

1997-98 SESSION
COMMITTEE HEARING
RECORDS

Committee Name:

Senate Committee on
Agriculture and
Environmental
Resources
(SC-AER)

Sample:

- Record of Comm. Proceedings
- 97hrAC-EdR_RCP_pt01a
- 97hrAC-EdR_RCP_pt01b
- 97hrAC-EdR_RCP_pt02

- Appointments ... Appt
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- Committee Hearings ... CH
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- Committee Reports ... CR
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- Executive Sessions ... ES
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- Hearing Records ... HR
- 97hr_sb0003_pt02
- Miscellaneous ... Misc
-
- Record of Comm. Proceedings ... RCP
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**Testimony by
Dale Alberts**

February 17, 1997

Good afternoon, Senator Causing and members of the Committee.

My name is Dale Alberts and I am the Public Affairs Manager for the Crandon Mining Company. I have been involved in the mining industry for more than 20 years and I have served in a number of administrative and operational roles. My responsibilities have included legislative affairs on both a federal and state level, international negotiations and environmental and regulatory affairs.

I am pleased to be with you today to talk about the modern mining industry and the mining ban bill your committee will consider. I also have a new study to tell you about, a study that puts to rest the question of whether mining can -- and is -- being done in an environmentally responsible manner. After my remarks, I would be pleased to address any questions you might have.

Let me begin by talking a bit about Wisconsin's mining industry . . . past, present and future. As you are aware, Wisconsin's mining heritage is commemorated on our State Flag, where a miner and mining tools are prominently displayed. Our state's Badger nickname pays homage to the early lead miners. Mining began here before our state did, in 1825.

Today, Wisconsin is home to the Flambeau Mine in Ladysmith, a model of modern mining. Operating since 1993, the Flambeau Mine uses state of the art technology, best engineering practices and sound science to meet Wisconsin's comprehensive mining laws. If seeing is believing, ladies and gentlemen, I would respectfully suggest any of you who have not done so, should tour the Flambeau Mine.

Today 10,000 jobs in Wisconsin depend on mining. The men and women who work at Harnischfeger in Milwaukee or Warman Pumps in Madison or Foth & Van Dyke here in Green Bay provide the services, the equipment and the expertise that makes modern mining possible.

And today, the Crandon Mining Company is engaged in Wisconsin's permitting process in order to earn the necessary permits to build, operate and reclaim the environmentally responsible Crandon Mine. We are committed to working with the people of the Crandon area, with the state's regulators and with you, the elected representatives of the people of this State, to make this project a model of modern metallic mining.

Crandon Mining Company believes that environmentally responsible modern mining is the only type of mining allowed in this great state. We believe Wisconsin's laws are tough, demanding, and

comprehensively enforced. We believe the combination of sound science, proven technology and our dedication to ensuring this project provides the economic benefits of mining, provides the minerals on which our society depends and protects the natural resources we all value make the Crandon Mine project one of the best examples of what modern mining is all about.

But there are other examples of modern mining, and that's an important part of what I have to share with you this afternoon. I am here to tell you there are mines across the Country -- and right here in Wisconsin in Ladysmith -- which comply with tough laws, meet stringent standards, and mine sulfide ore. They exist in pristine, high-altitude environments. They exist close to -- and in some cases within -- the city limits of towns and cities around the country. They create tailings that are successfully and effectively managed. They provide jobs. And these mines, ladies and gentlemen, leave behind a legacy of good corporate citizenship, environmental sensitivity and reclaimed landscapes that are in many cases better than the landscape they found.

Shouldn't those be the criteria by which we judge mines? Instead, the bill you are considering uses criteria for determining what constitutes environmentally responsible mining that are arbitrary, inappropriate and, most importantly, meaningless when it comes to measuring environmental performance.

A newly released study of environmental practices in the mining industry, *Results and Thoughts Regarding a Survey of North American Metallic Mineral Mines* includes a close look at this bill's definition of environmentally responsible mining: namely, that a "mining operation has operated in a sulfide ore body in the US and Canada for at least 10 years without polluting groundwater or surface water from acid drainage at the tailings site or at the mine site from release of heavy metals" and that a mining operation that did "operate in a sulfide ore body has been closed for at least 10 years without polluting groundwater or surface water from acid drainage at the tailings site or at the mine site from release of heavy metals."

There are about a dozen mines in Southwestern Wisconsin, our state's historic mining area, that meet those criteria. And the study identifies six additional modern mines that have spotless environmental records, have operated for 10 years but don't meet the bill's arbitrary 10 year closure "criteria." They are the Henderson Mine and Mill in Empire, Colorado; The McLaughlin Mine in Lower Lake California; The Cannon Mine in Wenatchee, Washington; the Viburnum Mine No. 27 in Viburnum Missouri; The Stillwater Mine in Nye, Montana and the Flambeau Mine in Ladysmith.

Let me make my point once again; these are metallic, sulfide mines that use proven technology and sound science to comply with comprehensive state and federal laws.

The study took a year to complete, involved more than 150 contacts with mines, regulators and environmental groups around the Country. The authors, respected environmental experts, evaluated environmental practices and principles at modern mines and identified active, reclaimed, closed and partially closed mines that use state of the art technology, best engineering practices to protect the environment and comply with modern, stringent regulations.

All but the Flambeau Mine involve tailings areas. Several are very large operations. All are operated, or have operated, without harming ground or surface water.

I hope this study quashes the recurring claim of mining opponents that mining is incompatible with environmental protection. Its time to move on and focus on what should really be the key issue: how can the people, elected officials and decision makers in this State reasonably, accurately and meaningfully assess the performance of modern mines and the modern mining industry?

They should ask themselves three questions:

"Are Wisconsin's mining laws comprehensive enough, stringent enough and properly enforced?" The answer is yes. Wisconsin has some of the toughest mining laws in the Country and the permitting process for metallic mines is rigorous and extensive. Before being granted necessary permits, a company must prove it can build, operate and reclaim a mine that will not harm human health and safety, air, ground or surface water, endangered species, or the local economy. The legislature has delegated responsibility for overseeing and administering Wisconsin's mining laws to the Wisconsin Department of Natural Resources.

I know Tom Myatt is here to discuss the Flambeau Mine in more detail, but let me give you just a brief sketch of that project. The first mine permitted under our current mining laws, Flambeau is an open-pit copper mine located close to the Flambeau River. It opened more than four years ago. Reclamation will begin next year.

But during the permitting process for that project, mining opponents claimed that if the mine were built, it would pollute the Flambeau River, turn Ladysmith into a ghost town, and that the Company and its parent, Kennecott, would find ways to avoid paying its fair share of taxes.

What's happened? The Flambeau Mine's state of the art wastewater treatment plant has consistently produced treated water that is better than Wisconsin's stringent standards. About 100,000 tourists have signed the guest register at the Mine's Visitor Center. Ladysmith has a new Library and a new industrial park made possible by increased tax revenues. In fact, Flambeau Mining Company has paid 20% more in taxes than was estimated. Reclamation will return the mine site to its natural contours with wetlands and prairie vegetation.

Secondly, the people of this state should ask themselves, "Does modern mining rely on proven, effective technology and sound science in order to meet those regulations?"

Once again, the answer is yes and the study I've described to you this afternoon, and which you all have copies of, provides compelling evidence that metallic mineral mining can supply the minerals we need and protect the environment we value.

Thirdly, ask yourselves this: "Should an industry that can meet our tough laws, that applies the best technology and science we have to its operations be allowed to bring jobs and tax revenues to this state?"

Yes. As I mentioned before, there are 10,000 jobs in Wisconsin that depend on mining. Wisconsinites are proud to make a good day's pay working in an industry that does its part to protect our environment and provide the economic benefits that make our State and nation strong.

Right now in Milwaukee, a major two-day conference is bringing together national experts, regulators, community members, and mining company personnel to talk about what's really happening in the mining industry in 1997. We've invited Wisconsin lawmakers to attend and I would reiterate that invitation: please join us to learn more about the modern mining industry and to hear from the men and women who, every day of every year, work in mines to provide the minerals we need while using proven technology and science to protect our environment.

I want to thank you all for your time and I would be please at this point, to answer any questions you might have for me.

STATEMENT OF CARL A. ZICHELLA
MIDWEST REGIONAL STAFF DIRECTOR
SIERRA CLUB

BEFORE WISCONSIN LEGISLATIVE HEARING
IN SUPPORT OF MINING MORATORIUM LEGISLATION

FEBRUARY 17, 1997
GREEN BAY, WISCONSIN

Mr. Chairman, members of the Assembly and Senate Committees, My name is Carl Zichella. I am the Sierra Club's Midwest Regional Staff Director. As you know, the Sierra Club is a nationwide membership organization with more than 600,000 members. We have more than 10,000 members in Wisconsin and more than 100,000 members across the nine Midwestern states I represent. I am testifying on behalf of our national membership this afternoon.

Mr. Chairman, we view this legislation as absolutely essential, not just for the well-being of Wisconsin's natural resources, but also for the region's. We are at a critical decision-point. Exploration for hard-rock sulfide ore mines is ongoing across the North woods in three states. What happens in Wisconsin affects areas in neighboring states. The future of the North Woods as we know it, progress on protecting the waters of two Great Lakes, the pristine values of at least one Wild and Scenic River, and progress in cleaning up the Wisconsin River are all at stake. I want to be clear about one fact: this is not just about one mine -- the Exxon mine -- though it is surely about that. This is about opening the door for perhaps scores of mines across our North Woods, from western Wisconsin to our northeastern borders with Michigan and beyond.

Mr. Chairman, I'd like to submit for the record a fact sheet we have developed entitled "Why We Need the Mining Moratorium Bill Now," which elucidates some of the basic reasons this bill is so important. I would like to summarize them for you now.

First, there is no such thing as a safe sulfide ore mine. All such mines leak dangerous pollution. All of them. The technology for containing pollution from these mines is inadequate to protect the resources of the North Woods. The mining moratorium bill would create a common-sense test mining companies would have to meet before they would be allowed to mine in Wisconsin: until the technology is proven, no mines will be built. Cleaning up after the fact would be egregiously expensive and technologically difficult as history has shown us. The largest Superfund hazardous waste sites in the nation are abandoned sulfide ore mines. Moreover mine pollution -- called acid mine drainage -- can be created years or even centuries after the fact, when sulfide bearing tailings are exposed to air and water. A toxic soup of heavy metals in a sulfuric acid solution, it kills virtually everything it comes into contact with.

Hundreds of miles of sterile western rivers bear testimony to this fact.

Second, the largest and potentially most dangerous mine in Wisconsin history is in the permit process. The Exxon mine would create the largest toxic waste repository ever built in this state, larger than 350 football fields. This repository will be built in the headwaters of the Wolf River a national Wild and Scenic River and a state-designated Outstanding Resource Water. If built, this mine will establish an infrastructure, including a waste water pipeline to the Wisconsin River, that could stimulate the development of other mines. All this development would occur, we remind you, before technology capable of permanently isolating mine pollution has been proven. Would you allow cars on Wisconsin roads before the technology to stop them was proven? Why should we expect mining companies will figure it out as they go? They haven't been able to, as even recent disasters like the catastrophic failure of the cantainemnt technology at Summitville, Colorado show.

