



DIVISION OF  
CORPORATION FINANCE

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

January 7, 2011

William S. Johnson  
Chief Financial Officer  
Cabot Microelectronics Corporation  
870 North Commons Drive  
Aurora, Illinois 60504

**Re: Cabot Microelectronics Corporation**  
**Forms 10-K for the fiscal year ended September 30, 2009 and 2010**  
**Filed November 24, 2009 and November 23, 2010**  
**File No. 000-30205**

Dear Mr. Johnson:

We have completed our reviews of your filings and do not have any further comments at this time.

Sincerely,

Brian Cascio  
Accounting Branch Chief