IV. Environmental Performance – Tier 1 Applicant

Badger Mining Corporation (BMC) is a family owned corporation that manufactures high quality industrial sand used in multiple industrial, environmental and construction related applications. The name Badger Mining Corporation (BMC) has been in existence since 1979. The company was founded in 1949 by Clifford A. Chier, under the name of C. A. Chier Sand Company. Badger Mining's roots; however, go back over 100 years to the turn of the century. The forefathers started mining industrial and bank sand in the Berlin, WI area in the early 1900's, which is where BMC constructed our corporate office in October 1995 known as the Badger Mining Corporation – Clifford A. Chier Resource Center.

BMC's Wisconsin production facilities consist of two open pit mines and processing facilities. Badger Mining Corporation – Taylor Plant currently consists of approximately 5,945 acres located in western Jackson and eastern Trempealeau Counties. Approximately 400 acres are involved in the industrial mining and processing operations; therefore, the Taylor mine / processing areas account for only 6.7% of the total land composition. Badger Mining Corporation – Fairwater Plant currently consists of approximately 895 acres located in southeastern Green Lake and southwestern Fond du Lac Counties. Approximately 133 acres are involved in the industrial mining and processing operations; therefore, the Fairwater mine / processing areas account for only 14.8% of the total land composition.

The fact that BMC is in the mining business creates some unique opportunities. One of these opportunities is the ability to reclaim mine sites to whatever is the best for the environment AND surrounding communities. Our reclamation efforts go well beyond the minimum requirements.

Another unique opportunity is our knowledge, skills and abilities to extend good stewardship practices beyond the regulated mine site to all of our land holdings. Only a small percentage of our properties are mined at any one time and we own a great deal of property that will never be mined. We also have the unique opportunity to utilize our heavy equipment which allows us to complete projects on a grand scale.

To say that Badger Mining Associates have the support of ownership and management to protect and enhance the environment is an understatement! At BMC, environmental responsibility is listed as a core value of our company in our Value Statement.

Badger Mining Corporation Wisconsin Production Facilities – Taylor and Fairwater

Current and Ongoing Environmental Activities:

1. Mine & Reclamation Planning – Mine and reclamation plans are put together well in advance of any land disturbing activities to ensure environmental responsibility. To build the final reclamation surface, computer modeling software is utilized to generate contour information which is downloaded into earth moving equipment with GPS technology. This process allows us to create a post-mining land surface that simulates and blends into the natural landscapes and that are better suited to resist erosion than traditionally reclaimed surfaces.

2. Stormwater Runoff Management / Erosion Control – Best management practices (BMPs) include routing of stormwater back into the mine area to prevent off-site discharge. Sediment basin capacities are designed to exceed regulatory requirements. BMC has also engineered and constructed a sediment basin with two settling chambers with a flow / treatment area to help settle out the clay / silt material.

3. Water Conservation – Minimize or eliminate process water discharge, which through recycling methods such as clarifiers and closed loop systems of process ponds and settling basins.

4. Air Quality Control – BMPs include location of the mine and process facilities, equipment layout and design, limit land disturbances, concurrent reclamation, product washing and screening, wet stockpiles, dust collection systems, paving of roads, road watering and / or dust suppressant application, etc.

5. Energy Conservation – Continually upgrade and purchase new equipment (dryer, pumps, mobile equipment, lighting, etc.) which is more energy efficient. Work toward a continued reduction in total energy use per ton.

6. Recycling – Ongoing implementation of recycling programs which include paper, cardboard, plastics, glass, aluminum cans, wood, metal, batteries, etc.

7. Forestry Management – Every year BMC plants native trees and shrubs for the benefit of wildlife and the restoration of forested areas (approximately 3,000 to 5,000 annually). Management includes guarding trees with tree protectors, fencing, mowing to eliminate competition and/or watering. Timber stand improvement cuts are conducted every 1 to 2 years to improve existing timber resources.

