FORM 4

UNITED STATES SECURITIES AND EXCHANGE COMMISSION

STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP

OMB APPROVAL

OMB Number: Estimated average burden hours per response: 0.5

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

| | d Address of JOSEPH | 2. Issuer Name and Ticker or Trading Symbol GTX INC /DE/ [GTXI] | | | | | | | Relationship of Reporting Person(s) to Issuer (Check all applicable) X Director X 10% Owner Officer (give title Other (specify) | | | | | | | |
|---|---|--|---|---|--|----------------------|------------------------------------|------------------------------------|---|---|--|---|---|---|--|--|
| | Last) (First) (Middle) 3 N. DUNLAP STREET BRD FLOOR | | | 3. Date of Earliest Transaction (Month/Day/Year) 01/27/2009 | | | | | | | Offic belo | | tle | Other below) | | |
| (Street) | treet) | | 8163 | 4. If Amendment, Date of Original Filed (Month/Day/Year) | | | | | | | Individual or Joint/Group Filing (Check Applicable Line) X Form filed by One Reporting Person Form filed by More than One Reporting Person | | | | on | |
| (City) (State) (Zip) | | | | | | | | | | | | | | | | |
| Table I - Non-Derivative Securities Acquired, Disposed of, or Beneficially Owned 1. Title of Security (Instr. 3) 2. Transaction 3. | | | | | | | | | | | | | | | | |
| 1. Title of Security (Instr. 3) | | | 2. Transaction Date (Month/Day/Year | 2A. Deemed Execution Date, if any (Month/Day/Year) | Cod | saction e (Instr. | | uired (A) or Instr. 3, 4 and 5) | | 5. Amount of Securities Beneficially Owned Following Reported | | 6. Ownership Form: Direct (D) or Indirect (I) (Instr. 4) | | 7. Nature of Indirect Beneficial Ownership (Instr. 4) | | |
| | | | | Cod | e V | Amount | Amount (A) or (D) | | rice | Transaction (Instr. 3 ar | on(s) nd 4) | | | | | |
| Common Stock | | | 01/27/2009 | | P | | 55,264 | A | \$ | \$10.352 ⁽¹⁾ | 7,515,957.4 ⁽²⁾ | | D | \perp | | |
| Common Stock | | | 01/28/2009 | | P | | 50,000 | Α | \$ | 310.8377 ⁽³⁾ | 7,565,957.4 | | D | | | |
| Common Stock | | | | | | | | | | | 300,000 | | I | | By 2009-1 GRAT | |
| Common Stock | | | | | | | | | | | 216,462 | | I | By | Spouse | |
| Common Stock | | | | | | | | | | | 309,927 | | I | | 2006-1 RAT | |
| Common Stock | | | | | | | | | | | 463,482 | | I | | 2006-2 RAT | |
| Common Stock | | | | | | | | | | | 410,325 | | I | By | Trust | |
| Common Stock | | | | | | | | | | | 410,325 | | I | Ву | Trust | |
| Common Stock | | | | | | | | | | | 410,323 | | I | By | Trust | |
| Common Stock | | | | | | | | | \perp | | 114,350 | | I | By | Trust | |
| Common Stock | | | | | | _ | | | | | 114,350 | | I | By | By Trust | |
| Common Stock | | | | | | | | | | | 91,628 | | I | By Pittco Associates, L.P. ⁽⁴⁾ | | |
| Common Stock | | | | | | | | | | | 715,716 | | I | In | Pittco vestments, P. ⁽⁴⁾ | |
| | 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) | erivative Conversion Date ecurity or Exercise (Month/Day/Year) if | | Execution Date, if any | Transaction of Code (Instr. B) S. A. (A. D. Of Code (Instr. B) C. | Number erivative ecurities equired) or sposed (D) sstr. 3, 4 d 5) | Expirat | Exercisable and ion Date Day/Year) | | 7. Title and Amount of Securities Underlying Derivative Security (Instr. 3 and 4) | | 8. Price of Derivative Security (Instr. 5) | 9. Numb derivativ Securitie Beneficia Owned Followin Reported Transact (Instr. 4) | e Owr es Forr ally Dire or Ir g (I) (II | ership i: et (D) direct istr. 4) | 11. Nature of Indirect Beneficial Ownership (Instr. 4) | |
| | | | Code V (A |) (D) | Date Exercis | Expira sable Date | | - itle | Amount or Number of Shares | | | | | | | |

Explanation of Responses:

- 1. An aggregate of 55,264 shares of common stock were purchased in multiple trades on January 27, 2009 at prices ranging from \$10.14 to \$10.50. The price reported above reflects the weighted average purchase price. The reporting person hereby undertakes to provide upon request to the SEC staff, GTx, Inc. or a shareholder of GTx, Inc. full information regarding the number of shares and prices at which the transaction was effected.
- 2. Excludes 300,000 shares previously owned directly by the reporting person which were contributed to a grantor retained annuity trust on January 27, 2009 and are now owned indirectly.
- 3. An aggregate of 50,000 shares of common stock were purchased in multiple trades on January 28, 2009 at prices ranging from \$10.27 to \$11.00. The price reported above reflects the weighted average purchase price. The reporting person hereby undertakes to provide upon request to the SEC staff, GTx, Inc. or a shareholder of GTx, Inc. full information regarding the number of shares and prices at which the transaction was effected.

4. The reporting person disclaims beneficial ownership of these securities except to the extent of his pecuniary interest therein, and the inclusion of these shares in his report shall not be deemed an admission of beneficial ownership of the reported shares for the purposes of Section 16 or any other purpose.

Remarks:

/s/ Mark E. Mosteller, by Power of Attorney 01/28/2009

** 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.

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