

## **Michigan Department of Environmental Quality – Oil, Gas, and Minerals Division**

Response to Public Comments – Part 637 Sand Dune Mining Permit Renewal application by Sargent Sand, Ludington Site, Permit SAS-LS-108, Hamlin Township, Mason County, Michigan.

### **Introduction and Background**

Sargent Sand Company (Sargent) submitted a sand dune mining permit renewal application pursuant to Part 637, Sand Dune Mining, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Part 637).

Part 637 Sand Dune Mining permits are valid for 5 years and must be renewed if mining is to continue. Mining at Sargent's Ludington site has been occurring since the early 1900's and the Sargent family has been mining there since 1937. Following enactment of the Sand Dune Mining statute in the mid 1970's, Sargent Sand was formally permitted in 1981. The last renewal in 2012 was due for renewal on December 31, 2016. The permit renewal application was submitted in a timely manner, dated September 30, 2016, and received October 6, 2016.

As part of the review of the permit renewal application, Department of Environmental Quality (DEQ) requested public comment by placing notice in the October 17, 2016, and October 31, 2016, DEQ-Environmental Calendar as well as on the DEQ, Oil, Gas, and Minerals Division (OGMD) webpage. The OGMD is not required to receive public comment but it is done as a matter of practice and in the interest in transparency to allow for public input. During the public comment period, the OGMD received 75 comments on the Sargent renewal. It is unusual for the OGMD to receive many comments on renewals, however over the past two years there has been concern among some about Sargent's operation, the removal of dunes allowed by permit, and the position of the mining activity within a State Park. OGMD staff participated in a local forum this spring on the matter, a dune walk event with the National Institute for Journalism and Science, and several news interviews regarding Sargent's operation.

The OGMD is not required to conduct a public hearing under any provisions of Part 637; however, one was held at the request of citizens during public comment. The purpose of the hearing was to receive comments related to the renewal application for the Sargent Sand Ludington site. The OGMD did not respond to questions at the hearing, the format was that of having an opening statement made by OGMD, followed by comments from a Sargent Sand representative, and then public comment. Eighteen individuals made comment at the hearing, including two commenters who represented organizations. The OGMD also received 15 additional comments during the post-hearing written comment period ending December 16, 2016.

The OGMD is not responding directly to individual public comments either in favor or against the proposal; however, the OGMD has grouped and reviewed each comment written and oral. Comments have been evaluated with respect to Part 637 renewal criteria.

For those against the renewal, comments were generally grouped into three main categories: health and safety, environmental and natural resource protection, and quality of life. For those supporting the renewal, comments were about protecting local jobs, observations that noise was not a problem for some local residents or at neighboring Ludington State Park, and statements that Sargent has made efforts to be a good neighbor and follow the regulations.

The OGMD considered all comments for applicability in the Part 637 renewal decision review. The renewal review also included site inspections, detailed file reviews, and an aerial photo review to determine compliance with Part 637 and Permit SaS-LS-108. The OGMD has determined that Permit SaS-LS-108 is in compliance and may be renewed for an additional 5 years.

## **RESPONSE TO COMMENTS**

### **Outdated Environmental Impact Assessment:**

The DEQ acknowledges the public's concern over the age of the environmental impact assessment (EIS) and their desire to have the OGMD require Sargent to update the EIS prior to renewal of their permit. Part 637 does not have a requirement that companies submit updated EIS, although if a company proposed an amendment that included expansion into areas not covered by the original EIS an updated EIS would be required. Mining statutes are somewhat unique in that they allow for resource extraction, which by the very nature of the activity has some impact to the landscape and environment. The original EIS received January 9, 1979, was an appropriate EIS meeting requirements of the Sand Dune Protection and Management Act, Public Act 222 of 1976 (precursor statute to Part 637). Each element required for the EIS is present in that document and the EIS was used to inform the original permit decision that led to issuance of the Sargent Sand Company Ludington Site Permit SaS-LS-108, issued January 1, 1981.