8. Native Prairie Establishment – Actively re-establish and manage native prairies on both reclaimed and non-mining areas. Over 100 acres have been established to date. Management includes mowing and burning. Some of these areas were established in partnership with the U.S. Fish and Wildlife Service through their Partners for Fish and Wildlife Program.

9. Invasive Species Management – Actively control invasive species such as spotted knapweed, common and glossy buckthorn, reed canary grass, box elder, etc.

10. Cropland Management – Crop land is leased to local farmers. The operators are required to develop and maintain Conservation Plans through the County Land Conservation Office or local Natural Resource Conservation Service (NRCS). Marginal cropland has been reestablished into wildlife habitat and stream buffer areas.

11. Wildlife Management – Quality Deer Management (QDM) has been practiced since the early 1990's to promote an age and sex structure allowing for bucks to get to a mature age and promoting a healthy herd. Since 2001 BMC has been a sponsor in the WDNR Disabled October Gun Deer Hunt Program which allows hunters with disabilities to have a chance to enjoy deer hunting during a time of year when temperatures are generally milder & mobility easier. Hunting opportunities are also provided for BMC Associates, youths and guests. We release approximately 100 pheasants each fall. Many acres of food plots, usually exceeding well over 100 acres, are established and managed annually. Associates help monitor approximately 117 bluebird and 10 kestrel nest structures on an annual basis. Bluebird monitoring data is forwarded to the Bluebird Restoration Association of Wisconsin. Kestrel adult and young chicks are banded and the data is forwarded to the Beaver Creek Nature Center who submits it to the National Falconry Association. BMC also promotes fisheries habitat and allows for recreational fishing for our Associates and guests. We have constructed fishing piers and boat launches.

12. Conservation Organization Support & Participation – Actively participate and support several conservation organizations including the National Wild Turkey Federation (NWTF), Bluebird Restoration Association of Wisconsin, Beaver Creek Nature Center and local conservation groups including Taylor, Blair and Berlin. We are also a key sponsor for the Eagles for Kids Project. BMC has Plant based conservation organizations made up of BMC Associates.

13. Stakeholder Education – Presentations and tours are provided on an ongoing basis to local schools, organizations, neighbors, regulatory agencies, etc.

Badger Mining Corporation – Clifford A. Chier Resource Center

Badger Mining Corporation wished to construct a new corporate center allowing segregated office locations to come together. It would also allow BMC to move back to the city of its origin Berlin, WI. A property at the South entrance to the City of Berlin was discovered. It is a site of approximately 15 acres nestled between Highway 49 and the Fox River. It's North boundary, a small navigable water named Winchel Springs Creek, and the South and West boundaries were the Fox River and associated wetlands. A great location, but the site needed some major help.

During the 1960's approximately half of the property was filled in with by-products from local foundries. The owner of the site at this time obtained site closure following a lengthy legal battle with the state. The site eventually fell into disrepair and was labeled by the DNR as an abandoned landfill. When Badger Mining Corporation decided to purchase the property in the late 1980's, the vegetation on the site was sparse at best, and the sides were sloughing down into the wetland. Winchel Springs Creek was choked with material and had severe erosion problems on both banks.

The only goal at this time was to build a new resource center that would improve the site, and make a good looking entrance into the City of Berlin. This site was purchased with full knowledge of what we were getting into.

Site Stabilization
The first step was to go through the permitting process to allow for stabilization of the site. The perimeter of the filled area had to be reclaimed and stabilized through rip-rap. Special care was taken in the shaping and stabilization of the site along the Fox River. Not only did we not want to fill in any of the River, but we also wanted to provide a place for the fisherman that frequent this site. Therefore the rip rap was placed in a tiered fashion, giving the fisherman a level and convenient place from which to try their luck. In addition, a boat landing was added to the site as an extension of one of the parking lots for the building.

The permitting process included several branches of the DNR, including Waste Management, Water Resources, Fisheries and Wildlife. Permitting also included the U.S. Army Corps of Engineers and the City of Berlin. In the case of Winchel Springs Creek, we had to obtain permission from adjoining landowners to complete work on their properties, and convince them that it would all be completed at no cost to them. Badger Mining would cover all expenses.

