

Potash-Mine Now

Potash Mine in Hersey

Nestlé is not the only “large water taker” near Ewart, Michigan. Six miles southwest of Nestlé’s opération, Michigan Potash Company (MPC) is seeking permits to drill 11 injection-wells for a proposed large-scale potash solution-mining venture. The company would pump huge quantities of fresh water into deep salt formations to dissolve the salts and bring them to the surface where the water can be boiled away to produce both salt (NaCl) and Potash (KCl).

With an initial freshwater withdrawal rate of over 1200 gallons per minute, 24 hours per day (and rising to unknown levels over time), their usage would dwarf the nearby Nestle operation (which is already drawing down aquifers and drying up streams). This astronomical pumping rate can, potentially:

- Draw down the water table and dry up local wells
- Cause salt-water to intrude into the aquifer from below
- Dry up local streams, lakes, and wetlands
- Reduce flows to the Muskegon River

CONTAMINATION FROM ABOVE

This huge water-taking is not the greatest threat posed by MPC: All of the fresh water taken will be contaminated with mined salts, and the resulting hot, toxic brines will be pumped, under high pressure, to a refinery and into disposal-wells. These concentrated toxic brines, lethal to all forms of life in the area, will be transported and handled in close proximity to some of Michigan’s most beautiful and vulnerable terrain. The area chosen

is underlain by a network of shallow, unprotected aquifers and interlaced with steep drainage areas, springs, streams, and wetlands, all feeding into the Muskegon River four miles away.

Waste toxic brines are to be pumped under high pressure into a deep, permeable rock formation through 3 high-capacity waste-injection wells. As with all high-pressure injection-wells, if cracks exist in the "confining layer" of rock above the injection zone, there is a risk of pressurized wastes being forced upward into shallower freshwater aquifers. This risk is greatest in areas, like southern Osceola County, which have a long history of oil & gas exploration. Old wells and bore-holes can serve as conduits to carry wastes upward.

Both the EPA and the DEQ conclude (without adequate evidence) that, in this location, the "confining layer" of rock is free of cracks and flaws. This assumption could be verified by assessing the drilling logs of 36 nearby deep well. To date, however, neither the EPA, DEQ nor the applicant, MPC has reviewed those logs. Months ago, MCWC requested copies of these logs from the EPA to make an independent assessment. We have received no reply to date.

EPA Permitting Update:

Last fall, many of you wrote to the EPA demanding that a hearing be held on pending injection well permits for MPC. Due to your efforts, a hearing was held in Reed City on January 4th of this year. Unfortunately, little new information was forthcoming. No decision has yet come from the EPA regarding those permits. To date, no one has received replies to their questions and comments.

Now, it is being reported that the Trump administration plans to close the EPA's Region V office in Chicago, where the decision on MPC's permit applications would have been made. Given the turmoil within the EPA, it is difficult to determine when the permits will be issued.

Whenever a decision is issued, we don't expect it will be friendly to Michigan citizens nor to the environment.

DEQ Permitting Update

Injection well permit applications are also being reviewed at the state level, by Michigan's Dept. of Environmental Quality (DEQ). Very little is known about these permits, however, because, under Michigan's antiquated "Mineral Wells Act" [MCL 324.62501, et seq.], the DEQ is required to maintain confidentiality regarding all aspects of production ("mineral") wells associated with this proposed project

The Mineral Wells Act, originally adopted in 1995 and "hand crafted" by industry, denies the public its right to know and stands contrary to fundamental principles of transparency and open government. Designed to protect proprietary "trade secrets," it provides a shield of absolute secrecy even where, as here, all relevant information regarding the location and nature of mineral deposits has long been a matter of public record. The only purpose for its application in this case, is to keep crucial information on environmental effects of the proposed activity out of the public's eye.

There is a way that the DEQ could shine some daylight on this process: We know, from dealing with the EPA, that the planned injection wells consist of two separate types:

- **Class-1 wells** are used to inject hazardous and non-hazardous wastes into deep, isolated rock formations. Michigan Potash wants to drill 3 of these wells.
- **Class-3 wells** are used to inject fluids to dissolve and extract minerals. These are the "production-wells". Michigan Potash wants to drill 8 of these wells.

The 3 waste-wells (Class-1) are not protected by the confidentiality provisions of the Mineral Wells Act! We're assuming that Michigan Potash Co. has yet to apply for these wells, since the DEQ has published no notice. Unfortunately, the DEQ has a sad history of doing things "under the radar" to limit public involvement.

By way of example, in March of 2016, the DEQ issued air-pollution permits to MPC. Local citizens did not learn about any of this until 3 months later.

