

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549
SCHEDULE 13D
Under the Securities Exchange Act of 1934
(Amendment No. 1)

Tegal Corporation

(Name of Issuer)

Common Stock, No Par Value
(Title of Class of Securities)

879008100
(CUSIP Number)

with a copy to:
Austin W. Marxe Allen B. Levithan, Esq.
527 Madison Avenue, Suite 2600 Lowenstein Sandler PC
New York, New York 10022 65 Livingston Avenue
Roseland, N.J 07068
(973) 597-2424

(Name, Address and Telephone Number of Person
Authorized to Receive Notices and Communications)

August 31, 2006
(Date of Event which Requires Filing of this Statement)

If the filing person has previously filed a statement on Schedule 13G to report the acquisition that is the subject of this Schedule 13D, and is filing this schedule because of sections 240.13d-1(e), 240.13d-1(f) or 240.13d-1(g), check the following box. ?

Note: Schedules filed in paper format shall include a signed original and five copies of the schedule, including all exhibits. See section 240.13d-7 for other parties to whom copies are to be sent.

*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 disclosures provided in a prior cover page.

The information required on 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).

Cusip No. 879008100

1. Names of Reporting Persons. I.R.S. Identification Nos. of above persons (entities only):

Austin W. Marxe and David M. Greenhouse

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

- (a) Not Applicable
(b)

3. SEC Use Only

4. Source of Funds (See Instructions): 00

5. Check if Disclosure of Legal Proceedings Is Required Pursuant to Items 2(d) or 2(e):
Not Applicable

6. Citizenship or Place of Organization: United States

Number of 7. Sole Voting Power: 0*

Shares Beneficially 8. Shared Voting Power:

2,120,172*

Owned by

Each Reporting 9. Sole Dispositive Power: 0*

Person With 10. Shared Dispositive Power:

2,120,172*

11. Aggregate Amount Beneficially Owned by Each Reporting Person:

2,120,172*

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): 27.2% *

14. Type of Reporting Person (See Instructions): IA, IN

* This is a joint filing by Austin W. Marx (?Marx?) and David M. Greenhouse (?Greenhouse?). Marx and Greenhouse share sole voting and investment power over 186,091 shares of Common Stock and 151,392 Warrants owned by Special Situations Private Equity Fund, L.P., 271,689 shares of Common Stock and 141,663 Warrants owned by Special Situations Technology Fund II, L.P., 42,025 shares of Common Stock and 23941 Warrants owned by Special Situations Technology Fund, L.P., 176,035 shares of Common Stock and 86,538 Warrants owned by Special Situations Cayman Fund, L.P., 56,274 shares of Common Stock and 27,587 Warrants owned by Special Situations Fund III, L.P. and 642,216 shares of Common Stock and 314,721 Warrants owned by Special Situations Fund III QP, L.P. See Items 2 and 5 of this Schedule 13D for additional information.

Item 1. Security and Issuer.

This schedule related to the Common Stock and Warrants of Tegal Corporation. (the ?Issuer?). The Issuer?s principal executive officers are located at 2201 south McDowell blvd., Petaluma, CA 94954.

Item 2. Identity and Background.

The persons filing this report are Austin W. Marx (?Marx?) 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 and investment adviser to Special Situations Fund III, L.P. (?SSF3?) and the general partner of Special Situations Fund III QP, L.P. (?SSFQP?). Marx and Greenhouse are also members of MG Advisers L.L.C. (?MG?), the general partner of Special Situations Private Equity Fund, L.P. (?SSPE?), and members of SST Advisers, L.L.C. (?SSTA?), the general partner of Special Situations Technology Fund, L.P. (?Technology?) and the Special Situations Technology Fund II, L.P. (?Tech II?). AWM also serves as the investment adviser to SSFQP, SSPE, Technology, and Tech II. (SSF3, SSFQP Cayman, SSPE, Technology and Tech II will hereafter be referred to as, the ?Funds?).

The principal office and business address of the Reporting Persons, is 527 Madison Avenue, Suite 2600, New York, NY 10022.

The principal business of each Fund is to invest in equity and equity-related securities and other securities of any kind or nature.