All waste was pulled out of the wetlands and back onto the fill area. All perimeter areas were rip rapped. Winchel Springs Creek was cleaned out and its banks were stabilized with rip rap.

Capping
Since the site was defined as an abandoned landfill, BMC needed to get the proper permits to cap off the site, and eventually to build on it. The first step was to complete test pits to characterize the waste. This enabled the cap to be properly designed to ensure that there would be no detriment to the environment from the site. Not only did the site need to be capped, but due to its location it had to be completed in such a way so as not to be in violation of floodplain rules; therefore, a portion of the filled area had to be excavated to the depth of the DNR approved cap. This waste was moved to the other portion of the filled area. In all approximately 100,000 yards of fill was trucked in to get the area properly capped and shaped. The material used for fill was qualified using hydrometer analysis, to meet applicable standards. Additionally, since the site had no topsoil, enough topsoil to cover the entire filled area, 7.5 acres, a minimum of 6 inches deep had to be hauled in.

A spin off benefit of this hauling project is that the site where the fill was borrowed from was also developed into wildlife habitat. Reclamation of this site included a fish and recreation pond approximately 4 acres in size with a maximum depth of 14 feet, and a small island. Next to the recreation pond a 2 acre shallow wetland with a maximum depth of 4 feet was created. The acreage around the pond and wetland was planted to wildlife nesting habitat and winter cover.

Once the landfill was capped it needed to be seeded. The seeding mixture included a normal bluegrass lawn mixture for around the building. The seeding mixture also included 2 acres of short grass prairie and prairie flowers. The City of Berlin liked the site so much that they requested, and were granted permission to, move the welcome sign for the city onto our property.

Storm Water Control
The site was constructed so that all parking lot run off must travel through grassed areas, away from the wetlands and creek as a non-point source pollution best management practice.

Wildlife Habitat Management
Owning a site that is 50% wetlands and 50% uplands creates unique opportunities for wildlife management. Mallard hen houses, wood duck houses, and bluebird houses have been placed on site. In addition grassland birds nest here sometimes resulting in an unusual mowing pattern in the lawn area during the nesting season. Killdeer nest in the areas landscape with rocks, and turtles also lay their eggs in nests here. Ducks, geese, and shorebirds are frequent visitors to the grassy areas or rocky slope. The perimeter of the site has been planted with short grass prairie including a number of forbs. It is managed through controlled burning.

On this property is the outlet of an expansive wetland area that walleye use for spawning areas. In the early part of the last century the U.S. Army Corps of Engineers dredged the Fox River and the resulting spoil banks inhibits flow through the wetland. Therefore a cooperative effort was taken with Walleyes for Tomorrow and the Izzak Walton League to excavate and stabilize areas of the dredge piles allowing flow to increase through the wetlands, improving the wetland for spawning walleyes and other wildlife.

Summary
There were no economic benefits for Badger Mining Corporation to build on this site. Quite the contrary. The additional time, effort and cost needed to complete all of the investigation, design, permitting and added construction costs were a definite disadvantage to the site. But sometimes the best solution is the most costly. In this case we were able to take a site that was a detriment to the environment and turn it into a real winning situation. Badger Mining won by getting a great building in a great location. The City of Berlin won by having an eyesore transformed into a really nice city entrance. The wildlife benefited by the additional habitat and management provided at both the construction site and borrow site. And the environment benefited by having an abandoned and dilapidated landfill closed and put to a beneficial use.

Ongoing Environmental Performance Commitments

- Monitor the regulatory landscape and take appropriate steps to exceed environmental, health and safety requirements.
- Focus on energy conservation, sustainable water resource management, air quality, waste reduction, health and safety.
- Integrate responsible natural resource management planning and stewardship activities.
- Educate stakeholders regarding environmentally responsible mining, including processing and reclamation.
- Empower Associates to promote environmental stewardship.