

PROSPECTUS SUPPLEMENT
(To Prospectus Dated October 17, 2016)



\$3,180,757

Common Stock

We previously entered into a certain common stock sales agreement, or the sales agreement, with RBC Capital Markets, LLC, or RBCCM, acting as sales agent, having an aggregate offering price of up to \$50,000,000. As of February 28, 2019, we have not sold any of our common stock under the sales agreement pursuant to our prospectus supplement dated September 4, 2018, and accompanying prospectus included therein, or, collectively, the Prospectus, which leaves \$50,000,000 of common stock available under the sales agreement. This prospectus supplement should be read in conjunction with the Prospectus, and is qualified by reference thereto, except to the extent that the information herein amends or supersedes the information contained in the Prospectus. This prospectus supplement is not complete without, and may only be delivered or utilized in connection with, the Prospectus, and any future amendments or supplements thereto.

We are now subject to General Instruction I.B.6 of Form S-3, which limits the amounts that we may sell under the registration statement of which this prospectus supplement and the Prospectus form a part. The aggregate market value of our common stock held by non-affiliates pursuant to General Instruction I.B.6 of Form S-3 is approximately \$55,353,623, which was calculated based on 19,769,151 shares of our outstanding common stock held by non-affiliates on February 28, 2019 at a price of \$2.80 per share, the closing price of our common stock on February 4, 2019. During the 12 calendar months prior to, and including, the date of this prospectus supplement, we have not sold any securities pursuant to General Instruction I.B.6 of Form S-3, but have registered for sale under General Instruction I.B.6 of Form S-3 up to \$15,270,450 shares of common stock. As a result of the limitations of General Instruction I.B.6, and in accordance with the terms of the sales agreement, we are registering the offer and sale of shares of our common stock having an aggregate offering price of up to \$3,180,757 million from time to time through RBCCM.

Our common stock is traded on the Nasdaq Global Market, or the Exchange, under the symbol "KMPH." On February 28, 2018, the last reported sale price of our common stock was \$2.25 per share.

Investing in our securities involves a high degree of risk. You should review carefully the risks and uncertainties described under the heading "Risk Factors" on page S-5 of the Prospectus and under similar headings in the other documents that are incorporated by reference into this prospectus supplement and the Prospectus.

NEITHER THE SECURITIES AND EXCHANGE COMMISSION NOR ANY STATE SECURITIES COMMISSION HAS APPROVED OR DISAPPROVED OF THESE SECURITIES OR DETERMINED IF THIS PROSPECTUS SUPPLEMENT AND ACCOMPANYING PROSPECTUS IS TRUTHFUL OR COMPLETE. ANY REPRESENTATION TO THE CONTRARY IS A CRIMINAL OFFENSE.

RBC Capital Markets

The date of this prospectus supplement is March 1, 2019.