Bernitsas Nikolaos Form 3 December 23, 2010

FORM 3 UNITED STATES SECURITIES AND EXCHANGE COMMISSION Washington, D.C. 20549

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INITIAL STATEMENT OF BENEFICIAL OWNERSHIP OF

SECURITIES

30(h) of the Investment Company Act of 1940

(Print or Type Responses)

1. Name and Address of Reporting 2. Date of Event Requiring 3. Issuer Name and Ticker or Trading Symbol Person * Statement ION GEOPHYSICAL CORP [IO] À Bernitsas Nikolaos (Month/Day/Year) 12/16/2010 (Last) (First) (Middle) 4. Relationship of Reporting 5. If Amendment, Date Original Person(s) to Issuer Filed(Month/Day/Year) 2105 CITYWEST (Check all applicable) BLVD., SUITE 400 (Street) 6. Individual or Joint/Group 10% Owner Director _X__ Officer Other Filing(Check Applicable Line) (give title below) (specify below) _X_ Form filed by One Reporting SVP, GXT Imaging Person HOUSTON, TXÂ 77042 Form filed by More than One Reporting Person (City) (State) (Zip) Table I - Non-Derivative Securities Beneficially Owned 4. Nature of Indirect Beneficial 1. Title of Security 2. Amount of Securities Beneficially Owned Ownership Ownership (Instr. 4) (Instr. 4) Form: (Instr. 5) Direct (D) or Indirect (I) (Instr. 5) Â Common stock 51,081 D Reminder: Report on a separate line for each class of securities beneficially SEC 1473 (7-02) owned directly or indirectly. Persons who respond to the collection of information contained in this form are not required to respond unless the form displays a currently valid OMB control number.

Table II - Derivative Securities Beneficially Owned (e.g., puts, calls, warrants, options, convertible securities)

1. Title of Derivative Security	2. Date Exercisable and Expiration Date	3. Title and Amount of Securities Underlying	4. Conversion	5. Ownership	6. Nature of Indirect Beneficial
-	(Month/Day/Year)	Derivative Security	or Exercise	Form of	Ownership
	Date Exercisable	(Instr. 4) Title	Price of Derivative Security	Derivative Security: Direct (D)	(Instr. 5)

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		Expiration Date		Amount or Number of Shares		or Indirect (I) (Instr. 5)	
Employee stock option (right to buy)	04/30/2003(1)	04/30/2012	Common stock	15,037	\$ 2.49	D	Â
Employee stock option (right to buy)	06/14/2005(1)	06/14/2014	Common stock	30,000	\$ 7.09	D	Â
Employee stock option (right to buy)	08/02/2006(1)	08/02/2015	Common stock	35,000	\$ 7.31	D	Â
Employee stock option (right to buy)	09/01/2007(1)	09/01/2016	Common stock	30,000	\$ 9.97	D	Â
Employee stock option (right to buy)	12/01/2008(1)	12/01/2017	Common stock	20,000	\$ 15.43	D	Â
Employee stock option (right to buy)	12/01/2009(1)	12/01/2018	Common stock	35,000	\$ 3	D	Â
Employee stock option (right to buy)	12/01/2010(1)	12/01/2019	Common stock	25,000	\$ 5.44	D	Â
Employee stock option (right to buy)	03/01/2011(1)	03/01/2020	Common stock	75,000	\$ 4.58	D	Â
Employee stock option (right to buy)	12/01/2011(1)	12/01/2020	Common stock	40,000	\$ 7.19	D	Â

Reporting Owners

Reporting Owner Name / Address	Relationships			
FB	Director	10% Owner	Officer	Other
Bernitsas Nikolaos				
2105 CITYWEST BLVD.	â	â	SVP, GXT Imaging	â
SUITE 400	A	A	A SVF, GAT Illiaging	A
HOUSTON, TX 77042				

Signatures

/s/ Debra A. Addington, attorney-in-fact 12/23/2010

**Signature of Reporting Person Date

Explanation of Responses:

- * If the form is filed by more than one reporting person, see Instruction 5(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) The option became/becomes exercisable in four equal annual installments beginning on the date specified in Column 2.

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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