



# BADGER MINING CORPORATION (BMC)

## ANNUAL ENVIRONMENTAL REPORT

Submitted To: **WDNR Green Tier Program**

Date: **3/20/2015**

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### 1.1 WHO WE ARE

We are Badger Mining Corporation (BMC). We value our work, our company and our stakeholders. We are committed to environmental responsibility and stewardship. The name Badger Mining Corporation has been in existence since 1979; however, the company was founded in 1949 by Clifford A. Chier, under the name of C.A. Chier Sand Company.

### 1.2 OUR MISSION, VALUES, VISION and SUSTAINABILITY STATEMENTS

#### **MISSION STATEMENT**

We will be the leader in the industrial sand industry with a team of associates committed to excellence and a passion for satisfying our stakeholders.

#### **VALUES STATEMENT**

We are committed to environmental responsibility, health and wellness, quality, safety and integrity while providing a rewarding and enjoyable place to work.

#### **VISION STATEMENT**

We will identify, evaluate, develop and implement profitable opportunities consistent with our mission and values.

*Written by the Vision Team and Approved by the Board of Directors on June 16, 2009.*

#### **SUSTAINABILITY STATEMENT**

Badger Mining Corporation is dedicated to environmental responsibility while providing social and economic benefits which results from our business activities. Everything we do strives to cultivate a stronger, more prosperous future for all stakeholders. We demonstrate continuous improvement by monitoring our progress through management systems and metrics to achieve the following sustainability principles:

#### **PEOPLE / PLANET / PROSPERITY**

- Work in harmony with natural surroundings and all stakeholders;
- Prudent natural resource management and environmental stewardship;
- Comply with legal and other applicable requirements;
- Wise and efficient use of all consumables;
- Prevent pollution through best management practices;
- Deliver superior value to all stakeholders; and
- Enhance the economic and social well-being of associates and the communities in which we operate.



*Rev. B – June 2013*



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### 1.3 CERTIFICATE OF REGISTRATION – ENVIRONMENTAL MANAGEMENT SYSTEM – ISO 14001:2004

BMC is pleased to announce that on December 15, 2014, BSI issued a Certificate of Registration for our Environmental Management System (EMS), which complies with the requirements of ISO 14001:2004, at our Fairwater Plant, Taylor Plant and C.A. Chier Resource Center. The Certificate of Registration expires on December 14, 2017.



## Certificate of Registration

ENVIRONMENTAL MANAGEMENT SYSTEM - ISO 14001:2004

This is to certify that:

Badger Mining Corporation  
409 S. Church Street  
Berlin  
Wisconsin  
54923  
USA

Holds Certificate No:

**EMS 617390**

and operates an Environmental Management System which complies with the requirements of ISO 14001:2004 for the following scope:

The management of environmental risks associated with sand mining.

For and on behalf of BSI:

Pietro Foschi - Strategic Delivery Director

Originally registered: 12/15/2014

Latest Issue: 12/15/2014

Expiry Date: 12/14/2017



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...making excellence a habit™

Certificate No: **EMS 617390**

Location

Registered Activities

Badger Mining Corporation  
Fairwater Plant  
W300 Utley Quarry Rd  
Fairwater  
Wisconsin  
54931  
USA

The management of environmental risks associated with sand mining.

Badger Mining Corporation  
N7815 County Highway P  
Taylor  
Wisconsin  
54659  
USA

The management of environmental risks associated with sand mining.

Badger Mining Corporation  
409 S. Church Street  
Berlin  
Wisconsin  
54923  
USA

Corporate office functions and labs in support of sand mining operations.

