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# Reinvigorating an industry: Company pushes to restart potash production in Michigan

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Michigan Potash Co.'s proposed \$700 million facility, pictured, would drill wells deep underground and use a water solution to bring the potash to the surface for processing. Potash, shown at right, is used across the globe as a key nutrient for crops.

Courtesy Rendering

In 2013, the discovery of a large deposit of high-quality potash in Michigan touched off a wave of public attention.

The find stretched deep underground across the middle of the state, from Osceola County to Midland. At the time, media reports posited that the mineral, which is used worldwide as a crop fertilizer, could create a \$65 billion industry for the state and increase economic development throughout rural Michigan.

Four years later, Denver-based **Michigan Potash Co. LLC**, is proposing a \$700 million potash extraction and processing operation to tap into that resource.

The company currently leases mineral rights from 450 families across 23 square miles near Hersey, 15 miles north of Big Rapids in Osceola County, said President Ted Pagano.

Stakeholders in the project, which Pagano launched in 2011, believe establishing potash production in Michigan will have myriad benefits, including giving farmers access to new sources of the mineral and reducing their reliance on imported material. Currently, the majority of potash is controlled by a few large international conglomerates.

"Our company is actually endeavoring to try to reintroduce the potash industry into Western Michigan and ultimately providing our farmers with a second and local choice, which they currently don't have," Pagano said. "Michigan is uniquely positioned because its location provides a sustainable advantage that cannot be displaced."

A series of companies including **The Mosaic Co.**, a Minnesota-based Fortune 500 producer of crop nutrients, maintained a potash and salt production facility in Hersey for years. The company sold its operation to global conglomerate **Cargill Inc.** in 2014, which shuttered the facility's potash production in favor of mining salt.

However, others worry that such a project will not be feasible given the cost to extract the resource, coupled with suppressed commodity prices.

Despite the plummeting prices, Michigan Potash has stuck with the proposed project. The company is currently working to secure roughly \$350 million in investment to fund the project, and is waiting on drilling and extraction permits from the U.S. Environmental Protection Agency and the Michigan Department of Environmental Quality.

The remainder of the funds for the project will be leveraged through debt, Pagano said.

He declined to share a timeline for the project, but noted the facility would take 30 months to construct. A report from

the U.S. Geological Survey from early 2017 stated Michigan Potash hoped to break ground on its facility this year.

"We're working to move as quick as possible to begin construction as soon as possible," Pagano said. "That being said, I'm always hesitant to deliver dates on a large project like this because there are so many moving parts that have to come together, both on our side and the side of others."

#### **EXTRACTING BENEFITS**

Pagano maintains that restarting potash production in Michigan will allow farmers to have access to another producer in what currently is a very limited market.

The potash industry has been consolidating in recent years. In September 2016, **Potash Corp of Saskatchewan Inc.** and **Agrium Inc.** merged to create the world's largest fertilizer producer. Both companies are based in Canada and together represent a market value of roughly \$27 billion, according to reports.

Pagano maintains that bringing Michigan's vast reserve of potash into the market will help cushion Midwestern farmers against further industry consolidation and fluctuations in pricing.

"It provides a breath of fresh air for some of the farmers," Pagano said. "They were once familiar with the product coming for Hersey, and it's a little exciting that we may be able to get it back to them, following a furlough in production."

It would also provide farmers in the Midwest with production much closer to their facilities compared to the potash coming from Canada, which would cut down on transportation costs, Pagano said.

Another advantage: The potash deposit in Michigan is also higher quality than is typically available for mining, said John Yellich, director of the **Michigan Geological Survey** at **Western Michigan University**. The potash contained in the Michigan deposit has been determined to be some of the highest quality samples on the planet, according to a report by the U.S. Geological Survey (USGS).

Most potash is mined through conventional surface mines, which allows other material and impurities to be collected with the mineral. However, the potash deposits in West Michigan are located roughly 7,600 feet below ground, making surface mining not economically viable.

Instead, Michigan Potash plans to use a process that pumps heated water into wells drilled into the potash deposit that will dissolve the material. The resulting brine will then be pumped back to the surface where the potash will be separated and the water used to start the process again.

Unlike conventional mining, using liquid extraction can result in potash that is 99-percent pure, meaning farmers need to use less of it to deliver nutrients to plants, Yellich said.

### **AN UPHILL BATTLE?**

While Pagano remains optimistic about the potential for potash production in West Michigan, others in the agriculture industry aren't as convinced.

Some question the ability of Michigan Potash to compete with large international conglomerates on price, given the investment needed to complete the facility and the suppressed price of the commodity on the global market.

Soon after the deposit made headlines in 2013, the price of potash plummeted as commodity producers flooded global markets, according to reports. Price disputes between major potash exporters in Russia and Belarus — which control the majority of the world's potash supply, along with Canada — resulted in the market being flooded with cheap product.

In 2012, a metric ton of potash sold for approximately \$475. As of March 2017, a metric ton of potash sold for approximately \$214, according to InvestmentMine, which tracks commodity prices.

At the same time, crop prices — which fertilizer prices normally track — also fell following a wave of oversupply in the market. As prices decreased, farmers demanded less potash, said Jim Byrum, president of the **Michigan Agri-Business Association**.

"In terms of the opportunity, while there is strong potash demand, the real issue is going to be the cost of the facility and the cost of extraction, how much the per-ton price of that potash is that they produce as compared to the potash that's produced in Western Canada or imported product," Byrum said.

Toronto-based **Great Lakes Potash Inc.** was also planning to establish a potash operation near Midland when the deposit made headlines in 2013. However, the company closed the following year.

Kate Theil, a field crop specialist with the **Michigan Farm Bureau**, also suspects the cost of production will make Michigan Potash Co.'s product unattainable for farmers, many of whom are already constrained by slim margins.

"While this potash company is great and having a local source is a fabulous opportunity, from a timing and business climate standpoint (and) because of that increased cost associated with production, I'm not sure you're going to see a huge boom in utilization in potash from Michigan specifically here in the near future," Theil said.

Theil did note that if Michigan Potash could price its product competitively, they may be successful.

For his part, Pagano is adamant the cost of production from his proposed facility will be on par with those from imported products, even with the suppressed commodity market.

"There's no folks underground, there's no massive shaft sinking, and so the net operating costs associated thereafter are some of the lowest in the world," Pagano said of the cost savings of his extraction process compared to conventional mining. "That's why Michigan always works. You're saving operating costs at the mine gate. Second, the mine gate is your market."

He declined to share specifics on how much building the extraction process would cost, but a report from the USGS noted a single well could cost upwards of \$4 million. The company is currently permitted to drill 11 wells, Pagano said.

#### A LONG-TERM PLAY

Despite the challenges associated with potash production, Pagano said establishing production of potash in Michigan remains feasible.

In the four years since news of the project broke, Michigan Potash has busied itself with drumming up investment, leasing land and designing its facility, which is detailed "down to the last pipe, valve and fitting," Pagano said.

Yellich of WMU also sees the project as a long-term investment in developing rural Michigan. He believes that the Michigan Potash project would lead to investment in infrastructure ranging from roads to high-speed internet, while providing jobs to the community.

"The development of mineral resources is a long-term benefit to the state," Yellich said. "Any time you put an industry in the state, you have to put all the infrastructure in place. You now have systems and infrastructure that people can use, and people don't leave."

In addition to developing the community, Pagano also sees the project as a natural extension of the potash production at the site prior to 2014.

"A project like this is naturally going to take a long time to do it correctly," he said. "The legitimacy of what's already been here makes it truly unique and important."

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