

Allis Chalmers Energy Inc.
Form SC 13G/A
February 13, 2008

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

OMB APPROVAL
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SCHEDULE 13G

Under the Securities Exchange Act of 1934
(Amendment No. 5)

Allis-Chalmers Energy Inc.

—
(Name of Issuer)

Common Stock

—
(Title of Class of Securities)

019645506

—
(CUSIP Number)

December 31, 2007

—
(Date of Event Which Requires Filing of this Statement)

Check the appropriate box to designate the rule pursuant to which this Schedule is filed:

Rule 13d-1(b)

Rule 13d-1(c)

Rule 13d-1(d)

* The remainder of this cover page shall be filled out for a reporting person's initial filing on this form with respect to the subject class of securities, and for any subsequent amendment containing information which would alter the disclosures provided in a prior cover page.

The information required in the remainder of this cover page shall not be deemed to be "filed" for the purpose of Section 18 of the Securities Exchange Act of 1934 ("Act") or otherwise subject to the liabilities of that section of the Act but shall be subject to all other provisions of the Act (however, see the Notes).

Potential persons who are to respond to the collection of information contained in this form are not required to respond unless the form displays a currently valid OMB control number.

—

1. Names of Reporting Persons.

Palo Alto Investors, LLC

—

2. Check the Appropriate Box if a Member of a Group (See Instructions)

(a)

(b)

3. SEC Use Only _____

4. Citizenship or Place of Organization **California**

Number of	5. Sole Voting Power	0
Shares	6. Shared Voting Power	3,990,817
Beneficially	7. Sole Dispositive Power	0
Owned by	8. Shared Dispositive Power	3,990,817

Each Reporting

Person With:

9. Aggregate Amount Beneficially Owned by Each Reporting Person **3,990,817**

—

10. Check if the Aggregate Amount in Row (9) Excludes Certain Shares (See Instructions) _____

—

11. Percent of Class Represented by Amount in Row (9) **11.4%**

—

12. Type of Reporting Person (See Instructions) **OO, IA**

—

—

1. Names of Reporting Persons.

Palo Alto Investors

—

2. Check the Appropriate Box if a Member of a Group (See Instructions)

(a)

(b) **X**

3. SEC Use Only _____

4. Citizenship or Place of Organization **California**

Number of

5. Sole Voting Power **0**

Shares 6. Shared Voting Power **3,990,817**
Beneficially 7. Sole Dispositive Power **0**
Owned by 8. Shared Dispositive Power **3,990,817**
Each Reporting
Person With:

9. Aggregate Amount Beneficially Owned by Each Reporting Person **3,990,817**

10. Check if the Aggregate Amount in Row (9) Excludes Certain Shares (See Instructions) _____

11. Percent of Class Represented by Amount in Row (9) **11.4%**

12. Type of Reporting Person (See Instructions) **CO, HC**

1. Names of Reporting Persons.

William Leland Edwards

2. Check the Appropriate Box if a Member of a Group (See Instructions)

(a) _____

(b) **X**

3. SEC Use Only _____

4. Citizenship or Place of Organization **U.S.A.**

Number of
Shares
Beneficially
Owned by
Each Reporting
Person With:

5. Sole Voting Power **6,500**

6. Shared Voting Power **3,990,817**

7. Sole Dispositive Power **6,500**

8. Shared Dispositive Power **3,990,817**

9. Aggregate Amount Beneficially Owned by Each Reporting Person **3,997,317**

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10. Check if the Aggregate Amount in Row (9) Excludes Certain Shares (See Instructions) _____

—

11. Percent of Class Represented by Amount in Row (9) **11.4%**

—

12. Type of Reporting Person (See Instructions) **IN, HC**

—

—

1. Names of Reporting Persons.

Palo Alto Small Cap Master Fund, L.P.

—

2. Check the Appropriate Box if a Member of a Group (See Instructions)

(a)

(b) **X**

3. SEC Use Only _____

4. Citizenship or Place of Organization **Cayman Islands**

Number of
Shares
Beneficially
Owned by
Each Reporting
Person With:

5. Sole Voting Power **0**
6. Shared Voting Power **1,861,050**
7. Sole Dispositive Power **0**
8. Shared Dispositive Power **1,861,050**

9. Aggregate Amount Beneficially Owned by Each Reporting Person **1,861,050**

—

10. Check if the Aggregate Amount in Row (9) Excludes Certain Shares (See Instructions) _____

—

11. Percent of Class Represented by Amount in Row (9) **5.3%**

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12. Type of Reporting Person (See Instructions) **PN**

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Item 1.