Originally registered: 12/15/2014

Latest Issue: 12/15/2014

Expiry Date: 12/14/2017

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This certificate remains the property of BSI and shall be returned immediately upon request.  
An electronic certificate can be authenticated [online](http://www.bsigroup.com/ClientsDirectory). Printed copies can be validated at [www.bsigroup.com/ClientsDirectory](http://www.bsigroup.com/ClientsDirectory) to be read in conjunction with the scope above or the attached appendix.  
Information and Contact: BSI, 88 Market Court, Davy Avenue, King's Lynn, Norfolk PE33 9PP, UK. Tel: +44 (0)1509 546400  
BSI Assurance UK Limited, registered in England under number 7805321 at 309 Chiswick High Road, London W4 4AL, UK.  
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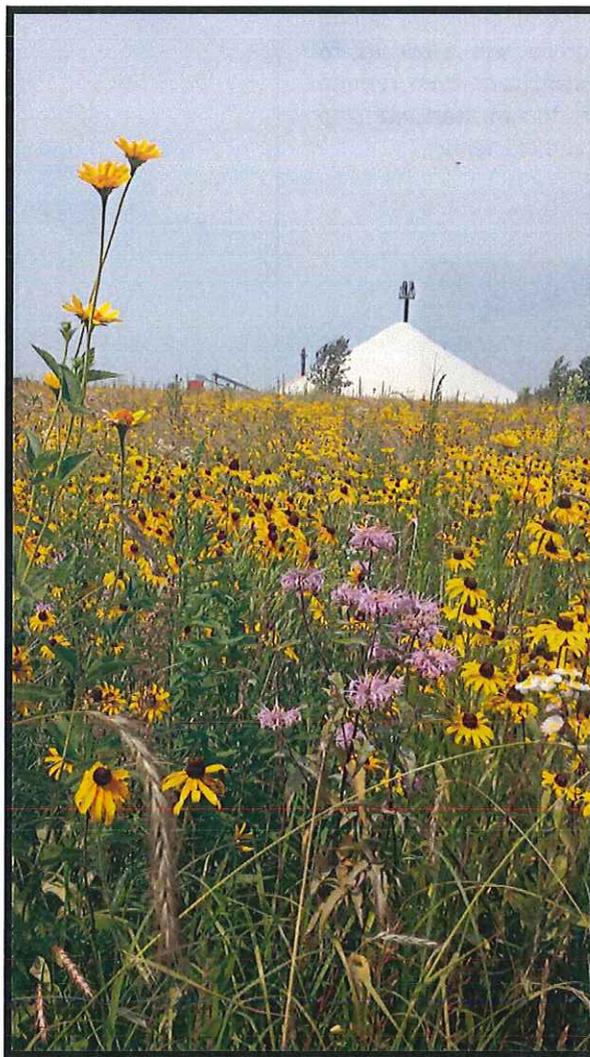
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### 1.4 ENVIRONMENTAL PERFORMANCE COMMITMENTS

Although our environmental practices emanate from the universal ISO (International Organization for Standardization) Standards, our strictest standard comes from our internal values. We work to comply with internal and external expectations and regulations every day. All BMC Associates are empowered to uphold environmental responsibility and stewardship.

BMC is a member of the Wisconsin Industrial Sand Association (WISA), an organization formed to promote safe and environmentally responsible sand mining standards, promote fact-based discussion and create a positive dialogue among industry, citizens and Wisconsin government officials. WISA was formed in 2012. WISA members follow a mandatory Code of Conduct with strong principles and tough standards that guide the Association's efforts to be a leader in fostering a healthy, safe and environmentally responsible sand mining industry in Wisconsin. BMC joins only three other mining companies as members.

Environmental objectives and targets are set in all areas within BMC as an ongoing process to ensure compliance and to go above and beyond expectations and regulations.





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### ENERGY CONSERVATION QUEST

The quest for energy conservation at the Fairwater Plant prompted the installation of a more efficient inlet seal on our dryer drum. The inlet seal significantly reduced the draw of outside air through the dryer, thus reducing natural gas consumption.

We also replaced a cooler and screen in our ongoing effort to run more efficiently with fewer hours of operation in the dry process.

The quest similarly aided the replacement of an old furnace with a new energy efficient model in our screen house.

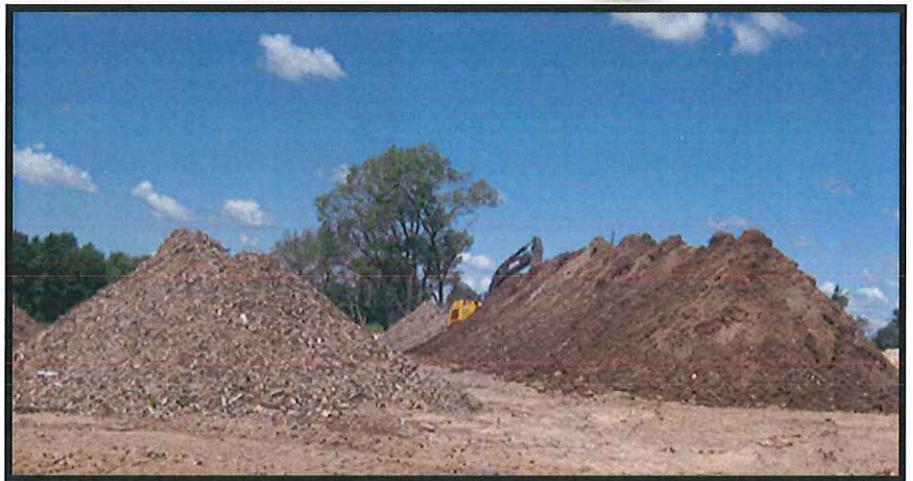
We are also in the process of replacing our fiber optic lines throughout the plant, which benefits the wash process by enhancing the functions we can do with automation. The upgrade will allow us to monitor and control the wash plant from remote locations, allowing operators to run, start and stop the equipment more timely and efficiently.