Third, we simply can't trust companies to do the right thing on their own. This approach will cost us dearly. These are companies with track records we should pay attention to, not ignore. Exxon, for example, still refuses to accept responsibility for the largest oil spill ever seen in the U.S.. Everyone remembers the tragedy of Prince William Sound. But we would also remind you that Exxon continues to resist paying the punitive damages it was assessed for this crime, choosing instead to pay millions to their lawyers instead of compensating their victims in rural communities like Valdez, Alaska. Similarly, Rio Algom's track record at its Elliot Lake mines has been deplorable. Steelworkers in Canada blame those mines for hundreds of deaths and injuries to workers. I would like to submit for the record a photograph of acid mine drainage leaking from the Elliot Lake complex.

While state law prevents WDNR from basing permit decisions on a company's prior record, you can and should consider the record when debating the considerable merits of this bill.

Fourth, gaining accountability from these companies could be difficult. The day after a jury assessed the largest punitive damages judgment in American history against Exxon for their spill in Prince William Sound, the value of Exxon's stock actually increased. The sheer financial might of these corporations puts local communities,

counties and even states at a disadvantage when dealing with them. It is better to prevent them from causing damage than to seek justice from them later.

Finally, the state is institutionally much weaker than it was two years ago in its ability to regulate the mining industry. The abolition of the Public Intervenor's office, which was providing crucial technical oversight of the agency and the companies seeking permits, undermines the process and public confidence in the ability of the state to protect our natural resources. Similarly, the politicization of the Secretary's position places us at a disadvantage in dealing firmly and objectively with such powerful interests. We ought to re-think this approach in light of the exceptional risks posed by the mining industry. The mining moratorium bill buys us the time to examine the optimal regulatory structure needed to assure the families of Wisconsin that their resources are protected, while guaranteeing that the technology to prevent pollution exists in practice and not just the promises of corporations who have shown they cannot be trusted.

In closing, if the mining industry can operate asv safely as they insist, they should support this bill. Their opposition speaks most eloquently about why this common-sense legislation is needed.

Thank you.



Bringing lifetimes of experience and leadership to serve all generations.

Donald L. Keefe
District Coordinator, Wisconsin
501 S. Fisk Street, #C-13
Green Bay, WI 54303-2106
(414) 497-7414

Feb. 17, 1997

State Senate Committee
Agriculture and Environment
Public Meeting,
Green Bay, WI

Gentlemen,

After polling members of the A A R P Chapter #268 in Green Bay, we are in consensus with the State A A R P and many other people in Wisconsin, that we do not want the Crandon Mine to start operations until the D N R regulations have been met.

Since this operation will affect many generations we are looking at the effect it will provide on our GRANDCHILDREN and Great Grandchildren and other generations to come if lakes, rivers and ground are POLLUTED.

Sincerely,

A handwritten signature in cursive script, appearing to read "Donald L. Keefe".

dlk:me



February 17, 1997

TO: State Senate Committee on Agriculture and Environment
SUBJECT: Proposed mining moratorium

We thank you for the opportunity to voice our opinion on the proposed metallic sulfide mine in Crandon. A ban on metallic sulfide mining in Wisconsin until a similar mine can be shown to operate for 10 years and be reclaimed for 10 years without significant water contamination is the only safe way to go!

As a property owner on Ground Hemlock Lake for 32 years, we are approximately 1/4 mile east of the proposed toxic tailings dump and would be greatly and mostly affected by these tailings. The principle concerns which have been voiced by the Ground Hemlock Lake property owners, should a mine be developed, include the following:

1. The potential pollution of the lake and the contamination of well water due to ground water pollution from leakage of tailings impoundments. Because Hemlock Lake is much lower than the tailings pond, there is a greater chance that the lake will be polluted. The DNR has already admitted to this: Hemlock Lake and Hemlock Creek flow into Swamp Creek which flows into the Wolf River! TOTALLY UNACCEPTABLE!
2. The possible lowering of the water table resulting in loss of wells and lowering of the lake level. This is a very active spring lake with no water entering the lake other than these springs.
3. Dust and other air pollution which will directly affect the lake area, which is generally downwind from the mine site and tailings pond area. The ducks, geese, birds and other wild life will be carrying this toxic waste to other lakes in the area polluting the whole state of Wisconsin.
4. The potential loss of property values due to the impacts of mining. There are approximately 50 property owners on this lake.

Our only hope and prayer is that this beautiful northern environment remains a recreational area for generations to come. Thank you!

Sincerely,

Merlin A. Kuske
Merlin A. Kuske

Janice M. Kuske
Janice M. Kuske
1345 Servais Street
Green Bay, WI 54304



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River Alliance Comments: Mining Moratorium Bill

Delivered by Zev Ross, Conservation Programs Coordinator
Green Bay, WI; February 17, 1997

The River Alliance of Wisconsin is a state-wide, non-partisan river conservation organization. I'm here today representing our more than 600 members statewide, because sulfide mining has a huge impact on our rivers and stream.

These impacts have occurred because we in Wisconsin and across the country, have allowed the mining companies to get away with calling sulfide mining a **work in progress** for far too long.

Every single time an Exxon or Rio Algom builds a sulfide mine it pollutes our drinking water. A **work in progress** they say. We'll get it right one of these times.

They've had their chances to prove to us that they can operate a sulfide mine without polluting, and they have failed. Failed every single time.

Now it's up to us. Wisconsin citizens, including many of our forward thinking legislators have decided that enough is enough. The Mining Moratorium Bill is straightforward. We simply ask, before you can build a sulfide mine in Wisconsin, provide an example of a sulfide mine anywhere in North America, just one example, that has operated for 10 years and closed for 10 years that has not polluted our waters.

Keep in mind, **NO ONE IS TRYING TO BAN MINING**. The Mining Moratorium Bill is simply addressing one dangerous brand of mining and simply asks that the mining companies prove that it's safe before they can build new mines.

Prove that it's safe, that's all we ask. But not with sophisticated computer modeling developed by the companies themselves, **WITH JUST ONE REAL LIFE EXAMPLE**.





*Simple,
straightforward
and smart --*

Mining Moratorium Bill needs your support

To deal with the serious problems associated with sulfide mines, more than 70 groups statewide and dozens of legislators are backing the Mining Moratorium Bill.

A straightforward approach, the Bill simply requires that the DNR stop issuing permits for mining of sulfide ore bodies (please note this does not include all mining, just dangerous sulfide mining) until an applicant can prove

- (1) that a mining operation has operated in a sulfide ore body of similar geology for at least 10 years without polluting ground or surface waters from acid drainage

AND

- (2) that a mining operation in similar geology has been closed for at least 10 years without polluting ground and surface water from acid drainage.

Please join the River Alliance in supporting the Mining Moratorium Bill and make sure that your Senator does too by calling or writing them.

Please also call Governor Thompson (608-266-1212) to voice your support of the Mining Moratorium Bill.

Concern about Exxon mining proposal extends to Lower Wisconsin River

Riverway Board passes resolution

In response to concerns related to the potential impact on the Lower Wisconsin River of Exxon's proposed Crandon Mine, the Lower Wisconsin State Riverway Board (LWSRB) recently passed a resolution calling on the DNR to "carefully and thoroughly scrutinize the [Exxon] proposal." The resolution also urged the DNR and Wisconsin Legislature to "pursue changes in state law which will result in lower effluent limits for discharges into the Wisconsin River to achieve higher water quality and a cleaner river."

Three of the seven Board members voting on the proposal felt that the resolution was not strong enough and that it should have stated more forceful opposition to the pipeline.

The River Alliance's Zev Ross had attended two LWSRB public meetings, urging the board to pass a resolution opposing Exxon's proposal. **The LWSRB joins 40 cities, towns and counties, including at least half a dozen on the Lower Wisconsin River, that have already passed resolutions opposing the mine and/or the pipeline.**

The DNR says the mine's discharges may have no discernable impact on the Lower Wisconsin. However, threats to the Wisconsin R. remain, in part because: (1) the DNR acknowledges that **all dischargers violate their permits**; DNR numbers don't account for potential violations; (2) the 38-mile pipeline from the mine site to the Wisconsin R. sets a dangerous precedent for the Wisconsin River. With its size, central location and lower water quality standards, if the pipeline is approved, future dischargers will be more likely to be able to use the Wisconsin as their dump; (3) there are many unknowns that could threaten the river in the future, particularly related to groundwater modeling questions.

35,000 nationwide oppose Exxon proposal

Working Assets Long Distance, a company that encourages citizen action, recently urged its customers to take action against Exxon's proposed Crandon mine. As a result of the company's call to action, the Army Corps of Engineers received 30,000-35,000 letters and 2,000-2,500 calls opposing the mine.

Acid mine drainage:

A "Perpetual Pollution Machine"

Acid Mine Drainage (AMD) is regarded by many as the largest cause of adverse environmental impact resulting from mining. When sulfides (rocks formed with minerals in combination with sulphur) such as in the ore body near Crandon, are mixed with air and water they produce sulfuric acid. AMD is the toxic brew of both sulfuric acid and the heavy metals and toxic elements leached from the rock.

(cont'd. on other side)

. . . River Alliance Mining update

AMD: A Perpetual Pollution Machine (cont'd. from other side)

What makes AMD so frightening is that it eats through almost everything, making its way into ground and surface water. Even Exxon has acknowledged this problem. In 1995, Jerry Goodrich, then-President of Crandon Mining Company (Exxon and Rio Algom), describing what happens to a liner when in contact with AMD: "we're saying after 140 years it vaporizes. It's gone." In addition, a 1988 study of mining waste shows that, "once the problem has started it tends to get worse." (emphasis added).

Acid formation can begin as water migrates down through the tailings (mine waste) area, which sometimes takes decades. As a result, although mines may not cause a problem at first, they will eventually.

There has never been a metallic sulfide mine that has not polluted ground and surface waters with Acid Mine Drainage. If approved, the mine at Crandon might not pollute right away, but history and experience shows that eventually it will pollute our waters.

Recognizing bad image, Exxon launches slick TV ad campaign

If you watch any TV it would be hard to miss Exxon's pro-Crandon-mine advertisements. The Crandon Mining Company (better known as Exxon) began their advertising campaign the day after the Packer victory in Super Bowl XXXI on network and cable stations throughout Wisconsin.

The ad depicts children, senior citizens and families in a light-hearted setting while a serene background voice bestows the virtues of the mine in an attempt to win over the public's anti-mining sentiment.

Not only is the ad slick, but it is also expensive. A one-minute prime time ad on some stations can cost \$2,400. Depending on the length of time of Exxon's campaign, the final price tag could easily exceed a total of \$1,000,000. But that's pennies to Exxon. If Exxon made just \$1 billion off its mine in Crandon (profits are expected to be much more than that), they could run 5 one-minute ads every single day for 227 years and still make a profit.

