



People



Strengthening



Providing



Securing

 **MICHIGAN POTASH COMPANY, LLC**

**COMMITTEE ON NATURAL RESOURCES**  
**113<sup>th</sup> Congress Disclosure Form**  
**As required by and provided for in House Rule XI, clause 2(g) and**  
**the Rules of the Committee on Natural Resources**

**Legislative hearing on:**

- **H.R. 5066 (Benishek), “Data Preservation Act of 2014.”**

**September 17, 2014**

Theodore A. Pagano, P.G., P.E.  
General Manager  
Michigan Potash Company, LLC

Michigan Potash Company, LLC (“MPC”) has been invited to give testimony on H.R. 5066, the “Data Preservation Act of 2014”, as a result of its immediate experience with preserved geological data and the Michigan Geological Repository for Research and Education (“MGRRE”).

MGRRE was a beneficiary of the National Geological and Geophysical Data Preservation Program Act of 2005, and requires these funds to operate.

MGRRE was founded by William B. Harrison III, in 1982 to preserve and research geological samples and data, for the specific purpose of identifying value, both commercial and educational in Michigan’s natural resources. The Repository now archives the largest collection of subsurface geological samples and data in the state. The collection includes Michigan geological publications, geologic and subsurface maps, driller's reports, well scout data, oil and gas well production data, well test data, various types of wireline logs, drill cuttings samples, drill core samples and other miscellaneous well and geological information.

IN 2011, MPC became a direct beneficiary of MGRRE’s preservation of geological data that resulted in a critical and substantive geological re-discovery that has the ability to strengthen United States’ agriculture, farmers, food security, and balance of trade.

**About Potash:**

Potassium is one of the three primary nutrients essential to support carbohydrate production and plant life. Potassium is supplied in natural fertilizers to improve productivity, efficiency, and yields of agribusiness. The major source of potassium is potash (potassium chloride), extracted from sylvinites, a naturally occurring mineral containing both potassium chloride (potash) and sodium chloride (table salt). Since 1965, world consumption of potash grew from 12 million tons, to an approximate 58 million tons today. In 50 years, potash consumption has almost quadrupled. In the last two decades, potash consumption has doubled.

The American farmer, the most efficient in the world, consumes about six million tons of potash annually and globally, pays more than any other farmer. Over 83% of U.S. potash consumption is imported. Domestic potash supply comes principally from the Designated Potash Area in New Mexico; established in 1939 as a strategic resource, it has been and remains protected by the Secretary of the Interior. Over the past 80 years, the Designated Potash Area has become critically depleted.

In December of 2014, one of the two potash producers based in the United States will cease potash production from the Designated Potash Area, citing depletion and low ore grade.

Potash is the world's tightest controlled commodity. It is utilized throughout the globe, but commercial production occurs in only 13 countries and from 13 companies.

#### About the Core Recovery:

A small manufacturing plant in the western rural setting of Hersey Michigan, for extracting and refining potash was opened in the late 1980s by Pittsburg Plate and Glass. Harrison, the founder of MGRRE, said the company extracted subterranean rock cores all over Michigan back in the 1980s and he was aware of their test drilling at the time, but the company never revealed its findings to the public.

IMC Global purchased Pittsburg Plate and Glass' potash producing segment, resulting in the largest potash producer in the world, and at the time most critical to the Hersey's capital growth period, they did not invest the capital Hersey needed to expand, thus it remained "under the radar."

The Hersey plant contacted MGRRE in 2008 stating it no longer wanted to store the Michigan geological core samples it had amassed, and offered to donate them to Western Michigan University.

Harrison accepted on behalf of Western Michigan University, and drove up to Hersey in his pickup truck — only to discover there were 4,000 80-pound core samples — approximating 12,000 feet of drilling. The drilling and replacement cost of this core, would be over \$ 200 Million dollars today. A moving van had to be hired to bring the boxed cores to the Michigan Geological Repository for Research and Education, where they were cataloged and stored.