### RECOVER, RECYCLE AND REUSE

Mining is a temporary land use. The topsoil and vegetative layer is recovered as lands are prepared for mining and stored in a windrow formation for future reclamation. In 2014, BMC mulched and ground tree stumps, branches and leaves to recover approximately 8,000 yards of composite and topsoil mixture with high organic content. We also successfully incorporated our filter press cakes as a soil amendment in reclamation. These soil amendments, previously disregarded as "unmarketable" mining byproducts, enables BMC to more effectively utilize the topsoil resources available on-site and improve the A and B soil horizons of our reclamation areas resulting in better vegetative growth.

*We continue to find new and better ways to conserve and be efficient without compromising our values of environmental responsibility, quality and safety.*





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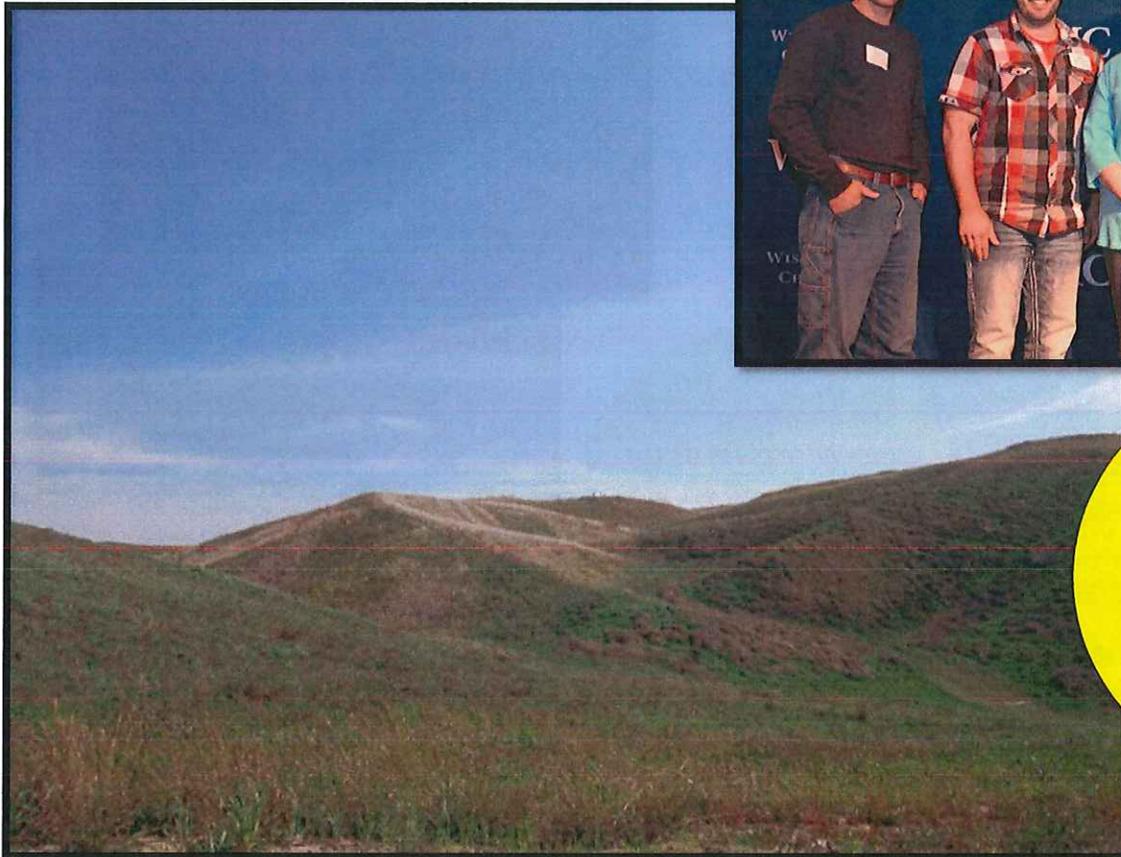
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### GEOMORPHIC LAND RECLAMATION

