

RangeView

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A new era in Minnesota mining



Governor Tim Pawlenty, (left) and Madhu Vuppuluri, President and CEO of Essar Steel Minnesota, LLC, (right) shake hands after the groundbreaking on Friday, September 19, 2008 as Senator Tom Saxhaug (center) looks on.

Essar Steel Holdings, Ltd. is the newest global company to become a part of the Iron Range community.

Twelve years to the day since an Iron Range steel mill was first visualized, Essar Steel Holdings on September 19 broke ground on a \$1.65 billion Essar Steel Minnesota, LLC steel slab facility near Nashwauk.

Site preparation for the massive facility, mine dewatering and construction of an office building at the site begins immediately, according to Madhu Vuppuluri, Essar Steel Minnesota president and chief executive officer.

The first mine-to-steelmaking facility in North America and the first steel mill to be built on the Iron Range will produce iron ore pellets about two years following the start of construction. Production of direct-reduced iron pellets and steel slabs will begin in the fifth and sixth years of construction. At capacity, the facility will produce up to 2.5 million tons per year of slab steel.

"We from Essar are privileged to be a part of this history making on the Iron Range," said Vuppuluri at a groundbreaking ceremony attended by about 1,000 people. "One cannot talk about the future of iron mining without talking about the past. For generations, these miners have dreamt of transforming this iron ore to steel on the Iron Range. Essar is proud to join the tradition of Iron Range mining."

The Essar Steel Minnesota facility is Minnesota's largest industrial project.

Steel slabs produced at the plant will be the facility's primary product. Iron ore pellets produced at the plant will be shipped to the Essar Steel Algoma, Inc. steel mill in Sault Ste. Marie, Ontario, and sold on the merchant market along with direct-reduced iron.

About 2,000 construction workers will be needed to build the facility. When complete, the mine, direct-reduced iron and steel slab plant will employ nearly 500 permanent workers and create about 2,000 spin-off jobs.



Governor Tim Pawlenty, who spoke at the groundbreaking, called the project, "a tremendous value-added opportunity," and praised those involved in developing the project.

"The reason we are here today is that we have some great committed leaders who had a vision and a passion and never quit," said Pawlenty. "This is a bright spot for our state, and we want to pursue opportunities like this with all our vigor."

Pawlenty also thanked the Minnesota Department of Natural Resources, Pollution Control Agency, Iron Range Resources and Range legislators for their roles. "For a region or an economy or a state to be globally connected is so important,"

said Pawlenty. "On behalf of Minnesota, we are proud and grateful for this whole effort."

The state supported infrastructure development with \$40 million in bonding, an \$11 million supplemental appropriation, \$14.9 million from the Minnesota 21st Century Minerals Fund and \$6 million in Iron Range Resources project development loans.

"This is an historic event for the Mesabi Iron Range, the state and Essar Steel," said Iron Range Resources Commissioner Sandy Layman. "This project marks the beginning of a new value-added industry on the Iron Range that will generate tremendous economic benefits for our communities, schools, businesses and the state."

The Essar Steel Minnesota facility will be built near the site of the former Butler Taconite Co., which closed in 1986. About 1.4 billion tons of high-quality iron ore reserves remain on the site.

The project, originally known as Minnesota Iron & Steel (MIS), began on September 19, 1996 when MIS was registered as a Minnesota corporation. Since then, the project has undergone several ownership changes.

In April 2007, Essar Steel Holdings acquired the project, then known as Minnesota Steel Industries.

A 7,000-acre land exchange that involved Blandin Paper, Itasca County and the state, was the largest in state history, said state Senator Tom Saxhaug of Grand Rapids.

The jobs and revenue that the project provides will help stabilize school enrollments, create and support businesses and boost tax revenues to local governmental units and the state.

"This is going to be a great opportunity for all the people in our school and on the Iron Range," said Jill LaBine, a Nashwauk-Keewatin High School student who spoke at the groundbreaking.

Tony DePetro, a 74-year-old Nashwauk resident who attended the groundbreaking, said the project will bring, "fresh money" and new jobs to the Iron Range.

"We've had some long hard times up here in the mining industry and this is going to be great," said DePetro. "This is not only going to help Nashwauk, but it's going to help the whole area. The business leaders seem to be doing a good job in bringing in new business."

Essar Steel Holdings is a global steel producer with facilities in India, Canada, the Middle East and Asia.

Dear RangeView Readers:



It's been a ground breaking summer on the Iron Range.

Two highly-anticipated major economic development

projects that will create thousands of good-paying jobs are headed toward completion.

Mesabi Nugget's \$235 million iron nugget plant near Hoyt Lakes and Essar Steel Minnesota, LLC's \$1.65 billion ore-to-steelmaking facility near Nashwauk, will require about 2,500 construction workers, create 600 permanent jobs and spur more than 2,000 spin-off jobs across the Iron Range.

Both projects received financial support from Iron Range Resources and the state Department of Employment and Economic Development.

In June at Hoyt Lakes, Steel Dynamics, Inc. and Kobe Steel Ltd., co-owners of the Mesabi Nugget plant, celebrated construction of the world's first iron

nugget plant.