Public comment has made the assertion that the original EIS did not anticipate the level of mining activity now occurring at the Sargent operation and the EIS should be updated. The DEQ acknowledges this concern and has reviewed the original EIS and other mining documents. The original EIS document actually anticipated greater mining activity than has occurred and is occurring now. The original EIS anticipated that Sargent would "continue its sand mining activity on this project at the approximate level as in past years, (800,000 tons per year)." The EIS indicated that mining over a 20 year period the company would remove 7 to 10 acres of dunes per year and the pond would grow approximately 3 acres in size per year. The EIS anticipated removal of nearly 12,000,000 tons of sand from lands owned and leased by Sargent. The original 15 year mining plan which covered 20 years of anticipated mining, anticipated full removal of this sand within 20 years. The rate of mining is heavily dependent on commodity prices and demand, therefore Sargent has only mined a fraction of the sand that was originally anticipated by the original EIS. Based on DEQ review of annual reports since permit issuance in 1981, the annual tonnage of sand removed has been significantly below the 800,000 tons per year referenced in the original EIS. The DEQ will not require an updated EIS for mining within originally permitted properties for renewal applications. The DEQ will require an updated EIS if an expansion is proposed outside of activity originally anticipated by the original EIS and will follow any applicable provision of the 1994 settlement agreement between Sargent and the State of Michigan.

### **Silicosis:**

The DEQ acknowledges the concern over silicosis from mining operations. The emissions of particulate matter from Sargent Sand Company are not expected to result in silicosis or other adverse health effects, even for sensitive individuals.

Sand dune mining generates dust, which is also called particulate matter (PM). To minimize PM emissions, Sargent Sand Company is required by the DEQ Air Quality Division (AQD) to follow a fugitive dust control plan and use dust control for sand drying and processing operations. AQD evaluated the emissions of PM from Sargent Sand Company and found that they are less

than the Significant Emission Rate (SER) set by the U.S. Environmental Protection Agency (EPA). PM emissions below the SER are expected to result in air concentrations that are less than the National Ambient Air Quality Standards (NAAQS) for PM. The EPA states that the NAAQS, "Provide public health protection, including protecting the health of 'sensitive' populations such as asthmatics, children, and the elderly." (<https://www.epa.gov/criteria-air-pollutants/naaqs-table>)

An additional concern from mining sand is that PM emitted from sand mining naturally contains some crystalline silica. At relatively high levels of exposure over long durations, breathing crystalline silica can potentially cause adverse effects in the lungs, including silicosis. However, the EPA (1996) determined that PM emissions with 10 percent crystalline silica or less would not cause silicosis if the PM emissions are less than the NAAQS (USEPA, 1996). The PM emissions from the type of sand mined by Sargent Sand Company are expected to have approximately 10 percent crystalline silica (Cauda et al, 2014).

#### References

Emanuele Cauda, Gerald Joy, Arthur Miller, Steven Mischler (2014) Analysis of the Silica Percent in Airborne Respirable Mine Dust Samples From U.S. Operations, U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, Office of Mining Safety and Health Research, Pittsburgh, PA 15217, United States of America.

U. S. Environmental Protection Agency (USEPA) (1996) Ambient Levels and Noncancer Health Effects of Inhaled Crystalline and Amorphous Silica: Health Issue Assessment. EPA/600/R-95/115. Office of Research and Development. Washington, DC 20460.

#### **Concern over general Environmental Impacts:**

The DEQ acknowledges the concern over general environmental impacts from mining operations. The environmental standards and criteria under the NREPA are designed to address those concerns, and the decision to grant or deny a permit renewal is based on whether the application conforms to those standards and criteria.

#### **Destruction of Natural Resource:**

Natural resources such as sand and gravel deposits are valuable commodities demanded by society and inherently involve modification of the landscape and habitats. Environmental regulations for mining seek to honor mineral rights and the value of these commodities while providing a framework for protection of the environment, human health, and public safety.

#### **Proximity to Ludington State Park:**

Sargent Sand has worked with the Michigan Department of Natural Resources (DNR) regarding Ludington State Park in the past, including possible options for additional DNR land acquisition. Historically Sargent has sold and gifted parcels to the State of Michigan. The park's beginning dates back to 1920 when land acquisition began, and the park has been coexisting with mining at this location for 100 years. According to the Ludington State Park General Management Plan approved March 1, 2016 the park continues to draw over 800,000 visitors annually and consistently ranks as the area's number one tourist attraction.

#### **Alternatives Analysis:**

The environmental standards and criteria under the NREPA include evaluation of alternatives. The original EIS contained an alternatives analysis; however, the document is not required to be updated as part of the permit renewal criteria.

**Future Use of Property:**

Sargent may be considering any number of future uses for the property, but the OGMD authority for permit renewal does not include evaluation of future uses. The OGMD has authority only over the permit renewal application currently being considered and whether Sargent's mining operation is in compliance with Part 637 and current permit/permit conditions.

