Instruction 1(b).

FORM 4

## UNITED STATES SECURITIES AND EXCHANGE COMMISSION

| Washington, | D.C. 20549 |
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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

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

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

| 1. Name and Address of Reporting Person*  PIEN HOWARD H  |   |  |        |                                 |   | 2. Issuer Name and Ticker or Trading Symbol  IDERA PHARMACEUTICALS, INC. [ IDRA ] |           |                       |   |                                  |                    |  |                    |                       | k all app<br>Direc                                | tor   | ng Pei   | 10% O  | wner                               |
|--|---|--|--------|---------------------------------|---|---|-----------|-----------------------|---|----------------------------------|--------------------|--|--------------------|-----------------------|---|---|--|--|------------------------------------|
| (Last) (First) (Middle) C/O IDERA PHARMACEUTICALS, INC. 505 EAGLEVIEW BLVD., SUITE 212   |   |  |        |                                 |   | 3. Date of Earliest Transaction (Month/Day/Year) 07/01/2020                       |           |                       |   |                                  |                    |  |                    |                       | belov   | er (give title<br>v)  |  | Other (<br>below)  | specify                            |
| (Street) EXTON PA 19341 (City) (State) (Zip)   |   |  |        |                                 |   | 4. If Amendment, Date of Original Filed (Month/Day/Year)                          |           |                       |   |                                  |                    |  |                    | 6. Indi<br>Line)<br>X | ·   |   |  |  |                                    |
|  |   | Table                                      | I - No | n-Deriva                        | tive S                                  | Secu  | rities    | Acq                   | uired,  | Dis                              | posed of           | , or E   | Benef              | ficially              | / Own   | ed  |  |  |                                    |
| 1. Title of Security (Instr. 3)  2. Transact Date (Month/Day   |   |  |        | Executi<br>ay/Year) if any      |   | Deemed<br>ecution Date,<br>ny<br>onth/Day/Year)                                   |           |                       |   | 4. Securitie<br>Disposed (<br>5) |                    |  | 4 and Secu<br>Bene |                       | mount of<br>urities<br>eficially<br>ned Following |   | wnership<br>n: Direct<br>or Indirect<br>nstr. 4) | 7. Nature<br>of Indirect<br>Beneficial<br>Ownership<br>(Instr. 4)        |                                    |
|  |   |  |        |                                 |   |   |           | Code                  | v   | Amount                           | (A)<br>(D)         | or P   | rice               | Transa                | action(s)<br>3 and 4)                             |   |  | (111301.4)   |                                    |
| Common Stock 07/01/2   |   |  |        |                                 |   | 2020  |           |                       | A   |                                  | 7,018(1)           | I  | 1 5                | \$1.79                | 39,874  |   |  | D  |                                    |
| Table II - Derivative Securities Acquired, Disposed of, or Beneficially Owned (e.g., puts, calls, warrants, options, convertible securities) |   |  |        |                                 |   |   |           |                       |   |                                  |                    |  |                    |                       |   |   |  |  |                                    |
| 1. Title of<br>Derivative<br>Security<br>(Instr. 3)  | 2.<br>Conversion<br>or Exercise<br>Price of<br>Derivative<br>Security | 3. Transaction<br>Date<br>(Month/Day/Year) | if any | emed<br>ion Date,<br>/Day/Year) | 4.<br>Transaction<br>Code (Instr.<br>8) |   | of        | r<br>osed<br>(1. 3, 4 | 6. Date Exerci<br>Expiration Da<br>(Month/Day/Y |                                  | ite                | 7. Title and<br>Amount of<br>Securities<br>Underlying<br>Derivative<br>Security (Ins<br>3 and 4) |                    | De<br>Sei<br>(In:     | Price of rivative curity str. 5)                  | 9. Number<br>derivative<br>Securities<br>Beneficiall<br>General Securities<br>Following<br>Reported<br>Transactio<br>(Instr. 4) | у  | 10.<br>Ownership<br>Form:<br>Direct (D)<br>or Indirect<br>(I) (Instr. 4) | Beneficial Ownership ot (Instr. 4) |
|  |   |  |        |                                 | Code                                    | v   | / (A) (D) |                       | Date<br>Exercisable                             |                                  | Expiration<br>Date | Numb<br>of<br>Title Share  |                    |                       |   |   |  |  |                                    |

## **Explanation of Responses:**

1. This stock was issued to the reporting person pursuant to his election, under the Issuer's director compensation program, to receive common stock in lieu of cash fees.

07/02/2020 /s/ Howard H. Pien

\*\* Signature of Reporting Person Date

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

- $^{\star}$  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.