

LAPEYRE JAMES M JR  
 Form 5  
 February 09, 2010

**FORM 5**

**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).  
 Form 3 Holdings Reported Form 4 Transactions Reported

**ANNUAL 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

1. Name and Address of Reporting Person \*  
**LAPEYRE JAMES M JR**  
 (Last) (First) (Middle)

2. Issuer Name and Ticker or Trading Symbol  
**ION GEOPHYSICAL CORP [IO]**  
 3. Statement for Issuer's Fiscal Year Ended (Month/Day/Year)  
 12/31/2009

5. Relationship of Reporting Person(s) to Issuer  
 (Check all applicable)  
 Director  10% Owner  
 Officer (give title below)  Other (specify below)

2105 CITYWEST  
 BOULEVARD, SUITE 400  
 (Street)

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

6. Individual or Joint/Group Reporting  
 (check applicable line)

HOUSTON, TX 77042-2839  
 (City) (State) (Zip)

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 at end of Issuer's Fiscal Year (Instr. 3 and 4)	6. Ownership Form: Direct (D) or Indirect (I) (Instr. 4)	7. Nature of Indirect Beneficial Ownership (Instr. 4)
Common stock	12/20/2009	^	G	22,000 D	\$ 0 1,518,707 (1) (2)	D	^
Common stock	^	^	^	^ ^ ^	7,605,345	I	Shares held by Laitram, LLC
Common stock	^	^	^	^ ^ ^	16,950 (1)	I	Shares held in joint account with

Common stock	Â	Â	Â	Â	Â	Â	10,500	I	spouse As co-trustee for children
Common stock	Â	Â	Â	Â	Â	Â	128,850	I	Joint account with adult child
Common stock	Â	Â	Â	Â	Â	Â	128,850	I	Joint account with adult child
Common stock	Â	Â	Â	Â	Â	Â	141,630	I	Joint account with adult child

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. Price of Derivative Security (Instr. 5)	9. of D Se B O E Is Fi (I
					(A) (D)	Date Exercisable Expiration Date	Title	Amount or Number of Shares	

## Reporting Owners

Reporting Owner Name / Address	Relationships			
	Director	10% Owner	Officer	Other
LAPEYRE JAMES M JR 2105 CITYWEST BOULEVARD SUITE 400 HOUSTON, TX 77042-2839	Â X	Â	Â	Â

## Signatures

/s/ Debra A. Addington,  
Attorney-in-fact

02/09/2010

\_\_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) Reflects the transfer of 10,500 shares from reporting person's direct holdings to joint account shared with his spouse.
- (2) Includes 34,043 shares owned by spouse which are held in reporting owners account. Reporting owner disclaims beneficial ownership of those shares.

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### Remarks:

The reporting person disclaims beneficial ownership of all securities shown as indirectly owned by him.

Note: File three copies of this Form, one of which must be manually signed. If space provided 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.