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

Amendment No. 20

to

SCHEDULE TO

(Rule 14d-100)

Tender Offer Statement under Section 14(d)(1) or 13(e)(1) of the Securities Exchange Act of 1934

VENTANA MEDICAL SYSTEMS, INC.

(Name of Subject Company)

ROCKET ACQUISITION CORPORATION ROCHE HOLDING LTD

(Names of Filing Persons — Offeror)

Common Stock, Par Value \$0.001 Per Share (including the associated preferred stock purchase rights)

(Title of Class of Securities)

92276H106

(Cusip Number of Class of Securities)

Beat Kraehenmann Roche Holding Ltd Grenzacherstrasse 124 CH-4070 Basel Switzerland

Telephone: +41-61-688-1111

(Name, Address and Telephone Number of Person Authorized to Receive Notices and Communications on Behalf of Filing Persons)

Copies to:

Christopher Mayer Davis Polk & Wardwell 450 Lexington Avenue New York, New York 10017 Telephone: (212) 450-4000

CALCULATION OF FILING FEE

Transaction Valuation*

Amount of Filing Fee**

\$3,444,141,596 \$135,354.76

RCheck 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.

A m o u n t\$43,902.45 FilingRoche Holding Ltd

Previously Paid: Party:

Form or SCTO-T/A DateJanuary 22, 2008

Registration No.: Filed:

A m o u n t\$91,452.31 FilingRoche Holding Ltd

Previously Paid: Party:

Form or SCTO-T DateJune 27, 2007

Registration No.: Filed:

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

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

R third-party tender offer subject to Rule 14d-1. £ issuer tender offer subject to Rule 13e-4. £ going-private transaction subject to Rule 13e-3. £ 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. £

^{*}Estimated for purposes of calculating the filing fee only. This amount assumes the purchase of all 34,844,346 shares of common stock of Ventana Medical Systems, Inc. outstanding as of January 20, 2008, all options outstanding as of January 20, 2008 with respect to 4,895,184 shares of common stock of Ventana, and all performance units outstanding as of January 20, 2008 with respect to 43,104 shares of common stock of Ventana.

^{**}The amount of the filing fee is calculated in accordance with Rule 0-11 of the Securities Exchange Act of 1934, as amended, by multiplying the transaction valuation by 0.00003930.

Items 1 through 9.

This Amendment No. 20 to Tender Offer Statement on Schedule TO (the "Schedule TO") amends and supplements the statement originally filed on June 27, 2007 by Roche Holding Ltd, a joint stock company organized under the laws of Switzerland ("Parent"), and Rocket Acquisition Corporation (the "Purchaser"), a Delaware corporation and an indirect wholly owned subsidiary of Parent. This Schedule TO relates to the offer by the Purchaser to purchase all outstanding shares of common stock, par value \$0.001 per share (together with the associated preferred stock purchase rights, the "Shares"), of Ventana Medical Systems, Inc., a Delaware corporation (the "Company"), at \$89.50 per Share, net to the seller in cash, without interest and less applicable withholding taxes, upon the terms and subject to the conditions set forth in the Amended and Restated Offer to Purchase, dated January 25, 2008 (the "Offer to Purchase"), and in the related Letter of Transmittal (which, together with any amendments or supplements thereto, collectively constitute the "Offer").

The information set forth in the Offer to Purchase, including all schedules thereto, and the related Letter of Transmittal is expressly incorporated herein by reference with respect to all of the items of this Schedule TO, except as otherwise set forth below.

All capitalized terms used in this Amendment No. 20 without definition have the meanings ascribed to them in the Schedule TO.

Item 10. Financial Statements.

Not applicable.

Item 11. Additional Information

On January 31, 2008, the Court of Chancery of the State of Delaware granted the joint stipulation filed by Holdings, the Purchaser and the Company and the members of the Company Board staying the proceedings in connection with the First Amended Verified Complaint for Declaratory and Injunctive Relief filed by Holdings and the Purchaser on October 26, 2007 (the "Amended Complaint") until the earlier of (i) the acquisition by Holdings of a number of Shares that, together with the Shares then owned by Holdings and its affiliates, represents at least a majority of the total number of Shares outstanding on a fully-diluted basis, at which time the parties will promptly move to dismiss the action; or (ii) the termination of the Merger Agreement in accordance with its terms. A copy of the Amended Complaint was previously filed as Exhibit (a)(5)(xiii).