**Change Permit Conditions Requiring New EIS, New Reclamation Plan, and Hours of Operation:**

Part 637 does not require a new EIS with permit renewal; therefore, the original EIS is the document which must be considered for permit renewal. Some conditions may be applied to any permit limiting certain activities. However, conditions regarding local infrastructure and conflict resolution are not within the purview of DEQ. Reclamation requirements are contained in Part 637, documents within the permit file, and additional details are negotiated as cells are closed.

**Very Serious Consequences:**

The phrase "very serious consequences" is applied in local zoning decisions but does not have a specific meaning or application under Part 637. Permit decisions conforming to the environmental standards and criteria under the NREPA are intended to address adverse impacts to the environment, public health and safety, and natural resources, and OGMD assures that those provisions are applied and enforced.

**Protection of Threatened Species Pitcher's Thistle:**

A 1994 amendment of the Progressive Cell-Unit Mining and Reclamation Plan addressed Pitcher's Thistle identification and mitigation steps during the mining process. When mining activities or other activities are planned and implemented, a walk around survey will be planned before these activities are performed to observe for Pitcher's Thistle. Sargent progressive cell unit mining and reclamation plan of 1994 commits that it is the intention of Sargent Sand to mitigate potential damage of Pitcher's Thistle by:

- a. Making all Sargent Sand employees and contractors aware of the potential existence of the plant.
- b. Carefully walking the planned mining or activity site by a responsible Sargent Sand management person to observe for new or existing plant growth.
- c. Identifying the Pitcher's Thistle plant, when observed, and identifying each plant or cluster location by staking each location with a highly visible flag. A map indicating each location will be maintained.
- d. Relocation of each Pitcher's Thistle to a location that is not in the normal foot or vehicular traffic when mining activity is required. A suitable location will be selected that will be not disturbed, in the opinion of Sargent Sand management, for several years.
- e. Notification of the OGMD, by letter, of the relocation of such plants.

The OGMD has regular inspections and this topic is a regular topic discussed. Sargent has indicated that recent mining has not impacted any of these plants. The OGMD will remain vigilant on this issue, requiring documentation of these surveys prior to opening new cells and for any plants identified and relocated.

**Public Hearing/Meeting:**

Numerous requests for a public hearing regarding the Sargent Sand permit renewal were submitted during the public comment period. OGMD held a public hearing in Ludington on December 12, 2016 in response to these requests, and opened an additional public comment period for 5 days following the public hearing.

**Deny the Permit Renewal:**

Part 637 requires the permit to be renewed if the permittee is in compliance with the statute, rules, and conditions of the permit issued by the department.

**Concerns with Truck Traffic on safety, noise, trucking routes used, wear and tear on roads:**

Truck traffic is not within OGMD regulatory purview under Part 637.

**Support of DNR Purchasing Sargent's Land:**

Although outside the purview of the permit renewal, the Ludington State Park General Management Plan approved March 1, 2016 has identified the Sargent property as a high priority for acquisition as an inholding. The State of Michigan has had various land arrangements with the Sargent family and there have been talks about buying additional land from Sargent Sand. The DEQ has brought this issue forward and discussed the possibility with the DNR. The DNR and the DEQ will continue to address land acquisition possibilities with Sargent Sand. The DEQ would not be a principal party in any purchase, but could provide history and context to the discussions.

**Threatened and Endangered Species:**

The only known endangered species documented as occurring on mine property is Pitcher's Thistle. Other species mentioned in comments include ram's head lady slipper and bugweed, both of which are on a state list as being a plant species of Special Concern (SC) and are not listed as Threatened & Endangered species. Special Concern species are not afforded legal protection. Piping Plover is a state endangered animal species mentioned in the written comments. Occurrences of this species have been documented at Ludington State Park/Nordhouse Dunes area; however, they have not been identified on Sargent Property.

**Post a Public Response to Comments prior to Permit Renewal Decision:**

This Response to Comments is posted concurrently with the permit decision.

**Limit Hours of Operation at the Sargent Sand mine to daylight hours or 7 or 8am to 5pm:**

Part 637 does not grant authority to DEQ-OGMD to regulate hours of operation.

**Negative Aesthetic Impact:**

DEQ acknowledges that there are concerns about aesthetics related to sand-dune mining; however, evaluation of aesthetics is not within OGMD regulatory purview for permit renewal under Part 637. However, we note that the mining property is primarily visible while hiking on public property, especially from elevated vantage points along the Piney Ridge dune crest looking west toward Lake Michigan. Upper portions of some mining equipment may also be visible from M-116 looking east-northeast.

