PROSPECTUS SUPPLEMENT (To Prospectus dated June 11, 2021)



KLX Energy Services Holdings, Inc.

\$50,000,000

Common Stock

We have entered into an equity distribution agreement, dated June 14, 2021 (the "equity distribution agreement"), with Piper Sandler & Co. (the "sales agent" or "Piper Sandler"), relating to shares of our common stock offered by this prospectus supplement and the accompanying prospectus. In accordance with the terms of the equity distribution agreement, we may offer and sell shares of our common stock from time to time through the sales agent. This prospectus supplement is offering shares of our common stock having an aggregate offering price of \$50 million.

Shares of our common stock trade on the Nasdaq Global Select Market ("Nasdaq"), under the symbol "KLXE." On June 11, 2021, the last sale price of the shares as reported on Nasdaq was \$9.49 per share.

Sales of our common stock, if any, pursuant to this prospectus supplement and the accompanying prospectus will be made in any method permitted by law deemed to be an "at the market offering" as defined in Rule 415 under the Securities Act of 1933, as amended (the "Securities Act"). Piper Sandler will make all sales using commercially reasonable efforts consistent with its normal sales and trading practices on terms mutually agreed upon between Piper Sandler and us.

The compensation to Piper Sandler for sales of our common stock pursuant to the equity distribution agreement will be an amount up to 3.0% of the gross sales price of all common stock sold thereunder. In connection with the sale of the common stock on our behalf, Piper Sandler will be deemed to be an "underwriter" within the meaning of the Securities Act, and the compensation of Piper Sandler will be deemed to be underwriting commissions or discounts. We have also agreed to provide indemnification and contribution to Piper Sandler with respect to certain liabilities, including liabilities under the Securities Act or the Securities Exchange Act of 1934, as amended (the "Exchange Act").

We are an "emerging growth company" as that term is used in the Jumpstart Our Business Startups Act of 2012, and, as such, we have elected to comply with certain reduced public company reporting requirements for this prospectus supplement and future filings. Please see "Summary—Implications of Being an Emerging Growth Company."

Investing in our common stock involves risks. See "Risk Factors" beginning on page S-3 of this prospectus supplement and on page 2 of the accompanying prospectus for information regarding risks you should consider before investing in our common stock.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus supplement or the accompanying prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

Simmons Energy A Division of Piper Sandler

The date of this prospectus supplement is June 14, 2021

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ABOUT THIS PROSPECTUS SUPPLEMENT

This document is in two parts. The first part, the prospectus supplement, including the documents incorporated by reference therein, describes the specific terms of this offering and certain matters relating to us. The second part, the accompanying prospectus, including the documents incorporated by reference therein, provides more general information, some of which may not apply to this offering. The accompanying prospectus was filed as part of our registration statement on Form S-3 (Registration No. 333-256149) with the Securities and Exchange Commission (the "SEC") on May 14, 2021, as part of a "shelf" registration process. Under the shelf registration process, we may sell our common stock in one or more offerings. Generally, when we refer to this prospectus supplement, we are referring to both parts of this document combined. We urge you to read carefully this prospectus supplement, the accompanying prospectus, the information incorporated by reference herein and therein, and any free writing prospectus that we authorize to be distributed to you before buying our common stock being offered under this prospectus supplement. This prospectus supplement may supplement, update or change information contained in the accompanying prospectus. To the extent that any statement that we make in this prospectus supplement is inconsistent with statements made in the accompanying prospectus or any documents incorporated by reference therein, the statements made in this prospectus supplement will be deemed to modify or supersede those made in the accompanying prospectus and such documents incorporated by reference therein.

Neither we nor the sales agent have authorized anyone to provide you with information that is different from that contained in or incorporated by reference into this prospectus supplement or the accompanying prospectus or in any free writing prospectus we may authorize to be delivered or made available to you. We take no responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you. If information in this prospectus supplement is inconsistent with the accompanying prospectus, you should rely on this prospectus supplement. We are not, and the sales agent is not, making an offer of these securities in any jurisdiction where the offer or sale is not permitted. You should not assume that the information provided by this prospectus supplement, the accompanying prospectus or the documents incorporated by reference herein or therein is accurate as of any date other than the respective dates of such documents. Our business, financial condition, results of operations and prospects may have changed since those dates.

Before you invest in our common stock, you should carefully read the registration statement described in the accompanying prospectus (including the exhibits thereto) of which this prospectus supplement and the accompanying prospectus form a part, as well as this prospectus supplement, the accompanying prospectus and the documents incorporated by reference herein and therein. The documents incorporated by reference into this prospectus supplement are described under "Documents Incorporated by Reference."

Except as expressly stated or the context otherwise requires, the terms "we," "us," "our," "KLXE," and the "Company" refer to KLX Energy Services Holdings, Inc.

CAUTIONARY STATEMENT REGARDING FORWARD-LOOKING STATEMENTS

The Private Securities Litigation Reform Act of 1995 provides a "safe harbor" for forward-looking statements to encourage companies to provide prospective information to investors. This prospectus supplement and the documents to which the Company refers you to in this prospectus supplement, as well as oral statements made or to be made by the Company, includes forward-looking statements that reflect our current expectations and projections about our future results, performance and prospects. Forward-looking statements include all statements that are not historical in nature or are not current facts. When used in this prospectus, the words "believe," "expect," "plan," "intend," "anticipate," "estimate," "predict," "potential," "continue," "may," "might," "should," "could," "will" or the negative of these terms or similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain such identifying words.

These forward-looking statements are based on our current expectations and assumptions about future events and are based on currently available information as to the outcome and timing of future events. These forward-looking statements are subject to a number of risks, uncertainties, assumptions and other factors that could cause our actual results, performance and prospects to differ materially from those expressed in, or implied by, these forward-looking statements. Factors that might cause such a difference include those discussed in our filings with SEC, in particular those discussed under the headings "Risk Factors" in our Annual Report on Form 10-K for the fiscal year ended January 31, 2021 and in our Quarterly Report on Form 10-Q for the quarter ended April 30, 2021, including the following factors:

- the extraordinary market environment and impacts resulting from the coronavirus ("COVID-19") pandemic and related swift and material decline, as well as increased volatility, in national and global crude oil demand and crude oil prices;
- the possibility of inefficiencies, curtailments or shutdowns in our customers' operations, whether due to COVID-19 repercussions in the
 workforce or in response to reductions in demand;
- uncertainty regarding our future operating results;
- regulation of and dependence upon the energy industry;
- the cyclical nature of the energy industry;
- fluctuations in market prices for fuel, oil and natural gas;
- our ability to maintain acceptable pricing for our services;
- competitive conditions within the industry;
- legislative or regulatory changes and potential liability under federal and state laws and regulations;
- decreases in the rate at which oil and/or natural gas reserves are discovered and/or developed;
- the impact of technological advances on the demand for our products and services;
- customers' delays in obtaining permits for their operations;
- hazards and operational risks that may not be fully covered by insurance;
- the write-off of a significant portion of intangible assets;
- the need to obtain additional capital or financing, and the availability and/or cost of obtaining such capital or financing;
- limitations originating from our organizational documents, debt instruments and U.S. federal income tax obligations may have on our financial flexibility, our ability to engage in strategic transactions or our ability to declare and pay cash dividends on our common stock;
- · general economic conditions;
- our credit profile;

- · changes in supply, demand and costs of equipment;
- oilfield anti-indemnity provisions;
- seasonal and adverse weather conditions that can affect oil and natural gas operations;
- reliance on information technology resources and the inability to implement new technology and services;
- the possibility of terrorist or cyberattacks and the consequences of any such attacks;
- increased labor costs or our ability to employ, or maintain the employment of, a sufficient number of key employees, technical personnel, and other skilled and qualified workers;
- the inability to successfully consummate acquisitions or inability to manage potential growth; and
- our ability to remediate any material weakness in, or to maintain effective, internal controls over financial reporting and disclosure controls and procedures.

In light of these risks and uncertainties, you are cautioned not to put undue reliance on any forward-looking statements in this prospectus. These statements should be considered only after carefully reading this entire prospectus and our filings with the SEC. Except as required under the federal securities laws and rules and regulations of the SEC, we undertake no obligation to publicly update or revise any forward-looking statements, whether as a result of new information, future events or otherwise. Additional risks that we may currently deem immaterial or that are not presently known to us could also cause the forward-looking events discussed in this prospectus not to occur.

