FORM 4

UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

| | OMB APF | PROVAL |
|-----|-------------------|-----------|
| | OMB Number: | 3235-0287 |
| | Estimated average | burden |
| - 1 | I. | |

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

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

| Name and Address of Reporting Person* Arbeit Robert D. | | | | IDE | 2. Issuer Name and Ticker or Trading Symbol IDERA PHARMACEUTICALS, INC. [IDRA] | | | | | | | | | ck all applic Directo | able) r | g Per | rson(s) to Is | ner | |
|---|--|--|---|---------|---|--|---------|-----|--|------|------------------|---|-------------------------------|---|--|---|--|--|-------------------------|
| (Last) (First) (Middle) IDERA PHARMACEUTICALS, INC. | | | | | 3. Date of Earliest Transaction (Month/Day/Year) 12/10/2013 | | | | | | | | X | below) | Officer (give title below) VP Clinical Deve | | Other (specify below) | | |
| 167 SIDNEY STREET | | | | | 4. If A | 4. If Amendment, Date of Original Filed (Month/Day/Year) | | | | | | | | 6. Individual or Joint/Group Filing (Check Applicable Line) | | | | | plicable |
| (Street) | LIDGE M | A (| 02139 | | _ | | | | | | | | | X | | ed by More | | orting Person | |
| (City) | (S | tate) (| Zip) | | | | | | | | | | | | | | | | |
| | | Tab | le I - N | on-Deri | vative \$ | Sec | urities | Acc | quired, [| Disp | osed o | f, or Be | nefi | cially | Owned | | | | |
| 1. Title of Security (Instr. 3) 2. Transacti Date (Month/Day | | | | | | Execution Date, | | | 3. Transaction Code (Instr. 8) 4. Securities Acquired Disposed Of (D) (Instr. and 5) | | | | | | es For ally (D) | | : Direct of control of | 7. Nature of Indirect Beneficial Ownership | |
| | | | | | | | | | Code | v | Amount | (A) c | or P | rice | Reporte Transac (Instr. 3 | ed ction(s) | | . 4) | nstr. 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) | 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) | | n of | | 6. Date Exercisable and Expiration Date (Month/Day/Year) | | е | 7. Title and Amount of Securities Underlying Derivative Sec (Instr. 3 and 4) | | urity | 8. Price of Derivative Security (Instr. 5) | 9. Number derivative Securities Beneficial Owned Following Reported Transactio (Instr. 4) | ly | Ownership Form: Direct (D) or Indirect (I) (Instr. 4) | Beneficial Ownership |
| | | | | | Code | v | (A) | (D) | Date Exercisabl | | xpiration ate | Title | Amo or Num of Sha | nber | | | | | |
| Stock Option | \$2.56 | 12/10/2013 | | | A | Г | 200,000 | П | (1) | 1 | 2/10/2023 | Common Stock | 200 | ,000 | \$0.00 | 200,00 | 0 | D | |

Explanation of Responses:

1. The option vests in equal quarterly installments over four years, with the first installment vesting on March 10, 2014.

Remarks:

/s/ Robert D. Arbeit

12/12/2013

** 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.