#### About the Re-Discovery:

A few years later, following inquiries from MPC, MGRRE and MPC worked collectively to have all of the cores tested by an independent lab in Saskatchewan, provided the province's foremost expertise in potash analysis. The drilling cores from Michigan "turned out to be the highest grade of potash anywhere in the world. It was just remarkable," said Harrison. It is the purest and highest-grade potash being produced globally — 600 percent higher than that being produced in New Mexico's vast Permian Basin and twice the grade of deposits found in Canada and Russia. "What blew our minds was that there were layers in there that were essentially 100 percent of this potassium chloride," said Harrison.

The Hersey Potash discovery in 1980, makes it the world's youngest commercial discovery, and a very tightly kept secret.

As it turns out, and later discovered by MPC, Pittsburg Plate and Glass had intended to double U.S. potash output from Hersey, Michigan, effectively migrating the U.S.' domestic reliance from New Mexico to Michigan. They coined it the 'U.S. Potash Project.'

There is enough proven, commercial, potash sitting under Hersey Michigan to double U.S. output for over 150 years, and that's without drilling any new test wells. MPC has worked quietly over the past three years to confirm the reserve could be technically, economically and logistically put into production as it was originally intended by Pittsburg Plate and Glass.

"One of the things that makes this so valuable is that it is an incredibly rich deposit that is in easy reach of the enormous demand from Midwest corn and soybean farmers who operate within a 500-mile radius of this

deposit,” Harrison says. “This is an opportunity for new wealth to come from the use of natural resources never tapped before.”

Some financial endeavors transfer wealth from one hand to another by the trading of goods and services. The discovery of a new natural resource, however, and its production, creates brand new Gross Domestic Product, or GDP. At current prices, a simple in the ground value exceeds 65 Billion dollars.

Linda Harrison, William’s spouse and an administrator with MGRRE, said the Michigan potash was obviously known about, as it was “booked as proven and probable” in SEC documents filed by IMC Global when the company stock traded on the New York stock exchange. However, the promising discovery in Michigan was apparently forgotten within IMC Global during its financial trials.

MPC and MGRRE were the first ones to cut open these vacuum-sealed cores from the time they were originally packed.

MGRRE are not hired consultants nor investors, and have no financial involvement with Michigan Potash.

#### References:

Daly, Pete (2013, September 13<sup>th</sup>). Potash a Gold Mine for Michigan. *The Grand Rapids Business Journal*.

Zipp, Yvonne (2013, September 10<sup>th</sup>). Rediscovery of rare mineral deposit by WMU geologists and private company could boost Michigan economy. *The Kalamazoo Gazette, Mlive..*

#### Related Materials:

Slides 1-6 Attached



# Before the 113<sup>th</sup> Congress of the United States of America

Subcommittee on Energy and Mineral Resources

H.R. 5066 (Congressman Benishek)

The Data Preservation Act of 2014

September 17<sup>th</sup> 2014

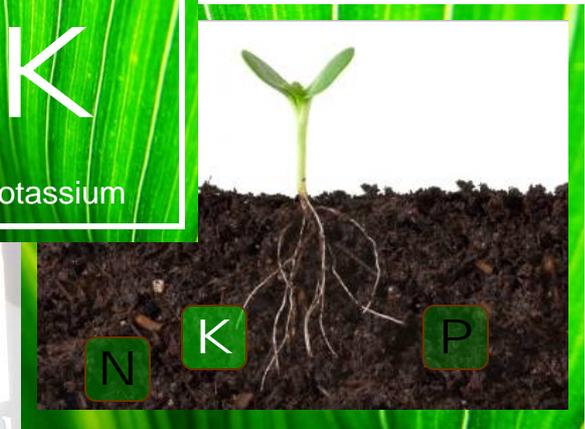
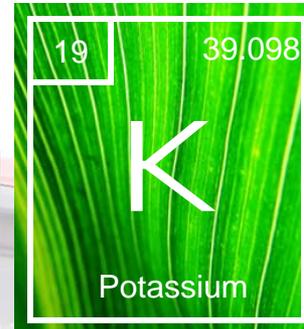
A photograph of three children jumping on large hay bales in a field. A tall metal windmill is visible in the background under a cloudy sky.

 **MICHIGAN POTASH COMPANY, LLC**  
**People. Providing. Strengthening. Securing.**

# Potash is a natural potassium fertilizer, and the tightest controlled commodity in the world.



- ✚ Potash is an essential plant nutrient and nutritional requirement for animals and humans. It has no known substitutes.
- ✚ Although potash is used worldwide, only 13 countries and only 13 companies produce it.
- ✚ Amongst comparative world commodities, potash is the most tightly controlled.
- ✚ Our farmer's rely on potash to grow our food and they pay more for potash than anybody else in the world.



