O'Rourke James Calvin Form 4 January 10, 2012

FORM 4

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

STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP OF

SECURITIES

OMB APPROVAL OMB

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Form 5 obligations

may continue. See Instruction

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(b).

1. Name and Address of Reporting Person * O'Rourke James Calvin

(Zip)

(Last) (First) (Middle)

(Street)

(State)

C/O THE MOSAIC COMPANY, 3033 CAMPUS DRIVE, SUITE E490

2. Issuer Name and Ticker or Trading Symbol

MOSAIC CO [MOS]

3. Date of Earliest Transaction (Month/Day/Year) 01/08/2012

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

5. Relationship of Reporting Person(s) to Issuer

(Check all applicable)

10% Owner Director X_ Officer (give title Other (specify below)

EVP - Operations

6. Individual or Joint/Group Filing(Check

Applicable Line)

X Form filed by One Reporting Person Form filed by More than One Reporting

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

PLYMOUTH, MN 55441

(City)

1.Title of Security (Instr. 3)	2. Transaction Date (Month/Day/Year)	2A. Deemed Execution Date, if any (Month/Day/Year)	3. Transactic Code (Instr. 8)	4. Securiton(A) or Di (Instr. 3,	sposed	of (D)	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)
Common Stock	01/08/2012		M	13,830	A	\$0	13,830	D	
Common Stock	01/08/2012		F	4,611 (6)	D	\$ 52.67	9,219	D	

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. 5. Number of TransactiorDerivative Code Securities (Instr. 8) 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 or Number of Shares
Restricted Stock Units	\$ 0 (1)	01/08/2012		M		13,830	01/08/2012	(2)	Common Stock	13,830
Stock Option (Right to Buy)	\$ 52.72						<u>(3)</u>	07/27/2019	Common Stock	12,019
Restricted Stock Units	\$ 0 (1)						07/27/2012	<u>(2)</u>	Common Stock	11,381
Stock Option (Right to Buy)	\$ 44.93						<u>(4)</u>	07/27/2020	Common Stock	20,259
Restricted Stock Units	\$ 0 (1)						07/27/2013	(2)	Common Stock	11,128
Stock Option (Right to Buy)	\$ 70.62						<u>(5)</u>	07/21/2021	Common Stock	16,150
Restricted Stock Units	\$ 0 (1)						07/21/2014	(2)	Common Stock	7,080

Reporting Owners

Reporting Owner Name / Address	Relationships						
1	Director	10% Owner	Officer	Other			
O'Rourke James Calvin			EVP -				
C/O THE MOSAIC COMPANY			Operations				
3033 CAMPUS DRIVE, SUITE E490							

Reporting Owners 2

PLYMOUTH, MN 55441

Signatures

/s/ Richard L. Mack, Attorney-in-Fact for James C. O'Rourke

01/10/2012

**Signature of Reporting Person

Date

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) One-for-One
- (2) Not Applicable
- (3) Grant Date 07/27/2009; option becomes exercisable in three equal installments commencing on the first anniversary of the grant date and on each anniversary thereafter.
- (4) Grant Date 07/27/2010; option becomes exercisable in three equal installments commencing on the first anniversary of the grant date and on each anniversary thereafter.
- (5) Grant Date 07/21/2011; option becomes exercisable in three equal installments commencing on the first anniversary of the grant date and on each anniversary thereafter.
- (6) Shares withheld to cover tax liability incurred as a result of vesting of Restricted Stock Units.

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.

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