**Potential Impact of Mining on Tourism:**

Tourism is not within OGMD regulatory purview under Part 637. The recently updated Ludington State Park General Management Plan approved March 1, 2016 indicates that “The park is considered to be the area’s top tourist attraction, and eloquently recognized as the “Queen of Michigan State Parks.” The park’s distinctive location and natural features make Ludington a treasure of the state. Bound between Lake Michigan and Hamlin Lake, with access to the Big Sable River, the park is within the Big Sable Dunes ecosystem. This habitat is home to a wide range of uncommon natural communities. The park’s natural beauty draws visitors from near and far.” The new plan does identify “continue to explore land acquisition of properties within the Project Boundary, with emphasis on the Sargent Sand property” as a Management General Action Goal.

**Is Sargent Paying Severance Taxes on the sand sold, similar to the oil & gas industry’s severance tax?**

Under Part 637, 324.63711, a surveillance fee is required to cover the cost of OGMD activities related to enforcing Part 637 at sand dune mining sites. There is no state statute requiring severance tax for sand. However, Sargent pays property taxes under the General Property Tax Act.

**Concerns expressed on the potential impact of the mine on Property Values:**

Property values are not within the purview of Part 637 and therefore are not subject to review under the permit renewal process.

**Sand Used for Hydraulic Fracturing:**

A sand dune mining permit is required under Part 637 for removal of sand from sand dune areas for commercial or industrial purposes, or both. Selling sand to be used for hydraulic fracturing meets the working definition of commercial or industrial purposes. The use of the mined product is not within the purview of the OGMD.

**Mining Indefinitely:**

Part 637 limits a mine permit to a 5-year period, effectively establishing an end date for each permit cycle. However, § 63708 (1) requires the permit to be renewed if the permittee is in compliance with the part, the rules promulgated under the part, and conditions of the permit issued by the department. The narrow criteria in Part 637 for permit renewal effectively provides some regulatory certainty to permittees that if they conduct their operations in accordance with Part 637 and the permit then the permit will be renewed. A permit is also a license which is transferable if a business is sold. The OGMD does acknowledge that some mines have considerably longer lifespans than others based on reserves, commodity prices, demand, and proximity to customers.

**Hydrology/Hydrogeology:**

The DEQ acknowledges the concern over hydrologic and hydrogeological impacts from mining operations. Hydrologic analysis was completed as part of the Environmental Impact Statement.

In general the water table in Mason County is shallow, and the saturated thickness of the surficial aquifer in the county is many hundreds of feet. OGMD finds that activities at the permitted mine will not have an adverse impact on nearby wells owing to the abundance of fresh water in the aquifer. The Sargent mining operation involves hydraulic dredging approximately 30 feet into the water table, and closed-loop circulation of water from the dredge pond for sorting with discharge back to the pond. The operation does not require the manipulation of groundwater levels or chemicals for processing of sand. The company maintains groundwater monitoring wells and the primary local influence to the unconfined aquifer would be Lake Michigan water levels and Hamlin Lake water levels controlled by a dam.

**DEQ should require sand to be scaled (weighed) to ensure accuracy in Sargent's annual reports:**

Part 637 does not require weight tickets to be submitted, only the total weight of sand removed annually. It is in the producer's best interest to accurately weigh each load of sand as it is removed as the mined sand is the basis of the producer's income. Production reported to the Department is subject to audit. Reporting of false information would be subject to legal penalties.

**Lack of Substantive and Adequate Reclamation Plan to restore area to original landscape/vegetation:**

Reclamation is done according to Part 637 and the existing Progressive Cell Unit Mining and Reclamation Plan (PCUMRP). Reclamation is ongoing and is documented as mining progresses. Required bonding has been provided by the company and is in place in case it is needed for reclamation. Post 2012 operational changes were documented in inspections and in correspondence from company.

Marram grass is applied to areas that are being reclaimed because it establishes itself quickly within one year of planting. For fast growing plants like marram grass, 1 year is enough to provide 80% cover. As vegetation in the reclaimed areas establishes itself, other plants will begin to populate naturally. Once reclaimed areas are stabilized, trees will re-establish themselves.

**Noise from the various mining activities is heard in nearby residential areas and is disruptive.**

Part 637 does not regulate noise. That being said, OGMD has followed up in the past when noise complaints have been submitted. The OGMD has taken decibel readings off site in response to noise complaints. The highest readings have been in the 60-65 db range. This can be compared to noise levels taken at Lake Michigan, which were 65 db on a windy day. There are occasions when the mine is in operation for extended hours due to demand for sand. Sargent states that operations may be extended during the week and one shift on Saturday depending on demand for sand. Mine equipment has been retrofitted with back up alarms that don't beep. Voluntary noise mitigation upgrades to the dryer plant have been made to mitigate noise. Mine personnel routinely observe wildlife on mine property including deer.