What's not surprising is that the ad campaign coincides with the beginning of the Legislative Session in which the Mining Moratorium Bill will be considered. The bill would simply require that Exxon provide proof of a metallic sulfide mine somewhere in the U.S. or Canada which hasn't produced significant damage to the surrounding waters before they begin to mine next to the Wolf River. Does Exxon's efforts to influence the vote imply that they believe that a safe mine next to the Wolf can't exist?

—Eric Hanson, Statewide Outreach Director
Wisconsin's Environmental Decade

The River Alliance of Wisconsin is a statewide non-profit, non-partisan citizen advocacy organization for rivers. We have over 600 individual and organizations members — one of the largest memberships of statewide river conservation organizations in the country. Call for membership information & visit our Web page!

River Alliance nominates Wolf for one of North America's Most Endangered Rivers

Each year American Rivers lists the 10 Most Endangered and the 20 Most Threatened Rivers in North America.

In 1995 the Wolf was designated a "threatened" river. The next day Exxon announced that it would not propose to dump wastewater into the Wolf, but would instead build a 38-mile pipeline to discharge into the Wisconsin River.

The River Alliance recently nominated the Wolf for "Most Endangered" status and is lobbying especially hard for this highest listing due to increasing imminence of the threat.

The listing will give national exposure to the plight of the Wolf River, helping to counter Exxon's recent all-out, heavily-financed public relations campaign. Groups representing thousands of Wisconsin citizens have written letters supporting the nomination.

We need your support, too. Please send a short letter explaining why you believe the Wolf River should be on the Most Endangered list to *Chad Smith, American Rivers, 1025 Vermont Ave, NW, Suite 720, Washington, DC 20005.* (Please send us a copy). Letters as short as one paragraph and as long as four pages have been written. To be most effective, please send your letter by March 15.

American Rivers will announce the nation's most endangered rivers in April.

CARL R. HILSTROM
Supervisor, District 10
Oneida County Board of Supervisors
One Courthouse Square, Post Office Box 400
Rhineland, Wisconsin 54501

February 17, 1997

STATEMENT transcript of METALLIC MINERAL MINING, PROSPECTING, and, EXPLORATION concerns...made before a public hearing of the state Senate Committee on Agriculture and Environment conducted at Green Bay, Wisconsin on Mon., Feb 17, 1997.

My name is CARL HILSTROM. I'm District 10 Supervisor on the ONEIDA COUNTY BOARD of SUPERVISORS. Committee assignments include Planning & Zoning, Mining, Forestry, and Zoning Ordinance Review.

First...I'm not Pro-Mining, nor am I Anti-Mining... I'm FOR ^{RESPONSIBILITY & ACCOUNTABILITY,} ~~"Responsible Mining."~~
I strongly support the urgent need for a statewide metallic sulfide mining MORATORIUM until mining interests can point out a mining example similar to the proposed Crandon Mining Company site...that hasn't created pollution problems over a 10-year operational period, followed by a 10-year period of reclamation.

As most of us are aware, CRANDON MINING COMPANY is a subsidiary of Exxon based in Houston...and the foreign Canadian entity - Rio Algom based in Toronto. This conglomerate - or corporate cluster, if you will...proposes to mine 55-million tons of ore at a Forest County mine site just south of Crandon.

Exxon and Rio Algom through their subsidiary CMC or Crandon Mining Company, proposes that our beautiful state become a test operation of their theory that pollution problems will not be a factor at the Crandon mine site. I say to you...what proof have they provided, and what mine site examples have they shown us. Proof - none... examples - none.

CMC proposes a 38-mile waste-water pipeline, most of it in Oneida County, running from the Crandon mine site to the Hat Rapids Dam on the Wisconsin River, just south of Rhineland. The Hat Rapids Dam is located along the southern boundary of Oneida County...where the waste-water pipeline will gush into the river in the town of Crescent.

In a February 16th (Sun) Green Bay Press-Gazette article by Susan Campbell, it was stated that the meeting here today (Mon Feb 17) would be the only PUBLIC HEARING on the mining moratorium legislation. I applaud your efforts for this session in the Green Bay sector of northeast Wisconsin. However, how about hearings in Forest County and Oneida County. The proposed Crandon mine site in Forest County, and the 38-mile waste-water pipeline through Oneida County will impact those citizens even more so than most of you here today. Please note that I meant that not as a rebuke, but as a constructive suggestion.

The diversion of waters from one watershed to another is a complex issue as well, involving an international treaty with Canada and water rights of the Great Lakes states of the United States. Wisconsin is only one of those several governmental entities.

HILSTROM - Mining Concerns
February 17, 1997
Page 2

Those of us who have followed the unfolding saga of the mining issue both on the Madison legislative scene and news media (both print and electronic) have noted that whenever statements or viewpoints are expressed do not coincide with the pro-mining lobby, mining spokespersons immediately cry foul...charging 'MISINFORMATION.'

The MISINFORMATION shoe is in reality a perfect fit for mining company boardroom strategic policy that eventually flows through their public relations and community relations lobbying specialists.

Here's an example to illustrate the point that I'm attempting to make. In that same February 16th Green Bay Press-Gazette article that I alluded to earlier, a Crandon Mining Company spokesperson said that the company's consultants soon will report that comparable mines have been found throughout the country that have operated without harming the environment. Yet, that same spokesperson...in that same article yesterday, said that the proposed mining moratorium is unfair, because it sets out a nearly impossible test...finding a mine that shares the same soil characteristics as that of the proposed Crandon mine when there is no other mine in the area. Are they calling for Wisconsin to trust them, they know best, and that northern Wisconsin should be a test case guinea pig for unproven theories of the mining consortiums? Misinformation indeed!

In that same Press-Gazette news story by Susan Campbell yesterday...she reported that the same mining spokesperson said that Crandon Mining had paid for advertising and lobbying...not Exxon. Excuse me...but the picture is a bit obscure. Here we have a company called Crandon Mining Company that to date hasn't mined any ore to generate income. Our question should be...where did those advertising and lobbying funds come from if not Exxon? Misinformation?

Another case in point. That same Crandon Mining spokesperson was also reported to have said in that same article yesterday, that the timing of this public hearing today was unfortunate...in that it coincides with a two-day mining convention in Milwaukee. The mining spokesperson said that the timing forced the public to choose between speaking out on the mine, or being educated on mining issues.

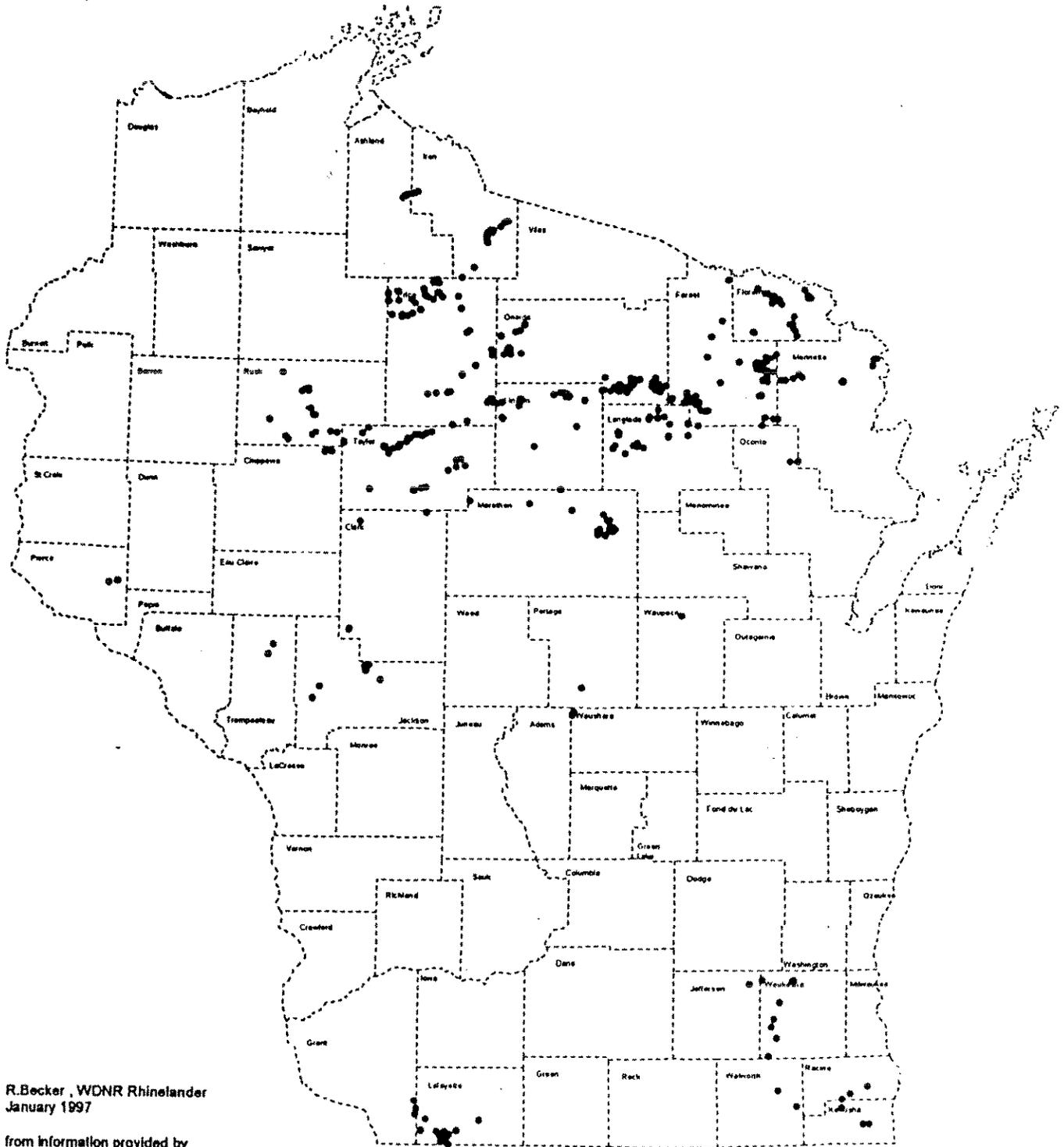
What that individual didn't say...was that their mining organization members would only have to pay a 25-dollar registration fee, while others (public) would be required to pay a fee of 125-dollars. Why the fee disparity if the mining lobby is concerned about the public being educated on mining issues.

And so it goes.

I'd like to commend this panel from the state Senate Committee on Agriculture and Environment for this opportunity to be heard. So often it feels like your only a voice crying in the wilderness. May the great Lord above grant you wisdom and guidance. Thank you.