All forward-looking statements, expressed or implied, included in this prospectus are expressly qualified in their entirety by this cautionary statement. This cautionary statement should also be considered in connection with any subsequent written or oral forward-looking statement that we or persons acting on our behalf may issue.

SUMMARY

This summary highlights selected information contained elsewhere or incorporated by reference in this prospectus supplement and does not contain all the information that you need to consider in making your investment decision. You should carefully read this entire prospectus supplement and the accompanying prospectus, as well as the information to which we refer you and the information incorporated by reference herein, before deciding whether to invest in our common stock.

KLX Energy Services Holdings, Inc.

KLXE is a provider of diversified oilfield services to leading onshore oil and natural gas exploration and production companies operating in both conventional and unconventional plays in all of the active major basins throughout the United States. The Company delivers mission critical oilfield services focused on drilling, completion, intervention and production activities for the most technically demanding wells from over 50 service facilities located in the United States. KLXE's complementary suite of proprietary products and specialized services is supported by technically skilled personnel and a broad portfolio of innovative in-house research and development, manufacturing, repair and maintenance capabilities.

We were incorporated in Delaware on June 28, 2018. On September 14, 2018, we completed our spin-off from KLX Inc. and became an independent, publicly traded company. Our principal executive offices are located at 3040 Post Oak Boulevard, 15th Floor, Houston, Texas 77056, and our telephone number is (832) 844-1015. Our website address is www.klxenergy.com. The information on our website is not part of this prospectus supplement.

Implications of Being an Emerging Growth Company

We are an "emerging growth company" as defined in the Jumpstart Our Business Startups Act of 2012. As a result, we may take advantage of reduced reporting requirements that are otherwise applicable to public companies, including delaying auditor attestation of internal control over financial reporting, providing only two years of audited financial statements and related Management's Discussion and Analysis of Financial Condition and Results of Operations, and reducing executive compensation disclosures.

We will remain an emerging growth company until the earlier to occur of (1) the last day of the fiscal year (a) following the fifth anniversary of the completion of our spin-off, which will be January 31, 2024, (b) in which we have total annual gross revenue of at least \$1.07 billion, or (c) in which we are deemed to be a "large accelerated filer" under the rules of the SEC, which means the market value of our common stock that is held by non-affiliates exceeds \$700 million as of the prior July 31st and (2) the date on which we have issued more than \$1.0 billion in non-convertible debt during the prior three-year period.

We have elected to take advantage of certain of the reduced disclosure obligations in the registration statement of which this prospectus is a part and may elect to take advantage of other reduced reporting requirements in future filings. Additionally, we are subject to an extended transition period for complying with new or revised accounting standards. As a result, the information that we provide to our stockholders may be different than what you might receive from other public reporting companies in which you hold equity interests.

THE OFFERING

Issuer

Common stock offered by us

Manner of offering

Use of proceeds

Exchange listing and symbol

Material U.S. federal income tax considerations for non-U.S. holders

Risk factors

KLX Energy Services Holdings, Inc.

Shares of our common stock having an aggregate offering price of up to \$50 million.

"At the market offering" that may be made from time to time through our sales agent, Piper Sandler. Please read "Plan of Distribution" in this prospectus supplement for more information.

We currently plan to use the net proceeds from this offering, after deducting the sales agent's commissions and offering expenses payable by us, for general corporate purposes, which may include, among other things, paying or refinancing all or a portion of our thenoutstanding indebtedness, and funding acquisitions, capital expenditures and working capital. Please read "Use of Proceeds" in this prospectus supplement for more information.

Our common stock is listed on The Nasdaq Global Select Market under the symbol "KLXE."

The material U.S. federal income tax considerations generally applicable to the ownership and disposition of our common stock acquired in this offering by a non-U.S. Holder are described in "Material U.S. Federal Income Tax Considerations for Non-U.S. Holders." Each non-U.S. holder is urged to consult its tax advisors regarding the U.S. federal, state, local, and non-U.S. income and other tax consequences to it of owning and disposing of our common stock.

Investing in our common stock involves risks. Please read "Risk Factors" on page S-3 of this prospectus supplement, page 2 of the accompanying prospectus and in the documents that we have incorporated by reference, as well as the other cautionary statements throughout this prospectus supplement and the accompanying prospectus, for a discussion of factors you should carefully consider before deciding to invest in our common stock.

RISK FACTORS

You should carefully consider the risks described below together with the risk factors described in reports we file with the SEC and incorporated by reference into the accompanying prospectus, as well as all of the other information in, and incorporated by reference into, this prospectus supplement and the accompanying prospectus, including in our Annual Report on Form 10-K for the year ended January 31, 2021. If any of the risks actually occur, our business, financial condition or results of operations could suffer. In that event, you may lose all or part of your investment in the common stock.

Risks Related to this Offering

It is not possible to predict the actual number of shares we will sell under the equity distribution agreement, or the actual gross proceeds resulting from those sales.

Subject to certain limitations in the equity distribution agreement and compliance with applicable law, we have the discretion to deliver a placement notice to the sales agent at any time throughout the term of the equity distribution agreement. The number of shares that are sold through the sales agent after delivering a placement notice will fluctuate based on a number of factors, including the market price of the common stock during the sales period, the limits we set with the sales agent in any applicable placement notice, and the demand for our common stock during the sales period. Actual gross proceeds may be less than \$50 million, which may impact our future liquidity. Because the price per share of each share sold will fluctuate during the sales period, it is not currently possible to predict the number of shares that will be sold or the actual gross proceeds to be raised in connection with those sales.

The common stock offered hereby will be sold in "at the market offerings," and investors who buy shares at different times will likely pay different prices.

Investors who purchase shares in this offering at different times will likely pay different prices, and so may experience different levels of dilution and different outcomes in their investment results. We will have discretion, subject to market demand, to vary the timing, prices, and numbers of shares sold in this offering. In addition, there is no minimum sales price above par value or maximum sales price for shares to be sold in this offering. Investors may experience a decline in the value of the shares they purchase in this offering as a result of sales made at prices lower than the prices they paid.

Future sales of substantial amounts of our common stock, or the possibility that such sales could occur, could adversely affect the market price of our common stock.

In order to raise additional capital, we may in the future offer additional shares of our common stock or other securities convertible into or exchangeable for our common stock at prices that may not be the same as the price per share in this offering. We may sell shares or other securities in any other offering at a price per share that is less than the price per share paid by investors in this offering, and investors purchasing shares or other securities in the future could have rights superior to existing stockholders. The price per share at which we sell additional shares of our common stock, or securities convertible or exchangeable into common stock, in future transactions may be higher or lower than the price per share paid by investors in this offering.

Management will have broad discretion as to the use of the proceeds from this offering, and uses may not improve our financial condition or market value.

Because we have not designated the amount of net proceeds from this offering to be used for any particular purpose, our management will have broad discretion as to the application of the net proceeds from this offering and could use them for purposes other than those contemplated at the time of the offering. Our management may use the net proceeds for corporate purposes that may not improve our financial condition or market value.

USE OF PROCEEDS

The amount of proceeds from this offering will depend upon the number of shares of our common stock sold and the market price at which they are sold. There can be no assurance that we will be able to sell any shares under or fully utilize the equity distribution agreement with the sales agent.

We currently plan to use the net proceeds from this offering, after deducting the sales agent's commissions and offering expenses payable by us, for general corporate purposes, which may include, among other things, paying or refinancing all or a portion of our then-outstanding indebtedness, and funding acquisitions, capital expenditures and working capital.

PLAN OF DISTRIBUTION

We have entered into an equity distribution agreement with Piper Sandler as our sales agent. This prospectus supplement is offering \$50 million in shares of our common stock. Piper Sandler will use its commercially reasonable efforts to sell on our behalf the shares of our common stock requested to be sold by us, consistent with its normal trading and sales practices, under the terms and subject to the conditions set forth in the equity distribution agreement. We have no obligation to sell any shares of our common stock under the equity distribution agreement. We may instruct Piper Sandler not to sell our common stock if the sales cannot be effected at or above the price designated by us in any instruction to Piper Sandler. We or Piper Sandler may suspend the offering of our common stock upon proper notice and subject to other conditions, as specified in the equity distribution agreement.