Steel Dynamics, Kobe Steel, Gov. Tim Pawlenty, the U.S. Department of Energy, Iron Range Resources, the Minnesota Department of Employment and Economic Development, state lawmakers, federal and local elected officials and Mesabi Nugget employees hailed the construction as a milestone in Iron Range history.

Constructing the nugget plant creates a new and higher-value use for Iron Range ore concentrate. Iron nuggets produced at the plant will feed electric arc furnaces at Steel Dynamics' mini mill in Butler, Ind.

Roughly 500 construction workers are needed to build the plant already under construction – and targeted to be complete in 2009. When operational, the facility will employ 100 permanent workers.

Additional iron nugget modules may be constructed at the site. That would bring even more capital investment, construction work and jobs to the Iron Range.

And good news was announced on the other end of the Iron Range.

On Friday September 19, spirits soared when officials of Essar Steel

Holdings Ltd. held a groundbreaking for the Iron Range's first steel mill.

The massive Essar Steel Minnesota iron ore, direct-reduced iron and steel slab facility is the state's largest industrial project. It will require 2,000 construction workers, 500 full-time permanent employees and about five years to fully complete.

Together, these two projects infuse the Iron Range with good-paying jobs and more.

These projects will energize northeastern Minnesota's economy, schools and communities, boosting home construction and retail sales, lifting our collective economic spirit. More of our young people will be able to live, work and raise families on the Iron Range. These projects will bring successful domestic and global corporations to office in our region.

Success often breeds more success. With the birth of these historic projects, more development and employment is on the horizon.

Copper, nickel and precious metals mines proposed by PolyMet Mining Corp, Franconia Minerals

and Duluth Metals hold promise of a new non-ferrous industry. Taconite plant expansions at Keetac and United Taconite, wind energy farms and environmental upgrades at Minnesota Power facilities and the potential for more biofuels facilities in the region lie ahead.

It's been a fabulous summer for the economic future and people of the Iron Range.

But efforts to attract even more good companies and jobs won't stop there.

Iron Range Resources remains dedicated to attracting and assisting in bringing even more high-quality jobs to northeastern Minnesota.

Meanwhile, we extend a warm Iron Range welcome to Mesabi Nugget and Essar Steel Minnesota, our new friends and neighbors.

Sincerely,

Sandy Layman
Commissioner

CLIPS



Bouska assumes new responsibilities

Marianne Bouska has assumed new responsibilities at Iron Range Resources as Director of Human Resources and Strategic Results, effective July 1, 2008.

Bouska will continue to head Strategic Results Management, an Iron Range Resources performance measurement program that she has led since December 2006. Bouska has been employed by the agency since January 2001.

By intensifying its focus on Human Resources, the agency hopes to accelerate professional development efforts across the agency and more quickly assess and address classification and hiring needs.



Richter leads business development effort

David Richter has been awarded a contract to provide business development and recruitment services to Iron Range Resources.

Richter was born and raised in Virginia, Minn., graduating from Roosevelt High School in 1972. He attended Montana State University, Mesabi Community College and graduated from the Carlson School of Management at the University of Minnesota in 1977.

Richter has owned and operated several businesses and has 25 years of executive experience. "It is rare to have an opportunity to apply one's career experience in your home region," said Richter. "With support from the agency, its board members and Range business leaders, I will immediately engage all qualified opportunities to get them to start-up, expand or relocate on the Iron Range."

Richter and his wife reside at Giants Ridge in Biwabik and Circle Pines, Minnesota. He can be reached at: David.Richter@RangeGrowth.com or (218) 744-7320.



Mesabi Nugget celebrates construction

On June 11, officials of Mesabi Nugget celebrated construction of the world's first iron nugget facility. Gov. Tim Pawlenty joined Steel Dynamics, Inc., Kobe Steel, Ltd., Iron Range Resources, elected officials and Mesabi Nugget employees at the construction site and at a Hoyt Lakes Community Center luncheon. The \$235 million iron nugget plant is being built at the site of the former LTV Steel Mining Co. taconite plant near Hoyt Lakes. Steel Dynamics officials also plan to reopen an iron ore mine at the site and construct a \$165 million facility that will concentrate ore to feed the nugget plant.

RangeView

RangeView is a publication of Iron Range Resources featuring the resources and opportunities of northeastern Minnesota. The state agency has a regional focus to diversify the economy of northeastern Minnesota.

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Minnesota Twist Drill

Walking on clouds rather than eggshells

Minnesota Twist Drill's employees and co-owners are walking on clouds rather than eggshells.

One of the Iron Range's most remarkable business turnarounds came full circle in April when Minnesota Twist Drill Inc., a Chisholm-based drill bit manufacturer, received the Joel Labovitz Emerging Entrepreneur award.

"Being honored with that award means a great deal to us," said Scott Allison, one of seven local Minnesota Twist Drill co-owners. "Our employees are extremely proud, and the response we received from people on the street was overwhelming. Everybody has been shaking our hands and saying, 'congratulations.'"

Minnesota Twist Drill began in the late 1960s as Mesabi Drill. The company went through several ownership changes in the 1980s and 1990s.

