



DIVISION OF  
CORPORATION FINANCE

UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
WASHINGTON, D.C. 20549-4631

Mail Stop 4631

March 17, 2010

Mr. Eduardo E. Cordeiro  
Executive Vice President and Chief Financial Officer  
Cabot Corporation  
Two Seaport Lane, Suite 1300  
Boston, MA 02210

**RE: Form 10-K for the year ended September 30, 2009  
Form 10-Q for the period ended December 31, 2009  
Schedule 14A filed on January 28, 2010  
File No. 1-5667**

Dear Mr. Cordeiro:

We have reviewed your response letter dated February 8, 2010 and have the following additional comments. If you disagree with a comment, we will consider your explanation as to why our comment is inapplicable or a revision is unnecessary. Please be as detailed as necessary in your explanation. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure. After reviewing this information, we may or may not raise additional comments.

Please understand that the purpose of our review process is to assist you in your compliance with the applicable disclosure requirements and to enhance the overall disclosure in your filing. We look forward to working with you in these respects. We welcome any questions you may have about our comments or on any other aspect of our review. Feel free to call us at the telephone numbers listed at the end of this letter.

**FORM 10-Q FOR THE PERIOD ENDED DECEMBER 31, 2009**

**Note N – Foreign Currency Losses and Subsequent Events, page 26**

1. You disclose that you will be required to apply highly-inflationary accounting to your Venezuelan operations and that you anticipate this will result in a one time gain of less than \$10 million during the second quarter of fiscal 2010. Please provide us with a comprehensive explanation of how you intend to account for the change in functional currency, including how you arrived at the estimated gain of \$10 million. Please also address the impact of your accounting to any deferred tax assets and translation adjustments previously recorded related to these operations. Refer to ASC 830-10-45.

DEFINITIVE PROXY STATEMENT ON SCHEDULE 14A  
FILED ON JANUARY 28, 2010

Executive Compensation, page 22

Short-Term Incentive Compensation, page 26

Short-Term Incentive Compensation Payouts, page 29

2. You disclose that 30% of the short-term incentive compensation is based on achievement of individual performance objectives; however, you do not disclose what these individual objectives are, and how the compensation committee evaluated each named executive officer's individual performance in reaching their respective individual goals. This is particularly important when no payouts were payable on the basis of corporate performance. In accordance with Item 402(b)(2)(vii) of Regulation S-K, in future filings please describe the individual goals and performance objectives for each named executive officer. If a named executive officer's personal performance is measured against pre-established personal goals or individual objectives, please disclose the objectives and describe how performance or non-performance impacted the committee's decision to award the personal objective component of the short-term incentive compensation. Please note that to the extent that the committee's decisions regarding a named executive officer's individual performance were based upon a subjective evaluation, please ensure to disclose each named executive officer's personal objectives by also identifying the specific contributions made by each executive and contextualize those achievements for purposes of demonstrating how they resulted in specific compensation decisions. Although quantitative targets for subjective or qualitative assessments may not be required, you should provide insight of how qualitative inputs are translated into objective pay determinations.

Long-Term Incentive Compensation Awards, page 30

3. You state that the value of the stock option award "was based on the value of each officer's targeted long-term incentive award for 2009"; however, you do not disclose what that target value was. In future filings please discuss how the committee will determine the total value of the newly structured long-term incentive compensation (we note your discussion on page 27). For each named executive, your disclosure should provide substantive analysis and insight into why the compensation committee determined that the levels of equity compensation were appropriate in light of the factors considered in deriving those payouts.

Mr. Eduardo E. Cordeiro  
Cabot Corporation  
March 17, 2010  
Page 3 of 3

Grant of Plan-Based Awards Table, page 36

4. Please tell us how you are reporting the values in the “Threshold” column under the “Estimated Future Payouts Under Non-Equity Incentive Awards” heading considering your disclosure in the third paragraph of your “Short-Term Incentive Compensation” discussion on page 26 where you state that if threshold performance is achieved, 50% of the target bonus opportunity is payable, assuming that the threshold adjusted EBITDA is achieved. Please refer to Item 402(d)(2)(iii) of Regulation S-K.

\* \* \* \*

Please respond to these comments within 10 business days, or tell us when you will provide us with a response. Please provide us with a response letter that keys your responses to our comments and provides any requested information. Detailed letters greatly facilitate our review. Please file your supplemental response on EDGAR as a correspondence file. Please understand that we may have additional comments after reviewing your responses to our comments.

You may contact Era Anagnosti, Staff Attorney, at (202) 551-3369 or, in her absence, Craig Slivka, Special Counsel, at (202) 551-3729 if you have any questions regarding legal or disclosure matters. Please contact Jeffrey Gordon, Staff Accountant, at (202) 551-3866 or, in his absence, Nudrat Salik, Staff Accountant, at (202) 551-3692 if you have questions regarding comments on the financial statements and related matters.

Sincerely,

Rufus Decker  
Accounting Branch Chief