004, Brush Engineered Materials Inc. issued a press release, reporting on its earnings for the first quarter of 2004. The press release, with summary financial information, was furnished pursuant to Item 12.

In a report on Form $8-\mathrm{K}$ filed June 17, 2004, Brush Engineered Materials Inc. issued a press release regarding its sales outlook for the second and third quarters of 2004. This press release was furnished pursuant to Item 5.

## SIGNATURES

Pursuant to the requirements 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.

BRUSH ENGINEERED MATERIALS INC.

Dated: August 9, 2004
/s/ John D. Grampa

John D. Grampa
Vice President Finance
and Chief Financial Officer

## LETTER AGREEMENT

December 4, 2003

Brush Engineered Materials Inc.
17876 St. Clair Avenue
Cleveland, Ohio 44110

## RE: POST CLOSING DELIVERIES OF BORROWER TO AGENT

Ladies and Gentlemen:

Brush Engineered Materials Inc. ("Borrower"), Bank One, NA, as Agent for the benefit of the Lenders named in the Credit Agreement (as herein defined) ("Agent"), and the other parties named therein entered into a Credit Agreement dated as of the date hereof (the "Credit Agreement") and certain related documents (the "Loan Documents"). In connection with the Credit Agreement, this letter serves to acknowledge and confirm certain deliveries were required to be made by Borrower prior to the closing of the transactions contemplated by the Credit Agreement and the Loan Documents, which deliveries Agent has agreed to permit to be satisfied on a post-closing basis in accordance with the terms and conditions of this Letter Agreement. Borrower hereby agrees that Borrower shall deliver certain items to Agent as set forth in Exhibit A attached hereto no later than the dates specified with respect to such items in Exhibit A unless such delivery is waived in writing by Agent. Except as set forth in Exhibit A, all of the conditions set forth in Section 4.1 of the Credit Agreement have been satisfied.

Borrower, by acceptance hereof, acknowledges and agrees that Borrower's failure to deliver the items set forth in Exhibit A on or prior to the dates specified therein shall (except as may be specified in Exhibit A with respect particular items) constitute a Default under the Credit Agreement and all related Loan Documents. Capitalized terms not defined herein shall have the meanings ascribed to such terms in the Credit Agreement.

Very truly yours,

BANK ONE, NA, AS AGENT<br>By: /s/ JOSEPH J. VIRZI<br>Joseph J. Virzi, Senior Vice President

## Acknowledged and Agreed:

## BRUSH ENGINEERED MATERIALS INC.

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By: /s/ GARY SCHIAVONI
Name: Gary Schiavoni
Title: Assistant Treasurer
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## EXHIBIT A

## Post-Closing Deliveries

1. A release or estoppel certificate and subordination agreement within 120 days of closing from KeyBank, successor to the interests of Ameritrust Company, as Trustee under the Indenture of Trust dated July 15, 1980, filed on March 15, 1989, and recorded as Entry 72403, Book 225 , Pages 169-251 in the Office of the Millard County Recorder, from the County of Millard, Utah, Issuer to Ameritrust Company, as Trustee.
2. Within 90 days of closing, consent to the filing of Agent's mortgage by the Niagara County Industrial Development Agency ("Niagara") pursuant to the Lease Agreement dated March 1, 1999 between Niagara and Williams Advanced Materials, Inc. ("Williams") as recorded on March 12, 1999 in Liber 2906 of Deeds at Page 334 of the Niagara County, New York real estate records (the "New York Lease").
3. Within 120 days of closing, a subordination and non-disturbance agreement among Borrower, Agent, and The Toledo-Lucas County Port Authority as ground lessee pursuant to the Ground Lease Agreement dated October 6, 1996 of a portion of the property located in Ottawa County, Ohio.
4. Within 120 days of closing, a subordination and non-disturbance agreement among Borrower, Agent, and National City Bank, as assignee of that certain Lease dated as of October 1, 1996 between the Toledo-Lucas County Port Authority as lessor and Borrower as lessee.
5. On or before December 15, 2004, replacement of the letter of credit with regard to Borrower's Lorain County, Ohio property and issuance/execution and/or delivery of all opinions, amendments, modifications, consents, and any other documents in connection therewith.
6. On or before December 15, 2004, replacement of the letter of credit with regard to Borrower's Pima County, Arizona property and issuance/execution and/or delivery of all opinions, amendments, modifications, consents, and any other documents in connection therewith.
7. On or before December 15, 2004, the NCB Letters of Credit and the Fifth Third Letter of Credit, as those terms are defined in the Payoff Letter dated December 4, 2003, should be replaced with Bank letters of credit.

