



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