

STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP

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

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

OMB APPROVAL	
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1. Name and Address of Reporting Person* <u>Humiston Mary E</u> (Last) (First) (Middle) C/O APPLIED MATERIALS, INC. P.O. BOX 58039, 3050 BOWERS AV, M/S 2023 (Street) SANTA CLARA CA 95054 (City) (State) (Zip)	2. Issuer Name and Ticker or Trading Symbol <u>APPLIED MATERIALS INC /DE [AMAT]</u>	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) Corp. VP, Global HR
	3. Date of Earliest Transaction (Month/Day/Year) 01/19/2010	
		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

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	01/19/2010		A		125,000 ⁽¹⁾	A	\$0	230,721 ⁽²⁾	D	

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)		6. Date Exercisable and Expiration Date (Month/Day/Year)		7. Title and Amount of Securities Underlying Derivative Security (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: Direct (D) or Indirect (I) (Instr. 4)	11. Nature of Indirect Beneficial Ownership (Instr. 4)
				Code	V	(A)	(D)					

Explanation of Responses:

- Represents performance shares (restricted stock units) that will be converted on a one-for-one basis into shares of Applied Materials, Inc. common stock upon vesting. These performance shares will vest only after the satisfaction of specified performance goals. Provided such goals are achieved, vesting is scheduled to occur no earlier than in four equal annual installments beginning 12/19/10 (subject to continued employment through each vest date).
- Number of shares also includes 97,500 performance shares (restricted stock units) previously reported that in the future will be converted on a one-for-one basis into shares of Applied Materials, Inc. common stock upon vesting, which vesting is scheduled to occur as follows: (a) 37,500 performance shares are scheduled to vest in three equal annual installments beginning 7/1/2010 and (b) 60,000 performance shares are scheduled to vest in four equal annual installments beginning 7/1/2010 (all vesting is subject to continued employment through each vest date).

/s/ Charmaine Mesina, 01/21/2010
Attorney-in-Fact

** Signature of Reporting Person Date

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

* 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).

Note: File three copies of this Form, one of which must be manually signed. If space is insufficient, see Instruction 6 for procedure.

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 Number.

POWER OF ATTORNEY

The undersigned hereby constitutes and appoints each of Charmaine Mesina and Yvonne Leyba, signing singly, the undersigned's true and lawful attorney-in-fact to:

(1) execute for and on behalf of the undersigned, in the undersigned's capacity as an officer of Applied Materials, Inc. (the "Company"), Forms 3, 4 and 5 in accordance with Section 16(a) of the Securities Exchange Act of 1934 and the rules thereunder;

(2) do and perform any and all acts for and on behalf of the undersigned which may be necessary or desirable to complete and execute any such Form 3, 4 or 5, complete and execute any amendment(s) thereto, and timely file such form with the United States Securities and Exchange Commission and any stock exchange or similar authority; and

(3) take any other action of any type whatsoever in connection with the foregoing which, in the opinion of such attorney-in-fact, may be of benefit to, in the best interest of, or legally required by, the undersigned, it being understood that the documents executed by such attorney-in-fact on behalf of the undersigned pursuant to this Power of Attorney shall be in such form and shall contain such terms and conditions as such attorney-in-fact may approve in such attorney-in-fact's discretion.

The undersigned hereby grants to each such attorney-in-fact full power and authority to do and perform any and every act and thing whatsoever requisite, necessary or proper to be done in the exercise of any of the rights and powers herein granted, as fully to all intents and purposes as the undersigned might or could do if personally present, with full power of substitution or revocation, hereby ratifying and confirming all that such attorney-in-fact, or such attorney-in-fact's substitute or substitutes, shall lawfully do or cause to be done by virtue of this Power of Attorney and the rights and powers herein granted. The undersigned acknowledges that the foregoing attorneys-in-fact, in serving in such capacity at the request of the undersigned, are not assuming, nor is the Company assuming, any of the undersigned's responsibilities to comply with Section 16 of the Securities Exchange Act of 1934.

This Power of Attorney shall remain in full force and effect until the undersigned is no longer required to file Forms 3, 4 and 5 with respect to the undersigned's holdings of and transactions in securities issued by the Company, unless earlier revoked by the undersigned in a signed writing delivered to the foregoing attorneys-in-fact.

IN WITNESS WHEREOF, the undersigned has caused this Power of Attorney to be executed as of this 22nd day of June, 2009.

/s/ Mary E. Humiston

Mary E. Humiston