CARL R. HILSTROM

Mining Exploration Drill Holes

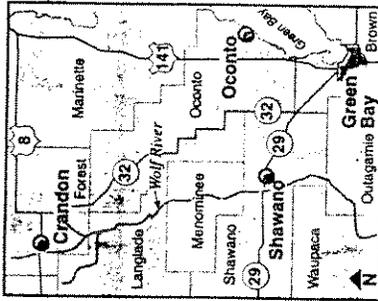


R.Becker, WDNR Rhinelander
January 1997

from information provided by
K.Markart, WDNR Rhinelander
information last updated January 1997

Green Bay Press-Gazette

SUNDAY, February 15, 1997 \$1.90/(\$2 Michigan only)



Press-Gazette map

Public to have its say on mining ban

By Susan Campbell
Press-Gazette

People attending a public hearing Monday in Green Bay will have a chance to speak out on a statewide mining moratorium that would stall the type of mine now proposed in Crandon.

The state Senate Committee on Agriculture and Environment will hold its only public hearing on mining legislation from 3 to 8 p.m. at Northeast Wisconsin Technical College.

The bill, reintroduced jointly in

the Senate and the Assembly this year, calls for a ban on metallic sulfide mining in Wisconsin until a similar mine can be shown to operate for 10 years and be reclaimed for 10 years without significant water contamination.

If approved by the Legislature, the bill effectively would stall the



Black
Co-author of moratorium bill

controversial, large metallic sulfide mine proposed in Crandon.

In that project, Crandon Mining — a subsidiary of Exxon Coal and Minerals Co. of Houston and Rio Algom Ltd. of Toronto — seeks state permits to remove 55 million tons of ore from a site about five miles south of Crandon. The mine, which would be one of the largest in North America, would employ about 400 people and operate for about 30 years.

Rep. Spencer Black, D-Madison, co-author of the mining bill, said Green Bay was selected to host the

hearing because it is the largest metropolitan area in Northeastern Wisconsin and is located on the Fox River.

"Of course, if the Wolf River is polluted, the pollution will be going into the Fox River," he said.

Black said the hearing will provide an opportunity for residents to voice their opinions on the moratorium at a time when Exxon is blitzing the airwaves with commercials and lobbying on behalf of the mine.

The bill is a new version of a bill Please see Mining/A-3

MINING From A-1

that died in the Legislature last year when the Republican-controlled Assembly adjourned a week early without voting on it.

Black said the bill's chances are better this time around. Monday will be the first time the legislation will be aired at a public hearing, he said, thanks to the new Democratic majority in the Senate.

The measure is likely to be endorsed by the Senate, he said, but

faces a tougher challenge in the Assembly.

Black and environmentalists oppose the Crandon mine because they say no metallic sulfide mine built in that soil type has been operated without harming the environment.

"Our knowledge is that mines in this type of geology have always caused pollution," he said. "We don't want Wisconsin to be a guinea pig."

But Crandon Mining spokeswoman Mary Kay Grasnick said the company's consultants soon

will report that they have found comparable mines throughout the country that have operated without harming the environment.

Still, Grasnick said the proposed mining moratorium is unfair because it sets out a nearly impossible test: finding a mine that shares the same soil characteristics as that of the proposed Crandon mine when there is no other mine in that area.

Grasnick also trampled rumors that Exxon has spent \$1 million on advertising and lobbying for the mine this year, a figure cited by environmentalists since it appeared

recently on the Internet.

Advertising and lobbying have been paid for by Crandon, not Exxon, according to Grasnick. She declined to say how much Crandon has spent this year, only that "it's less than \$1 million."

Crandon spent \$289,000 in lobbying for the mine last year, according to reports filed with the state Ethics Board.

Grasnick said the timing of the public hearing is unfortunate because it coincides with a two-day mining convention that begins Monday in Milwaukee. The timing

Where to go

A public hearing on the proposed mining moratorium will be from 3 to 8 p.m. Monday at Northeast Wisconsin Technical College, Center for Business and Industry, Room C-227, 2740 W. Mason St., Green Bay.

forces the public to choose between speaking out on the mine or being educated on mining issues, she said

Mining company tries to water down WRDA

The Lakeland Times—Feb. 4, 1997—Page 7

Should a Crandon Mining Company plan to divert water from the Great Lakes Watershed have to be approved by the governors of all eight states bordering the Great Lakes?

That's the issue being debated these days by environmentalists and company executives.

Mining opponents contend that a proposal to de-water the mine and to send wastewater through a 38-mile pipeline to the Wisconsin River should be subject to the Water Resources Development Act of 1986 (WRDA). That federal legislation requires the governors of all Great Lakes' states to sanction any water transfer out of the basin, which drains into the Great Lakes.

Environmentalists say the legislation should apply because the operation will require the pumping of one million gallons of water a day -- approximately 10 billion gallons over the mine's life -- out of the mine site, which sits in the watershed at the headwaters of the Wolf River. The wastewater would be diverted to the Wisconsin River and flow via the Mississippi Watershed to the Gulf of Mexico: lost forever to the Great Lakes' basin.

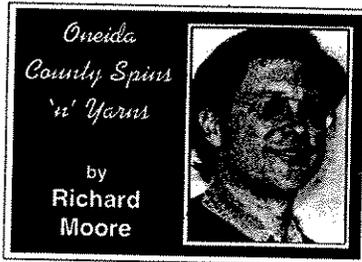
The Crandon Mining Company disagrees. According to CMC, the act applies specifically to a diversion "from any portion of the Great Lakes" or "from any tributary thereof." The de-watering process, the company says, does not tap surface water from any of the Great Lakes or its tributaries but draws groundwater from the surrounding basin.

The law also prohibits diversions of Great Lakes water "for use outside the Great Lakes basin." But the company says it is using the water -- that is, treating it -- within the basin and is merely discharging the effluent elsewhere.

Discharge is not considered a use.

Who is right? Let's consider the arguments.

Let's look first at CMC's assertion that it



would be discharging water -- not using it -- outside the basin.

Now it's true that WRDA was enacted to prevent the increasing diversion of basin water for "use" in residential, industrial and commercial projects, and it's also true that CMC does not intend to do this.

But to limit legal interpretation to such a narrow category of uses is excessively constricting and would seem to violate the spirit of the act, which clearly is to protect the basin's water resources.

The point is, it is the diversion of water, not its use, that legitimizes the legislation and which should trigger jurisdiction. It's just silly to say it's okay to take 10 billion gallons of water from the watershed so long as you don't use it for anything.

What is the definition of 'use' anyway? According to the dictionary, it means to put something into action or service for a specific end. How about this for an end: by putting the water "into action" through the pipeline, the company saves \$14 million in treatment costs that would have been necessary to restore water quality to the point of being able to return it to the Great Lakes Watershed.

I would say that's quite a profitable use of the water. And if diversion is a use, the very meaning of the term makes it a use outside the basin.

The real diversion here is CMC's effort to distract attention from its blatant attempts to

maximize profits and to avoid a reasonable alternative to massive water loss in the Great Lakes Watershed.

CMC's other argument is equally absurd, namely, that the WRDA doesn't apply because the mining operations only impact groundwater, not surface waters from the Great Lakes or its tributaries.

Excuse me for the pun, but this argument doesn't hold water. A watershed is a complete ecological entity composed of complex relationships between its constituent parts. Such ecosystems contain a particularly intimate hydrological connection between ground water and surface water.

In fact, that connection is why it's called a watershed.

Again, let's go to the dictionary: a watershed is a drainage basin from which the waters of a stream system are drawn; it is the region drained by a river system. In other words, the tributaries that feed the Great Lakes draw water from the ground -- the very water CMC wishes to divert.

DUH.

It is clear that no matter how you look at it, the provisions of the federal act should apply and CMC should have to gain approval from all eight Great Lakes governors.

Unfortunately, the Department of Natural Resources has again sided with the mining company, concluding that the act is not enforceable. Their position would give them sole authority to grant CMC permission to divert 10 billion gallons of water from the basin.

It's heartening to know that the Environmental Protection Agency, in a preliminary review, is supporting application of the WRDA to the pipeline. In addition, U.S. Senator Carl Levin (D-Mich.) has also gone on record supporting enforcement in this case.

Now the St. Paul District office of the U.S. Army Corps of Engineers has sent the issue to the Pentagon for a legal review. That's a good start, but it's only a start, and no thanks is due to the DNR for once again biasing its approach to mining.

FRONT PAGE



Town supervisors and the Oneida County Planning and Zoning Committee met once again Wednesday to discuss changes in the Metallic Mineral Mining ordinance. The town representatives finished their comments on the ordinance changes at the meeting, and now the committee

and Corporation Counsel will wait for final comments from all concerned before a revision of the ordinance is drafted. The meeting, held in Committee Room #1 at the Oneida County Courthouse was well attended. (Daily News photo by Patrick Meshak)

Committees whittle away at metallic mining ordinance

By PATRICK MESHAK
of The Daily News staff

Members of the Oneida County Planning and Zoning Committee Wednesday approved extending the metallic mineral mining and conditional use permit moratorium up to 180 additional days while committee members and corporation counsel review suggested changes to the county metallic mining ordinance.

The full county board will be asked to approve the extension at its Feb. 18 meeting.

The committee also heard the last of the suggestions from the town boards including suggestions from Newbold town supervisor, Bob Fries, that ensure that mining waste water will be of the highest quality.

"I think that the committee should take the leadership on this," Fries said.

Counsel for Crandon Mining Company, Ed Mouw, opposed extending the moratorium.

"I think that another 180 days is a long time. That would make it a year that the moratorium was in place," Mouw said.

Committee chairman, Richard Van Kirk, said that the wording would allow the the moratorium to be lifted once the revision was approved by the county board, if it was accomplished in less than the 180 days.

"In my experience, any time a committee is allowed a certain amount of time, they use the full amount of time allotted," Mouw said.

Fries said the towns want the committee, and ultimately the county board, to consider writing into the ordinance something that would ensure that any discharge into any lake or river would meet Outstanding

Resource Water standards.

ORW standards are a 'no change' standard for water quality.

The towns also suggested that Corporation Counsel Lawrence Heath take a look at the legality of pumping water from one watershed to another, from one county to another, and a portion of the ordinance in regard to wetland rezoning.

"We had quite a discussion on whether or not we would allow mining in wetlands and we didn't want that to be allowed in there," Town of Pelican supervisor John Hoffman said.

Other concerns centered around the exact wording of the ordinance.

Aquatic Habitat Protection Expert Dale Lang said the committee should be wary of wording that says 'the county shall approve'.

"This may just be form over substance, but I don't think you want to put into an ordinance that you shall approve but that you will issue your findings," Lang said.

"The towns are done with their input," Hoffman said of Wednesday's meeting. "Now it's up to Corporation Counsel to put into wording and legal procedure on what has been recommended and then to bring it back to the committee."

Committee chairman Richard Van Kirk, accepted comments from all in attendance and said that written comments should be submitted to him within 10 days. Those comments will be forwarded to Heath for consideration before a revised draft of Ordinance 9.49 regarding Metallic Mineral Mining is completed.

Hoffman said that it will take several weeks for Heath to gather the information before it can be compiled for the revised draft.