Mr. Marx and Mr. Greenhouse have never been convicted in any criminal proceeding (excluding traffic violations or similar misdemeanors), nor have either of them been a party to any civil proceeding commenced before a judicial or administrative body of

competent jurisdiction as a result of which he was or is now subject to a judgment, decree or final order enjoining future violations of, or prohibiting or mandating activities subject to, federal or state securities laws or finding any violation with respect to such laws. Mr. Marx and Mr. Greenhouse are citizens of the United States.

Item 3. Source and Amount of Funds or Other Consideration.

Each Fund utilized its own available net assets to purchase the securities referred to in this Schedule.

Item 4. Purpose of Transaction.

The securities referred to in this Schedule have been acquired by each of the Funds for investment purposes and not with the purpose or effect of changing or influencing control of the Issuer. Each Fund acquired the securities in the ordinary course of business and is holding the securities for the benefit of its investors.

Item 5. Interest in Securities of the Issuer.

SSPE owns 186,091 shares of Common stock and 151,392 Warrants, or 4.7% of the outstanding shares, Technology owns 42,025 shares of Common Stock and 23,941 Warrants or .9% of the shares outstanding, Technology II owns 271,689 shares of Common Stock and 141,663 Warrants or 5.7% of the shares outstanding, SSF3 owns 56,274 shares of Common Stock and 27,587 Warrants or 1.2% of the shares outstanding, SSFQP owns 642,216 shares of Common Stock and 314,721 Warrants or 13.0% of the shares outstanding and Cayman owns 176,035 shares of Common Stock and 86,538 Warrants or 3.7% of the shares outstanding. Marx and Greenhouse share the power to vote and direct the disposition of all shares owned by each of, the Funds. Messrs. Marx and Greenhouse are deemed to beneficially own a total 1,374,330 shares of Common Stock and 745,842 Warrants or 27.2% of the outstanding shares.

On July 25, 2006, the issuer has a 12 for 1 reverse split. The following table reflects the Common Stock purchased during the sixty days preceding the date of the event that requires the filing of this statement:

A. Special Situations Cayman Fund, L.P.

Date
Quantity
Average Price

(Sales)

Date
Quantity
Average Price

(Purchases)

Pre-split July 2006
24,700 shares of Common
Stock
\$0.36
Post-split July 2006
900 shares of Common
Stock
\$3.79

B. Special Situations Private Equity Fund, L.P.

Date
Quantity
Average Price

(Sales)

Date

Quantity

Average Price

(Purchases)

Pre-split July 2006

69,965 shares of
Common Stock

\$0.36

Post-split July 2006

1,800 shares of Common
Stock

\$3.79

C. Special Situations Technology Fund, L.P.

Date

Quantity

Average Price

(Sales)

Date

Quantity

Average Price

(Purchases)

Pre-split July 2006

9,235 shares of Common
Stock

\$0.36

Post-split July 2006

300 shares of Common
Stock

\$3.94

During August 2006

7,237 Common Stock

\$3.92

D. Special Situations Technology Fund II, L.P.

Date

Quantity

Average Price

(Sales)

Date

Quantity

Average Price

(Purchases)

Pre-split July 2006

64,658 shares of Common
Stock

\$0.36

Post-split July 2006

2,121 shares of Common
Stock

\$3.90

During August 2006
52,000 Common Stock
\$3.92
E. Special Situations Fund III, L.P.

Date
Quantity
Average Price

(Sales)

Date

Quantity

Average Price

(Purchases)

Pre-split July 2006
8,400 shares of Common
Stock
\$0.36

Post-split July 2006
400 shares of Common
Stock
\$3.79

F. Special Situations Fund III QP, L.P.

Date
Quantity
Average Price

(Sales)

Date

Quantity

Average Price

(Purchases)

Pre-split July 2006
104,100 shares of
Common Stock
\$0.37

Post-split July 2006
4,100 shares of Common
Stock
\$3.79

Item 6. Contracts, Arrangements, Understandings or Relationships With
Respect to Securities of the Issuer.

No contracts, arrangements, understandings or similar
relationships exist with respect to the securities of the Company between
Messrs. Marx and Greenhouse and any other individual or entity.

Item 7. Material to be Filed as Exhibits.

Joint Filing Agreement.

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: September 7, 2006

/s/ Austin W. Marx
Austin W. Marx

/s/ David M. Greenhouse
David M. Greenhouse

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

JOINT FILING AGREEMENT

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

/s/ Austin W. Marx
Austin W. Marx

/s/ David M. Greenhouse
David M. Greenhouse

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