CALDERONI ROBERT

Form 5

Common

Stock

03/01/2011

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61.515 A

August 12, 2011

OMB APPROVAL FORM 5 **OMB** UNITED STATES SECURITIES AND EXCHANGE COMMISSION 3235-0362 Number: Washington, D.C. 20549 Check this box if January 31, Expires: no longer subject 2005 to Section 16. Estimated average ANNUAL STATEMENT OF CHANGES IN BENEFICIAL Form 4 or Form burden hours per 5 obligations OWNERSHIP OF SECURITIES response... 1.0 may continue. See Instruction Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934, 1(b). Form 3 Holdings Section 17(a) of the Public Utility Holding Company Act of 1935 or Section Reported 30(h) of the Investment Company Act of 1940 Form 4 Transactions Reported 1. Name and Address of Reporting Person * 2. Issuer Name and Ticker or Trading 5. Relationship of Reporting Person(s) to Issuer CALDERONI ROBERT Symbol KLA TENCOR CORP [KLAC] (Check all applicable) 3. Statement for Issuer's Fiscal Year Ended (Last) (First) (Middle) (Month/Day/Year) _X_ Director 10% Owner Officer (give title 06/30/2011 Other (specify below) below) C/O KLA-TENCOR CORPORATION. ONE **TECHNOLOGY DRIVE** (Street) 4. If Amendment, Date Original 6. Individual or Joint/Group Reporting Filed(Month/Day/Year) (check applicable line) MILPITAS, CAÂ 95035 _X_ Form Filed by One Reporting Person Form Filed by More than One Reporting (City) (State) (Zip) Table I - Non-Derivative Securities Acquired, Disposed of, or Beneficially Owned 5. Amount of 7. Nature of 1.Title of 2. Transaction Date 2A. Deemed 4. Securities Acquired Security (Month/Day/Year) Execution Date, if Transaction (A) or Disposed of (D) Securities Ownership Indirect (Instr. 3) Code (Instr. 3, 4 and 5) Beneficially Form: Beneficial (Month/Day/Year) (Instr. 8) Owned at end Direct (D) Ownership of Issuer's or Indirect (Instr. 4) (A) Fiscal Year (T) or (Instr. 3 and 4) (Instr. 4) (D) Amount Price Common Stock -Â Â Restricted Â Â Â Â 2,772 D Â Stock Units (1) Common \$ 11,704.527 Â Â D 12/01/2010 L 77.385 37.36 (2) Stock

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11,704.527

(2)

47.32

D

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Reminder: Report on a separate line for each class of securities beneficially owned directly or indirectly.

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SEC 2270 (9-02)

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Table II - Derivative Securities Acquired, Disposed of, or Beneficially Owned (e.g., puts, calls, warrants, options, convertible securities)

1. Title of Derivative Security (Instr. 3)	2. Conversion or Exercise Price of Derivative Security	3. Transaction Date (Month/Day/Year)	4. Transaction Code (Instr. 8)	5. Number of Derivative Securities Acquired (A) or Disposed of (D) (Instr. 3,	6. Date Exercisable and Expiration Date (Month/Day/Year)		7. Titl Amou Under Securi (Instr.	nt of lying	8. Price of Derivative Security (Instr. 5)	
				4, and 5) (A) (D)	Date Exercisable	Expiration Date		Amount or Number of Shares		

Reporting Owners

Reporting Owner Name / Address	Relationships						
• 0	Director	10% Owner	Officer	Other			
CALDERONI ROBERT C/O KLA-TENCOR CORPORATION ONE TECHNOLOGY DRIVE MILPITAS, CA 95035	ÂX	Â	Â	Â			

Signatures

Brian M. Martin as Attorney-in-Fact for Robert M. Calderoni

08/12/2011

**Signature of Reporting Person

Date

Explanation of Responses:

- * If the form is filed by more than one reporting person, see Instruction 4(b)(v).
- ** Intentional misstatements or omissions of facts constitute Federal Criminal Violations. See 18 U.S.C. 1001 and 15 U.S.C. 78ff(a).
- (1) Each restricted stock unit ("RSU") represents a contingent right to receive one share of KLA-Tencor common stock.
- Amount includes a total of 138.9 shares of KLA-Tencor common stock acquired by Mr. Calderoni in the two transactions reported on this (2) Form 5 pursuant to automatic reinvestments of the dividends paid on KLA-Tencor common stock, which transactions collectively qualify as a "small acquisition" under Rule 16a-6 promulgated under the Securities Exchange Act of 1934.

Note: File three copies of this Form, one of which must be manually signed. If space provided is insufficient, *see* Instruction 6 for procedure. Potential persons who are to respond to the collection of information contained in this form are not required to respond unless the form displays a currently valid OMB number.

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