Theodore Pagano, president of MPC, has maintained a practice of keeping local residents in the dark. The DEQ must not be complicit by reviewing his application(s) in secret. When MPC eventually, as it must, (Class I) permits, the DEQ must review those applications thoroughly and independently of any conclusions it may reach incident to its secret review of Class III mineral well applications. Public input must **not** be ignored.

The danger of this "piecemeal" permitting strategy is that a large, ill-conceived, and poorly-sited solution-mining venture could go forward with no public environmental review process ever taking place!

***DEQ: Champions For Development:
("Permit It Now, Fix It Later")***

The DEQ Senior Geologist overseeing the potash project has told MCWC that his agency assumes companies have "done all of their homework" before seeking permits. He expects the agency to routinely grant these permits. He went on to state that if problems occur sometime in the future, they will be "fixed" at that time.

This casual approach seems imprudent, at best, especially in light of the DEQ's spectacular failures related to Flint's municipal water supply. Even if it were possible to adequately restore aquifers and wetlands contaminated by years of brine spills, the costs of remediation would be astronomical.

Currently, the law requires only that a bond of \$20,000 per well be posted, to assure that abandoned wells are properly capped and sealed. **Nothing** is required of an applicant to provide for remediation in the event of large scale contamination from its operations. Further, there is no certainty that any responsible party will be found, were that to occur.

Is MPC Shielded from Future Liability?

Michigan Potash Co. LLC is organized as a group of "Limited Liability Corporations". Such business organizations are expressly designed to shield owner/investors from liability. Will MPC's structure shield its owners from liability for future environmental damage?

PUZZLING ECONOMICS

The rationale for the Michigan Potash Venture remains a mystery. MPC's project is being proposed at a time when the supply of potash worldwide greatly exceeds demand. Potash prices are at 30 year lows, and large, established producers are building additional production capacity.

PPG Industries, Mosaic Co., and Cargill, Inc. all chose to abandon mining potash just two miles away from the Michigan Potash Company site, even though a fully-functioning operation was already in place at an environmentally a safer site. **How can Michigan Potash Company expect to be profitable, in a glutted market where other, well established companies have given up?** They would be starting from scratch with the same handicaps as their predecessors and with the added burden of a highly vulnerable site.

A Little Background . . .

The MPC venture appears to be focused on attracting investment capital rather than on pursuing a viable mining venture. Very little money has been spent on developing the project other than on paper. It appears that the company has only one part-time employee in Michigan, a retiree who spends his winters in Arizona. Aside from that, the entire operation appears to rest on the shoulders of its president, Theodore Pagano, of Denver, Colorado. As we understand it, Mr. Pagano has had some experience in setting up paper-ventures for sale. A previous potash-mining venture (Dakota Salts) fizzled shortly after Mr. Pagano sold out to a large British mining corporation.

Most of Michigan Potash Company's efforts to date have gone into producing impressive promotional materials extolling the fantastic prospects for this venture.

Mr. Pagano's assessment of boundless potash wealth in Osceola County is at odds with previous attempts at potash-mining nearby. In the early 1980's, PPG Industries developed a potash solution-mine approximately 2 miles from the Michigan Potash site. Over the course of the past 35 years, several different companies have owned that operation, and each, in turn, has sold out. That facility is now owned by Cargill Corp. which mines only salt, leaving the potash in the ground.

One major reason why potash-mining has not worked out in this area is the lack of rail access. All product must be shipped by truck. Using Pagano's numbers, that would require over 160 trucks per day (one every 9 minutes) roaring through this quiet, rural area. Huge infrastructure investments (roads, bridges) will be required, at taxpayer expense, to support the operation at it's proposed, environmentally sensitive site.

Hidden Agenda?

Over time, Michigan is becoming one of the nation's favorite dumping-ground for wastes of all types, especially liquid oil and gas industry wastes, including fracking fluids. Under the Snyder administration, this trend has been greatly accelerated. Waste-injection is very profitable, and Michigan Potash Company's three high-capacity waste-injection wells would be suitable for that purpose. According to EPA officials, these wells could be re-permitted for that type of use.

MCWC's position:

We have many questions about this proposed Potash Mining venture. The DEQ should not complete its evaluation of, grant permits for the 8 "production (Class III mineral) wells" until they've received applications for the 3 "Class I waste-wells". In this way, much-needed information about

the project should become available to the public, and a comment period and hearings could then be held.

Further, piecemeal review and approval of individual aspects of the project, cannot adequately protect the sensitive, complex environment for which this project is proposed. A comprehensive Environmental Impact Statement (EIS) must be prepared, reviewing the overall, cumulative and synergistic effects of the project's construction and operations upon the entire Bullkill Creek watershed.

Osceola Water Protectors Committee

and

Michigan Citizens for Water Conservation