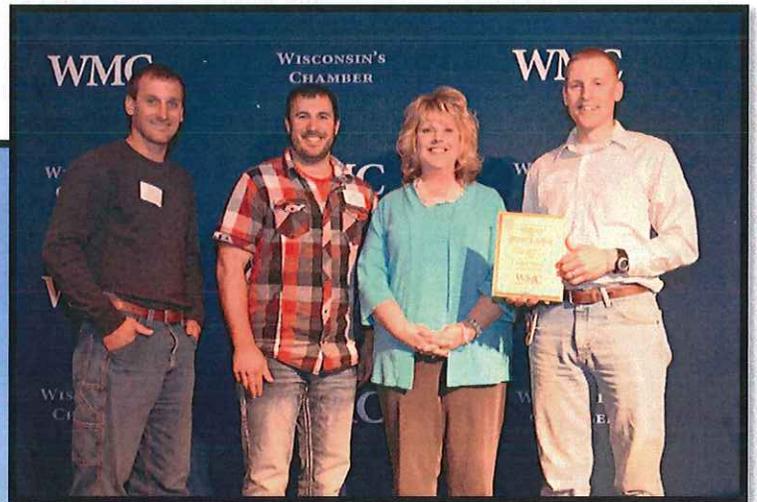
Geomorphic land reclamation is a landscape reconstruction technique that mimics original surface forms and drainage patterns of the natural landscape surrounding a mined area. In 2011, BMC began experimenting with geomorphic land forming with a goal of producing a finished site that is in hydrologic equilibrium to minimize erosion during construction, eliminate post-reclaim maintenance, be visually appealing and promote a self-sustaining ecosystem. Key slope and drainage characteristics of the undisturbed land surrounding the Taylor mine site were identified and measured via site survey. The relatively complex slope and channel profiles in this area require the use of sophisticated software to analyze runoff effects and complete the design. The landform characteristics identified in the survey were applied to the reclamation model to produce the final landscape design that functionally and visually resembles the land as it existed prior to mining activity – native prairie and oak savannah habitats. BMC has completed approximately 72 acres of geomorphic reclamation with 32 acres completed in 2014.



### 2014 WMC BUSINESS FRIEND OF THE ENVIRONMENTAL AWARD WINNER

BMC was awarded the *Wisconsin Manufacturers & Commerce (WMC) 2014 Business Friend of the Environment Award* in recognition for our environmental innovation efforts for the integration of geomorphic land reclamation at our Taylor Plant.

For the last 25 years, the *WMC Business Friend of the Environment Awards* have highlighted what Wisconsin companies are doing in the area of pollution prevention, innovative technology and environmental stewardship. The goal of the awards program is to demonstrate to policy makers, businesses and the public that sound environmental practices are good for Wisconsin and its business environment. BMC did receive this award in 1997 for the C.A. Chier Resource Center project and in 1999 for the St. Marie Snake Creek Trail.



*Every day we strive to exceed environmental requirements and exceptional stewardship. It is a way of life for us.*



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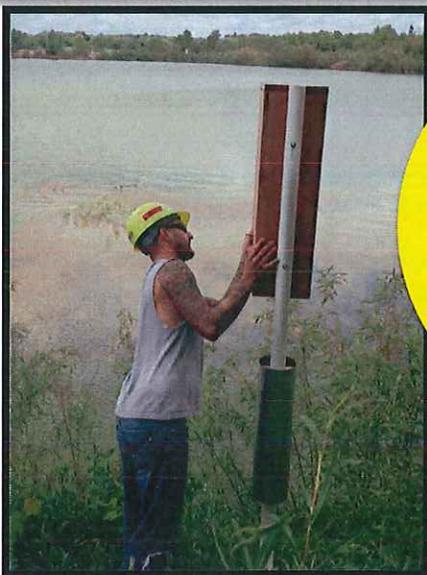
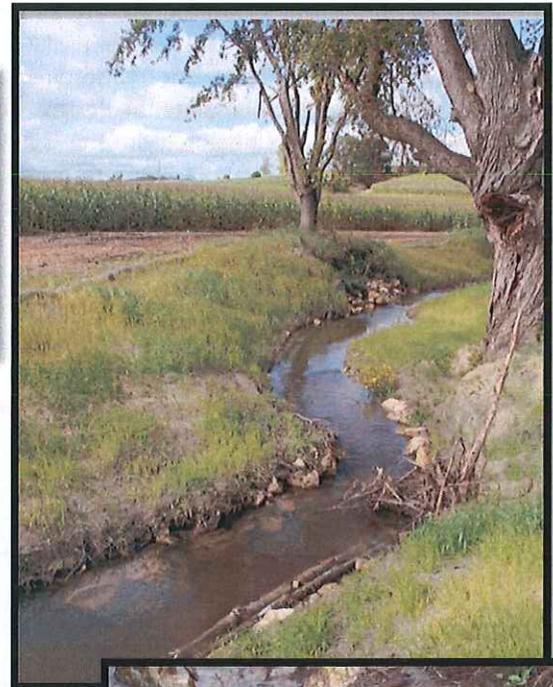
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### PROMOTING FISH AND WILDLIFE

