



Tunnel City Facility – Green Tier Annual Report for 2015

Introduction

The Unimin Corporation – Tunnel City Facility is a non-metallic mining operation producing high quality silica sand for the hydraulic fracturing industry. Unimin is a leader in the specialty minerals industry and has placed value in being a responsible company, an excellent environmental steward, and pillar of the communities in which it operates.

Construction of the Tunnel City Facility began in November 2011 and was completed in December 2013. Prior to applying to the Wisconsin Green Tier Program, the Tunnel City Facility was an active member of the Wildlife Habitat Council (WHC), a nonprofit organization that encourages its members to exceed expectations and requirements and to establish programs taking advantage of available resources. Unimin Tunnel City continues its involvement with WHC, as well as partnerships with local conservation groups and state and local agencies.

Green Tier Certification

Tunnel City achieved Green Tier status in February of 2014. Part of the Green Tier achievement process was finalizing an Environmental Management System (EMS) and having the EMS audited for compliance by an approved third party auditor.

The EMS assists in identifying potential environmental impacts of the operation, focusing on continuous improvement and a “plan-do-check-act” approach to problem solving. Yearly measurable goals are also determined as part of the EMS, to support sustainable and environmentally conscious operations.

Tunnel City conducted an internal EMS audit in 2015 and found it to be compliant to Green Tier standards.

Environmental Compliance

During 2015 Tunnel City received zero regulatory violations.

Community Involvement

Unimin invests more than \$50,000 annually in the University of Wisconsin-Eau Claire’s Responsible Mining Initiative (UW-EC RMI). This commitment funds internships for students, as well as scholarships and grants for geology, hydrogeology, restorative ecology and regulatory policy studies. The initiative spans a range of industry topics, including the economics of mineral recovery, responsible mining practices and environmental stewardship. RMI provides UW-EC students with the opportunity to gain valuable professional experience with a scientific based environment while still supporting creativity. RMI aims to help produce creative, scientifically literate graduates who can make a positive difference in the mining industry. The investment in RMI represents Unimin’s commitment to continuous improvement and innovation.

In addition to RMI, Unimin invests in local organizations. They include but are not limited to; the Tomah Youth Baseball and Hockey Program, Fort McCoy Family & Moral, Welfare and Recreation Concert, the Monroe County Health Departments Car Seat Coalition, and the Monroe County Fair & Super National Tractor Pull.

2015 Objectives and Targets

2015 objectives focused on reducing energy consumption and waste generation, along with improving wildlife habitat.

Energy Consumption/Reduction

Fuel Consumption Savings

Operation improvements were implemented to reduce fuel consumption per tons mined. Idle times were reduced by hot seating equipment during the winter and shutting down equipment between shifts during the summer. During winter months some equipment is stored inside, reducing start up idle times. Operators received additional training to increase productivity and reduced downtime. Better quarry management allowed operations to tailor the feed entering the plant reducing waste material leaving tailings. By redesigning and relocating the secondary unit, Tunnel City optimized and shortened dozer push. This change allowed the dozers to utilize gravity and push down towards the secondary feeder, as opposed to pushing material horizontal or uphill to the equipment. Making this simple operational change increased the tons mined while reducing equipment time, saving fuel.

These changes reduced fuel usage by 37% per ton mined.

Energy Consumption Savings

Tunnel City utilizes filter belts in its water recycling plant. Filter belts efficiently remove water from tailings material and return the water back to the process to be reused. By increasing the piping that feeds the filter belts and modifying the belts to handle more material, Tunnel City optimized the quantity of material placed on the filter belts, thus reducing the number of filter belts operating. This in turn increased the tons/hour per amps of energy consumed.

A 15% energy savings was realized through the belt filter optimization project in 2015.

Recycling/Waste Reduction

Prior to 2015 Tunnel City was recycling used oil filters offsite, through an approved vendor. In 2015 Tunnel City implemented a program to hot drain and crush used oil filters. By implementing this program it allowed Tunnel City to utilize the scrap recycling program already in place and reduced the transportation costs of shipping 1.5 tons of used filters to an additional recycling facility.

During construction and prior to Tunnel City having a potable water system, Unimin was supplying employees with disposable water bottles. Disposable water bottles generate a constant waste stream along with providing housekeeping issues. In 2015 Unimin provided its employees with reusable water bottles and eliminated disposable water bottles on site. Eliminating disposable water bottles saved over 1000 lbs of waste from being generated on site.

Wildlife Habitat Improvement

During 2015 Tunnel City continued to actively reclaim the site as mining advanced. To date, Tunnel City has reclaimed 97 acres of land, restoring the land back to the native Pine Barren landscape and Karner Blue Butterfly habitat. A reclamation seed mix is planted specifically to support Karner Butterflies. In addition, over 750 trees

were planted to support the advancement of pine barren habitat. Proof that the reclamation efforts are working are seen with the return of the Karner Blue Butterfly. A number of confirmed sightings occurred in 2015.

In 2015 Tunnel City constructed a Wildlife Education Trail, supporting Wildlife Habitat Council's corporate lands for learning. The trail travels through native and reclaimed areas on the property, and serves as an educational tool for the public. Included along the trail are educational stations and an active Blue Bird Trail, with boxes supporting Wisconsin's Blue Bird population.

Stakeholder Engagement

Unimin prides itself with its positive stakeholder engagement. Over the course of the year, Tunnel City provided a number of tours. It opened its doors during a family day, giving the employees an opportunity to bring their families onsite. 105 people attended the 2015 family day. Unimin also provides an annual open house to the Greenfield Township, providing an opportunity for the local community to see the operation. Everyone in the township is invited, and this year 90 members of the township attended. Unimin also provides an annual status report to the township providing a production and environmental update.

Unimin partnered with "Into The Outdoors", a children's education program to film an episode focused on Industrial Sand Mining at Tunnel City. The program encompasses the earth sciences, technology, engineering, and math involved in industrial sand mining. Classroom curriculum about Industrial Sand Mining from the show is available at intotheoutdoors.org.

Other Accomplishments

- Received the 2015 Wisconsin Friend of the Environment Award from the Wisconsin Manufacturing and Commerce
- Recertified Wildlife at Work Program through Wildlife Habitat Council.
- No spills to the environment
- Continued operation of 3 ambient air monitoring station around the facility, without having an exceedance to ambient air monitoring levels.
- Completed an internal environmental audit
- Completed an internal EMS audit
- Conducted a Highway Cleanup twice along highway 21 in Monroe County

2016 Projects

- Reduce chemical usage.
- Install additional motion detection switches to reduce power usage when buildings are empty
- Rail car optimization project to save fuel by improving the efficiency of loading cars.
- Reduce consumable waste in high wear areas.