A surge in the volume of imported drill bits, a struggling domestic economy and a failed attempt to sell drill bits under a brand name rather than supplying non-branded bits to large tool producers, in 2003 forced then-owner Cincinnati Milacron to consider closure.

"Everybody here was walking on eggshells," said Allison. "Everybody was waiting for the big honcho to come in and say, 'close it down.'"

However, a group of seven local

investors, some who had held earlier ownership in the plant, banded together and on Sept. 1, 2003, bought the facility.



Minnesota Twist Drill employee, Mel Cogger, retools a machine at the company's plant in Chisholm.

After a weeklong reorganizational shutdown, many longtime employees returned to work. Some former employees who had been laid off during tough times were rehired.

"The transition went smoothly because we have good people here," said Allison.

"American Bank in Hibbing and Iron Range Resources provided financial assistance. Support from area legislators and the Job Opportunity Building Zone (JOBZ)

program, a Gov. Tim Pawlenty local and state tax exemption initiative to stimulate economic development activity, was also key," said Allison.

Co-owners today are Allison, Terry Bergum, John Dosen, Jim Fena, Paul Janssen, Al Lambert and Jon Larson.

Since the restart, employment has expanded to 90 from 45. Annual revenue has more than tripled to \$16 million from about \$5 million.

"It was a big leap of faith not knowing what our future held," said Allison. "It was many, many months before our sales group reconnected with our former private label

companies. At first we just asked for a little bit of their business. But we knew if we could reacquire the old private label business, that we could make this company go."

Minnesota Twist Drill currently manufactures about 100,000 high-speed steel drill bits per day, more than triple the 30,000 produced in 2003. The 1/16th inch to 1/2-inch bits are sold to major toolmakers such as Black & Decker and Irwin. Those companies brand the bits with their own label.

"This is the model of a company and what it can become when employees and local investors invest in the community," said Elaine Hansen, director of the University of Minnesota Duluth Center for Economic Development. "They knew the company, they knew the product, they knew the market and what's happened is that a good company has emerged."

Employees and management are confident about the facility's future, said Allison.

"We're a very comfortable company at our capacity of 100,000 drill bits per day, but we're looking at new markets," said Allison. "We've been doing a lot of research, and we would like to maybe start exporting to China. I believe our employees feel like they're in a stable job now and they trust us. I think everyone here feels a lot better."

Engineers in high demand

Local college prepares engineering students for Iron Range workforce

Itasca Community College is gearing up its already popular engineering program to meet a growing demand for engineers in northeastern Minnesota.

engineering firms are in need of engineers to replace retirees, said Ulseth.

In addition, about \$5 billion in new mining or energy-related proj-

Cleveland-Cliffs and U.S. Steel in the last two years have hired 20 of our engineers at their existing facilities. As the new projects that are proposed come on line, those former grads and other engineering graduates are going to be highly sought."

Itasca Community College's two-year engineering program, coupled with the introduction of engineering classes into area high schools through the Applied Learning Institute, is stepping up the interest, enrollment and graduation of engineering students in the region.

From 1992 to today, Itasca Community College's engineering program has grown to 160 students from 20 students.

Even more of the region's top-notch students will join the engineering program this fall under a Blandin Foundation scholarship program that provides \$8,000 scholarships to eight Itasca Community College engineering students per year for the next five years.

In addition, a \$100,000 grant from the Applied Learning Institute is funding the purchase of a mobile laboratory that's being used by Itasca engineering instructors at area high schools. And a national initiative, called Project Lead the Way, partners the college's engineering program with engineering classes at high schools in Grand Rapids, Nashauk-Keewatin, Deer River and Greenway.

All of the efforts are aimed at

making engineering an attractive career option for northeastern Minnesota students.

"The key is you have to educate parents and high school teachers as to the desirability of going into engineering," said Aaron Wenger, who from 1983 to 2000 taught and helped develop the ICC engineering program. "You need to be able to convince a kid who is sitting in a math class and who has some talent that you can go into engineering and in four or five years have a good job."

Most of Itasca's engineering graduates move on to complete their four-year degree at the University of North Dakota, University of Minnesota Duluth, University of Minnesota, Minnesota State University Mankato, St. Cloud State University, North Dakota State University, or Michigan Technological University.

Itasca's program includes five engineering instructors and four science and math instructors and prides itself on personal attention.

In addition to individual engineering instruction, students take part in sculpture, photography, music, poetry and an engineering basketball league.

"We want our engineers to be innovative, creative people," said Ulseth. "The number one thing is personal attention. We're on a first-name basis. Everybody connects with somebody."



Engineering students work on a project at Itasca Community College, Grand Rapids.

"The job prospects for engineers are great and getting greater," said Ron Ulseth, Itasca Community College engineering instructor.

"In the 1990s, about 10 percent of our engineering graduates were able to come back to the region to work. Right now, about 50 percent are coming back. An even higher number could be coming back in the future."

Iron Range taconite mines, paper mills, power producers and

ects proposed across the Mesabi Iron Range will require engineers for the research, design and development of new facilities, said Ulseth.

"I think the demand is going to be very high," said Ulseth, an ICC engineering instructor since 1992. "When I graduated from college in the late 1980s, students wanted to come back, but they first had to go somewhere else and get some experience. Now, the pipeline from the universities to here is huge.



