

As filed with the Securities and Exchange Commission on February 26, 2024

Registration Nos. 333-264686
333-267283
333-269564
333-274253

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549**

Post-Effective Amendment No. 2 to Form S-1, Registration Statement No. 333-264686
Post-Effective Amendment No. 2 to Form S-1, Registration Statement No. 333-267283
Post-Effective Amendment No. 2 to Form S-1, Registration Statement No. 333-269564
Post-Effective Amendment No. 1 to Form S-3, Registration Statement No. 333-274253

**REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933**

Comera Life Sciences Holdings, Inc.

(Exact name of registrant as specified in its charter)

Delaware
(State or other jurisdiction of
incorporation)

87-4706968
(IRS Employer
Identification No.)

**12 Gill Street, Suite 4650
Woburn, Massachusetts 01801**
(Address, including zip code, of principal executive offices)

Registrant's telephone number, including area code: (617) 871-2101

Michael Campbell
Chief Executive Officer and Chief Financial Officer
Applied Genetic Technologies Corporation
12 Gill Street, Suite 4650
Woburn, Massachusetts 01801
(617) 871-2101

(Name and address, including zip code, and telephone number, including area code, of agent for service)

Approximate date of commencement of proposed sale to the public: Not applicable.

If the only securities being registered on this Form are being offered pursuant to dividend or interest reinvestment plans, please check the following box.

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, other than securities offered only in connection with dividend or interest reinvestment plans, check the following box.

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a registration statement pursuant to General Instruction I.D. or a post-effective amendment thereto that shall become effective upon filing with the Commission pursuant to Rule 462(e) under the Securities Act, check the following box.

If this form is a post-effective amendment to a registration statement filed pursuant to General Instruction I.D. filed to register additional securities or additional classes of securities pursuant to Rule 413(b) under the Securities Act, check the following box.

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of “large accelerated filer,” “accelerated filer,” “smaller reporting company” and “emerging growth company” in Rule 12b-2 of the Exchange Act.

Large accelerated filer

Accelerated filer

Non-accelerated filer

Smaller reporting company

Emerging growth company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 7(a)(2)(B) of the Securities Act.

DEREGISTRATION OF SECURITIES

These post-effective amendments (the “Post-Effective Amendments”) relate to the following registration statements (collectively, the “Registration Statements”) filed by Comera Life Sciences Holdings, Inc., a Delaware corporation (the “Registrant”), with the Securities and Exchange Commission (the “SEC”):

- Registration Statement No. 333-264686 on Form S-1, registering the resale of up to (a) 15,093,712 shares of common stock, \$0.0001 par value (the “Common Stock”), of Registrant, and (b) 1,946,846 warrants to purchase shares of Common Stock (the “Warrants”) by certain selling securityholders, which was originally filed on May 5, 2022, amended on June 3, 2022 and June 23, 2022 and declared effective on June 24, 2022, as amended by Post-Effective Amendment No. 1, which was filed with the SEC on March 27, 2023 and declared effective by the Commission on March 30, 2023;
- Registration Statement No. 333-267283 on Form S-1, registering the resale of up to 5,000,000 shares of Common Stock of Registrant by Arena Business Solutions Global SPC II, Ltd., which was originally filed on September 6, 2022 and declared effective on September 15, 2022, as amended by Post-Effective Amendment No. 1, which was filed with the SEC on March 27, 2023 and declared effective by the Commission on March 30, 2023;
- Registration Statement No. 333-269564 on Form S-1, registering the resale of up to 7,218,726 shares of Common Stock of Registrant by certain selling stockholders, which was originally filed on February 3, 2023, amended on February 8, 2023 and declared effective on February 10, 2023, as amended by Post-Effective Amendment No. 1, which was filed with the SEC on March 27, 2023 and declared effective by the Commission on March 30, 2023; and
- Registration Statement No. 333-274253 on Form S-3, registering the resale of up to 27,863,058 shares of Common Stock of Registrant by certain selling stockholders, which was originally filed on August 29, 2023 and declared effective on September 13, 2023.

The Registrant previously announced the termination of all of its employees and the approval by the Registrant’s board of directors of a wind down of the Registrant’s operations. In connection with the foregoing, the Registrant has determined to terminate all offerings and sales of its securities under the Registration Statements. Accordingly, the Company is filing these Post-Effective Amendments to terminate the effectiveness of the Registration Statements, and, in accordance with the undertakings made by the Company in the Registration Statements, to remove from registration any and all of the securities of the Registrant that remain unsold as of the date hereof. The Registration Statements are hereby amended, as appropriate, to reflect the deregistration of all such securities.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, as amended the Registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-3 and has duly caused these Post-Effective Amendments to the Registration Statements to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Woburn, Commonwealth of Massachusetts, on February 26, 2024.

COMERA LIFE SCIENCES HOLDINGS, INC.

By: /s/ Michael Campbell

Name: Michael Campbell

Title: Chief Executive Officer and Chief Financial Officer

No other person is required to sign these Post-Effective Amendments in reliance upon Rule 478 under the Securities Act of 1933, as amended.

