

INITIAL STATEMENT OF BENEFICIAL OWNERSHIP OF SECURITIES

OMB APPROVAL

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Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934
or Section 30(h) of the Investment Company Act of 1940

1. Name and Address of Reporting Person* <u>Peters William P</u> (Last) (First) (Middle) 4620 CREEKSTONE DRIVE, SUITE 200 (Street) DURHAM NC 27703 (City) (State) (Zip)	2. Date of Event Requiring Statement (Month/Day/Year) 02/21/2007	3. Issuer Name and Ticker or Trading Symbol <u>ADHEREX TECHNOLOGIES INC [AMEX:ADH]</u> 4. Relationship of Reporting Person(s) to Issuer (Check all applicable) <input checked="" type="checkbox"/> Director 10% Owner <input checked="" type="checkbox"/> Officer (give title below) Other (specify below) <p style="text-align: center;"><u>Chairman and CEO</u></p>	5. If Amendment, Date of Original Filed (Month/Day/Year) 6. Individual or Joint/Group Filing (Check Applicable Line) <input checked="" type="checkbox"/> Form filed by One Reporting Person Form filed by More than One Reporting Person
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Table I - Non-Derivative Securities Beneficially Owned

1. Title of Security (Instr. 4)	2. Amount of Securities Beneficially Owned (Instr. 4)	3. Ownership Form: Direct (D) or Indirect (I) (Instr. 5)	4. Nature of Indirect Beneficial Ownership (Instr. 5)
Common Stock	165,982	D	

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

1. Title of Derivative Security (Instr. 4)	2. Date Exercisable and Expiration Date (Month/Day/Year)		3. Title and Amount of Securities Underlying Derivative Security (Instr. 4)		4. Conversion or Exercise Price of Derivative Security	5. Ownership Form: Direct (D) or Indirect (I) (Instr. 5)	6. Nature of Indirect Beneficial Ownership (Instr. 5)
	Date Exercisable	Expiration Date	Title	Amount or Number of Shares			
Stock Options (Right to buy)	02/28/2007 ⁽¹⁾	02/28/2014	Common Stock	400,000	0.28	D	
Stock Options (Right to buy)	12/14/2006 ⁽²⁾	12/14/2012	Common Stock	30,000	0.88	D	
Stock Options (Right to buy)	10/14/2006 ⁽²⁾	10/14/2012	Common Stock	150,000	1.1	D	
Stock Options (Right to buy)	04/05/2005	04/05/2012	Common Stock	441,601	1.2	D	
Stock Options (Right to buy)	04/05/2005	04/05/2012	Common Stock	192,000	1.2	D	
Stock Options (Right to buy)	02/19/2003 ⁽¹⁾	02/19/2010	Common Stock	750,000	1.65 ⁽³⁾	D	
Stock Options (Right to buy)	12/17/2004	12/17/2011	Common Stock	32,000	1.95 ⁽³⁾	D	
Stock Options (Right to buy)	12/30/2003	12/30/2010	Common Stock	70,217	2.25 ⁽³⁾	D	
Stock Options (Right to buy)	12/30/2003 ⁽¹⁾	12/30/2010	Common Stock	700,000	2.25 ⁽³⁾	D	
Stock Options (Right to buy)	05/21/2004	05/21/2011	Common Stock	234,000	2.9 ⁽³⁾	D	
Warrants (Right to buy)	02/21/2007	02/21/2010	Common Stock	25,000	0.4	D	
Warrants (Right to buy)	12/19/2003	12/19/2008	Common Stock	30,591	2.15 ⁽⁴⁾	D	
Warrants (Right to buy)	06/23/2003	06/23/2007	Common Stock	15,566	2.75 ⁽⁴⁾	D	

Explanation of Responses:

1. The options to which this note relates are subject to vesting in three (3) installments with one-third vesting immediately and the remaining shares vesting on the first and second anniversary of the Grant Date reported above.
2. The options to which this note relates vest in three (3) equal installments beginning on the date reported above.
3. Exercise price for these options are in Canadian Dollars.
4. Exercise price for these warrants are in Canadian Dollars.

D. Scott Murray, Attorney-in-Fact 03/05/2007

** Signature of Reporting Person Date

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

* 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).

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

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 Number.

POWER OF ATTORNEY

Know all by these presents that the undersigned hereby constitutes and appoints each of D. Scott Murray, James A. Klein, Jr. and Donald R. Reynolds, and each of them acting alone, signing singly, the undersigned's true and lawful attorney-in-fact to: (1) execute for and on behalf of the undersigned, in the undersigned's capacity as an officer, director and/or 10% or more stockholder of Adherex Technologies, Inc. (the "Company"), Forms ID, 3, 4 and 5 and Schedules 13D or 13G (and any amendments thereto) under Section 13(d) and 16(a) of the Securities Exchange Act of 1934, as amended (the "1934 Act") in accordance with the 1934 Act, and the rules promulgated thereunder; (2) do and perform any and all acts for and on behalf of the undersigned which may be necessary or desirable to complete and execute any such Form or Schedule (and any amendments thereto) and to file timely such Form or Schedule with the United States Securities and Exchange Commission and any stock exchange or similar authority; and (3) take any other action of any type whatsoever in connection with the foregoing which in the opinion of such attorney-in-fact may be of benefit to, in the best interest of, or legally required by, the undersigned, it being understood that the documents executed by such attorney-in-fact on behalf of the undersigned pursuant to this Power of Attorney shall be in such form and shall contain such terms and conditions as such attorney-in-fact may approve in such attorney-in-fact's discretion.

The undersigned hereby grants to each such attorney-in-fact full power and authority to do and perform any and every act and thing whatsoever requisite, necessary or proper to be done in the exercise of any of the rights and powers herein granted, as fully to all intents and purposes as the undersigned might or could do if personally present, with full power of substitution or revocation, hereby ratifying and confirming all that such attorney-in-fact, or such attorney-in-fact's substitute or substitutes, shall lawfully do or cause to be done by virtue of this power of attorney and the rights and powers herein granted. The undersigned acknowledges that the foregoing attorneys-in-fact, in serving in such capacity at the request of the undersigned, are not assuming, nor is the Company assuming, any of the undersigned's responsibilities to comply with Section 13(d) or 16(a) of the 1934 Act.

This Power of Attorney shall remain in full force and effect until the undersigned is no longer required to file such Forms or Schedules with respect to the undersigned's holdings of and transactions in securities issued by the Company, unless earlier revoked by the undersigned in a signed writing delivered to each of the foregoing attorneys-in-fact.

IN WITNESS WHEREOF, the undersigned has caused this Power of Attorney to be executed as of this 20th day of February 2007.

/s/ William P. Peters