As part of reclamation efforts at the Fairwater Plant, a 30 acre lake was created. Because of the depth of the lake, it was determined that it would effectively sustain a healthy trout population as well as other fish species. In 2014, the lake was stocked with 500 rainbow trout, 500 walleyes and 200 pounds of flathead minnows. Fish cribs were also built and placed to create additional habitat. Associates and their families regularly open water and ice fish and have caught both species of fish that were stocked as well as different size perch. Associates also built and put up several wood duck houses, which were almost all utilized by nesting wood ducks.

### STREAM ENHANCEMENT

BMC completed an additional 2,125 feet of trout stream enhancement work on the Jonah's Coulee Creek in Jackson County to help stabilize the banks, create better flood control, increase habitat structures and establish a vegetative buffer. This was an extension of the 600 feet of trout stream enhancement work completed in 2013. BMC partnered with the U.S. Fish and Wildlife Service and Wisconsin Department of Natural Resources (WDNR).



*Our knowledge and experience gives us the opportunity to set the bar high and lead our industry in best practices.*





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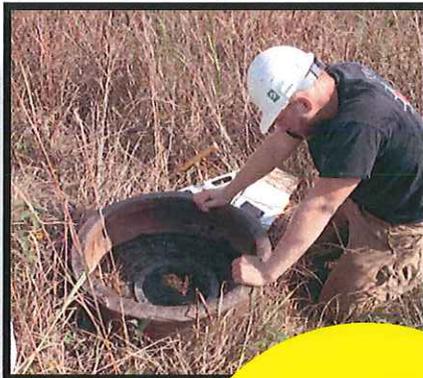
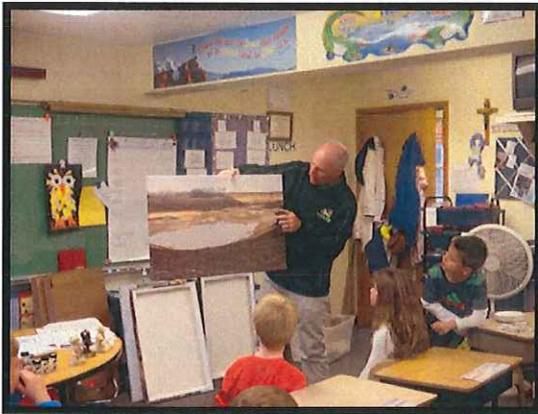
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### STAKEHOLDER OUTREACH

Our commitment to help educate stakeholders and support our local communities is put into action every day. We create relationships through participation in local organizations and associations, communication with local leaders and partnerships with local schools, businesses and neighbors.

BMC participates on the WDNR Nonmetallic Mining Advisory Committee, is a member of WISA and hosts numerous tours, talks and presentations with regulatory authorities and professional organizations regarding responsible nonmetallic mining and reclamation. BMC is participating in the WDNR's *Industrial Sand Mining Strategic Analysis* and the Institute for Wisconsin's Health, Inc. *Health Impact Assessment of Industrial Sand Mining in Western Wisconsin*.

In 2014, we went to classrooms to speak with students on what we do at BMC. Students toured of our operations and reclamation efforts, planted trees and conducted an infiltration rate study on our reclaimed land in cooperation with the U.S. Geological Survey. Community outreach and education is important to BMC; therefore, donations were made towards the purchase of two microscopes for students in the Responsible Mining Initiative at the University of Wisconsin-Eau Claire. Additionally, BMC donated material and trucking to help with the development of access roads around the elk staging area in the Black River Falls State Forest. BMC has been a company-sponsor of the WDNR 9-day disabled deer hunt, which kicks off the 1<sup>st</sup> Saturday of October, for the 14<sup>th</sup> year in a row.



*We believe many of the little things that we do have the biggest impacts.*