No noise complaints have been received by OGMD from people who were visitors at Ludington State Park or by state park officials.

**Light Pollution:**

Part 637 does not regulate light emissions.

**Concerns over certain chemicals used in the sand dune mining operations:**

No chemicals are used in the operation. Sargent does not use additives as part of the beneficiation process due to the natural quality of the sand deposit. The process to prepare the sand for market is mechanical in nature and not chemical.

**15 year mining plan should be updated.**

A 15 year mining plan was submitted with the original permit and included an additional 5 years. Part 637 does not require an updated plan. The actual rate of mining is heavily dependent on commodity prices and demand; Sargent has mined significantly less sand and disturbed a smaller area than presented in the original 15 year mining plan.

**How are violations handled? Concerns expressed that past violations were ignored during past renewal process.**

Sargent Sand is currently in compliance with Part 637. Violations observed in 1995 were resolved and documented in subsequent inspections. Field notes are available for reference during the permit renewal process.

**Does Sargent have Adequate Bonding for this permit?**

Bonding is adequate for reclamation of site and meets the conformance bond requirements of Part 637.

**Does the 200 foot Setback Distance from Property Line to Cell Unit Boundary Apply to the Progressive Cell Unit Mining and Reclamation Plan (PCUMRP)?**

No. Sargent Sand's Ludington Site was permitted in 1981 when the sand dune protection and management act (1976 PA 222) was in effect. There was no specific setback requirement in Act 222; however, Sargent's EIS addressed a buffer area on the north end of the property, which has not been mined. According to a 2012 OGMD inspection of the Sargent Ludington mine, the buffer on the east side of the property is 250 feet.

**Grandfathered Property/Zoning Law:**

The mine site has existed at Sargent for over one hundred years and the property is currently zoned by Hamlin Township as Public Recreational according to their zoning map. The zoning and conformance of this mine site is not within the purview of the Part 637 permit renewal. OGMD has not received any comments from the township regarding zoning concerns.

**Concern regarding increased dune migration due to lake creation:**

Some concern has been expressed that the creation of the dredge pond may increase surface wind speeds or change patterns resulting in increased dune migration rates. The OGMD has performed a historical aerial photo review to evaluate the concern. No evident increased rate of migration of dune crests was noted in the review. Blowouts and migration of dune sand into some interdunal ponds/wetland have been determined to predate dredge pond creation, clearly evident as far back as 1973. The OGMD review confirmed the dunes, blowouts, and vegetative patterns do change over time. The OGMD intends to review this concern further with Sargent and may consider the addition of woody vegetation requirements in reclamation along the shoreline of the pond if appropriate in order to mitigate effects of surface wind patterns and speed.

**Interdunal Wetland Protection:**

Wetlands located on the Sargent mining property are indicated to be present, and Part 637 does not obviate the need to obtain necessary permits for regulated wetland impacts under Part 303, Wetlands Protection, of NREPA. Wetlands will be identified, regulatory status determined, and if regulated permits required.

**Noise from Mine Not Heard at Ludington State Park or by Some Nearby Residents:**

Part 637 does not regulate noise. The OGMD acknowledges that this comment is consistent with the fact that no noise complaints have been received by OGMD from visitors at Ludington State Park or by state park officials.

**In Favor of Renewal:**

Several comments were received expressing support for renewal of Sargent's sand dune mining permit. Although these comments acknowledged the jobs this operation provides and the philanthropic acts Sargent has done for the local community, Part 637 does not provide for these issues to be considered; it simply requires the permit to be renewed if the permittee is in compliance with the part, the rules promulgated under the part, and conditions of the permit issued by the department.

**Trucking Company Statement:**

A representative for one of the trucking companies that hauls sand for Sargent spoke at the hearing in support of the renewal. The representative discussed the dedicated routes drivers are required to use and GPS monitoring of speed and routes followed. Truck traffic is not within OGMD regulatory purview under Part 637.

**Questions Regarding Locations of Reports/Documents:**

Several comments were made regarding studies and reports mandated by the sand dune protection and management act (1976 PA 222). These studies/reports can be found on the OGMD Geology in Michigan webpage by searching the Digital Geology Library Catalog.