BUSINESS
IS BEAUTIFUL

Taconite mining expansion

Good for the Range

On a sunny July 31, 1884, day the first trainload of iron ore produced in the state pulled away from the Minnesota Mine near Tower in ten, 20-ton wooden ore cars.

Joyous mining company officials, miners and family members lined up to toss chunks of iron ore into the cars for good luck, according to *Minnesota's Iron Country, Rich ore, Rich lives*, a book authored by Iron Range historian Marvin G. Lamppa.

"When mining began, it opened up this whole area of northern Minnesota," Lamppa told RangeView. "Without iron ore, the Iron Range would not exist. There would be absolutely no reason to be here. Because lumber would have had to flow north on rivers, it wouldn't have been cut. Mining is what we have."

More than a century later, iron ore mining remains the high-octane economic engine of northeastern Minnesota's economy.

Since that celebrated day in 1884, about 4.6 billion tons of iron ore have been shipped off the Iron Range.

Ore mined from the Iron Range has been turned into steel at domestic mills to build roads, bridges and buildings across the United States. It's been used to form consumer products such as appliances, automobiles and

trucks. It was the raw material that helped America win world wars.

Iron Range ore today is the primary ingredient used to manufacture everything made of steel, from paper clips to ships.

Iron mining remains king of the Iron Range.

"When you think about it, you have to look at mining and what it provides," said Lamppa. "It's in the glasses you wear, in the automobile that you drive and in the house you live in. All of that is a result of mining."

Iron Range taconite mining employs more than 3,000 workers and generates an additional 10,000 to 12,000 spin-off jobs.

The industry each year pumps about \$1.2 billion into the local, regional and state economy through wages, taxes, benefits and purchases. Taxes paid by the industry in lieu of property taxes help cities, townships, counties, schools, Iron Range Resources and provides property tax relief to homeowners. Royalties support scholarships to University of Minnesota students.

"Because the industry's been here for a couple of generations, we almost take it for granted," said Craig Pagel, Iron Mining of Association president. "So many of us in our everyday jobs, in a portion of the salary that we receive, are tied to iron mining on the Range. I don't know if some of the cities outside of the Range understand what the Range means to their



Furnace #5 at Northshore Mining Company, Silver Bay.

Northshore Mining Company

In mid-March, a Northshore Mining Co. pelletizing furnace idled for 26 years, re-awakened as the result of a \$40 million investment by owner Cleveland-Cliffs, Inc.

The Furnace No. 5 reactivation project increases Northshore Mining Co.'s annual pellet production capacity by 800,000 tons to 5.6 million tons.

"The primary opportunity was the market demand for pellets," said Mike Mlinar, Northshore Mining Co. general manager. "It's a way that Cleveland-Cliffs could capture some of that demand and put nearly an additional million tons into the market."

In 1955, Furnace No. 5 was built as one of the first of eight pelletizing furnaces at what was then Reserve Mining Co.

The furnace was idled in 1982 in the midst of a nationwide steel slump.

Reserve Mining Co. in 1986

declared bankruptcy. From 1987 to 1989, the facility and its taconite mine in Babbitt, were shut down.

The facility reopened in 1989 under the ownership of Cyprus Minerals Co.

Cleveland-Cliffs, Inc. in 1994 bought the facility from Cyprus and became 100 percent owner and manager.

The reactivation creates 30 new jobs, split nearly equally between Northshore Mining Co.'s Peter Mitchell mine in Babbitt and its Silver Bay processing plant. With the new jobs, Northshore has about 550 employees.

Northshore also reactivated two concentrator lines, upgraded environmental controls and added a new drill and dozer to its mine fleet. About 100 construction workers were required.

"It's been running great," Mlinar said of the reactivated line. "The mechanical reliability has been better than projected and the production rates have exceeded our expectations."

In June, Northshore Mining Co. hosted a Furnace No. 5 dedication.

About 250 current and former workers, citizens and dignitaries attended the dedication.

"It leads to a good sign of securing our futures," said Mlinar. "Anyone who lives in this community recalls when Reserve closed down. This is a much better sign, and community members were very supportive of this in helping us secure the permits. It's a sign of Cleveland-Cliffs' confidence in Northshore, and a confirmation that they trust in us."

Keetac Minnesota Ore Operations

U.S. Steel is planning a capital investment program of more than \$300 million at its Keetac facility in Keewatin to increase annual iron ore pellet production by 3.6 million tons and enhance Minnesota Ore Operations' overall environmental performance.

Under the program, a pellet production line idle since 1980 would be restarted. The restart would include energy-efficient technologies and the addition of new emission controls that would exceed current environmental standards.

The restart would create 75 full-time steelworker and 500 temporary construction jobs.

Keetac currently employs 380.

"It's a strategic investment in our raw materials initiatives," said Courtney Boone, U.S. Steel public affairs manager. "We have been on the Mesabi Range for more than 40 years at Minntac and now at Keetac. It's a great opportunity to be able to provide high-quality ore to our Canadian customers, which allows us to continue to put forth a high-quality steel product to our customers."

U.S. Steel in 2007 acquired



Keetac U.S. Steel Minnesota Ore Operations, Keewatin.

