

**KLA-Tencor Corporation**  
**160 Rio Robles**  
**San Jose, CA 95134**

June 9, 2006

VIA FEDERAL EXPRESS AND EDGAR

Mr. Alan Morris  
Mr. Perry Hindin  
Mail Stop 6010  
Securities and Exchange Commission  
Division of Corporation Finance  
100 F Street, N.E.  
Washington, DC 20549

Re: **Registration Statement on Form S-4 of KLA-Tencor Corporation,  
filed March 17, 2006, and amended May 18, 2006, File No. 333-132563**

Dear Messrs. Morris and Hindin:

Pursuant to Rule 477 under the Securities Act of 1933, as amended, KLA-Tencor Corporation ("**KLA-Tencor**") hereby applies for withdrawal of its Registration Statement (File No. 333-132563) on Form S-4 originally filed with the Securities and Exchange Commission on March 17, 2006 and amended on May 18, 2006 (the "**Registration Statement**"). KLA-Tencor is withdrawing the Registration Statement because on May 26, 2006, KLA-Tencor, ADE Corporation ("**ADE**") and South Acquisition Corporation amended and restated their definitive Agreement and Plan of Merger originally entered into on February 22, 2006. The amendment changed the consideration payable to ADE shareholders from 0.64 shares of KLA-Tencor common stock per share of ADE common stock to \$32.50 in cash per share of ADE common stock. As a result of this amendment, KLA-Tencor will no longer be issuing shares of its common stock in connection with the acquisition of ADE. No securities have been sold in connection with the offering contemplated by the Registration Statement.

If you have any questions regarding the foregoing application for withdrawal, please do not hesitate to contact myself at 408-875-3000 or Mischa Travers of Davis Polk & Wardwell at 650-752-2014.

Very truly yours,

/s/ Stuart J. Nichols  
Vice President, General Counsel

cc: Jay Mumford, Esq.  
**U.S. Securities and Exchange Commission**

William M. Kelly, Esq.  
William H. Aaronson, Esq.  
Mischa Travers, Esq.  
**Davis Polk & Wardwell**

William A. Levine, Esq.  
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