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

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

(Print or Type Responses)										
1. Name and Address of Reporting Person ⁺ WALLACE RICHARD P		2. Issuer Name an KLA TENCOR			0,	ol			ble) % Owner	
(Last) (First) C/O KLA-TENCOR CORPORATI TECHNOLOGY DRIVE		3. Date of Earliest T 01/14/2011	ransaction (Mont	th/Day/Ye	ar)		X_Officer (give title below) O President and Cl	ther (specify belo EO	ow)
^(Street) MILPITAS, CA 95035		4. If Amendment, D	ate Original	Filed	d(Month/Day	/Year)		6. Individual or Joint/Group Filing(Che _X_Form filed by One Reporting Person Form filed by More than One Reporting Pers		ne)
(City) (State)	(Zip)		Fable I - No	on-De	erivative	Securiti	es Acqu	ired, Disposed of, or Beneficially Ow	ned	
1.Title of Security (Instr. 3)	2. Transaction Date (Month/Day/Year)	2	3. Transact Code (Instr. 8)		4. Securities Acquired (A) or Disposed of (D) (Instr. 3, 4 and 5)			5. Amount of Securities Beneficially 6. 7. Nati Owned Following Reported Ownership of Indi Transaction(s) Form: Benefi (Instr. 3 and 4) Direct (D) Owner		
		(Month/Day/Year)	Code	v	Amount	(A) or (D)	Price	(Instr. 3 and 4)	or Indirect (I) (Instr. 4)	
Common Stock	01/14/2011		М		9,000	А	\$ 29.31	134,757	D	
Common Stock	01/14/2011		S		9,000	D	\$ 41.84	125,757	D	
Common Stock	01/14/2011		S		18,792	D	\$ 41.84	106,965	D	
Common Stock - Restricted Stock Units ⁽¹⁾								317,945 (2)	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 SEC 1474 (9-02) in this form are not required to respond unless the form displays a currently valid OMB control number.

Table II - Derivative Securities Acquired, Disposed of, or Beneficially Owned

			(4	e.g., puts	, cal	ls, w	arrants	, options, coi	vertible secur	ities)					
1. Title of	2.	3. Transaction	3A. Deemed	4.		5. N	umber	6. Date Exer	cisable and	7. Title and	Amount	8. Price of	9. Number of	10.	11. Nature
Derivative	Conversion	Date	Execution Date, if	Transact	tion	of		Expiration I	Date	of Underlyin	ıg	Derivative	Derivative	Ownership	of Indirect
Security	or Exercise	(Month/Day/Year)	any	Code		Der	ivative	(Month/Day	/Year)	Securities		Security	Securities	Form of	Beneficial
(Instr. 3)	Price of		(Month/Day/Year)	(Instr. 8))	Sec	urities			(Instr. 3 and	4)	(Instr. 5)	Beneficially	Derivative	Ownership
	Derivative					Acq	uired						Owned	Security:	(Instr. 4)
	Security					(A)	or						Following	Direct (D)	
							oosed							or Indirect	
						of (I							Transaction(s)		
							tr. 3, 4,						(Instr. 4)	(Instr. 4)	
						and	5)								
											Amount				
								Date	Expiration		or				
								Exercisable		Title	Number				
								Excicisable	Date		of				
				Code	V	(A)	(D)				Shares				
Non-															
Qualified															
~										G					
Stock	\$ 29.31	01/14/2011		М			9,000	<u>(3)</u>	10/02/2011	Common	9,000	\$ 0	0	D	
Option	¢ 29.51	01/11/2011		1,11			,000		10,02,2011	Stock	,000	ψü	Ū	D	
(Right to															
Buy)															
Duy)															

Reporting Owners

		R	elationships	
Reporting Owner Name / Address	Director	10% Owner	Officer	Other
WALLACE RICHARD P C/O KLA-TENCOR CORPORATION ONE TECHNOLOGY DRIVE MILPITAS, CA 95035	Х		President and CEO	

Signatures

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**Signature of Reporting Person

01/18/2011 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.
- (2) 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 October 2, 2001, granting the Reporting Person the right to purchase up to 28,500 shares of KLA-Tencor common stock. 9,000 of the shares subject (3) to this stock option vested on the one-year anniversary of the grant date, and 1/48 of the remaining 19,500 shares subject to this stock option vested on the 13-month anniversary of the grant date and each monthly anniversary thereafter until October 2, 2006.

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.

Exhibit 24.1

Limited Power of Attorney - Securities Law Compliance

This statement confirms that the undersigned, as an executive officer and director of KLA-Tencor Corporation (the "Corporation"), hereby appoints Brian Martin (in his role as corporate secretary) 1. complete and execute Forms ID, 3, 4 and 5 and other forms (including any amendments thereto) as such attorney-in-fact shall in his discretion determine to be required or advisable pursuant to 2. to do all acts necessary in order to file such forms with the SEC, or any securities exchange or national association, that the Corporation and such other person or agency as the attorney-in-f The undersigned hereby ratifies and confirms all that said attorneys-in-fact and agents shall do or cause to be done by virtue hereof. The undersigned acknowledges that the foregoing attorneys-i This Limited Power of Attorney is executed at Milpitas, California as of the date set forth below.

Signature: /s/ Richard P. Wallace Print Name: Richard P. Wallace Dated: November 8, 2010

Witness:

Signature: /s/ Lisa Cianciarulo Print Name: Lisa Cianciarulo Dated: November 8, 2010