## LIMITED WAIVER UNDER POST-CLOSING LETTER AGREEMENT

April 1, 2004

Brush Engineered Materials Inc.
17876 St. Clair Avenue
Cleveland, Ohio 44110

Re: Letter Agreement, dated December 4, 2003, between Bank One, NA, as Agent (the "Agent"), and Brush Engineered Materials Inc., as Borrower

## (the "Borrower")

Ladies and Gentlemen:

Reference is made to that certain Letter Agreement, dated as of December 4, 2003 (a copy of which is attached hereto as Exhibit A, the "Letter Agreement"), between the Borrower and the Agent with respect to the Borrower's agreement to deliver certain items on a post-closing basis under the Credit Agreement, dated as of December 4, 2003 (the "Credit Agreement"), among the Borrower, the Agent, the other Loan Parties and Lenders party thereto from time to time, LaSalle Bank National Association, as documentation agent, and Banc One Capital Markets, Inc., as lead arranger and sole book runner. Capitalized terms used but not defined herein shall have the meanings given to them in the Credit Agreement

Borrower and Agent hereby acknowledge and agree that Borrower has delivered to the Agent the items set forth in numbers 2,5 and 6 of Exhibit A to the Letter Agreement. At the request of the Borrower, the Agent hereby waives the requirement that Borrower ever deliver the item set forth in number 4 of Exhibit A to the Letter Agreement, and hereby waives any Unmatured Default or Default that might otherwise occur under the Credit Agreement or any other Loan Document with respect Borrower's failure to deliver such item. At the further request of the Borrower, the Agent hereby extends the time periods during which the Borrower may deliver the items set forth in numbers 1 and 3 of Exhibit A to the Letter Agreement for an additional 30 days beyond the time periods set forth in the Letter Agreement, and during such additional 30-day period, hereby waives any Unmatured Default or Default that might otherwise occur under the Credit Agreement or any other Loan Document with respect to Borrower's failure to deliver such items.

The waivers set forth herein are limited to the express terms hereof, and nothing contained herein shall be construed as an agreement by the Agent to make any further waivers or extensions of any of the obligations of the Borrower or any other Loan Party under the Letter Agreement or the Credit Agreement.

Very truly yours,

## BANK ONE, NA, as Agent

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By: /s/ L. SKINNER
Its: Director
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## Acknowledged and Agreed:

## BRUSH ENGINEERED MATERIALS INC.

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By: /s/ MICHAEL C. HASYCHAK
Its: Vice President and Treasury and Secretary
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May 3, 2004

Brush Engineered Materials Inc.
17876 St. Clair Avenue
Cleveland, Ohio 44110

Re: Letter Agreement, dated December 4, 2003, between Bank One, NA, as Agent (the "Agent"), and Brush Engineered Materials Inc., as Borrower (the "Borrower")

Ladies and Gentlemen:

Reference is made to that certain Letter Agreement, dated as of December 4, 2003 (as amended, the "Letter Agreement"), between the Borrower and the Agent with respect to the Borrower's agreement to deliver certain items on a post-closing basis under the Credit Agreement, dated as of December 4, 2003 (as amended, the "Credit Agreement"), among the Borrower, the Agent, the other Loan Parties and Lenders party thereto from time to time, LaSalle Bank National Association, as documentation agent, and Banc One Capital Markets, Inc., as lead arranger and sole book runner. Capitalized terms used but not defined herein shall have the meanings given to them in the Credit Agreement

At the request of the Borrower, the Agent hereby extends to time period during which the Borrower may deliver the items set forth in numbers 1 and 3 of Exhibit A to the Letter Agreement until June 30, 2004, and during such time period, hereby waives any Unmatured Default or Default that might otherwise occur under the Credit Agreement or any other Loan Document with respect to Borrower's failure to deliver such items. In addition, in lieu of the items listed in number 1 of Exhibit A to the Letter Agreement, the Agent agrees to accept an Officer's Certificate from Borrower substantially in the form of Exhibit 1 hereto.

The waivers and modifications set forth herein are limited to the express terms hereof, and nothing contained herein shall be construed as an agreement by the Agent to make any further waivers or modifications of any of the obligations of the Borrower or any other Loan Party under the Letter Agreement or the Credit Agreement.

Very truly yours,

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    BANK ONE,NA, as Agent
By: /s/ L. SKINNER
    --------------------------
Its: Director
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## Acknowledged and Agreed:

## BRUSH ENGINEERED MATERIALS INC.

By: MICHAEL C. HASYCHAK
Its: V.P. Treasury Secretary

## EXHIBIT 1

FORM OF OFFICER'S CERTIFICATE

See attached.