Potassium, Nitrogen, and Phosphorus, the three major elements required for plant growth.



Soybeans with and without the application of Potash.

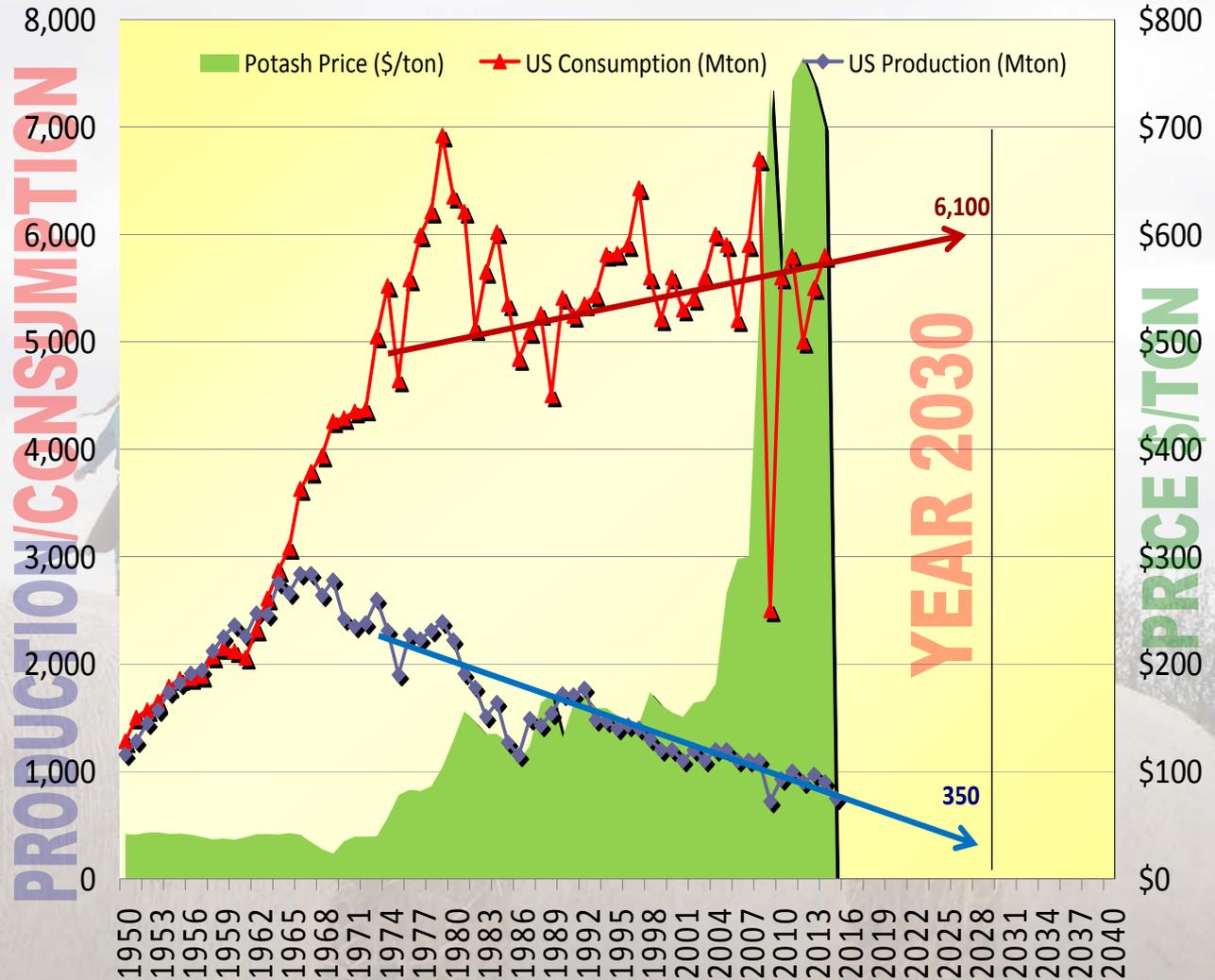
Source: Potash and Phosphate Institute, USGS



# U.S. Potash import reliance increases year over year.



-  U.S. potash production has declined by 65% since 1962.
-  U.S. potash demand has increased by 195% since 1962.
-  U.S. potash price has increased 1000% since 1962.
-  U.S. potash import reliance is 85% annually, and may be as high as 95% by 2030.