Stelco, Inc., a Canadian steelmaker. Iron ore pellets produced from a Keetac expansion would help feed Stelco.

This summer U.S. Steel worked with state regulators to draft permit applications for the Keetac project.

"U.S. Steel's Minnesota Ore Operations have been providing iron-bearing pellets to our operations in the United States and Europe for many years," John Surma, U.S. Steel chairman and chief executive officer said in a news release announcing the investment plan. "In 2007, we expanded our steelmaking operations into Canada, creating an opportunity to increase our production at Keetac in order to provide the same high-quality product to our Canadian operations. We look forward to working cooperatively with Gov. Tim Pawlenty, the federal, state and local elected officials representing the Iron Range, the United Steelworkers, the Building Trades in Minnesota and other stakeholders involved in this important project."

Following permitting, it would

nsions and restarts

economies.”

For decades, the health of Minnesota’s iron ore industry has been cyclical, highly dependent on the domestic steel market’s well being. It remains that way.

But in recent years, as growing economies in China and India build infrastructure and modernize, iron ore has become one of the world’s hottest commodities.

Today, the world price for a ton of iron ore pellets as sold by Canadian iron ore producers is about \$152 per ton, up 474 percent from about \$32 a ton in 2002, according to Peter Kakela, a Michigan State University taconite industry analyst.

Strong demand for iron ore is attracting international investment on the Iron Range from companies such as Laiwu Steel Group of China, ArcelorMittal of Luxembourg, Kobe Steel of Japan and Essar Steel Group of India.

“The steel industry has attracted a lot of international companies over the last few years,” said Kakela. “In fact, I have heard that over 50 percent of North American steel capacity is owned by companies whose corporate offices are outside of North America.”

Minnesota iron ore pellet production in 2008 is projected to be about 39 million tons, according to the Minnesota Department of Revenue Minerals Tax Office.

But even better times may be ahead.

The reactivation of an idled production line at Cleveland-Cliffs, Inc.’s Northshore Mining Co. in Silver Bay and a proposed production line restart at U.S. Steel’s Keetac plant in Keewatin and expansion at United Taconite in Forbes, in coming years could increase Minnesota’s annual iron ore pellet production to its highest level in more than a decade.

The restarts mean more jobs, more revenue and a bigger place for the Iron Range in the iron ore market.

“This is a response to the world market for steel and mining products,” Pagel said of the restarts. “It’s an opportunity for the operating companies in northeastern Minnesota to reinvest in their facilities and reinvest not just for production purposes, but for efficiencies to hopefully stay competitive when demand for steel lessens.”

See stories below for details on production increases.



plant in Forbes will begin late this year or early 2009.

The Green Production Project will reduce greenhouse gases, mercury and other air pollutants and increase United Taconite’s annual iron ore pellet production to 6 million tons from its current 5.3 million tons, according to Cleveland-Cliffs, owner and operator of the taconite plant.

The \$104 million investment includes about \$35 million to retrofit the plant to burn lower-emitting fuels and the addition of new emission control equipment.

The project will create 24 new jobs at the taconite plant. United Taconite currently employs about 557.

“The Green Production Project is a win-win proposition – for the environment and for operations at UTAC,” said Dana Byrne, Cleveland-Cliffs vice president of public and environmental affairs. “When all improvements are in place, UTAC expects to have the lowest combined emissions per ton of taconite produced of any facility operating in Minnesota and will have the added potential to reduce emissions further.”

United Taconite currently uses a combination of fuels including natural gas, fuel oil, petroleum coke and Eastern coal to fire iron ore pellets in its two kilns.

The Green Production Project will allow the enhanced blending of fuel and the use of lower-emitting fuels, resulting in substantially less use of petroleum coke and natural gas in favor of lower sulfur coal and biomass, according to Cleveland-Cliffs.

Overall, sulfur dioxide, nitrogen oxides and particulate matter per ton of pellets produced would be reduced by about 37 percent; greenhouse gas emissions per ton of pellets produced would be reduced



Cleveland-Cliffs’ United Taconite plant in Forbes plans to expand the concentrator line.

take about 36 months to modernize and improve the pellet production line.

The project would include upgrades to the mining, concentrating and agglomerating processes needed to support the production increase. Additional mining equipment and processing equipment would be purchased.

With a restart, the taconite plant could produce about 9.6 million tons of iron ore pellets annually.

The expansion would make Keetac the second largest taconite plant in North America.

U.S. Steel’s Minntac Mine in Mountain Iron is North America’s largest taconite plant.

The two facilities are known as U.S. Steel’s Minnesota Ore Operations.

United Taconite LCC

Construction on a \$104 million environmental upgrade and 700,000-ton iron ore pellet expansion at United Taconite’s production

by up to 30 percent; mercury emissions per ton of pellets produced would decrease by 14 percent; and Line 1 particulate emissions would be controlled by more than 99 percent through the use of a new wet electrostatic precipitator.

In addition to the environmental improvements, upgrades in the plant’s concentrator and pellet plant would allow for an increase of 700,000 tons of iron ore pellets per year.