(a) Name of Issuer

Allis-Chalmers Energy Inc.

—

(b) Address of Issuer's Principal Executive Offices

5075 Westheimer, Suite 890, Houston, TX 77056

Item 2.

—
(a) The names of the persons filing this statement are:

Palo Alto Investors, LLC ("PAI")

—

Palo Alto Investors

—

William Leland Edwards

—

Palo Alto Small Cap Master Fund, L.P. ("Small Cap Master")

—

(collectively, the "Filers").

(b) The principal business office of the Filers except Small Cap Master is located at:

470 University Avenue, Palo Alto, CA 94301

The address of Small Cap Master is:

c/o Citco Fund Services (Bermuda) Limited

Washington Mall West, 2nd Floor

O Reid Street

Hamilton HM11

Bermuda

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(c) For citizenship of Filers, see Item 4 of the cover sheet for each Filer.

(d) This statement relates to shares of Common Stock of the Issuer (the "Stock").

(e) The CUSIP number of the Issuer is: **019645506**

Item 3. If this statement is filed pursuant to rule 240.13d-1(b) or 240.13d-2(b) or (c), check whether the person filing is a:

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- (a) Broker or dealer registered under section 15 of the Act (15 U.S.C. 78o).
- (b) Bank as defined in section 3(a)(6) of the Act (15 U.S.C. 78c).
- (c) Insurance company as defined in section 3(a)(19) of the Act (15 U.S.C. 78c).
- (d) Investment company registered under section 8 of the Investment Company Act of 1940 (15 U.S.C. 80a-8).
- (e) An investment adviser in accordance with section 240.13d-1(b)(1)(ii)(E) (as to PAI).
- (f) An employee benefit plan or endowment fund in accordance with section 240.13d-1(b)(1)(ii)(F).
- (g) A parent holding company or control person in accordance with 240.13d-1(b)(1)(ii)(G) (as to Palo Alto Investors and Mr. Edwards).
- (h) A savings association as defined in section 3(b) of the Federal Deposit Insurance Act (12 U.S.C. 1813).
- (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 (15 U.S.C. 80a-3).
- (j) Group, in accordance with section 240.13d-1(b)(1)(ii)(J).

Item 4. Ownership.

See Items 5-9 and 11 of the cover page for each Filer.

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.

PAI is a registered investment adviser and is the general partner and investment adviser of Small Cap Master and other investment limited partnerships and the investment adviser to other investment funds. Palo Alto Investors is the manager of PAI. Mr. Edwards is the controlling shareholder and President of Palo Alto Investors. PAI's clients have the right to receive or the power to direct the receipt of dividends from, or the proceeds from the sale of, the Stock. No client, other than Small Cap Master, separately holds more than five percent of the outstanding Stock.

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.

The Filers are filing this Schedule 13G jointly, but not as members of a group, and each of them expressly disclaims membership in a group. Each of PAI, Palo Alto Investors and Mr. Edwards disclaims beneficial ownership of the

Stock except to the extent of that person's pecuniary interest therein. In addition, the filing of this Schedule 13G on behalf of Small Cap Master should not be construed as an admission that it is, and it disclaims that it is, the beneficial owner, as defined in Rule 13d-3 under the Securities Exchange Act of 1934, of any of the Stock covered by this Schedule 13G.

Item 9. Notice of Dissolution of Group

Not applicable.

Item 10. Certification.

Certification of Palo Alto Investors, PAI and Mr. Edwards:

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.

Certification of Small Cap Master:

By signing below I certify that, to the best of my knowledge and belief, the securities referred to above 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.

Exhibits

Joint Filing Agreement, previously filed.

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, 2008

PALO ALTO INVESTORS

PALO ALTO INVESTORS, LLC

By: Palo Alto Investors, Manager

By: William L. Edwards, President

By: William L. Edwards, President

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PALO ALTO SMALL CAP MASTER FUND, L.P.

By: Palo Alto Investors, LLC
General Partner

By: Palo Alto Investors,
Manager

By: William L. Edwards,
President

William L. Edwards

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