Piper Sandler may sell our common stock by any method permitted by law deemed to be an "at the market offering" as defined in Rule 415(a)(4) promulgated under the Securities Act, including sales made directly on or through Nasdaq. Each confirmation will include the number of shares of our common stock sold on the relevant day, the net proceeds to us and the compensation payable by us to Piper Sandler in connection with the sales. Piper Sandler may also sell shares of our common stock in negotiated transactions at market prices prevailing at the time of sale or at prices related to the prevailing market prices and/or any other method permitted by law, subject to our prior written consent.

We will pay Piper Sandler commissions for its services in acting as sales agent in the sale of our common stock. Piper Sandler will be entitled to compensation in an amount of up to 3.0% of the gross sales price of all common stock sold through it as sales agent under the equity distribution agreement. We have also agreed to reimburse Piper Sandler for actual outside legal expenses incurred by Piper Sandler in connection with this offering, including Piper Sandler's counsel fees initially in an amount up to \$150,000 through June 14, 2021, plus an additional amount of up to \$20,000 for each quarterly period thereafter. We estimate that the total expenses for this offering, excluding compensation payable to Piper Sandler under the terms of the equity distribution agreement, will be approximately \$300,000. The combined compensation and reimbursement to Piper Sandler will not exceed 8.0% of the maximum offering amount pursuant to the equity distribution agreement.

Settlement for sales of our common stock will occur on the second business day following the date on which any sales are made, or on some other date that is agreed upon by us and Piper Sandler in connection with a particular transaction, in return for payment of the net proceeds to us. There is no arrangement for funds to be received in an escrow, trust or similar arrangement.

We will report at least quarterly the number of shares of our common stock sold through Piper Sandler, as sales agent, under the equity distribution agreement, the net proceeds to us and the compensation paid by us to Piper Sandler in connection with any sales.

Piper Sandler and its affiliates have from time to time provided, and may in the future provide, various investment banking, commercial banking, fiduciary and advisory services for us for which they have received, and may in the future receive, customary fees and expenses. Piper Sandler and its affiliates may from time to time engage in other transactions with and perform services for us in the ordinary course of their business.

In connection with the sale of our common stock on our behalf, Piper Sandler will be deemed to be an "underwriter" within the meaning of the Securities Act, and the compensation paid by us to Piper Sandler will be deemed to be underwriting commissions or discounts. We have agreed to indemnify Piper Sandler against specified liabilities, including liabilities under the Securities Act and the Exchange Act, and to contribute to payments that Piper Sandler may be required to make because of such liabilities.

The offering of our common stock pursuant to the equity distribution agreement will terminate upon the termination of the equity distribution agreement. The equity distribution agreement may be terminated by Piper

Sandler or (upon ten (10) days' written notice) by us at any time, and may also be terminated by mutual agreement of Piper Sandler and us. The equity distribution agreement will automatically terminate (1) upon the issuance and sale of all of the shares of common stock being offered under the equity distribution agreement or (2) if we fail, on any required settlement date, to sell and deliver the number of shares which we are obligated to sell under the terms of the equity distribution agreement.

MATERIAL U.S. FEDERAL INCOME TAX CONSIDERATIONS FOR NON-U.S. HOLDERS

The following is a summary of the material U.S. federal income tax considerations related to the purchase, ownership and disposition of our common stock by a non-U.S. holder (as defined below) that holds our common stock as a "capital asset" within the meaning of Section 1221 of the Internal Revenue Code of 1986, as amended (the "Code") (generally, property held for investment). This summary is based on the provisions of the Code, U.S. Treasury regulations promulgated thereunder, administrative rulings and judicial decisions, all as in effect on the date hereof, and all of which are subject to change or differing interpretations, possibly with retroactive effect. We have not sought any ruling from the Internal Revenue Service ("IRS") with respect to the statements made and the conclusions reached in the following summary, and there can be no assurance that the IRS or a court will agree with such statements and conclusions.

This summary does not address all aspects of U.S. federal income taxation that may be relevant to non-U.S. holders in light of their personal circumstances. In addition, this summary does not address the impact of the Medicare surtax on certain net investment income, U.S. federal estate or gift tax laws, any state, local or non-U.S. tax laws or any tax treaties. This summary also does not address tax considerations applicable to investors that may be subject to special treatment under the U.S. federal income tax laws, such as:

- banks, insurance companies or other financial institutions;
- tax-exempt or governmental organizations;
- tax-qualified retirement plans;
- "qualified foreign pension funds" as defined in Section 897(l)(2) of the Code (or any entities all of the interests of which are held by a qualified foreign pension fund);
- · dealers in securities or foreign currencies;
- persons whose functional currency is not the U.S. dollar;
- traders in securities that use the mark-to-market method of accounting for U.S. federal income tax purposes;
- "controlled foreign corporations," "passive foreign investment companies," and corporations that accumulate earnings to avoid U.S. federal income tax:
- entities or arrangements treated as partnerships or pass-through entities for U.S. federal income tax purposes or holders of interests therein;
- persons deemed to sell our common stock under the constructive sale provisions of the Code;
- persons that acquired our common stock through the exercise of employee stock options or otherwise as compensation or through a
 tax-qualified retirement plan;
- persons that hold our common stock as part of a straddle, appreciated financial position, synthetic security, hedge, conversion transaction or other integrated investment or risk reduction transaction; and
- certain former citizens or long-term residents of the United States.

PROSPECTIVE INVESTORS SHOULD CONSULT THEIR TAX ADVISORS WITH RESPECT TO THE APPLICATION OF THE U.S. FEDERAL INCOME TAX LAWS TO THEIR PARTICULAR SITUATION, AS WELL AS ANY TAX CONSEQUENCES OF THE PURCHASE, OWNERSHIP AND DISPOSITION OF OUR COMMON STOCK ARISING UNDER THE U.S. FEDERAL ESTATE OR GIFT TAX LAWS OR UNDER THE LAWS OF ANY STATE, LOCAL, NON-U.S. OR OTHER TAXING JURISDICTION OR UNDER ANY APPLICABLE INCOME TAX TREATY.

Non-U.S. Holder Defined

For purposes of this discussion, a "non-U.S. holder" is a beneficial owner of our common stock that is not for U.S. federal income tax purposes a partnership or any of the following:

- an individual who is a citizen or resident of the United States;
- a corporation (or other entity treated as a corporation for U.S. federal income tax purposes) created or organized in or under the laws of the United States, any state thereof or the District of Columbia;
- an estate the income of which is subject to U.S. federal income tax regardless of its source; or
- a trust (i) the administration of which is subject to the primary supervision of a U.S. court and which has one or more "United States persons" (within the meaning of Section 7701(a)(30) of the Code) who have the authority to control all substantial decisions of the trust or (ii) which has made a valid election under applicable U.S. Treasury regulations to be treated as a United States person.

If a partnership (including an entity or arrangement treated as a partnership for U.S. federal income tax purposes) holds our common stock, the tax treatment of a partner in the partnership generally will depend upon the status of the partner, the activities of the partnership and certain determinations made at the partner level. Accordingly, we urge partners in partnerships (including entities or arrangements treated as partnerships for U.S. federal income tax purposes) considering the purchase of our common stock to consult their tax advisors regarding the U.S. federal income tax considerations of the purchase, ownership and disposition of our common stock by such partnership.

Distributions

Distributions of cash or other property on our common stock, if any, will constitute dividends for U.S. federal income tax purposes to the extent paid from our current or accumulated earnings and profits, as determined under U.S. federal income tax principles. To the extent those distributions exceed our current and accumulated earnings and profits, the distributions will be treated as a non-taxable return of capital to the extent of the non-U.S. holder's tax basis in our common stock and thereafter as capital gain from the sale or exchange of such common stock. See "—Gain on Sale or Other Taxable Disposition of Common Stock." Subject to the withholding requirements under FATCA (as defined below) and with respect to effectively connected dividends, each of which is discussed below, any distribution made to a non-U.S. holder on our common stock generally will be subject to U.S. withholding tax imposed at a flat rate on the gross amount of the distribution (which flat rate may be reduced under an applicable income tax treaty). To receive the benefit of a reduced treaty rate, a non-U.S. holder must provide the applicable withholding agent with an IRS Form W-8BEN or IRS Form W-8BEN-E (or other applicable or successor form) certifying qualification for the reduced rate.