By renovating the plant, United Taconite would be able to burn Renewafuel, a next-generation biofuel with substantially fewer greenhouse gas, sulfur dioxide and mercury emissions than fossil fuels. Renewafuel is a renewable energy cube made from a proprietary blend of sustainably collected feedstock such as wood, sawdust, corn stover, straw, paper, grasses, grains, and grain and seed hulls and screenings.

Cleveland-Cliffs owns 70 percent of Renewafuel, the Cleveland-based company that produces the wood-based biofuel.

Officials of Cleveland-Cliffs say the company plans to construct a

Renewafuel plant in northeastern Minnesota.

Activities by the numbers

Northshore Mining Co.

- Capital investment **\$40 million**
- Additional pellet tons **800,000**
- New jobs **30**

*Keetac

- Capital investment **\$300 million**
- Additional pellet tons **3.6 million**
- New jobs **75**

*United Taconite LLC

- Capital investment **\$104 million**
- Additional pellet tons **700,000**
- New jobs **24**

* proposed expansion

Green, the color of success

Mineland Reclamation marks 30 years of reclaiming abandoned mining properties

It's been 30 years since Iron Range Resources' Mineland Reclamation program began reclaiming, restoring and reforesting publicly owned lands across the Taconite Assistance Area (TAA).

recreation. "It really has done a lot over the years," said Olson of the program. "There have been a lot of safety and beautification projects done all along the Range. We made a lot of

all brown. I've flown over the Range since then, and now it's all green. What Mineland Reclamation has done has helped the area look better."

Mineland Reclamation has remedied serious safety issues such as hazardous open underground mine shafts, unfenced open pits and dangerously steep pit walls.

Two of the largest mine reshaping projects were at the Judson Pit in Buhl and St. James Pit in Aurora.

"When former (Iron Range Resources) Commissioner Pat McGauley and I went to the Judson Pit, we could see kids playing near it, and there was a 75 to 100-foot drop straight down the pit wall," said Olson. "It was a little bit scary."

Under Mineland Reclamation, the Judson pit walls were re-contoured, making it the state's only totally reshaped mine pit. The pit is now a popular fishing and recreation area.

When the city of Aurora's water supply was threatened due to sloughing walls at the St. James Pit, Mineland Reclamation moved to reshape and revegetate the pit, protecting water for city residents.

"It was rewarding work," Svatos said of Mineland Reclamation projects. "I drive around now and can't go a mile without seeing one of our projects. There's not a community around that hasn't been touched by Mineland Reclamation."

Today, Mineland Reclamation is a lead partner in the Laurentian Vision Partnership, a region-wide coalition that's promoting sustainable mining and the reshaping of



St. James pit, Aurora, bank stabilization.

"I remember our first effort was tree planting on mine dumps overlooking Hibbing," said Orlyn Olson, Mineland Reclamation director from 1977 to 1993. "It was just northwest of the city. We had the governor (Gov. Rudy Perpich) up along with a big group of people."

Since that initial tree planting, Mineland Reclamation has grown to become the TAA's leader in revegetating, restoring and reshaping mineland into safe and usable property.

Over three decades, the program has partnered to grow and plant millions of tree seedlings; stocked trout in water-filled mine pits; developed wildlife habitat and reshaped disturbed minelands for new homes, businesses, tourism and

mining areas safe that were unsafe."

Created by the Minnesota Legislature in 1977, the program in 1978 began reclamation, restoration and reforestation.

Early work included compiling an inventory of minelands, researching mineland reclamation technologies and initiating rudimentary reclamation.

The broad legislative mandate allows Mineland Reclamation to participate in reforestation, wildlife preservation, community enhancement and the development of public water accesses, campgrounds, recreational areas and industrial parks. "I remember what it looked like 30 years ago," said Ray Svatos, former Mineland Reclamation director. "The top of the mine dumps were



Planting trees on top of a mine dump at United Taconite in Eveleth

Mineland Rec by the numbers

1982 to 1991

Operated tree growth chamber at Hill-Annex Mine in Calumet

1991

Opened new chamber at Ironworld in Chisholm.

300 +

Projects completed 1977 to 2008.

4.5 million

Tree seedlings planted 1977 to 2008 in Taconite Assistance Area.

16

Mine pits stocked with trout.

183,370

Pounds of trout stocked 1984 to 2008.

mining sites into productive future landscapes.

"We have really cleaned up the area and are improving the quality of life," said Dan Jordan, current Mineland Reclamation director. "We will continually try different things to improve the environment."



Rainbow Trout stocked into Lake Ore-Be-Gone, Gilbert.

Yvonne Prettner Solon

Yvonne Prettner Solon has spent her life helping others. “I’ve worked in health care for 40 years,” said Prettner Solon, a 1979 University of Minnesota Duluth psychology and social work graduate. “I always knew that I would go into psychology and social work. But I often struggled whether it was more valuable to do research or clinical work.”

Prettner Solon’s history of working in the health care field includes operating a halfway house in Duluth for recovering female alcoholics, working as a psychologist at the Range Mental Health Center in Virginia and a clinical psychologist supervisor and director at St. Luke’s Hospital in Duluth.

Yet, she always remained interested in politics.