SIGNATURES

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

Date: February 1, 2008

ROCKET ACQUISITION CORPORATION

By: /s/ Beat Kraehenmann

Name: Beat Kraehenmann

Title: Secretary

ROCHE HOLDING LTD

By: /s/ Bruno Maier

Name: Bruno Maier

Title: Authorized Signatory

By: /s/ Beat Kraehenmann

Name: Beat Kraehenmann Title: Authorized Signatory

EXHIBIT INDEX

Exhibit No.	Description
(a)(1)(i)	Offer to Purchase dated June 27, 2007*
(a)(1)(ii)	Letter of Transmittal*
(a)(1)(iii)	Notice of Guaranteed Delivery*
(a)(1)(iv)	Letter to Brokers, Dealers, Commercial Banks, Trust Companies and Other Nominees*
(a)(1)(v)	Letter to Clients for use by Brokers, Dealers, Commercial Banks, Trust Companies and Other Nominees*
(a)(1)(vi)	Guidelines for Certification of Taxpayer Identification Number on Substitute Form W-9*
(a)(1)(vii)	Summary Advertisement dated June 27, 2007*
(a)(1)(viii)	Amended and Restated Offer to Purchase dated January 25, 2008*
(a)(1)(ix)	Amended and Restated Letter of Transmittal*
(a)(1)(x)	Amended and Restated Notice of Guaranteed Delivery*
(a)(1)(xi)	Amended and Restated Letter to Brokers, Dealers, Commercial Banks, Trust Companies and Other Nominees*
(a)(1)(xii)	Amended and Restated Letter to Clients for use by Brokers, Dealers, Commercial Banks, Trust Companies and Other Nominees*
(a)(5)(i)	Press Release issued by Roche Holding Ltd, dated June 25, 2007*
(a)(5)(ii)	Complaint filed in the Court of Chancery of the State of Delaware in and for New Castle County on June 29, 2007*
(a)(5)(iii)	Complaint filed in the United States District Court for the District of Arizona on June 29, 2007*
(a)(5)(iv)	Press Release issued by Roche Holding Ltd, dated July 11, 2007*
(a)(5)(v)	Excerpt from an Investor Presentation by Roche Holding Ltd, dated July 19, 2007*
(a)(5)(vi)	Transcript of an Investor Presentation by Roche Holding Ltd, dated July 19, 2007*
(a)(5)(vii)	Press Release issued by Roche Holding Ltd, dated July 25, 2007*
(a)(5)(viii)	Press Release issued by Roche Holding Ltd, dated July 26, 2007*
(a)(5)(ix)	Press Release issued by Roche Holding Ltd, dated August 21, 2007*
(a)(5)(x)	Press Release issued by Roche Holding Ltd, dated August 22, 2007*
(a)(5)(xi)	Press Release issued by Roche Holding Ltd, dated September 19, 2007*
(a)(5)(xii)	Press Release issued by Roche Holding Ltd, dated October 29, 2007*
(a)(5)(xiii)	First Amended Complaint filed in the Court of Chancery of the State of Delaware in and for New Castle County on October 26, 2007*
(a)(5)(xiv)	Press Release issued by Roche Holding Ltd, dated November 13, 2007*
(a)(5)(xv)	Press Release issued by Roche Holding Ltd, dated December 5, 2007*
(a)(5)(xvi)	Press Release issued by Roche Holding Ltd, dated January 16, 2008*
(a)(5)(xvii)	Press Release issued by Roche Holding Ltd and Ventana Medical Systems, Inc., dated January 22, 2008*
(a)(5)(xviii)	Summary Advertisement dated January 22, 2008*
(a)(5)(xix)	Press Release issued by Roche Holding Ltd, dated January 31, 2008*
(b)	Not applicable
(c)	Not applicable
(d)(1)	Agreement and Plan of Merger dated as of January 21, 2008 among Ventana Medical Systems, Inc., Roche Holdings, Inc. and Rocket Acquisition Corporation.*
(d)(2)	Guarantee dated as of January 21, 2008 between Roche Holding Ltd and Ventana Medical Systems, Inc.*
(d)(3)	Stockholder Tender and Support Agreement dated as of January 21, 2008 among Thomas D. Brown, Rodney F. Dammeyer, Edward M. Giles, Christopher M. Gleeson, Thomas M. Grogan, M.D., Hany Massarany, Lawrence L. Mehren, Mark C. Miller, Mark D. Tucker, James R. Weersing and Roche

Holdings, Inc.*

Not applicable Not applicable Not applicable (f) (g) (h)

^{*} Previously filed