

April 11, 2008

Rufus Decker, Accounting Branch Chief
Division of Corporation Finance
United States Securities and Exchange Commission
100 F Street, N.E., Mail Stop 7010
Washington, D.C. 20549-7010

Re: Cabot Corporation
File No. 001-05667

Dear Mr. Decker:

This letter is being submitted in response to the Staff's comment letter of March 28, 2008 in respect of Cabot Corporation's Form 10-K for the fiscal year ended September 30, 2007. For ease of reference, we have restated the Staff's comments before our responses below.

General

1. *Where a comment below requests additional disclosures or other revisions to be made, please show us in your supplemental response what the revisions will look like. These revisions should be included in your future filings, including your interim filings.*

Cabot Response:

The following supplemental responses include disclosures that we propose to include in our next filing that requires such disclosures, starting with our Form 10-Q for the quarter ended March 31, 2008, which we expect to file on or before May 12, 2008. Accordingly, we believe that our enhanced disclosures described in responses 2, 3, 4, 8 and 9 will first appear, at the latest, in our Form 10-K for the year ended September 30, 2008 while those disclosures described in responses 5, 6 and 7 will first appear in our Form 10-Q for the quarter ended March 31, 2008. We would be happy to discuss any of our responses at your convenience.

Business

Sales and Customers, page 8

2. *Please identify the silicone and microelectronics customers who represent a material portion of the Metal Oxides business sales. Please also identify the four material capacitor customers mentioned on page 9. We note from your risk factor disclosure that the loss of any one or more of these customers could materially affect your business.*

Cabot Response:

As stated in our 10-K, the Company has a number of important customers. We understand Item 101(c)(1)(vii) of Regulation S-K to require disclosure of the name of any customer and its relationship with us if aggregate sales to the customer by one or more segments equal 10 percent or more of our consolidated revenues and the loss of such customer would have a material adverse effect on us and our subsidiaries taken as a whole. We understand this to mean that if sales to a customer do not meet the 10 percent threshold, even if the loss of that customer would be important to the Company, identifying the customer by name is not required by this Item. Accordingly, in our 10-K, we named The Goodyear Tire and Rubber Company as a customer (see page 5 under “Sales and Customers”, page 15 under the risk factor starting “We depend on a group of key customers....” and page 101 under “Note T. Concentration of Credit Risk”), as it was the only customer to which sales in fiscal year 2007 amounted to at least 10 percent of our consolidated revenues. In future filings, we will continue to name customers to which sales meet the 10 percent threshold. In addition, in future filings we will remove the word “materially” from the risk factor disclosure concerning dependence on a group of key customers, and state that the loss of any one or more of our important customers, or a reduction in volumes sold to them because of a work stoppage or other disruption, could adversely affect our results of operations until such business is replaced or the disruption ends.

Legal Proceedings

Environmental Proceedings, page 20

3. *Please either delete the statement in the third full paragraph on page 21 that you believe the claims are without merit or explain why you think they are without merit.*

Cabot Response:

In future filings that include a discussion of the environmental-related lawsuits in Campana, Argentina, we will delete language stating that the claims relative to Cabot are without merit. In addition, in preparing future filings we will re-assess the materiality of these proceedings to determine whether a discussion of these proceedings is necessary.

Other Proceedings

Respirator Liabilities, page 21

4. Please disclose the amount by which your total costs and payments have exceeded the amount you received from Aearo.

Cabot Response:

In future filings, the discussion set forth in the second full paragraph on page 22 of our 10-K concerning the relationship between payments we receive from Aearo and make in connection with respirator claims will read substantially as follows:

“The subsidiary disposed of the business in July 1995 by transferring it to a newly-formed joint venture called Aearo Corporation (“Aearo”) and retained an equity interest in Aearo. Cabot agreed to have the subsidiary retain certain liabilities allocable to respirators used prior to the 1995 transaction so long as Aearo pays Cabot an annual fee of \$400,000. Aearo can discontinue payment of the fee at any time, in which case it will assume the responsibility for and indemnify Cabot against the liabilities allocable to respirators manufactured and used prior to the 1995 transaction. We have no liability in connection with any products manufactured by Aearo after 1995. In fiscal years 2007 and 2008, our total cash payments in connection with these liabilities were approximately \$1 million and \$x million, respectively. In August 2003, Cabot and its subsidiary sold all of the subsidiary’s equity interest in Aearo for approximately \$35 million. This sale did not alter the arrangements described above.”