## BRUSH ENGINEERED MATERIALS INC.

## CERTIFICATE OF ASSISTANT TREASURER

This Certificate of Assistant Treasurer (this "Certificate") is being delivered to Bank One, N.A., as Agent, in connection with that certain Credit Agreement, dated as of December 4, 2003 (as amended, the "Credit Agreement"), by and among Brush Engineered Materials Inc. (the "Company"), the Agent, the other Loan Parties and Lenders party thereto from time to time, LaSalle Bank National Association, as documentation agent, and Banc One Capital Markets, Inc., as lead arranger and sole book runner. Capitalized terms used but not defined in this Certificate shall have the meanings given to them in the Credit Agreement. The undersigned hereby certifies to Agent as follows:

1. I am an Assistant Treasurer of the Company, and I am familiar with the facts stated in this Certificate.
2. To my knowledge, after review of the Company's records, the indebtedness evidenced by that certain Indenture of Trust, dated June 15, 1980, from the County of Millard, Utah, as issuer, to Ameritrust Company, as trustee, a copy of which was filed on March 15, 1989 and recorded as Entry 72403, Book 225, Pages 169-251 in the Office of the Millard County Recorder, has been satisfied in full.

## Dated:

$\qquad$
/s/ GARY W. SCHIAVONI

## Gary W. Schiavoni

Assistant Treasurer
Brush Engineered Materials Inc.

Brush Engineered Materials Inc.
17876 St. Clair Avenue
Cleveland, Ohio 44110

Re: Letter Agreement, dated December 4, 2003, between Bank One, NA, as Agent (the "Agent"), and Brush Engineered Materials Inc., as Borrower (the "Borrower")

Ladies and Gentlemen:

Reference is made to that certain Letter Agreement, dated as of December 4, 2003 (as amended, the "Letter Agreement"), between the Borrower and the Agent with respect to the Borrower's agreement to deliver certain items on a post-closing basis under the Credit Agreement, dated as of December 4, 2003 (as amended, the "Credit Agreement"), among the Borrower, the Agent, the other Loan Parties and Lenders party thereto from time to time, LaSalle Bank National Association, as documentation agent, and Banc One Capital Markets, Inc., as lead arranger and sole book runner. Capitalized terms used but not defined herein shall have the meanings given to them in the Credit Agreement

At the request of the Borrower, the Agent hereby extends the time period during which the Borrower may deliver the items set forth in paragraph 3 of Exhibit A to the Letter Agreement until August 31, 2004, and during such time period, hereby waives any Unmatured Default or Default that might otherwise occur under the Credit Agreement or any other Loan Document with respect to Borrower's failure to deliver such items.

The waivers and modifications set forth herein are limited to the express terms hereof, and nothing contained herein shall be construed as an agreement by the Agent to make any further waivers or modifications of any of the obligations of the Borrower or any other Loan Party under the Letter Agreement or the Credit Agreement.

Very truly yours,

## BANK ONE, NA, as Agent

By: /s/ LINDA SKINNER
Its: Director
Acknowledged and Agreed:

## BRUSH ENGINEERED MATERIALS INC.

> By: /s/ GARY SCHIAVONI
> Its: Assistant Treasurer and
> Assistant Secretary

July 6, 2004

Brush Engineered Materials Inc.
17876 St. Clair Avenue
Cleveland, Ohio 44110

Re: Letter Agreement, dated December 4, 2003, between Bank One, NA, as Agent (the "Agent"), and Brush Engineered Materials Inc., as Borrower (the "Borrower")

Ladies and Gentlemen:

Reference is made to that certain Letter Agreement, dated as of December 4, 2003 (as amended, the "Letter Agreement"), between the Borrower and the Agent with respect to the Borrower's agreement to deliver certain items on a post-closing basis under the Credit Agreement, dated as of December 4, 2003 (as amended, the "Credit Agreement"), among the Borrower, the Agent, the other Loan Parties and Lenders party thereto from time to time, LaSalle Bank National Association, as documentation agent, and Banc One Capital Markets, Inc., as lead arranger and sole book runner. Capitalized terms used but not defined herein shall have the meanings given to them in the Credit Agreement

At the request of the Borrower, the Agent hereby waives the requirement that the Borrower ever deliver the item set forth in paragraph 3 of Exhibit A to the Letter Agreement, and hereby waives any Unmatured Default or Default that might otherwise occur under the Credit Agreement or any other Loan Document with respect to the Borrower's failure to deliver such item.

The waivers and modifications set forth herein are limited to the express terms hereof, and nothing contained herein shall be construed as an agreement by the Agent to make any further waivers or modifications of any of the obligations of the Borrower or any other Loan Party under the Letter Agreement or the Credit Agreement.

