

Each Reporting Person With 9. Sole Dispositive Power: 0
10. Shared Dispositive Power: 3,749,900
Common Shares¹ and Warrants² to purchase
1,875,000 Common Shares

11. Aggregate Amount Beneficially Owned by Each Reporting Person:
3,749,900 Common Shares¹ and Warrants² to purchase 1,875,000
Common Shares
12. Check if the Aggregate Amount in Row (11) Excludes Certain Shares
(See Instructions): Not Applicable
13. Percent of Class Represented by Amount in Row (11): 7.9%¹
14. Type of Reporting Person (See Instructions): IA, IN

¹ This is a joint filing by Austin W. Marxe (?Marxe?) and David M. Greenhouse (?Greenhouse?). Marxe and Greenhouse share sole voting and investment power over 630,000 shares of Common Stock and 315,000 Warrants² to purchase common shares owned by Special Situations Cayman Fund, L.P., 1,882,500 shares of Common Stock and 941,250 Warrants² to purchase common shares owned by Special Situations Fund III QP, L.P. and 1,237,400 shares of Common Stock and 618,750 Warrants² to purchase common shares owned by Special Situations Life Sciences Fund, L.P. See Items 2 and 4 of this Schedule for additional information.

² The warrants describe herein may be exercised to the extent that the total number of shares of Common Stock then beneficially owned does not exceed 4.99%. The percentages of ownership reported in row 13 and item 4, do not reflect such warrants.

Page 3 of 6 Pages

Item 1. Security and Issuer:

- (a) Adventrx Pharmaceuticals, Inc.
- (b) 12390 El Camino Real, Suite 150, San Diego, CA 92130

Item 2. (a) Name of Person Filing:

The persons filing this report are Austin W. Marxe (?Marxe?) and David M. Greenhouse (?Greenhouse?), who are the controlling principals of AWM Investment Company, Inc. (?AWM?), the general partner of and investment adviser to Special Situations Cayman Fund, L.P. (?Cayman?). AWM also serves as the general partner of MGP Advisers Limited Partnership (?MGP?), the general partner of Special Situations Fund III QP, L.P. (?SSFQP?). Marxe and Greenhouse are also members of LS Advisers L.L.C. (?LS?), the general partner of Special Situations Life Sciences Fund, L.P. (?SSLS?). AWM serves as the investment adviser to SSFQP and SSLS. (SSFQP, Cayman, and SSLS will hereafter be referred to as, the ?Funds?). The principal business of each Fund is to invest in equity and equity-related securities and other securities of any kind or nature.

(b) Address of Principal Business Office or, if none, Residence:

The principal business address for Marxe and Greenhouse is 527 Madison Avenue, Suite 2600, New York, NY 10022.

(c) Citizenship:

Austin W. Marxe and David M. Greenhouse are United States citizens.

(d) Title of Class of Securities: Common Stock

(e) CUSIP Number: 00764X202.

Item 3. If this statement is filed pursuant to §240.13d-1(b) or 240.13d-2(b), check whether

the person filing is a: Not Applicable

- (a) Broker or Dealer registered under section 15 of the Act;
- (b) Bank as defined in section 3(a) (6) of the Act;
- (c) Insurance Company as defined in section 3(a) (19) of the Act;
- (d) Investment Company registered under section 8 of the Investment Company Act of 1940;
- (e) An Investment Adviser in accordance with §240.13d-1(b)(I)(ii)(E);
- (f) An employee benefit plan or endowment fund in accordance with §240.13d-1(b)(I)(ii)(F);

Page 4 of 6 Pages

(g) () A parent holding company or control person in accordance with \$240.13d-

1(b)(1)(ii)(G);

(h) () A savings association as defined in Section 3(b) of the Federal Deposit Insurance

Act;

(i) () A church plan that is excluded from the definition of an investment company under section 3(c)(14) of the Investment Company Act of 1940;

(j) () Group, in accordance with \$240.13d-1(b)(1)(ii)(J).

Item 4. Ownership:

(a) Amount Beneficially Owned: Messrs. Marxe and Greenhouse beneficially own a total of 3,749,900 shares of Common Stock and 1,875,000 Warrants² to purchase Common Shares. This amount includes 630,000 shares of Common Stock and 315,000 Warrants² to purchase Common Shares owned by Cayman, 1,237,400 shares of Common Stock and 618,750 Warrants² to purchase Common Shares owned by SSLS and 1,882,500 shares of Common Stock and 941,250 Warrants² to purchase Common Shares owned by SSFQP.

(b) Percent of Class: Messrs. Marxe and Greenhouse beneficially own 7.9% of the shares outstanding, of which Cayman owns 1.3% of the outstanding shares, SSLS owns 2.6% of the outstanding shares and SSFQP owns 3.9% of the outstanding shares.

(c) Number of Shares as to which the person has:

(i) Sole power to vote or to direct the vote: 0

(ii) Shared power to vote or to direct the vote: 3,749,900 Common Shares¹ and Warrants² to purchase 1,875,000 Common Shares

(iii) Sole power to dispose or to direct the disposition of: 0

(iv) Shared power to dispose or to direct the disposition of: 3,749,900 Common Shares¹ and Warrants² to purchase 1,875,000 Common Shares

Item 5. Ownership of Five Percent or Less of a Class: If this statement is being filed to report the fact that as of the date hereof the reporting person has ceased to be the beneficial owner of more than five percent of the class of securities, check the following ___.

Item 6. Ownership of More than Five Percent on Behalf of Another Person: Not Applicable.

Page 5 of 6 Pages

Item 7. Identification and Classification of the Subsidiary Which Acquired the Security being Reported on By the Parent Holding Company: Not Applicable.

Item 8. Identification and Classification of Members of the Group: Not applicable

Item 9. Notices of Dissolution of Group: Not applicable.

Item 10. Certification:

By signing below I certify that, to the best of my knowledge and belief, the securities referred to above were acquired and are held in the ordinary course of business and were not

acquired and are not held for the purpose of or with the effect of changing or influencing the control of the issuer of the securities and were not acquired and are not held in connection with or as a participant in any transaction having that purpose or effect.

SIGNATURE

After reasonable inquiry and to the best of my knowledge and belief, I certify that the information set forth in this statement is true, complete and correct.

Dated: February 13, 2012

/s/ Austin W. Marxe
AUSTIN W. MARXE

/s/David M Greenhouse
DAVID M. GREENHOUSE

Attention: Intentional misstatements or omissions of fact constitute Federal criminal violations (See 18 U.S.C. 1001).

Page 6 of 6 Pages

JOINT FILING AGREEMENT

Austin W. Marxe and David M. Greenhouse hereby agree that the Schedule 13G to which this agreement is attached is filed on behalf of each of them.

/s/_Austin W. Marxe
Austin W. Marxe

/s/_David M. Greenhouse
David M. Greenhouse

-4-

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