Management’s Discussion and Analysis of Financial Condition and Results of Operations

Fiscal Year 2007 compared to Fiscal Years 2006 and 2005 – By Business Segment, page 40

5. Your presentation of total segment operating profit before taxes (PBT) constitutes a non-GAAP measure when it appears outside of your segment footnote. Please

revise your filing to clearly identify total segment PBT as a non-GAAP measure and provide a statement disclosing the reasons why management believes that the presentation of the non-GAAP financial measure provide useful information to investors regarding your results of operations. For additional guidance, refer to Item 10(e) of Regulation S-K and Question 21 of our Frequently Asked Questions Regarding the Use of Non-GAAP Financial Measures, which was released on June 13, 2003.

Cabot Response:

In future filings, immediately preceding the existing first paragraph of our “By Business Segment” discussion we will provide substantially the following language:

“Cabot’s chief operating decision-maker uses total segment operating profit before taxes (“PBT”) to measure Cabot’s consolidated operating results, and segment operating profit before taxes to assess segment performance and allocate resources. Segment PBT includes equity in net income of affiliated companies, royalties paid by equity affiliates, minority interest and allocated corporate costs and excludes interest expense, foreign currency transaction gains and losses, interest income, dividend income, as well as certain items that have not been allocated to a segment as they are significant and unusual or infrequent. Segment PBT is a non-GAAP financial measure and is not intended to replace income (loss) from continuing operations, the most directly comparable GAAP financial measure. We believe segment PBT assists investors by allowing them to evaluate changes in the operating results of our portfolio of businesses before non-operating factors and before items that are unusual or infrequent that affect net income. Furthermore, disclosure of segment PBT is required in our financial statements under FAS 131. A reconciliation of segment PBT to income (loss) from continuing operations is shown in Note U of the Notes of our Consolidated Financial Statements.”

6. *As a related matter, please revise your discussion on segment MD&A to address the business reasons for changes between periods in the certain items expense line item that you present in your segment footnote and in the table on page 41.*

Cabot Response:

In future filings, a table and related narrative similar to that shown below will be included in our discussion of “certain items.”

“Details of the certain items for fiscal years 2007, 2006 and 2005 are as follows:

	Years Ended September 30		
	2007	2006	2005
	(Dollars in millions, pre-tax)		
Legal reserves/ settlement	\$ (12)	\$ —	\$ —
Restructuring initiatives			
North America	(8)	—	—
Global	(3)	(10)	—
Altona, Australia	(1)	(11)	(14)
European and Zierbena	—	—	(2)
Acquisition of flame synthesis technology	(4)	—	—
Environmental reserves/ settlement	(6)	—	—
Gwalia settlement payment	—	(27)	—
Cost reduction initiatives	—	(3)	(15)
Long-lived asset impairment charges	—	—	(121)
Goodwill impairment charges	—	—	(90)
Total certain items, pre-tax	\$ (34)	\$ (51)	\$ (242)

The \$17 million decrease in pre-tax charges related to certain items in 2007 from 2006 was driven by lower restructuring expenditures (\$9 million), particularly our global initiative and the closure of our carbon black facility in Australia, and the \$27 million payment made to the Sons of Gwalia in 2006 that did not recur in 2007. These decreases in expenditures were partially offset by increased charges of \$12 million related to legal reserves/settlement and \$6 million related to environmental reserves/settlement in 2007. The \$191 million decrease in pre-tax charges related to certain items in 2006 from 2005 was primarily related to the impairment of goodwill and long-lived assets in 2005 that did not recur in 2006 (\$211 million), partially offset by the \$27 million payment to the Sons of Gwalia in 2006.”

Consolidated Financial Statements

Note Q – Earnings Per Share, page 92

7. Please revise your filing to clarify whether the basic EPS adjustment to reduce weighted-average common shares outstanding for contingently issuable shares (3 million shares for each period presented) is intended to represent the effect of outstanding unvested restricted stock, vested restricted stock or both.

Cabot Response:

As required by SFAS 128, paragraph 10, “...(o)utstanding common shares that are contingently returnable (that is, subject to recall) shall be treated in the same manner as contingently issuable shares.” The amounts that we show as “contingently issuable shares” in our Basic EPS table in Note Q represent shares that have been awarded to employees that are not yet vested. In future filings we will modify our disclosure in footnote (1) to the table to read “(r)epresents outstanding unvested restricted stock issued under Cabot’s Equity Incentive Plans.”