Dividends paid to a non-U.S. holder that are effectively connected with a trade or business conducted by the non-U.S. holder in the United States (and, if required by an applicable income tax treaty, are treated as attributable to a permanent establishment maintained by the non-U.S. holder in the United States) generally will be taxed on a net income basis at the rates and in the manner generally applicable to United States persons. Such effectively connected dividends will not be subject to U.S. withholding tax if the non-U.S. holder satisfies certain certification requirements by providing the applicable withholding agent with a properly executed IRS Form W-8ECI certifying eligibility for exemption. If the non-U.S. holder is a corporation for U.S. federal income tax purposes, it may also be subject to a branch profits tax (at a flat rate which may be reduced under an applicable income tax treaty) on its effectively connected earnings and profits (as adjusted for certain items), which will include effectively connected dividends.

Gain on Sale or Other Taxable Disposition of Common Stock

Subject to the discussion below under "—Backup Withholding and Information Reporting," a non-U.S. holder generally will not be subject to U.S. federal income or withholding tax on any gain realized upon the sale or other taxable disposition of our common stock unless:

- the non-U.S. holder is an individual who is present in the United States for a period or periods aggregating 183 days or more during the calendar year in which the sale or disposition occurs and certain other conditions are met;
- the gain is effectively connected with a trade or business conducted by the non-U.S. holder in the United States (and, if required by an applicable income tax treaty, is attributable to a permanent establishment maintained by the non-U.S. holder in the United States); or
- our common stock constitutes a United States real property interest by reason of our status as a United States real property holding corporation ("USRPHC") for U.S. federal income tax purposes and as a result such gain is treated as effectively connected with a trade or business conducted by the non-U.S. holder in the United States.

A non-U.S. holder described in the first bullet point above will be subject to U.S. federal income tax at a flat rate imposed on the amount of such gain (which flat rate may be reduced under an applicable income tax treaty), which generally may be offset by U.S. source capital losses provided the non-U.S. holder has timely filed U.S. federal income tax returns with respect to such losses.

A non-U.S. holder whose gain is described in the second bullet point above or, subject to the exceptions described in the next paragraph, the third bullet point above, generally will be taxed on a net income basis at the rates and in the manner generally applicable to United States persons. If the non-U.S. holder is a corporation for U.S. federal income tax purposes whose gain is described in the second bullet point above, then such gain would also be included in its effectively connected earnings and profits (as adjusted for certain items), which may be subject to a branch profits tax (at a flat rate which may be reduced under an applicable income tax treaty).

Generally, a corporation is a USRPHC if the fair market value of its United States real property interests equals or exceeds 50% of the sum of the fair market value of its worldwide real property interests and its other assets used or held for use in a trade or business. We believe that we currently are not a USRPHC for U.S. federal income tax purposes, and we do not expect to become a USRPHC for the foreseeable future. However, in the event that we become a USRPHC, as long as our common stock continues to be "regularly traded on an established securities market" (within the meaning of the U.S. Treasury regulations), only a non-U.S. holder that actually or constructively owns, or owned at any time during the shorter of the five-year period ending on the date of the disposition or the non-U.S. holder's holding period for the common stock, more than 5% of our common stock will be treated as disposing of a United States real property interest and will be taxable on gain realized on the disposition of our common stock as a result of our status as a USRPHC. If we were to become a USRPHC and our common stock were not considered to be regularly traded on an established securities market, each non-U.S. holder (regardless of the percentage of stock owned) would be treated as disposing of a United States real property interest and would be subject to U.S. federal income tax on a taxable disposition of our common stock (as described in the preceding paragraph), and a withholding tax would be imposed at a flat rate on the gross proceeds from such disposition.

Non-U.S. holders should consult their tax advisors with respect to the application of the foregoing rules to their ownership and disposition of our common stock, including regarding potentially applicable income tax treaties that may provide for different rules.

Backup Withholding and Information Reporting

Any dividends paid to a non-U.S. holder must be reported annually to the IRS and to the non-U.S. holder. Copies of these information returns may be made available to the tax authorities in the country in which the

non-U.S. holder resides or is established. Payments of dividends to a non-U.S. holder generally will not be subject to backup withholding if the non-U.S. holder establishes an exemption by properly certifying its non-U.S. status on an IRS Form W-8BEN or IRS Form W-8BEN-E (or other applicable or successor form).

Payments of the proceeds from a sale or other disposition by a non-U.S. holder of our common stock effected by or through a U.S. office of a broker generally will be subject to information reporting and backup withholding (at the applicable rate) unless the non-U.S. holder establishes an exemption by properly certifying its non-U.S. status on an IRS Form W-8BEN or IRS Form W-8BEN-E (or other applicable or successor form) and certain other conditions are met. Information reporting and backup withholding generally will not apply to any payment of the proceeds from a sale or other disposition of our common stock effected outside the United States by a non-U.S. office of a broker. However, unless such broker has documentary evidence in its records that the non-U.S. holder is not a United States person and certain other conditions are met, or the non-U.S. holder otherwise establishes an exemption, information reporting will apply to a payment of the proceeds of the disposition of our common stock effected outside the United States by such a broker if it has certain relationships within the United States.

Backup withholding is not an additional tax. Rather, the U.S. federal income tax liability (if any) of persons subject to backup withholding will be reduced by the amount of tax withheld. If backup withholding results in an overpayment of taxes, a refund may be obtained, provided that the required information is timely furnished to the IRS.

Additional Withholding Requirements under FATCA

Sections 1471 through 1474 of the Code, and the U.S. Treasury regulations and administrative guidance issued thereunder ("FATCA"), impose a withholding tax at a flat rate on any dividends on our common stock and, subject to the proposed U.S. Treasury regulations discussed below, on proceeds from sales or other disposition of shares of our common stock, if paid to a "foreign financial institution" or a "non-financial foreign entity" (each as defined in the Code) (including, in some cases, when such foreign financial institution or non-financial foreign entity is acting as an intermediary), unless (i) in the case of a foreign financial institution, such institution enters into an agreement with the U.S. government to withhold on certain payments, and to collect and provide to the U.S. tax authorities substantial information regarding U.S. account holders of such institution (which includes certain equity and debt holders of such institution, as well as certain account holders that are non-U.S. entities with U.S. owners), (ii) in the case of a non-financial foreign entity, such entity certifies that it does not have any "substantial United States owners" (as defined in the Code) or provides the applicable withholding agent with a certification identifying the direct and indirect substantial United States owners of the entity (in either case, generally on an IRS Form W-8BEN-E), or (iii) the foreign financial institution or non-financial foreign entity otherwise qualifies for an exemption from these rules and provides appropriate documentation (such as an IRS Form W-8BEN-E). Foreign financial institutions located in jurisdictions that have an intergovernmental agreement with the United States governing these rules may be subject to different rules. Under certain circumstances, a holder might be eligible for refunds or credits of such taxes. While gross proceeds from a sale or other disposition of our common stock paid after January 1, 2019, would have originally been subject to withholding under FATCA, proposed U.S. Treasury regulations provide that such payments of gross proceeds do not constitute withholdable payments. Taxpayers may generally rely on these proposed U.S. Treasury regulations until they are revoked or final U.S. Treasury regulations are issued. Non-U.S. holders are encouraged to consult their own tax advisors regarding the effects of FATCA on an investment in our common stock.

INVESTORS CONSIDERING THE PURCHASE OF OUR COMMON STOCK SHOULD CONSULT THEIR OWN TAX ADVISORS REGARDING THE APPLICATION OF THE U.S. FEDERAL INCOME TAX LAWS TO THEIR PARTICULAR SITUATIONS AND THE APPLICABILITY AND EFFECT OF U.S. FEDERAL ESTATE AND GIFT TAX LAWS AND ANY STATE, LOCAL OR NON-U.S. TAX LAWS AND TAX TREATIES.

LEGAL MATTERS

Vinson & Elkins LLP, Houston, Texas, will issue opinions about the validity of the common stock and various legal matters in connection with the offering on our behalf. Certain legal matters in connection with the common stock offered hereby will be passed upon for the sales agents by Hunton Andrews Kurth LLP, Houston, Texas.

