

GRAE SETH  
Form 4  
July 19, 2010

**FORM 4**

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

OMB APPROVAL

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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 OF SECURITIES**

Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934, Section 17(a) of the Public Utility Holding Company Act of 1935 or Section 30(h) of the Investment Company Act of 1940

(Print or Type Responses)

1. Name and Address of Reporting Person \*  
GRAE SETH

(Last) (First) (Middle)

1600 TYSON'S BOULEVARD, SUITE 550

(Street)

MCLEAN, VA 22102

(City) (State) (Zip)

2. Issuer Name and Ticker or Trading Symbol  
LIGHTBRIDGE Corp [LTBR]

3. Date of Earliest Transaction (Month/Day/Year)  
07/16/2010

4. If Amendment, Date Original Filed(Month/Day/Year)

5. Relationship of Reporting Person(s) to Issuer

(Check all applicable)

Director  10% Owner  
 Officer (give title below)  Other (specify below)  
President and CEO

6. Individual or Joint/Group Filing(Check Applicable Line)  
 Form filed by One Reporting Person  
 Form filed by More than One Reporting Person

**Table I - Non-Derivative Securities Acquired, Disposed of, or Beneficially Owned**

| 1. Title of Security (Instr. 3) | 2. Transaction Date (Month/Day/Year) | 2A. Deemed Execution Date, if any (Month/Day/Year) | 3. Transaction Code (Instr. 8) | 4. Securities Acquired (A) or Disposed of (D) (Instr. 3, 4 and 5) | 5. Amount of Securities Beneficially Owned Following Reported Transaction(s) (Instr. 3 and 4) | 6. Ownership Form: Direct (D) or Indirect (I) (Instr. 4) | 7. Nature of Indirect Beneficial Ownership (Instr. 4) |
|---------------------------------|--------------------------------------|--|--------------------------------|---|---|--|---|
|                                 |                                      |  |                                | Code V  | Amount  | (A) or (D)   | Price   |
| Common Stock                    | 07/16/2010                           |  |                                | M   | 128,139   | A  | \$ 4.68   |
| Common Stock <sup>(1)</sup>     | 07/16/2010                           |  |                                | F   | 70,719  | D  | \$ 8.48   |
| Common Stock                    | 07/16/2010                           |  |                                | J <sup>(2)</sup>  | 28,710  | D  | \$ 8.48   |

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

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number.

**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) | 5. Number of Derivative Securities Acquired (A) or Disposed of (D) (Instr. 3, 4, and 5) | 6. Date Exercisable and Expiration Date (Month/Day/Year) | 7. Title and Amount of Underlying Securities (Instr. 3 and 4) |              |                            |
|--|--|--------------------------------------|--|--------------------------------|---|--|---|--------------|----------------------------|
|  |  |                                      |  | Code                           | V (A) (D)   | Date Exercisable   | Expiration Date   | Title        | Amount of Number of Shares |
| Stock Option (Right to Buy) <sup>(3)</sup> | \$ 4.68  | 07/16/2010                           |  | M                              | 128,139   | 10/06/2006   | 08/17/2010  | Common Stock | 128,139                    |

## Reporting Owners

| Reporting Owner Name / Address                                       | Relationships |           |                   |       |
|--|---------------|-----------|-------------------|-------|
|  | Director      | 10% Owner | Officer           | Other |
| GRAE SETH<br>1600 TYSON'S BOULEVARD<br>SUITE 550<br>MCLEAN, VA 22102 | X             |           | President and CEO |       |

## Signatures

/s/ Seth Grae                      07/19/2010  
 \*\*Signature of                      Date  
 Reporting Person

## Explanation of Responses:

- \* 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).
- (1) Surrender of shares of the Issuer's common stock in connection with the cashless exercise of a stock option.  
 The Issuer redeemed 28,710 shares from Mr. Grae on July 16, 2010. The proceeds of this redemption were paid directly to federal and/or state taxing authorities for tax withholding of Mr. Grae's tax liability relating to the cashless exercise of an option to purchase 128,139 shares of the Issuer's common stock.
- (3) Exercise of stock option.

Note: File three copies of this Form, one of which must be manually signed. If space is insufficient, see Instruction 6 for procedure. 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 number.