919 S. Quincy St.
Green Bay, WI
February 17, 1997

Wisconsin State Senate Hearing on SB 43
Green Bay, WI.
February 17, 1997

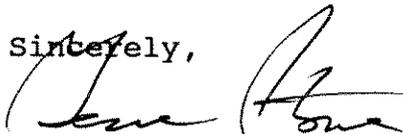
Senate Committee :

After living for about eighteen years in various States, my wife and I, who are originally from Wisconsin, decided to move back to Wisconsin to establish permanent residence for our family.

Having worked as Production Superintendent in an environmentally sensitive industry (Portland cement manufacturing) for ten years I was shocked by the air pollution existing even today in the Green Bay area. We would not have been allowed to continue operating in Oklahoma twenty-one years ago with the standards I see regularly in Green Bay today.

We moved back to Wisconsin for only two reasons - the character of the people and the beautiful natural recreational resources our State is blessed with. In some of the Western States, I have seen the damaging affects that quarrying and mining have caused. No promises of creating relatively few jobs can justify the risk we would be taking by approving the proposed Crandon mining operation. Besides our people, Wisconsin's natural resources are our greatest asset. With this in mind, I urge you to support the Mining Moratorium (SB 3). Enough environmental damage has already been done in Wisconsin. Please do not repeat the mistakes of the past. There is no urgency here ! The minerals will still be here and in demand after the mining industry can show environmentally safe results. Let's not be a test State for this industry's latest claims.

Sincerely,



Donald "Gene" Stone



Judith F. Stone

February 17, 1997

To Members of the State Senate Committee of Agriculture and Environment:

Ref: Crandon Mine

We are here as supporters of the statewide mining moratorium co-authored by Representative Spencer Black.

As recreational land owners in Northern Oconto County we believe that pollution from the mine, that is proposed for the Crandon area, is inevitable. The thought of removing 1 million gallons of ground water per day, and not being able to discharge it into the Wolf River because it's not clean enough, yet, piping it 38 miles to discharge it into the Wisconsin River, seems a contradiction to the ecological system and environment. This is but one of our many concerns regarding the future for all the generations to come (not just our children and grand children.) We wish for them the opportunity to enjoy the many wonders that Mother Nature has provided for us to enjoy (not to be destroyed by the disruption of the delicate balance tended by Mother Nature.)



James R. Geurts



Sandra A. Geurts
15178 Heller Lane
Mountain, WI 54149

1/2

2/17/97

To: Senator ~~Claus~~ Clausen

RE: SB 3

FROM: VINCE W. OUERBERG
JANE B. BARNES for Green Bay Paddlers
724 CROSS ROAD United
SOBLESKI, WI 54171
(414) 822-5876

Senator,

I am a Chemical Engineer by degree and a kayak paddler and environmentalist by passion. My husband and I are very concerned about the Crandon Mine. We support SB 3 Mining Moratorium which would prevent mining in Wisconsin until safe mining can be proved.

I have traveled to many areas in U.S. and in Canada and seen the effects of mining. In Colorado, tailings have destroyed rivers, leaving dead water and orange sulfuric acid stains. In West Virginia, I have seen the same. In Ontario, rivers are polluted to the detriment of people's drinking water.

I have never seen a mine site in my travels that did not damage the area in a significant, negative, and permanent

2/2

manner.

Our family often, sometimes twice per week travel to the Wolf River area. Nothing is worth the risk of ruining that area.

I am appalled and concerned about Tommy Thompson's maneuvering and intentions in the recent past & in the future. The elimination of the Public Intervenor, the change of the DNR to a gubernatorial appointee, and his welcoming of EXXON, Rio Algom, & Crandon Mining are all steps that put Wisconsin's environment at risk.

Please pass the SB3 mining moratorium and help us to understand what else we as individuals, groups, and Wisconsin citizens can do to stop this mine from being built in Wisconsin.

Thank you,

Jane B. Barnes & spouse, Vince Overberg
Environmental Issues Chair for
Green Bay Paddlers United



FEB. 17, 1997

TO: Sentaor Kevin Shibilski, Senate Environmental Resources Committee
RE: Senate Bill 3 (Sulfide Mining Moratorium)

The Shaw-Paca Chapter of Trout Unlimited submits here its written testimony in **SUPPORT** of Senate Bill 3, which would prevent issuance of permits for mining sulfide ore bodies in Wisconsin until such time that they can be proven to be mined without environmental degradation.

The bill is important to us as trout anglers, because the most imminent sulfide ore mine is the one being proposed by Exxon Minerals Company and Rio Algom, Ltd., of Canada near the headwaters of the Wolf River. With a moratorium on the permitting of such sulfide ore mines in Wisconsin, it will allow time for development of real technologies that can accommodate such mining without resultant impairment of surface and groundwater supplies.

We are concerned about the current permitting process, because the playing field has been tilted so heavily in favor of the mining firms and against those of us who have justifiable concerns about the impacts of the Crandon mine and others like it that are on the drawing boards around the state. The politicization of the DNR and the loss of the Public Intervenor to represent THE PEOPLE in matters of water and other natural resources in the state have made conservationists suspicious about the integrity of the way in which the mining issue will be handled and also the way in which science and concerns of citizens will be received by the permitting process.

Thus, we view Senate Bill 3 as the proper means to put the brakes on this hell-bent-for-leather charge we are seeing to get the Crandon mine and others going full speed. We remind the members of the Senate Committee that a moratorium, if enacted, will NOT cause the mineral deposits to evaporate and disappear; they will still be in the ground where they've stayed for ages. The moratorium WILL, though, ensure that, if and when these ore lodes are mined, they will be mined AFTER it has been shown that such mining of sulfide ore bodies can and will be done in an environmentally responsible manner.

Thank you for this opportunity to present our views on this bill.

Sincerely,

Mitchell Bent
Mitchell G. Bent, Treasurer
SHAW-PACA CHAPTER TROUT UNLIMITED
935 South Union Street
Shawano, WI. 54166-3145

Ph.: (715) 524-5886



February 17, 1997

TO: The Wisconsin Senate Environmental Resources Committee
Senator Kevin Shibilski, Chairman

RE: Senate Bill 3

The Wisconsin State Council of Trout Unlimited is pleased to appear today to submit testimony regarding **Senate Bill 3**, a bill that would declare a moratorium on the mining of sulfide ore bodies within the state of Wisconsin until such time that it can be shown that such mines can be operated safely and without environmental contamination. Our organization **fully supports** this bill.

Wisconsin Trout Unlimited supports this bill, because of both the potential for several sulfide ore bodies to be mined around the state and specifically because of the imminent threat that the proposed gold-silver-zinc-copper sulfide ore mine near the head waters of the Wolf River poses to our beloved Wolf River watershed.

Mining in and of itself is not opposed by Wisconsin Trout Unlimited. However, certain types of mines, sulfide ore mines in general and the proposed Crandon mine in particular, pose grave threats to our water resources, and we are not willing to see our beloved Wolf River or any other water in Wisconsin suffer environmental degradation for ANY reason.

We feel that this moratorium is needed, so that we can ascertain if technology exists to allow sulfide ore mining to be conducted in a safe manner. The current permitting process is not one with which we feel comfortable, because it is one wherein direct and heavy political influence can be applied to produce a desired result. Actions by the majority party in the last legislative session that politicized the Department of Natural Resources through creation of "cabinet" government for the agency and that eviscerated the office of Wisconsin Public Intervenor have all but eliminated any confidence we have that the safeguarding of our resources and the concerns of our citizens will be of more importance than the influenced of corporations such as EXXON.

Thus, we support this mining moratorium bill (SB 3) as a necessary adjunct to protecting our land and water resources, particularly the Wolf and Wisconsin rivers, from unsafe mining operations. We remind the committee that the mineral deposits are not going to vanish or evaporate if this moratorium bill becomes law, but our precious water resources may indeed deteriorate if this bill does NOT become law. Thank you for this opportunity to present our opinions on Senate Bill 3.

Sincerely,

William Sherer, Chairman
WISCONSIN TROUT UNLIMITED
P.O. Box 516

Boulder Junction, WI. 54512

NWMA SPOKANE '97

Success & Innovation IN Exploration & Mining

December 1-5, 1997

Red Lion by Doubletree-City Center,
Spokane Convention Center & Agricultural Trade Center

Spokane, Washington

103rd Annual Meeting Highlights

Plan now to attend NWMA's 103rd Annual Meeting. The chair of our 1997 Convention & Exposition is Mr. Steven Craig, Regional Manager for Kennecott Exploration Company. Steve has put together a strong technical program that will help you succeed in today's competitive environment. The financial/business program will be co-chaired by Allan J. Marter, Waiata Resources and Douglas B. Silver, Balfour Holdings, Inc.

The planned programs promise to offer the latest success stories and applied innovations in the exploration, mining, geophysics, geochemistry, business, finance, legislative and environmental fields.

Sessions at a Glance:

- Expanded Exploration Sessions Emphasizing New Discoveries in Alaska, the Yukon and the Great Basin with Related Sessions on Geophysics and Geochemistry.
- Operation Sessions on Underground and Open Pit Mining.
- Updates on Legislative, Environmental, and International Issues.
- Expanded Business/Financial Sessions.
- And Much, Much More.

Please put me on NWMA's mailing list, I would like to receive more details!

Name _____

Company _____

Address _____

City, State, Zip +4/Postal Code _____

Country _____

Phone _____ Fax _____

Short Course:

"The Geology, Geochemistry, Geophysics, and Mineral Deposits of the Guiana and West African Shields" will describe the general geology, geochemistry and geophysics of both areas and show how the two areas were once attached. Talks also are planned to describe pertinent ore deposits. The course is being organized by Clancy J. Wendt, Consulting Geologist and Greg Fernette, Watts, Griffis & McQuat Ltd.

Who Should Attend

Decision makers from throughout the industry -
- CEO's, mine managers, geologists, engineers, geophysicists, equipment suppliers, environmental consultants, legal and financial professionals, land managers, and regulators.

Don't miss this excellent opportunity to network and establish lasting business relationships while learning about *cutting edge* developments in our industry.



10 N. Post Street, Suite 414
Spokane, WA 99201-0772
509/624-1158
Fax 509/623-1241
E-mail: nwma@nwma.org
Internet: <http://www.nwma.org>

Hi

My name is Robert V.Z. I'm a tribal member of the Sokaogon Chippewa Band of Ojibwe of the Lake Superior

Sokaogon ^{Chipp} people
I'm not here representing my tribal government. We the people are concerned individuals and community united to protect and heal our great grandmother the Earth. As human beings we are responsible for ensuring there is pure water for generations to come. To sustain and support the diversity of all life on Turtle Island for this and future generations. We the people are committed to public education protection safeguards against any-kind of anastype mining. We the Grass Kats people are united in the knowledge that there is nothing that justifies the destruction of our forests our waters and our lands

The ultimate impact is to our people The Sokaogon Chippewa Tribe and our ~~to~~ environment

I live 1 1/2 miles away from the mine. And so I'm speaking in favor of this Bill S.B.3

Sincerely Submitted
Robert Vanzil

Duck
Ock
Sand
Deepo
Ground Hen

Swamp Creek
Rice Lake

all in the name project

The waste pond is
350. football fields long
90. Feet hi
10.000 yrs

RAWOR HILL: Speaking in favor of the
mining ban.

