UNITED STATES SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, D.C. 20549

POST-EFFECTIVE AMENDMENT NO.2 (NO. 333-227321)

FORM S-8

REGISTRATION STATEMENT
UNDER THE SECURITIES ACT OF 1933

KLX ENERGY SERVICES HOLDINGS, INC.

(Exact name of registrant as specified in its charter)

Delaware

(State or other jurisdiction of incorporation or organization)

36-4904146

(I.R.S. Employer Identification No.)

1300 Corporate Center Way, Wellington, Florida

(Address of principal executive offices)

33414 (Zip Code)

KLX ENERGY SERVICES HOLDINGS, INC. NON-EMPLOYEE DIRECTORS STOCK AND DEFERRED COMPENSATION PLAN (Full titles of the plan)

Christopher J. Baker 1300 Corporate Center Way Wellington, Florida 33414

(561) 383-5100 (Name, address and telephone of agent for service)

Copies to:

Valerie Ford Jacob, Esq.

Freshfields Bruckhaus Deringer US LLP 601 Lexington Avenue New York, New York 10022 (212) 277-4000

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," "smaller reporting company" and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer o Accelerated filer x
Non-accelerated filer o Smaller reporting company o
Emerging growth company x

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. o

EXPLANATORY NOTE

On July 28, 2020, Krypton Merger Sub, Inc., a Delaware corporation and an indirect wholly owned subsidiary of KLX Energy Services Holdings, Inc. (the "Registrant") merged with and into Quintana Energy Services Inc., a Delaware corporation ("Quintana"), with Quintana surviving the transaction as an indirect and wholly owned subsidiary of the Registrant (the "Merger"). In connection with the consummation of the Merger, pursuant to its terms, the KLX Energy Services Holdings, Inc. Non-Employee Directors Stock and Deferred Compensation Plan (the "Plan") terminated.

The Registrant is filing this Post-Effective Amendment to its Registration Statement on Form S-8 to deregister the unissued and unsold shares of the Registrant's common stock, par value \$0.01 per share (the "Common Stock") issuable by the Registrant pursuant to the Plan previously registered by the Registrant pursuant to the registration statement on Form S-8 (Registration Statement No. 333-227321), registering 300,000 shares of Common Stock under the Plan, filed with the Securities and Exchange Commission on September 13, 2018 (the "Registration Statement").

The Registrant, by filing this Post-Effective Amendment, hereby terminates the effectiveness of the Plan under the Registration Statement and removes from registration any and all securities registered but unsold or otherwise unissued under the Plan pursuant to the Registration Statement as of the date hereof. This filing is made in accordance with an undertaking made by the Registrant in Part II of the Registration Statement to remove from registration by means of a post-effective amendment any securities that had been registered for issuance but remain unsold at the termination of the offering under the Plan.

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-8 and has duly caused this Post-Effective Amendment to Form S-8 Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Wellington, State of Florida on the 30th day of July, 2020.

KLX ENERGY SERVICES HOLDINGS, INC.

By: /s/ Christopher J. Baker

Name: Christopher J. Baker

Title: President and Chief Executive Officer

No other person is required to sign this Post-Effective Amendment on behalf of the Registrant in reliance on Rule 478 under the Securities Act of 1933, as amended.