EXPERTS

The financial statements incorporated in this prospectus supplement by reference from the Company's Annual Report on Form 10-K for the year ended January 31, 2021, have been audited by Deloitte & Touche LLP, an independent registered public accounting firm, as stated in their report, which is incorporated herein by reference. Such financial statements have been so incorporated in reliance upon the report of such firm given upon their authority as experts in accounting and auditing.

The audited historical financial statements of Quintana Energy Services Inc. included in Annex P of KLX Energy Services Holdings, Inc.'s Registration Statement on Form S-4 dated June 25, 2020 have been so incorporated in reliance on the report of PricewaterhouseCoopers LLP, an independent registered public accounting firm, given on the authority of said firm as experts in auditing and accounting.

WHERE YOU CAN FIND MORE INFORMATION

We have filed a registration statement with the SEC under the Securities Act, that registers the offer and sale of the securities covered by this prospectus supplement. The registration statement, including the exhibits attached thereto and incorporated by reference therein, contains additional relevant information about us. In addition, we file annual, quarterly and other reports and other information with the SEC. The SEC maintains a website that contains reports, proxy and information statements and other information regarding issuers that file electronically with the SEC. Our SEC filings are available on the SEC's website at www.sec.gov.

We make available free of charge on or through our website, www.klxenergy.com, our filings with the SEC pursuant to Section 13(a) or 15(d) of the Exchange Act as soon as reasonably practicable after we electronically file such material with, or furnish it to, the SEC. We make our website content available for information purposes only. Information contained on our website is not incorporated by reference into this prospectus supplement and does not constitute a part of this prospectus supplement.

DOCUMENTS INCORPORATED BY REFERENCE

The SEC allows us to "incorporate by reference" the information we have filed with the SEC. This means that we can disclose important information to you without actually including the specific information in this prospectus supplement by referring you to other documents filed separately with the SEC. The information incorporated by reference is an important part of this prospectus supplement. Information that we later provide to the SEC, and which is deemed to be "filed" with the SEC, will automatically update information previously filed with the SEC, and may update or replace information in this prospectus supplement and information previously filed with the SEC.

We incorporate by reference the documents listed below and any future filings we make with the SEC under Sections 13(a), 13(c), 14, or 15(d) of Exchange Act (excluding information deemed to be furnished and not filed with the SEC):

our Annual Report on Form 10-K for the year ended January 31, 2021, filed on April 28, 2021, including those portions of our definitive proxy statement on Schedule 14A, filed on May 7, 2021 and the definitive additional materials on Schedule 14A filed on May 21, 2021, incorporated by reference therein;

- our Quarterly Report on Form 10-Q for the quarterly period ended April 30, 2021, filed on June 11, 2021;
- our Current Reports on Form 8-K filed on <u>February 16, 2021</u>, <u>February 26, 2021</u> (as amended on <u>March 1, 2021</u>), <u>May 7, 2021</u>, <u>May 14, 2021</u>, <u>June 8, 2021</u> and <u>June 14, 2021</u>;
- the description of our common stock contained in our Registration Statement on Form 10 filed on <u>July 25, 2018</u>, including the amendments thereto filed on <u>August 15, 2018</u> and <u>August 24, 2018</u>, as amended by <u>Exhibit 4.3</u> to our Annual Report on Form 10-K for the year ended January 31, 2021, and any further amendments thereto or reports that we may file in the future for the purpose of updating such description; and
- the consolidated financial statements of Quintana Energy Services, Inc. as of December 31, 2019 and 2018 and for each of the three years in the period ended December 31, 2019, incorporated by reference from our Registration Statement on Form S-4 filed on <u>June 2, 2020</u>, including the amendments thereto filed on <u>June 18, 2020</u> and <u>June 25, 2020</u>.

These reports contain important information about us, our financial condition and our results of operations.

You may obtain copies of any of the documents incorporated by reference in this prospectus supplement from the SEC through the SEC's website at the address provided above. You also may request a copy of any document incorporated by reference in this prospectus supplement (including exhibits to those documents specifically incorporated by reference in this prospectus supplement), at no cost, by contacting us at:

KLX Energy Services Holdings, Inc. Attention: Investor Relations 3040 Post Oak Boulevard, 15th Floor Houston, Texas 77056 (832) 844-1015

PROSPECTUS



KLX Energy Services Holdings, Inc.

\$75,000,000

Common Stock

From time to time we may offer and sell shares of our common stock, par value \$0.01 per share ("common stock"). The aggregate initial offering price of all shares of common stock sold by us under this prospectus will not exceed \$75,000,000.

We may offer and sell these securities from time to time in amounts, at prices and on terms to be determined by market conditions and other factors at the time of our offerings. This prospectus provides you with a general description of these securities and the general manner in which we will offer the securities. Each time securities are offered, we will provide a prospectus supplement that will contain specific information about the terms of that offering. Any prospectus supplement may also add, update or change information contained in this prospectus.

Our common stock is traded on the Nasdaq under the symbol "KLXE." On June 10, 2021, the closing price of our common stock was \$10.24.

We are an "emerging growth company" as that term is used in the Jumpstart Our Business Startups Act of 2012, and, as such, have elected to avail ourselves of certain reduced public company reporting requirements for this prospectus and future filings.

You should read carefully this prospectus, the documents incorporated by reference in this prospectus and any prospectus supplement before you invest. See "Risk Factors" beginning on page 2 of this prospectus for information on certain risks related to the purchase of our securities.

We may sell the securities directly to or through underwriters or dealers, and also to other purchasers or through agents. The names of any underwriters or agents that are included in a sale of securities to you, and any applicable commissions or discounts, will be stated in any accompanying prospectus supplement. In addition, the underwriters, if any, may over-allot a portion of the securities.

Neither the Securities and Exchange Commission (the "SEC") nor any state securities commission has approved or disapproved of these securities or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

The date of this prospectus is June 11, 2021.

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ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement that we have filed with the SEC using a "shelf" registration process. Under this shelf registration process, we may offer and sell from time to time the securities described in this prospectus in one or more offerings. This prospectus provides you with a general description of the securities that are registered hereunder that may be offered by us. Each time we offer the securities, we will provide you with a prospectus supplement that will describe, among other things, the specific amounts and prices of the securities being offered and the terms of the offering.

Any prospectus supplement may add, update, or change information contained in this prospectus. Any statement that we make in this prospectus will be modified or superseded by any inconsistent statement made by us in any prospectus supplement. The information in this prospectus is accurate as of its date. Additional information, including our financial statements and the notes thereto, is incorporated in this prospectus by reference to our reports filed with the SEC. Therefore, before you invest in our securities, you should carefully read this prospectus and any prospectus supplement relating to the securities offered to you together with the additional information incorporated by reference in this prospectus and any prospectus supplement (including the documents described under the heading "Where You Can Find More Information" and "Documents Incorporated by Reference" in both this prospectus and any prospectus supplement).

You should rely only on the information contained in or incorporated by reference in this prospectus or any prospectus supplement. We have not authorized any other person to provide you with different information. If anyone provides you with different or inconsistent information, you should not rely on it. Neither we nor anyone acting on our behalf is making an offer to sell these securities in any jurisdiction where the offer or sale is not permitted. You should not assume that the information incorporated by reference or provided in this prospectus or any prospectus supplement is accurate as of any date other than the date on the front of those documents.

Unless the context otherwise requires, throughout this prospectus and any applicable prospectus supplement, the words "we," "us," the "registrant," "the Company," or "KLXE" refer to KLX Energy Services Holdings, Inc.; and the term "securities" refers to the shares of our common stock registered hereunder.

WHERE YOU CAN FIND MORE INFORMATION

We have filed a registration statement with the SEC under the Securities Act of 1933, as amended (the "Securities Act"), that registers the offer and sale of the securities covered by this prospectus. The registration statement, including the exhibits attached thereto and incorporated by reference therein, contains additional relevant information about us. In addition, we file annual, quarterly and other reports and other information with the SEC. The SEC maintains a website that contains reports, proxy and information statements and other information regarding issuers that file electronically with the SEC. Our SEC filings are available on the SEC's website at www.sec.gov.

We make available free of charge on or through our website, www.klxenergy.com, our filings with the SEC pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended (the "Exchange Act") as soon as reasonably practicable after we electronically file such material with, or furnish it to, the SEC. We make our website content available for information purposes only. Information contained on our website is not incorporated by reference into this prospectus and does not constitute a part of this prospectus.

