



DIVISION OF  
CORPORATION FINANCE

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

Mail Stop 3030

November 18, 2009

VIA U.S. MAIL

Mark P. Dentinger  
Chief Financial Officer  
KLA-Tencor Corporation  
One Technology Drive  
Milpitas, California 95035

**Re: KLA-Tencor Corporation  
Form 10-K for the year ended June 30, 2009  
Filed August 7, 2009  
File No. 000-09992**

Dear Mr. Dentinger:

We have completed our review of your Form 10-K and related filings and do not, at this time, have any further comments.

Sincerely,

Jeff Jaramillo  
Accounting Branch Chief