I WANT TO TAKE THIS OPPORTUNITY TO SPEAK IN
SUPPORT OF THE MINING MORATORIUM BILL.

> Even though I love the rivers, woods, marshes
and lakes of Wisconsin, I always make a conscious
effort not to be dogmatic about anything.

> Less than 2 weeks ago, I still had not come
to a firm stand on this issue - particularly
concerning the Cranston Mine - but was feeling it
important to do so.

I heard about and went to an "informational mtg," a
benefit ^{not surprisingly} in opposition to the Cranston Mine, ^{held} in Shawano.

There, I picked up as much literature as I could,
read the displays and talked to members of the
coalition hosting the event.

I remain open, if the Cranston Mine Co. has their
literature here, I'll take it and read it with the

same objectivity that I read the others.

But as of now I am siding with the strong evidence that this is too risky a deal to trust unproven techniques (and these companies), especially ^{for reasons you've} because the likely repercussions for error won't be born so much by us as by our children and future generations.

Haven't these budding generation enough mis-inheritance as it is - what, with nuclear waste, global warming, disappearing topsoils and species, not to mention Social (in)security.

Experts in ethics and sociology are saying it's adult modelling that is driving the moral crisis of our youth. We've already modelled gambling into vogue and now are poised to wager one of our State's greatest resource inheritance.

(For WHAT? Seriously, ask yourselves.
I say, setting the right example would
to bet on creating incentives for alternative
environmentally compatible means of creating
jobs and/or attaining materials. [How ab
the creation of a different form of currency
other than coins - we've probably got mountains
of precious metals sitting around in banks
jars (or under my car seat)]

This moratorium bill is a totally common
sense approach ... because it has the Tong
built into it. And this is another "eth.
that we urgently need to model to our
ones.

(Why is it that banks and other financial
institutions hold back credit, forcing us into the
patience and discipline of building up a

history before trusting us with "others" resources,

The same being true for those who have been delinquent with their obligations... Well, there are credits and delinquencies other than financial we're talking about here: they are the credit to do with respect of the commons, of being a good corporate citizen; they are the credit of technologies that are have a track record of protecting resources that are more precious than words can describe.

Now I haven't the time these days (I'm an ^{FULLTIME} adult returning student getting some new training here at NURC) to spend on reviewing this bill... if there is an excess to this bill, amend it; But for ^{future Wisconsin's} sake, change it in a good way or leave it stand.



Newsletter

Winter 1996-97

Walleyes for Tomorrow P.O. Box 1556 Fond du Lac, WI 54936-1556 (414) 924-7660

Crandon Mine poses future harm

Sulfide discharge, tailings could affect Wolf River

For the past year, Walleyes For Tomorrow has patiently listen to discussions about the Crandon Mine permit process.

WFT even co-hosted an Appleton meeting with the Shadows On the Wolf organization with the mine representatives and the public intervenor's office.

Possible Sufficient answers, however, have not been given about the tailings and the resultant sulfide discharge of the possible mine, which could greatly affect the Wolf River and the area wildlife.

Thus, WFT has taken a position in opposition to the mine.

The DNR says that it will follow

WFT Editorial

the rules that the legislature created to determine whether to permit this mine.

A big problem, though, is the mining interests helped write the law that the legislature passed back in the 1980s and DNR Secretary George Meyer says that they will closely adhere to the law in the permitting process.

How can the permits not be issued if the mining interests were instrumental in writing the permitting laws?

It is the consensus of our board of

directors that until it can be shown that a similar mine anywhere in the world has been successfully closed for a good many years, we do not want our Wolf River to be the testing grounds of their new technology.

This great mineral resource can remain in the ground for our future generations to exploit when the capping technology has been proven through real experiences elsewhere in the world.

Failure of the cap of the tailings pile will result in devastating impact to the communities and people and fishery and wildlife downstream.

It will also negatively impact our

Please see Crandon, Page X

Crandon

Continued from Page 1

income and your taxes generated by the recreational water users and values associated with our great river.

The fishing community is lining up solidly against the mine. Trout Unlimited was the first to be on record against the mine, while also opposed to this potential disaster are B.A.S.S., the Musky Clubs Alliance of Wisconsin and the Statewide Chapters of Muskies Incorporated.

WFT urges you to join the cause by writing or calling your legislative leaders.

State Senator Carol Buettner can be reached at (608) 266-5300 or through the legislative hotline at 1-800-362-9472.

Please see WFT Resolution



WFT RESOLUTION

Whereas the State of Wisconsin and the Department of Natural Resources has been charged with the responsibility of issuing a permit to allow mining in the Crandon vicinity, and

Whereas Walleyes For Tomorrow has an interest and the mission to protect the life cycle needs of walleyes and other fishery stocks, and

Whereas Walleyes For Tomorrow co-sponsored a discussion between the mining company and the state that included citizen input, and

Whereas Walleyes For Tomorrow has been unable to find any mind of this type anywhere in the world that has not caused extensive pollution downstream to the endangerment of the fisheries and wildlife for many decades.

Now therefore be it resolved that the board of directors and officers of Walleyes For Tomorrow, do hereby **register their opposition** to this mine

and

We urge the State of Wisconsin not to issue the necessary permits.

'93 tourism brought \$5.58 billion into state

By STEVEN WALTERS
Sentinel Madison Bureau

Madison — Tourism was a \$5.58 billion Wisconsin industry in 1993, with \$1 of every \$5 spent in Milwaukee County, according to a study Gov. Tommy G. Thompson was to release Monday.

Statewide, Wisconsin tourism grew by 2.6% last year, despite Mississippi River flooding that soaked the economies of five counties along the river, the report said.

Five flooded counties along the Mississippi River — Crawford, Pierce, St. Croix, Trempealeau and Buffalo — lost tourist spending. Tourism gains in La Crosse and Grant counties were less than the statewide average.

State Tourism Director Richard Speros said good fall weather helped many communities "rebound from heavy spring rains and early summer flooding."

The report said tourism supported 147,393 full-time Wisconsin jobs last year, a 1% decline. However, the \$2.94 billion those workers were paid was up about 2.7%.

Of the \$5.58 billion, spending at hotels, motels and resorts totaled \$2.91 billion. About 55% of tourists at those sites were from Wisconsin; 45% lived outside the state.

The peak summer months — June, July and August — remained the most popular for tourism, followed by September through December.

Of the \$5.58 billion, 44% was spent in the three summer months.

Overall, Thompson said the report proved that the state's tourist industry is a worldwide attraction.

"The friendliness, hospitality, hard work and quality of our tourism industry has made Wisconsin the Midwest's premier vacation destination," the governor said.

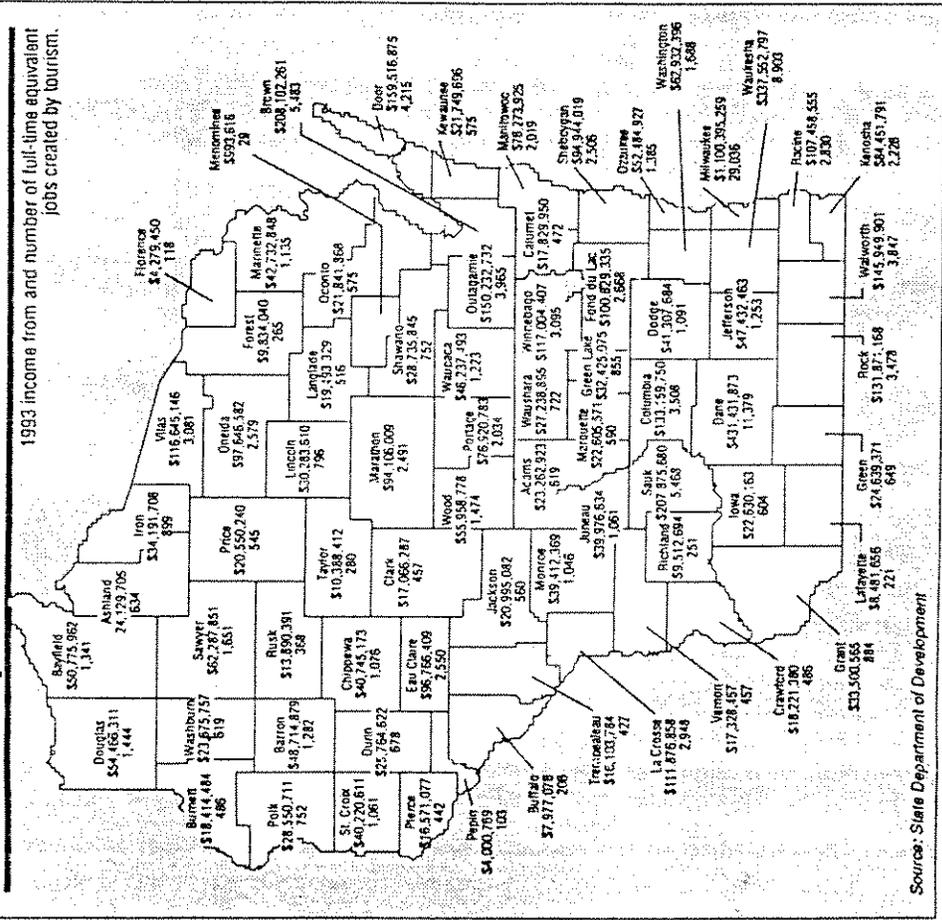
"We're also luring more and more people from around the nation and world."

Thompson was to release the latest study on tourism in a State Capitol ceremony Monday, the start of National Tourism Week.

The study was compiled by a Maine consulting firm, Davidson-Peterson Associates, based on

Economic impact of tourism

1993 income from and number of full-time equivalent jobs created by tourism.



Source: State Department of Development

Sentinel graphic

statewide surveys and telephone interviews with business operators.

The 1993 report also estimated tourism spending by county. Overall, 56 counties saw gains last year, while tourism spending dropped in the 16 other counties.

But only 10 counties got 53% of all tourism spending statewide, the report said.

Those 10 counties, what the report said tourists spent in 1993 and the one-year change, were:

Milwaukee, \$1.1 billion, 2.2%; Dane, \$431.4 million, 3.4%; Wau-

kesha, \$337.5 million, 3.7%; Brown, \$208.1 million, 2.6%; Sauk, \$207.9 million, 1.5%; Door, \$159.5 million, c/q-2.4%; Outagamie, \$150.2 million, 11.6%; Walworth, \$145.9 million, -0.4%; Columbia, \$133.1 million, -0.3%; Rock, \$131.9 million, 4.3%.

Fond du Lac County led the state in increased tourism spending, with a 26.9% one-year jump, the report said. The report gave no explanation for the change.

