

FORM 4

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

OMB APPROVAL	
OMB Number:	3235-0287
Estimated average burden hours per response...	0.5

STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP OF SECURITIES

Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934 or Section 30(h) of the Investment Company Act of 1940

Check this box if no longer subject to Section 16. Form 4 or Form 5 obligations may continue. See Instruction 1(b).

(Print or Type Responses)

1. Name and Address of Reporting Person* WALLACE RICHARD P			2. Issuer Name and Ticker or Trading Symbol KLA TENCOR CORP [KLAC]			5. Relationship of Reporting Person(s) to Issuer (Check all applicable) <input checked="" type="checkbox"/> Director <input checked="" type="checkbox"/> Officer (give title below) <u>10% Owner</u> <u>President and CEO</u>		
(Last)	(First)	(Middle)	3. Date of Earliest Transaction (Month/Day/Year) 01/26/2011					
C/O KLA-TENCOR CORPORATION, ONE TECHNOLOGY DRIVE								
(Street)			4. If Amendment, Date Original Filed(Month/Day/Year)			6. Individual or Joint/Group Filing (Check Applicable Line) <input checked="" type="checkbox"/> Form filed by One Reporting Person <input type="checkbox"/> Form filed by More than One Reporting Person		
MILPITAS, CA 95035								
(City)	(State)	(Zip)	Table I - Non-Derivative Securities Acquired, Disposed of, or Beneficially Owned					

1. Title of Security (Instr. 3)	2. Transaction Date (Month/Day/Year)	2A. Deemed Execution Date, if any (Month/Day/Year)	3. Transaction Code (Instr. 8)		4. Securities Acquired (A) or Disposed of (D) (Instr. 3, 4 and 5)			5. Amount of Securities Beneficially Owned Following Reported Transaction(s) (Instr. 3 and 4)	6. Ownership Form: Direct (D) or Indirect (I) (Instr. 4)	7. Nature of Indirect Beneficial Ownership (Instr. 4)
			Code	V	Amount	(A) or (D)	Price			
Common Stock	01/26/2011		M		3,792	A	\$ 32.75	110,757	D	
Common Stock	01/26/2011		M		20,000	A	\$ 34.67	130,757	D	
Common Stock	01/26/2011		S(1)		75,023	D	\$ 44	55,734	D	
Common Stock - Restricted Stock Units (2)								317,945 (3)	D	

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

Persons who respond to the collection of information contained in this form are not required to respond unless the form displays a currently valid OMB control number. SEC 1474 (9-02)

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)	3A. Deemed Execution Date, if any (Month/Day/Year)	4. Transaction Code (Instr. 8)		5. Number of Derivative Securities Acquired (A) or Disposed of (D) (Instr. 3, 4, and 5)	6. Date Exercisable and Expiration Date (Month/Day/Year)		7. Title and Amount of Underlying Securities (Instr. 3 and 4)		8. Price of Derivative Security (Instr. 5)	9. Number of Derivative Securities Beneficially Owned Following Reported Transaction(s) (Instr. 4)	10. Ownership Form of Derivative Security: Direct (D) or Indirect (I) (Instr. 4)	11. Nature of Indirect Beneficial Ownership (Instr. 4)
				Code	V		Date Exercisable	Expiration Date	Title	Amount or Number of Shares				
Non-Qualified Stock Option (Right to Buy)	\$ 32.75	01/26/2011		M		3,792	(4)	04/04/2011	Common Stock	3,792	\$ 0	0	D	
Non-Qualified Stock Option (Right to Buy)	\$ 34.67	01/26/2011		M		20,000	(5)	01/28/2013	Common Stock	20,000	\$ 0	0	D	

Reporting Owners

Reporting Owner Name / Address	Relationships			
	Director	10% Owner	Officer	Other

WALLACE RICHARD P C/O KLA-TENCOR CORPORATION ONE TECHNOLOGY DRIVE MILPITAS, CA 95035	X		President and CEO	
---	---	--	-------------------	--

Signatures

Brian M. Martin as Attorney-in-Fact for Richard P. Wallace		01/26/2011
<small>Signature of Reporting Person</small>		<small>Date</small>

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) This sale was effected pursuant to a Rule 10b5-1 trading plan adopted by the Reporting Person on December 15, 2009.

(2) Each restricted stock unit ("RSU") represents a contingent right to receive one share of KLA-Tencor common stock.

(3) Does not include performance-based RSUs, if any, held by the Reporting Person for which an assessment has not yet been made regarding the achievement of the applicable performance goals. Any such holdings will be reported on Form 4 within two business days of the date such assessment is made.

Represents a stock option granted on April 4, 2001, granting the Reporting Person the right to purchase up to 12,833 shares of KLA-Tencor common stock. 3,500 of the shares subject to (4) this stock option vested on the one-year anniversary of the grant date, and 1/48 of the remaining 9,333 shares subject to this stock option vested on the 13-month anniversary of the grant date and each monthly anniversary thereafter until April 4, 2006.

Represents a stock option granted on January 28, 2003, granting the Reporting Person the right to purchase up to 25,000 shares of KLA-Tencor common stock. 5,000 of the shares subject to (5) this stock option vested on November 8, 2003, and 1/48 of the remaining 20,000 shares subject to this stock option vested on December 8, 2003 and each monthly anniversary thereafter until November 8, 2007.

Note: File three copies of this Form, one of which must be manually signed. If space 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.