“I was president of our student council in high school,” said Prettner Solon. “It was a kids’ thing, but I remember that my classmates printed up a business card that said, ‘First woman president,’ on it.”

The death of her husband, the late Sen. Sam Solon in 2001 brought her into the legislature.

Solon, a respected Iron Range Resources Board member from 1979 through 2001 and a Senate and House member for 31 years, died of malignant melanoma, a recurrence from 17 years earlier.

“The day after his funeral, 35 people showed up at my door and said, ‘You have to run,’” said Prettner Solon. “I was grieving, but it made sense to me to finish his work that year.”

Prettner Solon had served on the Duluth City Council from 1988 to 2000. But she stepped out of politics after being diagnosed with breast cancer in 1999.

“I decided not to run for a fourth term on the council and to just take care of myself,” said Prettner Solon.

However, with her cancer beaten, Prettner Solon won her husband’s seat in a special election in 2002, was re-elected later that year and won re-election again in 2006.

Prettner Solon has been an Iron Range Resources Board member since 2003.

“I have a great love of the Iron Range,” said Prettner Solon, who in the 1980s lived in Mountain Iron for two years while working for Range Mental Health Center. “I’m really an outsider trying to create some balance and support the board. You have very strong members on the board who are very passionate about representing the average person on the Range. I love the country and the beauty of the Iron Range. The Iron Range mining industry creates benefits for the entire state and is supported by the entire state. We have the port and rail system in Duluth that supports the Iron Range, so Duluth and the Iron Range are linked together by the mining industry.”

Prettner Solon has become recognized for her leadership on health care issues.

“Health care is truly my passion,” said Prettner Solon. “I would like to see everybody receive health care coverage and have health care affordable for middle income people.”

Another passion is golf.

Prettner Solon plays golf at courses in Duluth, Cloquet and on the Iron Range.

“I play in a casual league on Tuesday evenings and try to take in all the fundraisers I can,” said Prettner Solon. “I usually play two

to three times a week.”

Prettner Solon fell in love with golf at about the same time she fell in love with her late husband.

“He had golfed in the past, and we took group golf lessons together,” said Prettner Solon. “My husband and I just loved the fresh air and walking. It’s good exercise and after being cooped up in an office, it allows you to get out into nature, hear the birds sing and become a part of the environment. If I could spend the rest of my life on a golf course, I’d be thrilled.”



About Yvonne Prettner Solon

Senator Yvonne Prettner Solon was raised in Minneapolis. At age 12, she moved to Duluth when her father, a Westinghouse Electric elevator repairman, was transferred.

She attended St. John’s elementary school in Duluth and Stanbrook Hall, a girls’ prep school at the College of St. Scholastica.

After graduating in 1979 from the University of Minnesota Duluth, she earned a Master’s degree in psychology from the University of Minnesota. Prettner Solon is chair of the Senate Energy, Utilities, Technology and Communications committee and is a member of the Capital Investment, Commerce and Consumer Protection, Finance – Health and Human Services Budget Division and Health, Housing and Family Security committees. She also serves on the Great Lakes Commission.

Prettner Solon is widowed and has two grown children and one grandson.

Giants Ridge® golf has scored again

Accolades abound for Giants Ridge golf



The Quarry, one of two 18-hole championship golf courses at Giants

Ridge in Biwabik, has for 2008 received GolfWeek magazine’s No. 1 ranking on its list of best public access courses in the state.

“It’s a beautiful course,” said Martin Kaufmann, Golfweek managing editor, who played The Quarry and Legend courses at Giants Ridge in early June. “The course was in beautiful shape when I played it, even though it had only been open two weeks.”

Giants Ridge is a first-class four season destination resort owned by



Hole 14 on The Quarry at Giants Ridge.

Iron Range Resources.

The Legend, the first 18-hole championship golf course built at Giants Ridge, opened in 1997.

The Quarry opened in 2003.

It’s not the first award for The Quarry and Legend.

The two par 72 courses, set amidst the woods of northern Minnesota, are consistently garnering top accolades from national golf publications and state golf organizations.

Both courses – along with The Wilderness at Fortune Bay Resort Casino – were featured in the August edition of *Golfweek*.

In addition to Giants Ridge being honored by the rankings, significant positive exposure has been gained from articles in national golf publications, said John Kendall, Giants Ridge director of golf.

“Most people that are avid golfers read about golf quite a bit,” said Kendall. “To be named the best when there are a number of high-quality public golf courses in the state is pretty nice.”

Kaufmann says the two courses offer vastly different golf experiences and are a short travel distance for regional and Twin City golfers.

“The thing that strikes me is how

different the two courses are,” said Kaufmann. “A colleague of mine from Minneapolis came up with a friend of his about a week before I played. They played both courses and drove home at the end of the day. It’s a good option for people from the Twin Cities.”

The Legend, a 6,930-yard course, lies within a northeastern Minnesota forest and adjacent to scenic lakes. The Quarry, 7,201 yards, is carved from a former sand and rock quarry.

Both courses offer four sets of tees to accommodate all skill levels.

“The Quarry has the best variety of par fours that I have ever seen,” said Kendall. “It has some great short par fours and some long par fours. I will hit almost every club in the bag when I play The Quarry. From the back set of tees, it’s one of the hardest in the state.”

