

FORM 4

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

OMB APPROVAL	
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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).

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 * Trafas Brian M.		2. Issuer Name and Ticker or Trading Symbol KLA TENCOR CORP [KLAC]		5. Relationship of Reporting Person(s) to Issuer (Check all applicable) ____ Director _____ 10% Owner <input checked="" type="checkbox"/> Officer (give title below) _____ Other (specify below) Senior Vice President	
(Last) (First) (Middle) C/O KLA-TENCOR CORPORATION, ONE TECHNOLOGY DRIVE		3. Date of Earliest Transaction (Month/Day/Year) 08/04/2017			
(Street) MILPITAS, CA 95035		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 ____ Form filed by More than One Reporting Person	
(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	08/04/2017		M		3,450 (1)	A	\$ 0	3,450	D	
Common Stock	08/04/2017		F		1,801 (2)	D	\$ 88.83	1,649	D	
Common Stock	08/06/2017		M		8,456 (3)	A	\$ 0	10,105	D	
Common Stock	08/06/2017		F		4,413 (4)	D	\$ 88.83	5,692	D	
Common Stock	08/07/2017		M		1,837 (5)	A	\$ 0	7,529	D	
Common Stock	08/07/2017		F		959 (6)	D	\$ 92.01	6,570	D	
Common Stock	08/07/2017		S		5,692 (7)	D	\$ 89.15	878	D	
Common Stock - Restricted Stock Units (8)								34,043 (9)	D	

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

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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)	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					

Reporting Owners

Reporting Owner Name / Address	Relationships			
	Director	10% Owner	Officer	Other
Trafas Brian M. C/O KLA-TENCOR CORPORATION ONE TECHNOLOGY DRIVE MILPITAS, CA 95035			Senior Vice President	

Signatures

/s/ Teri Little as Attorney-in-Fact for Brian M. Trafas		08/08/2017
<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) On August 4, 2016, the Reporting Person received a grant of RSUs covering 13,800 shares of KLA-Tencor common stock. On August 4, 2017, the Reporting Person vested in 25% of such RSUs.
- (2) Pursuant to such terms of the August 4, 2016 RSU grant, 1,801 shares of KLA-Tencor common stock were automatically withheld at vesting to cover required tax withholding.
- (3) On August 6, 2013, August 6, 2013, and August 6, 2015, the Reporting Person received a grant of RSUs or PRSUs covering 7,150 (RSU), 7,150 (PRSU) and 8,800 (RSU) shares of KLA-Tencor common stock, respectively. On August 6, 2017, the Reporting Person vested in 25% of such RSUs and 50% of the PRSUs.
- (4) Pursuant to such terms of the August 6, 2013, August 6, 2013 and August 6, 2015 grants, 4,413 shares of KLA-Tencor common stock were automatically withheld at vesting to cover required tax withholding.
- (5) On August 7, 2014, the Reporting Person received a grant of RSUs covering 7,350 shares of KLA-Tencor common stock. On August 7, 2017, the Reporting Person vested in 25% of such RSUs.
- (6) Pursuant to such terms of the August 7, 2014 RSU grant, 959 shares of KLA-Tencor common stock were automatically withheld at vesting to cover required tax withholding.
- (7) This sale was effected pursuant to the terms of a Rule 10b5-1 trading plan adopted by the Reporting Person on November 29, 2016.
- (8) Each restricted stock unit ("RSU") represents a contingent right to receive one share of KLA-Tencor common stock.
- (9) 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 a 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.

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