

Riordan Thomas
 Form 4
 September 13, 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 *
 Riordan Thomas

(Last) (First) (Middle)

C/O ROCKWOOD HOLDINGS, INC., 100 OVERLOOK CENTER

(Street)

PRINCETON, NJ 08540

(City) (State) (Zip)

2. Issuer Name and Ticker or Trading Symbol
 Rockwood Holdings, Inc. [ROC]

3. Date of Earliest Transaction (Month/Day/Year)
 09/09/2010

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)
 SVP, Law & Administration

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 Ownership (Instr. 4)
				(A) or (D)	Price		
Common Stock, par value \$0.01	09/09/2010		M	6,845 A	\$ 14.61	56,164	D
Common Stock, par value \$0.01	09/09/2010		F	3,571 D	\$ 28	52,593	D
Common Stock, par value \$0.01	09/09/2010		M	6,845 A	\$ 14.61	59,438	D
Common Stock, par	09/09/2010		F	3,571 D	\$ 28	55,867	D

value \$0.01

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

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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)	8. Amount or Number of Shares
Stock Options (right to buy)	\$ 14.61	09/09/2010		M	6,845	<u>(1)</u> 02/02/2011	Common Stock, par value \$0.01 per share	6,845
Stock Options (right to buy)	\$ 14.61	09/09/2010		M	6,845	<u>(2)</u> 10/15/2014	Common Stock, par value \$0.01 per share	6,845

Reporting Owners

Reporting Owner Name / Address

Relationships

Director 10% Owner Officer Other

Riordan Thomas
C/O ROCKWOOD HOLDINGS, INC.
100 OVERLOOK CENTER
PRINCETON, NJ 08540

SVP, Law & Administration

Signatures

/s/ Thomas J.
Riordan

09/13/2010

Date

__Signature of
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) These options were granted on February 2, 2001 and vested 10% on each of the first and second anniversary of the grant date, 25% on each of the third and fourth anniversary of the grant date and 30% on the fifth anniversary of the grant date.
- (2) These options were granted on October 15, 2004 and vested in five equal annual installments beginning October 15, 2005.

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.