Tourists spent \$100.8 million in Fond du Lac County in 1993. Tourism spending in another

county in the same region, Sheboygan, fell the most in a year: 8.4%, to \$94.4 million. No explanation was given for the drop.

Figures in the report say campground owners may have been hurt the most by record Mississippi River floods last year.

For example, total campground sites available fell by 4.2% last year, from 9.1 million nights to 8.7 million.

When polled, campground owners listed poor weather, floods and publicity about bad weather as reasons for the drop.

port called the drop in the number of campground sites "serious."

Other conclusions of the report were:

- Tourists paid \$620.6 million in state taxes, and local governments collected \$319.3 million, including local sales taxes and local property taxes paid by tourism businesses.

- Hotels, motels and resorts had an average occupancy rate of 59% last year, charged an average of \$57.97 for a double room, and hosted parties that averaged 1.8 visitors who stayed two days.

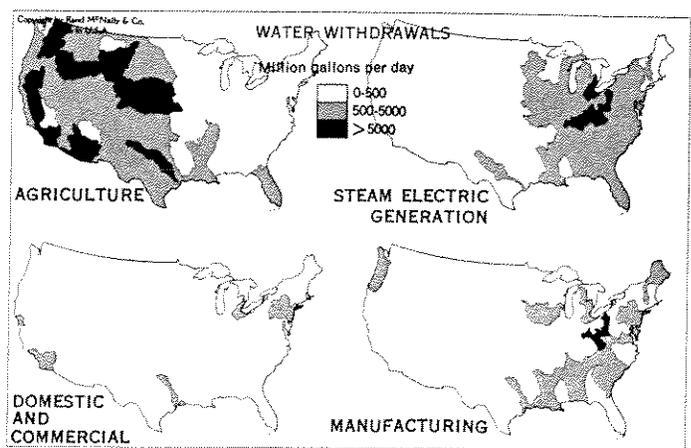
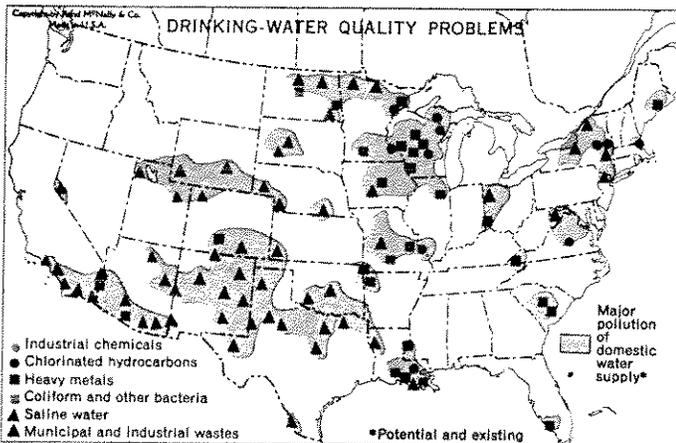
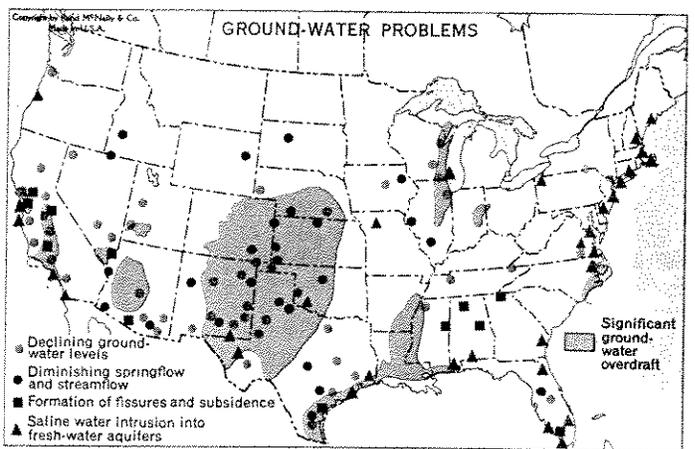
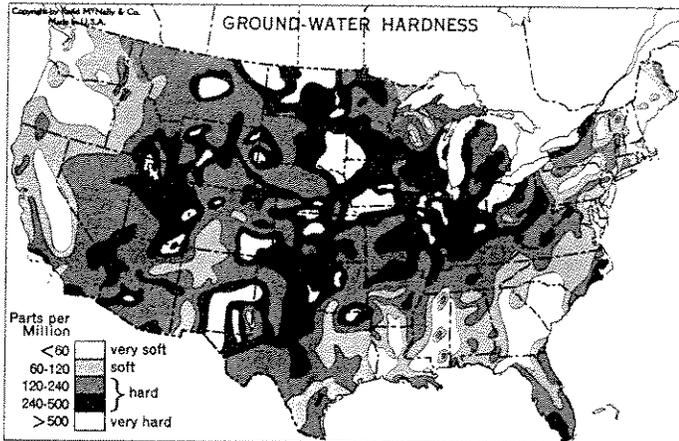
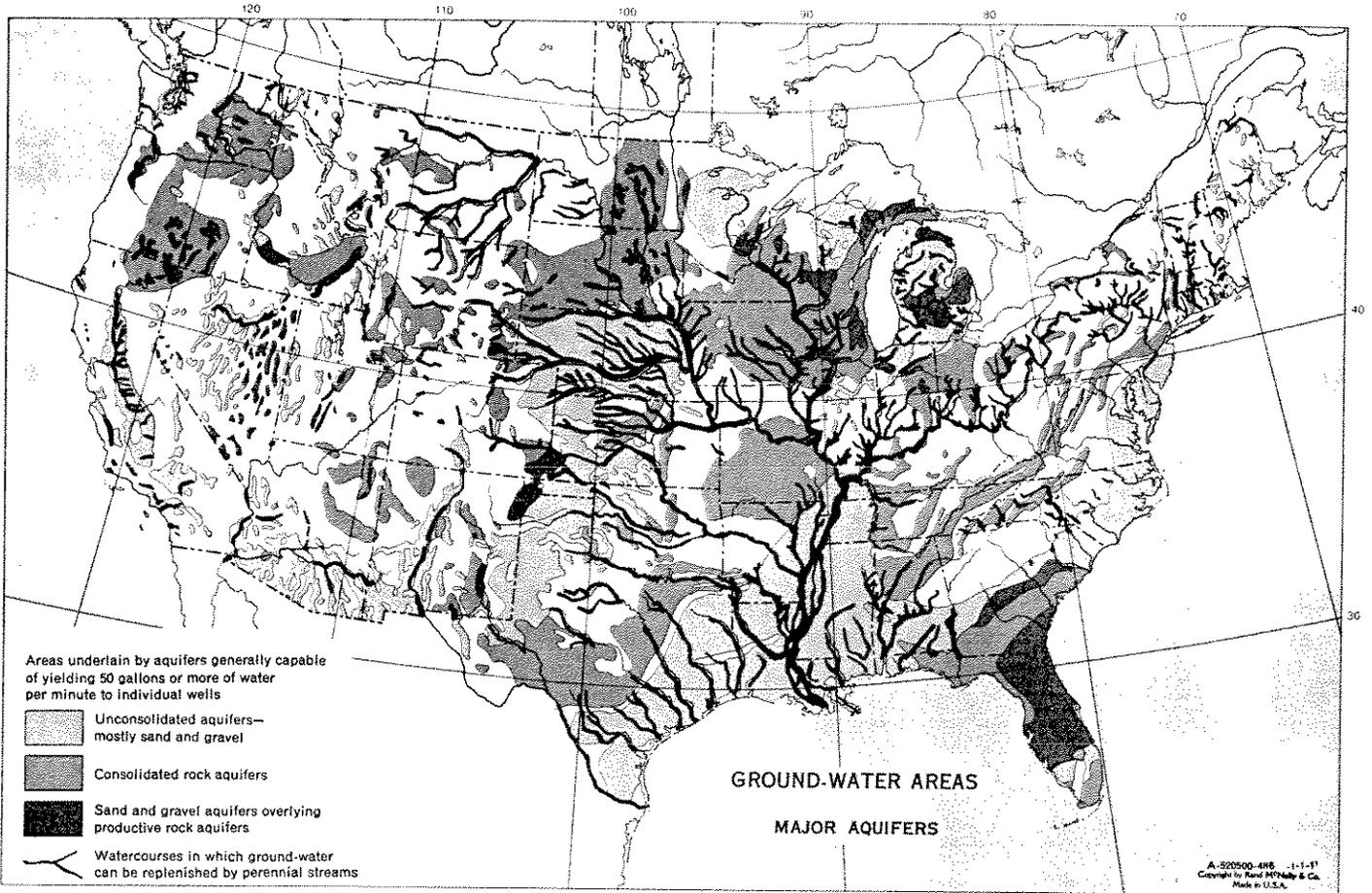
- About 44% of those visiting these facilities were on business trips, 39% were on personal vacations and 17% were at meetings or conventions.

- Owners of tourist cabins, cottages and condominiums reported an average occupancy rate of 52% last year, charged an average of \$74.30 per unit, and saw parties that averaged 3.9 people who stayed 4.5 days.