For additional information, visit www.giantsridge.com.

Scenic fall color drives

You don't have to drive far to find color

Fall is the time of the year when nature turns northeastern Minnesota's woods into a life-size easel of magnificent colors.

Whether it's the rugged fall scenery of the North Shore, the natural splendor of the Iron Range, or the lush forests of the Grand Rapids area, treasured memories, stunning photographic opportunities and the chance to relax and enjoy some of the nation's most pristine surroundings, are only a few miles away.

Take your time. Take your camera. For the best photo lighting, travel west in the morning and east in the afternoon. Be safe. And enjoy.

1. Gunflint Trail

The Gunflint Trail Scenic Byway starts in the picturesque Lake Superior shore city of Grand Marais and winds northwest near the Boundary Waters Canoe Area Wilderness.

The byway passes through a thick boreal forest of pine, aspen, birch and maple stands.

Hiking trails spur from the main road, leading to remote Northwood lakes created by ancient glaciers. Plentiful flora and fauna line the trail.

Be sure to keep your eyes open for wildlife such as deer, loons, bald eagles and moose.

2. Lutsen-Tofte / North Shore

At Tofte, follow the marked road signs onto County Road No. 2, otherwise known as the Sawbill Trail. At Lutsen, follow the marked signs onto County Road No. 4, otherwise known as the Caribou Trail.

Road signs along each trail direct visitors to points of interest such as the Temperance River Vista, Heartbreak Ridge, Oberg and Leveaux Hiking Trail, Britton Peak and the state's largest maple syrup business.

Because of temperature swings, two seasons of fall color occur along the North Shore, the first generally peaking between Sept. 10 and Sept. 20 and the second peaking between Oct. 5 and Oct. 20.

3. State Highway No. 1

Winding through the heart of the Superior National Forest, Highway No. 1 connects Ilgen City and Ely, a gateway to the Boundary Waters Canoe Area Wilderness.

Take your time traveling this byway and enjoy the sun-splashed hues of hardwood trees signaling the end of another growing season.

If your fall tour ends up in Ely, take time to visit the International Wolf Center and North American Bear Center.

4. Superior National Forest Scenic Byway

The smooth Superior National Forest Scenic Byway, also known as Forest Highway 11, connects the North Shore to the Iron Range.

In addition to being a spectacular fall color drive, wildlife such as deer, moose and various species of birds are often seen.

The Skibo Vista road south of Hoyt Lakes along County Road No. 110 stands at the location of a former fire lookout tower. Take the short road to the top of the vista for a stunning overview of the area. Two side excursions are along Forest Road 118 (Camp 26 Road), which connects with Highway 4 and Forest Road 416, a one-lane gravel road with turnouts.



5. State Highway No. 135

Don't miss this short and easy autumn drive between Aurora and Tower.

Highway 135 passes along the Laurentian Divide, which divides the flow of water south to Lake Superior or north to Hudson Bay.

The highway is one of the Iron Range's most colorful fall routes, passing through rolling hills and thick woods.

6. Echo Trail

One of northern Minnesota's true wilderness trails, the Echo Trail

curves through the Superior National Forest and is bordered on both sides by the Boundary Waters Canoe Area Wilderness.

You can pick up the trail, also signed as County Road 116, at Winton, just north of Ely. Or you can access the trail by traveling north to Buyck from Cook or Orr.

Along the way, you will pass through Burntside State Forest and Lake Jeanette State Forest. Travel north on Country Road 24 from Buyck to Crane Lake to visit Vermilion Falls or the Vermilion Gorge.

7. Ash River Trail

At the southern edge of Voyageur's National Park, the eight-mile long Ash River Trail offers motorists one of northeastern Minnesota's most scenic drives.

Signed as County Road 129, the Ash River Trail takes travelers to the Voyageur's Forest Overlook. Along the route are the Ash River State Campground and the historic Ash River Visitor Center.

8. Grand Rapids

Stately hardwood trees abound in this portion of the region, also known for its crystal blue lakes.

Take the 89-mile long Hundred Lake Tour from Grand Rapids north on Highway 38 to Bigfork, south along Scenic Highway 7 to Taconite and then back to Grand Rapids on Highway 169.

The Avenue of Pines Tour is 86 miles from Grand Rapids on Highway 2 to Cut Foot Sioux Lake, Highway 35 to Talmoon, Highway 286 to Marcell, and south on Highway 38 to Grand Rapids.

Off the Beaten Path route runs 127 miles on Highway 38 from Grand Rapids to Effie, Highway 1 to Togo, Highway 65 to Nashwauk and back to Grand Rapids on Highway 169.

The Southern Ramble is 108 miles starting in Grand Rapids along Highway 169 east to Pengilly, Highway 65 through Goodland and Swan River to Jacobson, Highway 200 through Hill City to Remer and Highway 6 back to Grand Rapids.

Another option is Highway 65 north from Nashwauk to Togo, west on Highway 1 to Effie and south from Bigfork on either Scenic Highway 7 or Highway 38.

For further information on northeastern Minnesota fall color drives and links to communities and destinations, visit: www.NEminnesota.com



Photos: Explore Minnesota Tourism