KLA TENCOR CORP

Form 4

September 27, 2010

FORM 4

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

STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP OF

SECURITIES

OMB

OMB APPROVAL

Number:

3235-0287

Expires:

January 31, 2005

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if no longer

Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934, Section 17(a) of the Public Utility Holding Company Act of 1935 or Section

30(h) of the Investment Company Act of 1940 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)				
(Last)	(First)	(Middle)	3. Date of Earliest Transaction	(Sheek all applicable)				
C/O KLA-TENCOR CORPORATION, ONE TECHNOLOGY DRIVE			(Month/Day/Year) 09/26/2010	_X_ Director 10% Owner _X_ Officer (give title Other (specify below) below) President and CEO				
(Street)			4. If Amendment, Date Original	6. Individual or Joint/Group Filing(Check				
MILPITAS, CA 95035			Filed(Month/Day/Year)	Applicable Line) _X_ Form filed by One Reporting Person Form filed by More than One Reporting Person				

(City)	(State)	Zip) Table	e I - Non-D	erivative S	Securi	ties Acqu	ired, Disposed of	, or Beneficiall	y 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. Securit or(A) or Di (Instr. 3,	sposed	of (D)	5. Amount of Securities Beneficially Owned Following	6. Ownership Form: Direct (D) or Indirect (I)	7. Nature of Indirect Beneficial Ownership (Instr. 4)
			Code V	Amount	(A) or (D)	Price	Reported Transaction(s) (Instr. 3 and 4)	(Instr. 4)	
Common Stock	09/26/2010		A	12,500	A	<u>(1)</u>	131,592	D	
Common Stock	09/26/2010		F	5,835 (2)	D	\$ 33.45	125,757	D	
Common Stock - Restricted Stock Units							317,945 (4)	D	

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

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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	2.	3. Transaction Date	3A. Deemed	4.	5.	6. Date Exerc	cisable and	7. Title	and	8. Price of	9. Nu
Derivative	Conversion	(Month/Day/Year)	Execution Date, if	Transaction	orNumber	Expiration Da	ate	Amoun	it of	Derivative	Deriv
Security	or Exercise		any	Code	of	(Month/Day/	Year)	Underly	ying	Security	Secui
(Instr. 3)	Price of		(Month/Day/Year)	(Instr. 8)	Derivative	e		Securit	ies	(Instr. 5)	Bene
	Derivative				Securities			(Instr. 3	3 and 4)		Owne
	Security				Acquired						Follo
	-				(A) or						Repo
					Disposed						Trans
					of (D)						(Instr
					(Instr. 3,						
					4, and 5)						
									A manust		
									Amount		
						Date	Expiration		or N		
					Exercisable	Date	Title Number				
				C 1 W	(A) (D)				of		
				Code V	(A) (D)				Shares		

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

09/27/2010

Date

**Signature of Reporting Person

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).
- On September 26, 2005, Mr. Wallace received a grant of restricted stock units ("RSUs") covering 25,000 shares of KLA-Tencor common stock. On September 26, 2010, Mr. Wallace vested in fifty percent (50%) of such RSUs.
 - Pursuant to the terms of the September 26, 2005 RSU grant, 5,835 shares of KLA-Tencor common stock were automatically withheld at vesting to cover required tax withholding. Because the vesting date of such RSUs occurred on a day on which the NASDAQ Stock
- (2) Market was closed for trading, the fair market value of KLA-Tencor common stock used for purposes of calculating the number of shares to be withheld was the closing price of KLA-Tencor common stock as reported on the last completed trading day immediately prior to such vesting date.
- (3) Each RSU represents a contingent right to receive one share of KLA-Tencor common stock.

Reporting Owners 2

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Does not include performance-based RSUs, if any, held by the Reporting Person for which an assessment has not yet been made (4) 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.

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.