\*Source: USGS, in Metric Tons K2O Equivalent



# Potash is critical to agricultural balance of trade

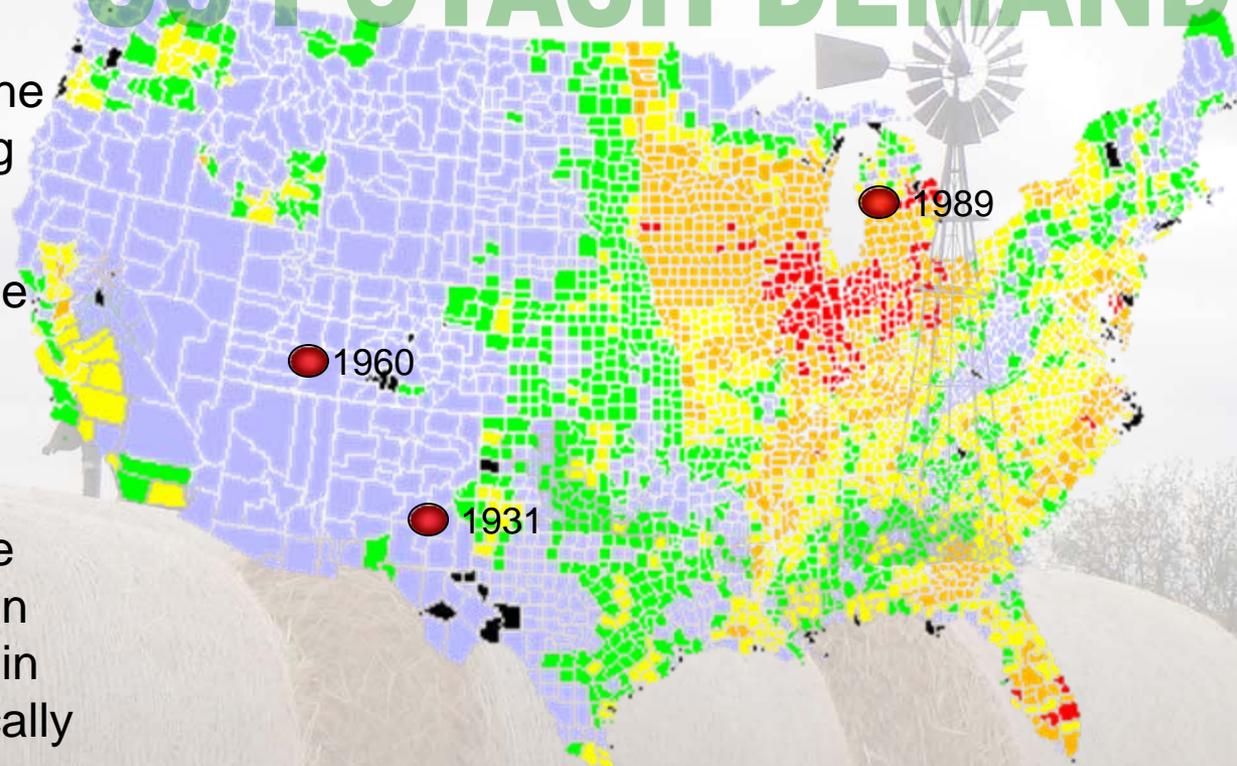


✚ The U.S. produces 40% of the world's maize and 36% of the world's soybeans. These crops are among the highest potash consuming cash crops.

✚ The U.S.' agricultural trade balance relies heavily on potash-dependent crops.

✚ Domestic potash supply principally comes from the Designated Potash Area in New Mexico; established in 1939, it has become critically depleted.

