

SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, DC 20549

**Amendment No. 2 to
SCHEDULE TO
(RULE 13e-4)**

**TENDER OFFER STATEMENT UNDER SECTION 14(d)(1) OR 13(e)(1) OF
THE SECURITIES EXCHANGE ACT OF 1934**

ENTEROMEDICS INC.

(Name of Subject Company (Issuer) and Name of Filing Person (Offeror))

Options to Purchase Common Stock, \$0.01 par value
(Title of Class of Securities)

29365M 208
(CUSIP Number of Common Stock Underlying Class of Securities)

Greg S. Lea
Senior Vice President and Chief Financial Officer
EnteroMedics Inc.
2800 Patton Road
St. Paul, Minnesota 55113
(651) 634-3003

(Name, address and telephone number of person authorized to receive notices and communications on behalf of filing person)

Copy to:
Kenneth L. Cutler
Michael W. Clausman
Dorsey & Whitney LLP
50 South Sixth Street, Suite 1500
Minneapolis, Minnesota 55402
(612) 340-2600

CALCULATION OF FILING FEE

Transaction Valuation*: \$579,300

Amount of Filing Fee: \$42.00**

- * Estimated solely for purposes of calculating the Amount of Filing Fee. The calculation of Transaction Valuation assumes that all options to purchase shares of the issuer's common stock that may be eligible for exchange in the offer will be tendered pursuant to the offer. These options cover an aggregate of 481,288 shares of the issuer's common stock and have an aggregate value of \$579,300 as of September 21, 2010, calculated based on a Black-Scholes option pricing model.
- ** The amount of the filing fee, calculated in accordance with the Securities Exchange Act of 1934, as amended, equals \$71.30 per \$1,000,000 of the aggregate amount of the Transaction Value. The Transaction Valuation was calculated solely for purposes of determining the Amount of Filing Fee and should not be used for any other purpose.
- Check the box if any part of the fee is offset as provided by Rule 0-11(a)(2) and identify the filing with which the offsetting fee was previously paid. Identify the previous filing by registration statement number, or the Form or Schedule and the date of its filing.**

Amount Previously Paid:	\$42	Filing Party:	EnteroMedics Inc.
Form or Registration No.:	Schedule TO-I	Date Filed:	September 23, 2010

Check the box if the filing relates solely to preliminary communications made before the commencement of a tender offer

Check the appropriate boxes to designate any transactions to which this statement relates:

- third-party tender offer subject to Rule 14d-1.** **going-private transaction subject to Rule 13e-3.**
- issuer tender offer subject to Rule 13e-4.** **amendment to Schedule 13D under Rule 13d-2.**

Check the following box if the filing is a final amendment reporting the results of the tender offer:

EXPLANATORY NOTE

This Amendment No. 2 this (“Amendment No. 2”) amends and supplements the Tender Offer Statement on Schedule TO originally filed with the Securities and Exchange Commission (the “SEC”) on September 23, 2010, as amended and supplemented by Amendment No. 1 to the Tender Offer Statement on Schedule TO filed with the SEC on October 25, 2010 (together, the “Schedule TO”) by EnteroMedics Inc., a Delaware corporation (“EnteroMedics” or the “Company”), in connection with the Company’s offer to its employees to exchange certain outstanding options to purchase shares of the Company’s common stock granted under the Company’s 2003 Stock Incentive Plan as described in the Offer to Exchange Certain Outstanding Stock Options for New Stock Options, dated September 23, 2010, as amended October 25, 2010 (the “Exchange Offer”) filed as Exhibit (a)(1)(A) to the Schedule TO.

Pursuant to Rule 12b-15 under the Securities Exchange Act of 1934, as amended, this Amendment No. 2 amends and restates only the items and exhibits to the Schedule TO that are being amended and restated, and unaffected items and exhibits are not included herein. This Amendment No. 2 is the final amendment to the Schedule TO and reports the results of the Exchange Offer.

Item 4. Terms of the Transaction.

Item 4 of the Schedule TO is hereby amended and supplemented by adding the following:

(a) Material Terms.

The Exchange Offer expired at 6:00 p.m. Central Time on Friday, October 29, 2010. Pursuant to the Exchange Offer, Eligible Optionholders (as defined therein) tendered, and EnteroMedics accepted for cancellation, Eligible Options (as defined therein) to purchase an aggregate of 481,288 shares of EnteroMedics’ common stock, representing 100% of the total shares of common stock underlying the Eligible Options. On Friday, October 29, 2010, the Company granted New Options (as defined in the Exchange Offer) to purchase 384,629 shares of EnteroMedics’ common stock in exchange for the cancellation of the tendered Eligible Options. The exercise price per share of the New Options granted in the Exchange Offer is \$1.90, which was the closing price per share of the Company’s common stock on the NASDAQ Capital Market on October 29, 2010.

Item 12. Exhibits.

The Exhibit Index attached to this Amendment No. 2 is incorporated herein by reference.

SIGNATURE

After due inquiry and to the best of my knowledge and belief, I certify that the information set forth in this statement is true, complete and correct.

ENTEROMEDICS INC.

By: _____ /s/ GREG S. LEA
Name: _____
Title: **Greg S. Lea
Senior Vice President
and Chief Financial Officer**

Dated: November 1, 2010

EXHIBIT INDEX

- (a)(1)(A)* Offer to Exchange Certain Outstanding Stock Options for New Stock Options, dated September 23, 2010, as amended October 25, 2010
- (a)(1)(B)* Election to Participate
- (a)(1)(C)* Notice of Withdrawal
- (a)(1)(D)* Form of Email Communication to Eligible Optionholders
- (a)(1)(E)* Form of Communication to Eligible Optionholders Participating in the Exchange Offer Confirming Receipt of Election to Participate
- (a)(1)(F)* Form of Communication to Eligible Optionholders Confirming Receipt of Notice of Withdrawal
- (a)(1)(G)* Form of Confirmation Email to Participating Eligible Optionholders
- (a)(1)(H)* Press Release Announcing the Extension of the Exchange Offer
- (b) Not applicable
- (d)(1) 2003 Stock Incentive Plan, as amended (previously filed as Exhibit 10.1 to the Company's Current Report on Form 8-K filed on May 11, 2009 (File No. 001-33818), and incorporated herein by reference)†
- (d)(2) Standard form of Incentive Stock Option Agreement pursuant to the 2003 Stock Incentive Plan (previously filed as Exhibit 10.13 to the Company's Registration Statement on Form S-1 filed on May 25, 2007 (File No. 333-143265), and incorporated herein by reference)†
- (d)(3) Standard form of Non-Incentive Stock Option Agreement pursuant to the 2003 Stock Incentive Plan (previously filed as Exhibit 10.14 to the Company's Registration Statement on Form S-1 filed on May 25, 2007 (File No. 333-143265), and incorporated herein by reference)†
- (d)(4)* Form of Non-Incentive Stock Option Agreement for New Options for U.S. to be granted pursuant to the Exchange Offer†
- (g) Not applicable
- (h) Not applicable

* Previously filed

† Management contract or compensatory plan or arrangement