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FORM 4

UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

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

STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP

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

| | ldress of Reporting P MICHAEL H | Person* | 2. Issuer Name and Ticker or Trading Symbol <u>AtriCure, Inc.</u> [ATRC] | | 5. Relationship of Reporting Person(s) to Issuer (Check all applicable) X Director 10% Owner | | | | |
|--------------------------------------|------------------------------------|----------|---|------------------------|--|-----------------------|--|--|--|
| (Last) (First) 7555 INNOVATION WA | | (Middle) | 3. Date of Earliest Transaction (Month/Day/Year) 06/30/2016 | | Officer (give title below) President, CEO, | Other (specify below) | | | |
| (Street) MASON | ОН | 45040 | 4. If Amendment, Date of Original Filed (Month/Day/Year) | 6. Indiv Line) X | vidual or Joint/Group Filing (Check Appli Form filed by One Reporting Person | | | | |
| (City) | (State) | (Zip) | Derivative Securities Acquired. Disposed of. or Ber | eficially | Form filed by More th Person | an One Reporting | | | |

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) | Code (In | | 4. Securities Acquired (A) or Disposed Of (D) (Instr. 3, 4 and 5) | | | Securities Beneficially | | 7. Nature of Indirect Beneficial Ownership (Instr. 4) |
|---------------------------------|--|---|----------|---|--|---------------|------------------------|------------------------------------|---|---|
| | | | Code | v | Amount | (A) or (D) | Price | Transaction(s) (Instr. 3 and 4) | | (11311.4) |
| Common Stock | 06/30/2016 | | A | v | 802 ⁽¹⁾ | Α | \$12.01 ⁽²⁾ | 539,704 | 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. Transa Code (8) | | 5. Number of Derivative Securities Acquired (A) or Disposed of (D) (Instr. 3, 4 and 5) | | 6. Date Exerc Expiration Da (Month/Day/Y | 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) | Date Exercisable | Expiration Date | Title | Amount or Number of Shares | | | | |

Explanation of Responses:

1. Shares acquired pursuant to the AtriCure, Inc. 2008 Employee Stock Purchase Plan for the period ended June 30, 2016.

2. Closing price on June 30, 2016 was \$14.13.

Remarks:

/s/ M. Andrew Wade as Attorney-in-Fact for Michael

07/05/2016

Date

H. <u>Carrel</u> ** Signature of Reporting Person

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.