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

FORM 8-K

**CURRENT REPORT
Pursuant to Section 13 or 15(d)
of the Securities Exchange Act of 1934**

Date of Report (Date of earliest event reported): February 21, 2024

Comera Life Sciences Holdings, Inc.
(Exact name of registrant as specified in its charter)

Delaware
(State or other jurisdiction
of incorporation)

1-41403
(Commission
File Number)

87-4706968
(IRS Employer
Identification No.)

12 Gill Street
Suite 4650
Woburn, Massachusetts
(Address of principal executive offices)

01801
(Zip Code)

Registrant's telephone number, including area code: (617) 871-2101

Not Applicable
(Former name or former address, if changed since last report)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions:

- Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
 - Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
 - Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
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Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Securities registered pursuant to Section 12(b) of the Act: None.

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933 (§230.405 of this chapter) or Rule 12b-2 of the Securities Exchange Act of 1934 (§240.12b-2 of this chapter).

Emerging growth company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

Item 8.01. Other Events.

On February 21, 2024, the board of directors (the “Board”) of Comera Life Sciences Holdings, Inc. (the “Company”) approved winding down the Company’s operations following the unsuccessful completion of the Board’s previously announced exploration of strategic alternatives. As previously disclosed, the Company terminated all of its employees effective as of January 31, 2024 following: (i) Regeneron Pharmaceuticals, Inc. (“Regeneron”) notifying the Company that it would not negotiate a license with the Company following completion of a technical evaluation as part of the Company’s ongoing research collaboration with Regeneron and (ii) the purchasers (the “Purchasers”) of the 12.0% Senior Secured Convertible Notes due 2024 (the “Notes”) and accompanying warrants sold and issued to the Purchasers in connection with the Company’s December 2023 private placement notifying the Company of their withdrawal of their prior exercise of a contractual right to purchase all outstanding shares of the Company’s common stock not then held by the Purchasers (the “Share Purchase Option”).

As part of its exploration of strategic alternatives both before and after January 31, 2024, the Company contacted potential buyers but did not receive any offers for any portion of its assets (other than the previously disclosed exercise and subsequent withdrawal of the Share Purchase Option by the Purchasers), which consist principally of intellectual property and other intangible assets. The Company currently owes not less than \$1.5 million to the Purchasers pursuant to the terms of the Notes. The Purchasers have a security interest in substantially all of the Company’s assets. Further, the Company owes additional amounts to other creditors, and expects to incur additional expenses to close its facility and wind down operations. Following the Company’s previously disclosed event of default under the Notes, the Purchasers have the right to, and may ultimately choose to, foreclose on the assets subject to their security interest. The fair market value of those assets, combined with Company’s limited remaining assets, does not exceed the aggregate amount of the Company’s current and reasonably anticipated financial obligations. Accordingly, the Company believes that it is presently unable to, and will not become able to, satisfy all of its financial obligations and that, following the Company’s efforts to satisfy those obligations to the extent of available resources, there will be no assets remaining for distribution to holders of the Company’s outstanding common stock. In addition, due to the Company’s insolvency, the Company does not expect to initiate bankruptcy proceedings or to seek stockholder approval for the wind down of its operations.

Following the termination of employment of all of the Company’s employees and commencement of wind down efforts, the Company believes that it no longer has effective internal control over financial reporting or effective disclosure controls and procedures. There can be no assurance that the Company’s filings with the Securities and Exchange Commission currently reflect all material information required to be reported or that the information previously reported continues to be current.

Forward-Looking Statements

This Report includes “forward-looking statements” within the meaning of the federal securities laws. These forward-looking statements generally are identified by the words “believe,” “project,” “expect,” “anticipate,” “estimate,” “intend,” “strategy,” “future,” “opportunity,” “plan,” “may,” “should,” “will,” “would,” “will be,” “will continue,” “will likely result,” and similar expressions. Forward-looking statements are predictions, projections and other statements about future events including statements related to the wind down of the Company’s operations, the possible foreclosure by the Purchasers on the Company’s assets, and the amount of assets remaining after satisfaction of the Company’s obligations, for distribution to its stockholders. These forward-looking statements are based on current expectations and assumptions and, as a result, are subject to risks and uncertainties. Many factors could cause actual future events to differ materially from the forward-looking statements in this Report, including, but not limited to the risks identified in our Annual Report on Form 10-K for the year ended December 31, 2022 and in our subsequent filings with the SEC. Forward-looking statements speak only as of the date they are made. Readers are cautioned not to put undue reliance on forward-looking statements, and the Company assumes no obligation and does not intend to update or revise these forward-looking statements, whether as a result of new information, future events, or otherwise. The Company can give no assurance that it will achieve its expectations.

SIGNATURE

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

Dated: February 26, 2024

COMERA LIFE SCIENCES HOLDINGS, INC.

By: /s/ Michael Campbell

Name: Michael Campbell

Title: Chief Executive Officer and Chief Financial Officer