DOCUMENTS INCORPORATED BY REFERENCE

The SEC allows us to "incorporate by reference" the information we have filed with the SEC. This means that we can disclose important information to you without actually including the specific information in this prospectus by referring you to other documents filed separately with the SEC. The information incorporated by reference is an important part of this prospectus. Information that we later provide to the SEC, and which is deemed to be "filed" with the SEC, will automatically update information previously filed with the SEC, and may update or replace information in this prospectus and information previously filed with the SEC.

We incorporate by reference the documents listed below and any filings we make with the SEC under Sections 13(a), 13(c), 14, or 15(d) of the Exchange Act (excluding information deemed to be furnished and not filed with the SEC), after the date on which the registration statement was initially filed with the SEC (including all such documents that we may file with the SEC after the date the registration statement was initially filed and prior to the effectiveness of the registration statement) until all offerings under the registration statement of which this prospectus forms a part are completed or terminated:

- our Annual Report on <u>Form 10-K</u> for the year ended January 31, 2021, filed on April 28, 2021 including those portions of our definitive proxy statement on <u>Schedule 14A</u>, filed on May 7, 2021, incorporated by reference therein;
- our Current Reports on Form 8-K filed on <u>February 16, 2021</u>, <u>February 26, 2021</u> (as amended on <u>March 1, 2021</u>), <u>May 7, 2021</u>, <u>May 14, 2021</u> and June 8, 2021;
- our quarterly report on Form 10-Q for the quarterly period ended April 30, 2021, filed on June 11, 2021;
- the description of our common stock contained in our Registration Statement on Form 10 filed on <u>July 25, 2018</u>, including the amendments thereto filed on <u>August 15, 2018</u> and <u>August 24, 2018</u>, as amended by <u>Exhibit 4.3</u> to our Annual Report on Form 10-K for the year ended January 31, 2021, and any further amendments thereto or reports that we may file in the future for the purpose of updating such description; and
- the consolidated financial statements of Quintana Energy Services, Inc. as of December 31, 2019 and 2018 and for each of the three years in the period ended December 31, 2019, incorporated by reference from our Registration Statement on Form S-4 filed on <u>June 2, 2020</u>, including the amendments thereto filed on <u>June 18, 2020</u> and <u>June 25, 2020</u>.

These reports contain important information about us, our financial condition and our results of operations.

You may obtain copies of any of the documents incorporated by reference in this prospectus from the SEC through the SEC's website at the address provided above. You also may request a copy of any document incorporated by reference in this prospectus (including exhibits to those documents specifically incorporated by reference in this prospectus), at no cost, by contacting us at:

KLX Energy Services Holdings, Inc. Attention: Investor Relations 3040 Post Oak Boulevard, 15th Floor Houston, Texas 77056 (832) 844-1015

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CAUTIONARY STATEMENT REGARDING FORWARD-LOOKING STATEMENTS

This prospectus and the documents to which the Company refers you to in this prospectus, as well as oral statements made or to be made by the Company, include certain "forward-looking statements" within the meaning of, and subject to the safe harbor created by, the Private Securities Litigation Reform Act of 1995 and other federal securities laws, which are referred to as the safe harbor provisions, with respect to the businesses, strategies and plans of the Company and its expectations relating to its future financial condition and performance. Statements included in this prospectus that are not historical facts are forward-looking statements, including statements about the beliefs and expectations of the management of the Company. Words such as "believe," "continue," "could," "expect," "plan," "anticipate," "intends," "estimate," "forecast," "project," "potential," "predict", "should," "may," "might," "wull," "would" or the negative thereof and similar expressions are intended to identify such forward-looking statements that are intended to be covered by the safe harbor provisions.

Any forward-looking statements in this prospectus, any prospectus supplement, and the information incorporated by reference in this prospectus and each prospectus supplement reflect our current views with respect to future events or to our future financial performance and involve known and unknown risks, uncertainties, and other factors that may cause our actual results, performance, or achievements to be materially different from any future results, performance, or achievements expressed or implied by these forward-looking statements. Factors that may cause actual results to differ materially from current expectations include, among other things, those described under the heading "Risk Factors" in our most recent Annual Report on Form 10-K filed with the SEC, as supplemented by our Quarterly Reports on Form 10-Q, and discussed elsewhere in this prospectus, each prospectus supplement, and the information incorporated by reference in this prospectus and each prospectus supplement. Given these uncertainties, you should not place undue reliance on these forward-looking statements.

All subsequent written or oral forward-looking statements attributable to the Company or any person acting on behalf of either company are expressly qualified in their entirety by the cautionary statements contained or referred to in this section. The Company is not under any obligation, and the Company expressly disclaims any obligation, to update, alter, or otherwise revise any forward-looking statements, whether written or oral, that may be made from time to time, whether as a result of new information, future events or otherwise, except as may be required by law.

ABOUT KLX ENERGY SERVICES HOLDINGS, INC.

KLXE is a growth-oriented provider of diversified oilfield services to leading onshore oil and natural gas exploration and production companies operating in both conventional and unconventional plays in all of the active major basins throughout the United States. The Company delivers mission critical oilfield services focused on drilling, completion, production, and intervention activities for the most technically demanding wells from over 50 service and support facilities located throughout the United States. KLXE's complementary suite of proprietary products and specialized services is supported by technically skilled personnel and a broad portfolio of innovative in-house manufacturing, repair and maintenance capabilities.

We were incorporated in Delaware on June 28, 2018. On September 14, 2018, we completed our spin-off from KLX Inc. and became an independent, publicly traded company. Our principal executive offices are located at 3040 Post Oak Boulevard, 15th Floor, Houston, Texas 77056, and our telephone number is (832) 844-1015. Our website address is www.klxenergy.com. The information on our website is not part of this prospectus.

Implications of Being an Emerging Growth Company

We are an "emerging growth company" as defined in the JOBS Act enacted in April 2012. As a result, we may take advantage of reduced reporting requirements that are otherwise applicable to public companies, including delaying auditor attestation of internal control over financial reporting, providing only two years of audited financial statements and related Management's Discussion and Analysis of Financial Condition and Results of Operations, and reducing executive compensation disclosures.

We will remain an emerging growth company until the earlier to occur of (1) the last day of the fiscal year (a) following the fifth anniversary of the completion of our spin-off, which will be January 31, 2024, (b) in which we have total annual gross revenue of at least \$1.07 billion, or (c) in which we are deemed to be a "large accelerated filer" under the rules of the SEC, which means the market value of our common stock that is held by non-affiliates exceeds \$700 million as of the prior July 31st and (2) the date on which we have issued more than \$1.0 billion in non-convertible debt during the prior three-year period.

We have elected to take advantage of certain of the reduced disclosure obligations in the registration statement of which this prospectus is a part and may elect to take advantage of other reduced reporting requirements in future filings. Additionally, we are subject to an extended transition period for complying with new or revised accounting standards. As a result, the information that we provide to our stockholders may be different than what you might receive from other public reporting companies in which you hold equity interests.

RISK FACTORS

An investment in our securities involves a significant degree of risk. Before you invest in our securities, you should carefully consider those risk factors included in our most recent Annual Report on Form 10-K, any subsequently filed Quarterly Reports on Form 10-Q and any subsequently filed Current Reports on Form 8-K, each of which is incorporated herein by reference, and those risk factors that may be included in any applicable prospectus supplement, together with all of the other information included in this prospectus, any prospectus supplement and the documents we incorporate by reference, in evaluating an investment in our securities. If any of these risks were actually to occur, our business, financial condition or results of operations could be materially adversely affected. Additional risks not presently known to us or that we currently believe are immaterial may also significantly impair our business operations and financial condition. Please read "Cautionary Statement Regarding Forward-Looking Statements."

USE OF PROCEEDS

Unless otherwise specified in an accompanying prospectus supplement, we will use the net proceeds we receive from the sale of the securities covered by this prospectus for general corporate purposes, which may include, among other things, paying or refinancing all or a portion of our indebtedness at the time, and funding acquisitions, capital expenditures and working capital.

The actual application of the net proceeds from the sale of any particular offering of securities using this prospectus will be described in the applicable prospectus supplement relating to such offering.