## US POTASH DEMAND



● US Potash Production Location and date of commercial production

\*Source: USGS, in Metric Tons K<sub>2</sub>O Equivalent<sup>8</sup>





# In 2008 MGRRE rescued over \$200 Million dollars in core

H.R. 5066 (Representative Benishek)

**Potash:  
Michigan's next  
billion-dollar  
industry?**

**Dr. William B. Harrison III, Professor Emeritus  
Founder and Director  
Michigan Geological Repository for Research and Education  
Western Michigan University Magazine, Summer 2014**

**A WMU research facility has assisted in the rediscovery of a rich and rare deposit of potash. As a result of this rediscovery comes the introduction of a new industry in Michigan worth as much as \$65 billion, geologists say.**

With the rediscovery of a long-forgotten mineral deposit located under two West Michigan counties, Michigan is positioned to spark a new multibillion industry as the nation's leading source for a critical agricultural tool in demand internationally.

Potash—potassium chloride—is an essential plant and critical ingredient in fertilizer. Currently mined from three locations in the nation, supplies are dwindling and prices skyrocketing.

Now, one of the highest-quality potash ore deposits in the world has been identified below the surface of West Michigan.

#### **A valuable resource**

The discovery was made by using the treasure trove of geologic data that is housed at Western Michigan University's Michigan Geological Repository for Research and Education.

The result of the rediscovery, say geologists, will be the introduction of a new industry in Michigan worth as much as \$65 billion, easily surpassing the state's historical oil and gas production revenues and triggering explosive job growth in Oscoda and Mecosta counties.

"This is conceivably one of Michigan's most valuable resources," says Theodore A. P.

September 17th 2014

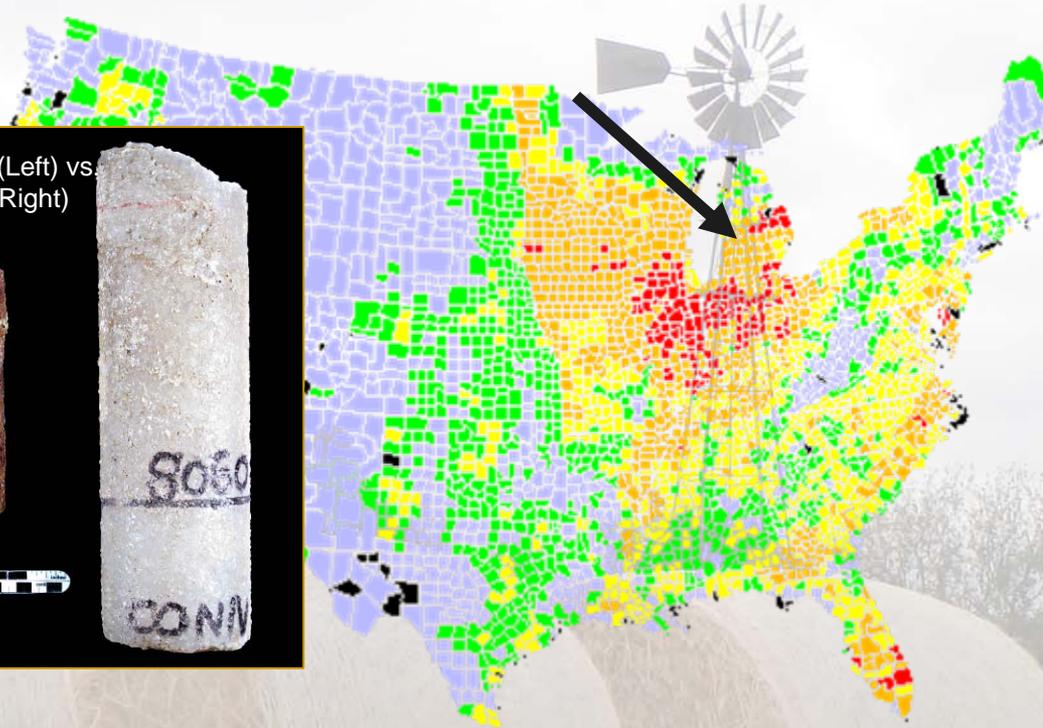
# The world's highest grade potash ore is in the U.S. Corn Belt



For thirty years, the quality and quantity of the world's youngest commercial potash discovery was kept a secret.



Canadian Ore (Left) vs Michigan Ore (Right)



A beneficiary of the 'Data Preservation Act of 2005', enabled the re-discovery of a critical mineral reserve.

Enough to Double U.S. output for 150 years.