8. Please disclose how you account for (a) step rent provisions and escalation clauses and (b) capital improvement funding and other lease concessions, which may be present in your leases. In addition, paragraph 5.n. of SFAS 13, as amended by SFAS 29, discusses how lease payments that depend on an existing index or rate, such as the consumer price index or the prime interest rate, should be initially included in your minimum lease payments. If, as we assume, each of these items is included in computing your minimum lease payments and the minimum lease payments are recognized on a straight-line basis over the minimum lease term, the note should so state. If our assumption is incorrect, please tell us how you considered the provisions in SFAS 13 and FTB 88-1 in reaching the conclusions you did regarding your accounting treatment.

Cabot Response:

As disclosed on page 49 of our 10-K, “(w)e have operating leases primarily comprised of leases for transportation vehicles, warehouse facilities, office space and machinery and equipment.” Our disclosure in Note S is consistent with this statement. We also disclose, on page 19 of our 10-K, the properties we utilize and specifically identify those that are leased. Certain of these leases do have the characteristics/terms that are contemplated by SFAS 13, paragraph 5n, SFAS 29 or FTB 88-1 and we confirm to you that, in all instances, the provisions of the aforementioned standards have been followed. Specifically, each of these items is included in computing minimum lease payments and such minimum lease payments are recognized on a straight-line basis over the minimum lease term. In future filings, the discussion under “Operating Lease Commitments” on page 96 of our 10-K will include the following clarification:

“Escalation clauses, lease payments dependent on existing rates/indexes, and other lease concessions are included in our minimum lease payments and such lease payments are recognized on a straight-line basis over the minimum lease term.”

9. We note your disclosure on page 34 that you are partially self-insured for certain third party liability, workers’ compensation and employee health benefits in the United States and Canada. Please revise your filing here and on page 34 to disclose the extent to which you have excess loss insurance. Your revised disclosures should quantify the thresholds at which the excess loss insurance coverage would take effect for each risk (e.g. workers compensation, third party liability, etc.) and should identify the risks for which you have no excess loss coverage.

Cabot Response:

In future filings, to the extent that the accounting for self insurance reserves is considered a critical accounting policy, our discussion of the accounting treatment will include substantially the following language:

“We are partially self-insured for certain third party liability, workers’ compensation and employee medical benefits in the United States. The third party and workers’ compensation liabilities are managed through a wholly-owned insurance captive and the related liabilities are included in the consolidated financial statements; the employee medical obligations are managed by a third party provider and the related liabilities are included in the consolidated financial statements. To limit our potential liabilities for these risks, however, we purchase insurance from third parties that provides individual and aggregate stop loss protection. The aggregate self-insured liability for combined workers’ compensation and third party liabilities in the United States in fiscal year 2008 is \$5.6 million, and the retention for medical costs in the United States is at most \$150,000 per person per annum. We have accrued amounts equal to the actuarially determined future liabilities. We determine the actuarial assumptions in collaboration with third party actuaries, based on historical information along with certain assumptions about future events. Changes in assumptions for such matters as legal actions, medical costs and changes in actual experience could cause these estimates to change and impact our earnings and cash flows.”

In future filings, we will include substantially the following discussion in our Commitments and Contingencies Note:

“**Self Insurance and Retentions for Certain Contingencies.** The Company is partially self-insured for certain third party liability, workers’ compensation and employee medical benefits in the United States. The third party and workers’ compensation liabilities are managed through a wholly-owned insurance captive and the related liabilities are included in the consolidated financial statements; the employee medical obligations are managed by a third party provider and the related liabilities are included in the consolidated financial statements. To limit our potential liabilities for these risks, however, the Company purchases insurance from third parties that provides individual and aggregate stop loss protection. The aggregate self-insured liability in fiscal year 2008 for combined workers’ compensation and third party liabilities in the United States is \$5.6 million, and the retention for medical costs in the United States is at most \$150,000 per person per annum.”

As requested, in connection with responding to the Staff's comments, the Company hereby acknowledges that the Company is responsible for the adequacy and accuracy of the disclosure in its filings, Staff comments or changes to disclosure in response to Staff comments do not foreclose the Commission from taking any action with respect to the filing, and the Company may not assert Staff comments as a defense in any proceeding initiated by the Commission or any person under the federal securities laws of the United States.

We would be happy to discuss any of our responses with you at your convenience. Please do not hesitate to call Jim Kelly, Cabot's Controller, at 617-342-6020 with any questions concerning our financial statements, and Jane Bell, Cabot's Corporate Secretary and Counsel, at 617-342-6035 with any questions concerning legal matters.

Very truly yours,

/s/ Patrick M. Prevost

Patrick M. Prevost

cc: Jonathan P. Mason
Brian A. Berube
James Kelly
Jane A. Bell
Dan Sunderland (Deloitte & Touche)