DESCRIPTION OF CAPITAL STOCK

The following description of our common stock is not complete and may not contain all the information you should consider before investing in our common stock. This description is a summary of certain provisions contained in, and is qualified in its entirety by reference to, our amended and restated certificate of incorporation (the "Certificate"), and our third amended and restated bylaws (the "Bylaws").

Authorized Capital Stock

Under the Certificate, our authorized capital stock consists of 110 million shares of common stock, par value \$0.01 per share, and 11 million shares of preferred stock, par value \$0.01 per share ("preferred stock").

Common Stock

As of June 4, 2021, there were 8,831,007 shares of common stock outstanding.

Dividend Rights. Subject to the rights, if any, of the holders of any outstanding series of preferred stock, holders of common stock will be entitled to receive dividends out of any of the Company's funds legally available when, as and if declared by the board of directors of the Company (the "Board").

Voting Rights. Each holder of common stock is entitled to one vote per share on all matters on which stockholders are generally entitled to vote. The Certificate does not provide for cumulative voting in the election of directors.

Liquidation. If the Company liquidates, dissolves or winds up its affairs, holders of common stock are entitled to share proportionately in the assets of the Company available for distribution to stockholders, subject to the rights, if any, of the holders of any outstanding series of preferred stock.

Other Rights. All of the outstanding shares of common stock are fully paid and nonassessable. The holders of common stock have no preemptive rights and no rights to convert their common stock into any other securities, and our common stock is not subject to any redemption or sinking fund provisions.

Preferred Stock

Under the Certificate and subject to the limitations prescribed by law, the Board may issue preferred stock in one or more series and may establish from time to time the number of shares to be included in such series and may fix the designation, the voting powers, if any, and preferences and relative participating, optional or other rights, if any, of the shares of each such series and any qualifications, limitations or restrictions thereof. See "— Anti-Takeover Effects of Provisions of the Certificate and Bylaws."

When and if the Company issues any shares of preferred stock, the Board will establish the number of shares and designation of such series and the voting powers, if any, and preferences and relative participating, optional or other special rights, and the qualifications, limitations and restrictions thereof, for the particular series of preferred stock.

Anti-Takeover Effects of Provisions of the Certificate and Bylaws

The Certificate and Bylaws contain, and Delaware statutory law contains, provisions that could make acquisition of the Company by means of a tender offer, a proxy contest or otherwise more difficult. These provisions may discourage certain types of coercive takeover practices and takeover bids that the Board may consider inadequate and encourage persons seeking to acquire control of the Company to first negotiate with the Board. The Company believes that the benefits of increased protection of its ability to negotiate with the

proponent of an unfriendly or unsolicited proposal to acquire or restructure the Company outweigh the disadvantages of discouraging takeover or acquisition proposals because, among other things, negotiation of these proposals could result in an improvement of their terms. The description set forth below is only a summary and is qualified in its entirety by reference to the Certificate and the Bylaws.

Classified Board of Directors. The Certificate provides for the Board to be classified, which consists of three classes of directors. Directors of each class are elected for three-year terms, and each year the Company's stockholders elect one class of the Company's directors, with a term expiring at the third annual meeting of stockholders following the annual meeting at which such directors were elected. Under this classified Board structure, it would take at least two elections of directors for any individual or group to gain control of the Board. Accordingly, these provisions could discourage a third party from initiating a proxy contest, making a tender offer or otherwise attempting to gain control of the Company.

Number of Directors; Filling Vacancies; Removal. The Certificate and Bylaws provide that the Company's business and affairs will be managed by or under the direction of the Board. The Certificate and Bylaws provide that the Board will consist of not less than three nor more than nine members, with the exact number of directors within these limits to be fixed exclusively by the Board. In addition, the Certificate provides that any Board vacancy, including a vacancy resulting from an increase in the number of directors, may be filled solely by the affirmative vote of a majority of the remaining directors then in office, even if less than a quorum of the Board, or by the sole remaining director. Delaware statutory law provides that, if a Delaware corporation has a classified board, unless the certificate of incorporation provides otherwise, its directors may only be removed for cause. The Certificate provides that any director, or the entire Board, may be removed from office at any time, only for cause in accordance with Delaware law, by the affirmative vote of the holders of at least 66 ½3% of the total voting power of the outstanding shares of the Company's capital stock entitled to vote in any annual election of directors, voting as a single class. These provisions may prevent stockholders from removing incumbent directors without cause and filling the resulting vacancies with their own nominees.

Special Meetings. The Certificate and Bylaws provide that special meetings of the stockholders may only be called by the Board or certain officers of the Company. These provisions will make it more difficult for stockholders to take an action opposed by the Board.

No Stockholder Action by Written Consent Unless Approved by the Board. The Certificate and Bylaws require that all actions to be taken by stockholders must be taken at a duly called annual or special meeting, and stockholders will not be permitted to act by written consent unless both the action and the taking of the action by written consent are approved in advance by the Board. These provisions may make it more difficult for stockholders to take an action opposed by the Board.

Amendments to the Certificate. The Certificate provides that the affirmative vote of the holders of at least 66 ½3% of the total voting power of the then-outstanding shares of common stock entitled to vote, voting as a single class, is required to amend or repeal, or adopt any provision inconsistent with certain provisions in the Certificate, including those provisions providing for a classified board, provisions regarding the filling of vacancies on the Board, provisions providing for the removal of directors, provisions regarding the calling of special meetings, provisions regarding stockholder action by written consent and provisions regarding amendment of the Certificate. These provisions may make it more difficult for stockholders to make changes to the Certificate.

Amendments to the Bylaws. The Certificate provides that the Board has the power to adopt, amend or repeal the Bylaws. Any such adoption, amendment or repeal of the Bylaws by the Board shall require approval of a majority of the entire Board. The Certificate provides that, notwithstanding any other provision of the Certificate, the affirmative vote of the holders of at least 66 ½3% of the total voting power of the then-outstanding shares of common stock entitled to vote, voting as a single class, is required for the Company's stockholders to amend or repeal, or adopt any provisions in the Bylaws. These provisions may make it more difficult for stockholders to make changes to the Bylaws that are opposed by the Board.

Requirements for Advance Notification of Stockholder Nomination and Proposals. Under the Bylaws, stockholders of record may nominate persons for election to the Board or bring other business constituting a proper matter for stockholder action at annual meetings only by providing proper notice to the Company secretary. Proper notice must be generally received not less than 90 days nor more than 120 days prior to the first anniversary date of the annual meeting for the preceding year (or, in some cases, prior to the tenth day following the announcement of the meeting) and must include, among other information, the name and address of the stockholder giving the notice, certain information relating to each person whom such stockholder proposes to nominate for election as a director and a brief description of any business such stockholder proposes to bring before the meeting. Nothing in the Bylaws may be deemed to affect any rights of stockholders to request inclusion of proposals in the Company's proxy statement pursuant to Rule 14a-8 under the Exchange Act. Contests for the election of directors or the consideration of stockholder proposals will be precluded if the proper procedures are not followed. Third parties may therefore be discouraged from conducting a solicitation of proxies to elect their own slate of directors or to approve their own proposals.

Forum and Venue. The Bylaws provide that, unless the Company consents in writing to the selection of an alternative forum, the sole and exclusive forum for certain legal actions involving the Company will be the Court of Chancery of the State of Delaware (or, if the Court of Chancery of the State of Delaware lacks subject matter jurisdiction, the federal district court for the District of Delaware).

Section 203 of the Delaware General Corporation Law

Section 203 of the DGCL generally provides that, subject to certain specified exceptions, a corporation will not engage in any "business combination" with any "interested stockholder" for a three-year period following the time that such stockholder becomes an interested stockholder unless (1) before that time, the board of directors of the corporation approved either the business combination or the transaction that resulted in the stockholder becoming an interested stockholder, (2) upon consummation of the transaction that resulted in the stockholder becoming an interested stockholder owned at least 85% of the voting stock of the corporation outstanding at the time the transaction commenced (excluding certain shares) or (3) on or after such time, both the board of directors of the corporation and at least 66 ½3% of the outstanding voting stock that is not owned by the interested stockholder approves the business combination. Section 203 of the DGCL generally defines an "interested stockholder" to include (x) any person that owns 15% or more of the outstanding voting stock of the corporation or is an affiliate or associate of the corporation and owned 15% or more of the outstanding voting stock of the corporation that resulted in the stockholder approves the business combination. Section 203 of the DGCL generally defines an "interested stockholder" to include (x) any person that owns 15% or more of the outstanding voting stock of the corporation or is an affiliate or associate of the corporation and owned 15% or more of the outstanding voting stock of the corporation at any time within three years immediately prior to the relevant date and (y) the affiliates and associates of any such person.