Very truly yours,

## BANK ONE, NA, as Agent

By: /S/ LINDA SKINNER
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Its: DIRECTOR
Acknowledged and Agreed:

## BRUSH ENGINEERED MATERIALS INC.

> By: /s/ MICHAEL C. HASYCHAK Its: V.P. TREASURY \& SECRETARY

BRUSH ENGINEERED MATERIALS INC. AND SUBSIDIARIES COMPUTATION OF PER SHARE EARNINGS

## Basic:

Average shares outstanding
Net income/(loss)
Per share amount
Diluted:
Average shares outstanding
Dilutive stock options based on the treasury stock method using average market price Totals
Net income/(loss)
Per share amount

| Second Quarter Ended |  | Six Months Ended |  |
| :---: | :---: | :---: | :---: |
| $\begin{aligned} & \hline \text { Jul } 2 \\ & 2004 \\ & \hline \end{aligned}$ | $\begin{gathered} \hline \text { Jun } 27 \\ 2003 \\ \hline \end{gathered}$ | $\begin{aligned} & \hline \text { Jul } 2 \\ & 2004 \\ & \hline \end{aligned}$ | $\begin{gathered} \hline \text { Jun } 27 \\ 2003 \\ \hline \end{gathered}$ |
| 16,704,568 | 16,563,098 | 16,661,099 | 16,562,283 |
| \$ 6,571,000 | \$ 36,318 | \$10,324,000 | \$ (2,979,430) |
| \$ 0.39 | \$ | \$ 0.62 | \$ (0.18) |
| 16,704,568 | 16,563,098 | 16,661,099 | 16,562,283 |
| 423,130 | 76,284 | 446,196 | 65,064 |
| 17,127,698 | 16,639,382 | 17,107,295 | 16,627,347 |
| \$ 6,571,000 | \$ 36,318 | \$10,324,000 | \$ (2,979,430) |
| \$ 0.38 | \$ | \$ 0.60 | \$ (0.18) |

## CERTIFICATIONS

I, Gordon D. Harnett, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Brush Engineered Materials Inc. (the "Company");
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the Company as of, and for, the periods presented in this report;
4. The Company's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) for the Company and we have:
a) designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the Company, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
b) evaluated the effectiveness of the Company's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
c) disclosed in this report any change in the Company's internal control over financial reporting that occurred during the Company's most recent fiscal quarter (the Company's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the Company's internal control over financial reporting; and
5. The Company's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the Company's auditors and the audit committee of the Company's board of directors (or persons performing the equivalent functions):
a) all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonable likely to adversely affect the Company's ability to record, process, summarize and report financial information; and
b) any fraud, whether or not material, that involves management or other employees who have a significant role in the Company's internal control over financial reporting.

/s/ Gordon D. Harnett

Gordon D. Harnett
Chairman, President and Chief Executive Officer

## CERTIFICATIONS

I, John D. Grampa, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Brush Engineered Materials Inc. (the "Company");
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the Company as of, and for, the periods presented in this report;
4. The Company's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) for the Company and we have:
a) designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the Company, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
b) evaluated the effectiveness of the Company's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
c) disclosed in this report any change in the Company's internal control over financial reporting that occurred during the Company's most recent fiscal quarter (the Company's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the Company's internal control over financial reporting; and
5. The Company's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the Company's auditors and the audit committee of the Company's board of directors (or persons performing the equivalent functions):
a) all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonable likely to adversely affect the Company's ability to record, process, summarize and report financial information; and
b) any fraud, whether or not material, that involves management or other employees who have a significant role in the Company's internal control over financial reporting.
/s/ John D. Grampa
John D. Grampa
Vice President Finance and CFO

> Certification Pursuant to
> 18 U.S.C. Section 1350,
> As Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002

I, Gordon D. Harnett, President, Chairman of the Board and Chief Executive Officer of Brush Engineered Materials Inc. (the "Company"), do hereby certify in accordance with 18 U.S.C. 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that, to my knowledge,

1. The Quarterly Report on Form 10-Q of the Company for the period ending July 2, 2004 (the "Periodic Report") fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. 78m or 78o(d)), and
2. The information contained in the Periodic Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Dated: August 9, 2004
/s/ Gordon D. Harnett

## Gordon D. Harnett

President, Chairman of the Board and Chief
Executive Officer

## Certification Pursuant to

18 U.S.C. Section 1350,
As Adopted Pursuant to
Section 906 of the Sarbanes-Oxley Act of 2002

I, John D.Grampa, Vice President Finance and Chief Financial Officer of Brush Engineered Materials Inc. (the "Company"), do hereby certify in accordance with 18 U.S.C. 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that, to my knowledge,

1. The Quarterly Report on Form 10-Q of the Company for the period ending July 2, 2004 (the "Periodic Report") fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. 78m or 78o(d)), and
2. The information contained in the Periodic Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Dated: August 9, 2004
/s/ John D. Grampa
John D. Grampa
Vice President Finance and Chief Financial
Officer