Section 203 of the DGCL generally defines a "business combination" to include (1) mergers and sales or other dispositions of 10% or more of the corporation's assets with or to an interested stockholder, (2) certain transactions resulting in the issuance or transfer to the interested stockholder of any stock of the corporation or its subsidiaries, (3) certain transactions that would increase the proportionate share of the stock of the corporation or its subsidiaries owned by the interested stockholder and (4) receipt by the interested stockholder of the benefit (except proportionately as a stockholder) of any loans, advances, guarantees, pledges or other financial benefits.

Under certain circumstances, Section 203 of the DGCL makes it more difficult for a person who would be an "interested stockholder" to effect various business combinations with a corporation for a three-year period. A corporation may elect not to be governed by the restrictions on business combination under Section 203 by adopting provisions of its certificate of incorporation or bylaws in accordance with Section 203.

Neither the Certificate nor the Bylaws exclude the Company from the restrictions imposed under Section 203 of the DGCL. Section 203 may encourage companies interested in acquiring the Company to negotiate in advance with the Board as the restrictions on business combinations will apply unless the Board approves, prior to the time the stockholder becomes an interested stockholder, either the business combination or the transaction that results in the stockholder becoming an interested stockholder.

Transfer Agent and Registrar

The transfer agent and registrar for our common stock is Computershare.

Listing

Our common stock is listed on Nasdaq under the ticker symbol "KLXE."

PLAN OF DISTRIBUTION

We may sell the securities offered by this prospectus in any one or more of the following ways from time to time:

- to or through one or more underwriters, initial purchasers, brokers, or dealers;
- through agents to investors or the public;
- in short or long transactions;
- through put or call option transactions relating to our common stock;
- directly to agents or other purchasers;
- in "at the market offerings" within the meaning of Rule 415(a)(4) of the Securities Act, to or through a market maker or into an existing trading market, on an exchange or otherwise;
- though a combination of any such methods of sale; or
- through any other method described in the applicable prospectus supplement.

The applicable prospectus supplement will set forth the terms of the offering and the method of distribution and will identify any firms acting as underwriters, initial purchasers, dealers, or agents in connection with the offering, including:

- the terms of the offering;
- the names of any underwriters, dealers, or agents;
- the name or names of any managing underwriter or underwriters;
- the purchase price of the securities and the proceeds to us from the sale;
- any options (whether or not for over-allotments) under which the underwriters may purchase additional shares of common stock from us;
- any underwriting discounts, concessions, commissions, or agency fees and other items constituting compensation to underwriters, dealers, or agents;
- any delayed delivery arrangements;
- any public offering price;
- any discounts or concessions allowed or re-allowed or paid by underwriters or dealers to other dealers; or
- any securities exchange or market on which the common stock offered in the prospectus supplement may be listed.

If we use underwriters for a sale of securities, the underwriters will acquire the securities for their own account for resale to the public, either on a firm commitment basis or a best efforts basis. The underwriters may resell the securities in one or more transactions, including negotiated transactions, at a fixed public offering price or at varying prices determined at the time of sale. Underwriters may offer the securities to the public either through underwriting syndicates represented by one or more managing underwriters or directly by one or more firms acting as underwriters. If an underwriter or underwriters are used in the sale of securities hereunder, an underwriting agreement will be executed with the underwriter or underwriters at the time an agreement for sale is reached. Unless we inform you otherwise in the applicable prospectus supplement, the obligations of the underwriters to purchase the securities will be subject to certain conditions. We may change from time to time any public offering price and any discounts or concessions the underwriters allow or pay to dealers.

During and after an offering through underwriters, the underwriters may purchase and sell the securities in the open market. These transactions may include overallotment and stabilizing transactions and purchases to

cover syndicate short positions created in connection with the offering. The underwriters may also impose a penalty bid, which means that selling concessions allowed to syndicate members or other broker-dealers for the offered securities sold for their account may be reclaimed by the syndicate if the offered securities are repurchased by the syndicate in stabilizing or covering transactions. These activities may stabilize, maintain, or otherwise affect the market price of the offered securities, which may be higher than the price that might otherwise prevail in the open market. If commenced, the underwriters may discontinue these activities at any time.

Some or all of the securities that we offer though this prospectus may be new issues of securities with no established trading market. Any underwriters to whom we sell our securities for public offering and sale may make a market in those securities, but they will not be obligated to do so and they may discontinue any market making at any time without notice. Accordingly, we cannot assure you of the liquidity of, or continued trading markets for, any securities that we offer.

If dealers are used for the sale of securities, we, or an underwriter, will sell the securities to them as principals. The dealers may then resell those securities to the public at varying prices determined by the dealers at the time of resale. We will include in the applicable prospectus supplement the names of the dealers and the terms of the transaction.

We may also sell the securities through agents designated from time to time. In the applicable prospectus supplement, we will name any agent involved in the offer or sale of the offered securities, and we will describe any commissions payable to the agent. Unless we inform you otherwise in the applicable prospectus supplement, any agent will agree to use its reasonable best efforts to solicit purchases for the period of its appointment.

We may sell the securities directly in transactions not involving underwriters, dealers, or agents.

We may sell the securities directly to institutional investors or others who may be deemed to be underwriters within the meaning of the Securities Act with respect to any sale of those securities. We will describe the terms of any such sales in the prospectus supplement.

Underwriters, dealers, and agents that participate in the distribution of the securities may be underwriters as defined in the applicable securities laws and any discounts or commissions they receive from us and any profit on their resale of the securities may be treated as underwriting discounts and commissions under the applicable securities laws. We will identify in the applicable prospectus supplement any underwriters, dealers, or agents and will describe their compensation. We may have agreements with the underwriters, dealers, and agents to indemnify them against specified civil liabilities, including liabilities under the applicable securities laws.

Underwriters, dealers, and agents may engage in transactions with or perform services for us in the ordinary course of their businesses for which they may receive customary fees and reimbursement of expenses.

We may use underwriters with whom we have a material relationship. We will describe the nature of such relationship in the applicable prospectus supplement.

Under the securities laws of some states, the securities offered by this prospectus may be sold in those states only through registered or licensed brokers or dealers.

We may enter into hedging transactions with broker-dealers and the broker-dealers may engage in short sales of the securities in the course of hedging the positions they assume with us, including, without limitation, in connection with distributions of the securities by those broker-dealers. We may enter into option or other transactions with broker-dealers that involve the delivery of the securities offered hereby to the broker-dealers, who may then resell or otherwise transfer those securities. We may also loan or pledge the securities offered hereby to a broker-dealer and the broker-dealer may sell the securities offered hereby so loaned or upon a default may sell or otherwise transfer the pledged securities offered hereby.

LEGAL MATTERS

The validity of the issuance of the securities offered in this prospectus will be passed upon for us by Vinson & Elkins L.L.P., Houston, Texas. If certain legal matters in connection with an offering of the securities made by this prospectus and a related prospectus supplement are passed upon by counsel for the underwriters of such offering, that counsel will be named in the applicable prospectus supplement related to that offering.

EXPERTS

The financial statements incorporated in this Prospectus by reference from the Company's Annual Report on Form 10-K for the year ended January 31, 2021, have been audited by Deloitte & Touche LLP, an independent registered public accounting firm, as stated in their report, which is incorporated herein by reference. Such financial statements have been so incorporated in reliance upon the report of such firm given upon their authority as experts in accounting and auditing.

The audited historical financial statements of Quintana Energy Services, Inc. included in Annex P of KLX Energy Services Holdings, Inc.'s Registration Statement on Form S-4 dated June 25, 2020 have been so incorporated in reliance on the report of PricewaterhouseCoopers LLP, an independent registered public accounting firm, given on the authority of said firm as experts in auditing and accounting.



KLX Energy Services Holdings, Inc.

\$50,000,000

Common Stock
Prospectus Supplement
Simmons Energy
A Division of Piper Sandler

June 14, 2021