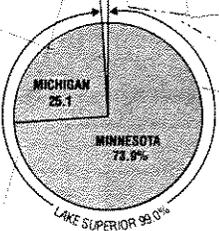
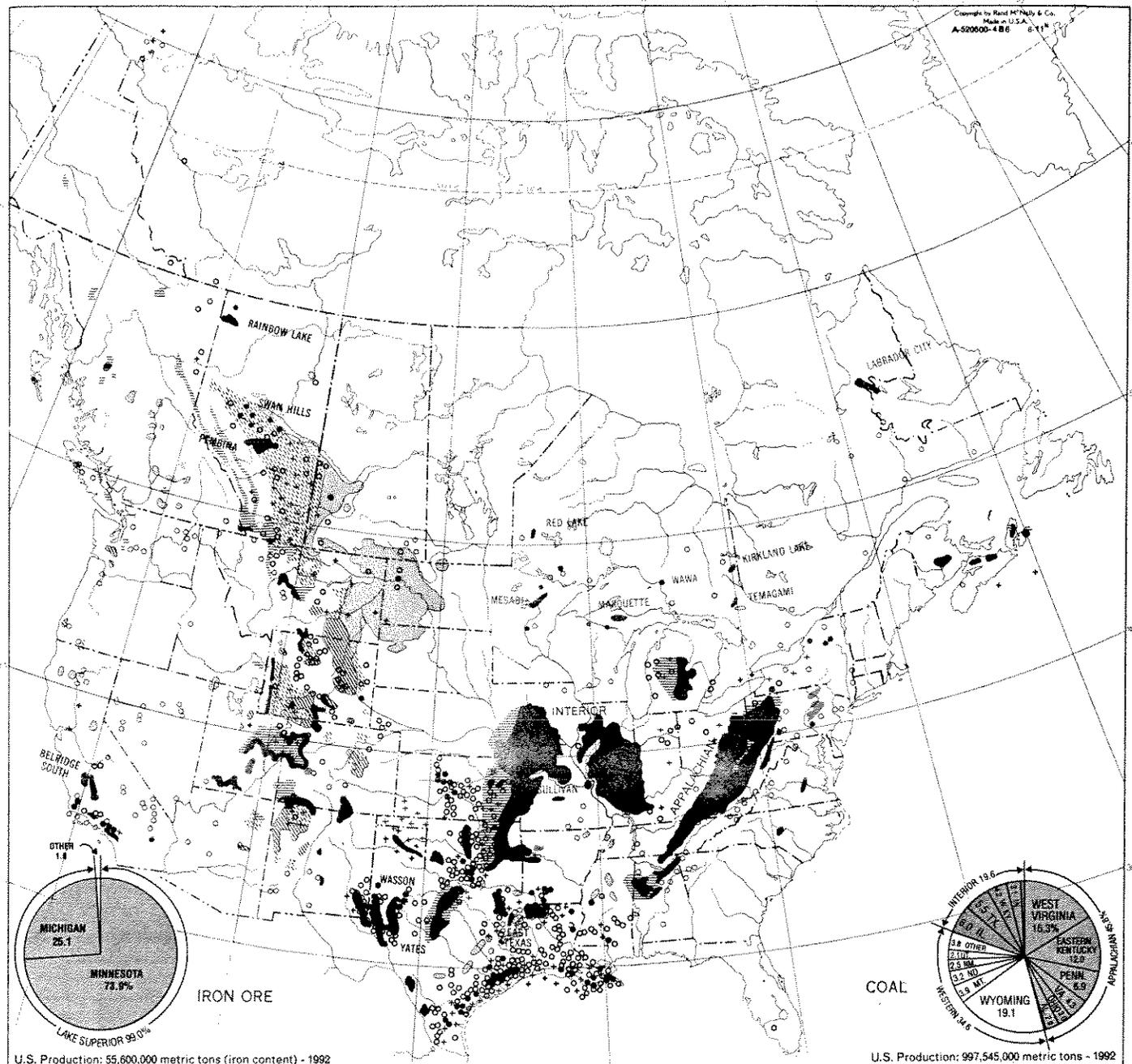
- A majority of visitors to tourism cabins, cottages and condominiums lived outside Wisconsin, and 95% of them were on personal vacations.

- Owners of campgrounds were 29% filled on average last year, charged an average of \$11.67 per camp site, saw parties that averaged 3.3 people who stayed 2.6 days.

- Two out of every three visitors to Wisconsin campgrounds last year lived in the state, the report added.

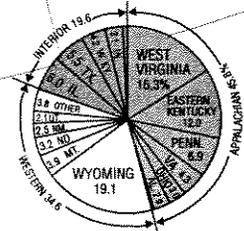


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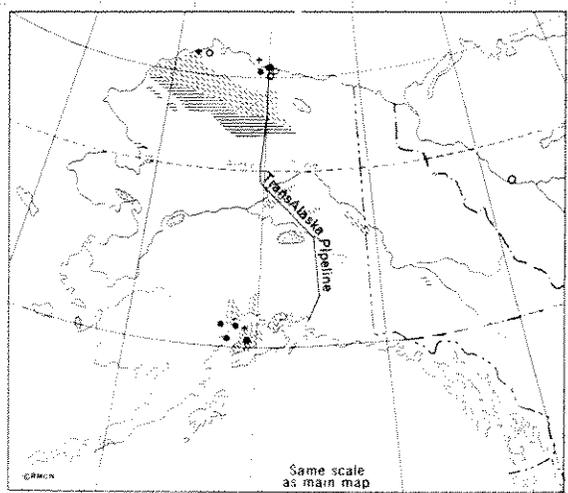
IRON ORE

U.S. Production: 55,600,000 metric tons (iron content) - 1992



COAL

U.S. Production: 997,545,000 metric tons - 1992



PETROLEUM

State	Percentage
TEXAS	24.8%
ALASKA	23.9%
OFF-SHORE	13.0%
CA	11.6%
LA	1.4%
OK	1.3%
WY	1.2%
OTHER	8.8%

U.S. Production: 355,970,000 metric tons - 1992
 Canada Production: 79,320,000 metric tons - 1992

NATURAL GAS

State	Percentage
TEXAS	32.8%
LOUISIANA	26.3%
OK	10.8%
WY	8.8%
OTHER	10.9%

U.S. Production: 503,474,000,000 cubic meters - 1992
 Canada Production: 127,143,000,000 cubic meters - 1992

PETROLEUM

- Major Producing Area
- Major Field
- Minor Field

IRON ORE

- Major Producing Deposit
- Other Important Deposit
- Minor Deposit

NATURAL GAS

- Major Field

COAL AND LIGNITE

BITUMINOUS COAL

- Major Deposit
- Minor Deposit

SUB-BITUMINOUS COAL

- Major Deposit
- Minor Deposit

ANTHRACITE **LIGNITE**

Note: One metric ton of crude oil is equal to 7.31 barrels.

STATEMENT OF CONGRESSMAN JAY JOHNSON
RE; THE METALLIC MINING ACT

FIRST, LET ME THANK THE CHAIRWOMAN OF THE COMMITTEE ON AGRICULTURE AND ENVIRONMENTAL RESOURCES FOR ALLOWING ME TO APPEAR BEFORE YOUR COMMITTEE. I THINK THIS IS A VERY IMPORTANT BILL, AS EVIDENCED BY THE TURNOUT TODAY AND BY THE ISSUES IT HAS RAISED NOT ONLY IN THIS PAST YEAR, BUT FOR YEARS BEFORE THIS.

FOR THE PAST YEAR, I HAVE EXPRESSED MANY TIMES MY CONCERN FOR THE ENVIRONMENT....AND I THINK PART OF THE REASON I AM ABLE TO TESTIFY HERE TODAY AS CONGRESSMAN IS DUE IN NO SMALL PART TO THE CONCERNS I EXPRESSED, FOR MYSELF AND FOR NORTHEAST WISCONSIN RESIDENTS, ABOUT OUR OWN ENVIRONMENTAL FUTURE. AS YOU MIGHT BE AWARE, I ALSO EXPRESSED MY SUPPORT DURING LAST YEAR'S CAMPAIGN, FOR THE SO CALLED MINING MORATORIUM BILL. TO THE EXTENT THAT THIS PROPOSED LEGISLATION MIRRORS THAT BILL, I OFFER MY SUPPORT AGAIN. I THINK THAT YOUR CONCERNS, AS EXPRESSED IN THIS BILL ARE SHARED BY ME AND MANY OTHERS WHO LOOK TO ANY LONG TERM EFFECTS ON THE GROUNDWATER IN THE IMMEDIATE AREA OF THE PROPOSED MINE AND THE WATER VOLUME AND QUALITY IMPACTS ON BOTH THE WOLF AND WISCONSIN RIVERS.

I RECOGNIZE THAT, RIGHT NOW, AND AS FAR AS THIS LEGISLATION IS CONCERNED, THIS IS A STATE ISSUE AND I HAVE GREAT FAITH IN THIS COMMITTEE AND THE STATE TO DO IT'S UTMOST TO DEAL FAIRLY AND SAFELY WITH THE FULL IMPACTS OF MINING IN NORTHERN WISCONSIN. BUT, I ALSO RECOGNIZE THAT THERE ARE AT LEAST TWO FEDERAL AREAS WHICH MAY BRING THE MINING CONCERNS TO MY DESK. FIRST, THERE IS THE FACT THAT THE FEDERAL ARMY CORPS OF ENGINEERS IS CURRENTLY STUDYING THE CRANDON MINE AS TO WATER ISSUES THAT COME UNDER IT'S AUSPICES AND I WILL MONITOR THEIR STUDIES.

I HAVE MET WITH REPRESENTATIVES OF THE CORPS AND THEY TELL ME THAT THEIR SEPARATE ENVIRONMENTAL IMPACT STATEMENT AND PERMIT DECISION IS

SCHEDULED FOR COMPLETION AS THE END OF 1998. SECOND, I AM ALSO CONCERNED THAT, AS SOME GROUPS HAVE RAISED RECENTLY, THAT THE DIVERSION ISSUE.... THAT IS, WHETHER OR NOT THE TRANSFER OF WATER FROM THE GROUND IN THE AREA AROUND THE MINE TO THE WISCONSIN RIVER, VIOLATES A FEDERAL LAW.... THE 1986 WATER RESOURCES DEVELOPMENT ACT.

ON BOTH OF THESE FEDERAL ISSUES, I WILL PERSONALLY AND I HAVE ASKED MY STAFF TO CONTINUE TO MONITOR THE DEVELOPMENTS AND ISSUES INVOLVED AND FIND OUT IF THE FEDERAL GOVERNMENT AND MY OFFICE, IN PARTICULAR, MIGHT OFFER INPUT AND ASSISTANCE IN THIS AREA.

FINALLY, I EXPECT THAT , WHATEVER HAPPENS AS A RESULT OF THIS LEGISLATION, THE STANDARDS EXPRESSED IN THIS BILL, IF APPROVED, WILL BE ADHERED TO AND , AS IMPORTANTLY, THE STANDARDS OF THE PEOPLE OF NORTHEAST WISCONSIN, AS EXPRESSED TO THEIR REPRESENTATIVES, WILL BE FOLLOWED IN ALL CASES

Executive Summary

A Survey of Modern Mining Principles and Practice At Mines Throughout North America

A number of mining success stories are compelling evidence that metallic mineral mining can supply the materials we need and protect the environment we value

A Precambrian volcanogenic massive sulfide mineral belt in Northern Wisconsin has attracted the attention of mining and mineral exploration companies for over 25 years. Two commercially viable deposits have been discovered: the Flambeau deposit in Ladysmith and the Crandon deposit in Crandon.

The Flambeau Mine, an open-pit copper mine, began operations in 1993.¹ It has a spotless environmental record, and final reclamation is set to begin in 1997. Currently, Crandon Mining Company (CMC) is in the permitting process to build, operate and reclaim the Crandon zinc and copper deposit.

Despite the success of the Flambeau project and Wisconsin's comprehensive regulatory structure,² mining opponents in Wisconsin have continued to insist that mining is inherently incompatible with environmental protection. In 1995-97, those charges have taken the form of proposed legislation which challenges the mining industry to prove sulfide mining can be done in an environmentally safe and responsible manner.³ This debate is not unique to Wisconsin. Across North America, mining industry detractors rely on outmoded images of mining to bolster their claims that no mining is safe.

In support of its planning and permitting process and its position that the hard rock mining industry has, can and will continue to operate mines that use proven technology and sound science to comply with comprehensive state and federal laws, CMC commissioned a study to determine the extent and degree of environmental awareness and sensitivity in mining and processing operations and to locate examples of environmentally responsible operations in a sulfide ore environment.

CMC retained the services of two highly respected and experienced mining environmental experts to conduct the survey, Jeffrey Todd and Debra Struhsacker.⁴ In addition to identifying mining operations that meet the arbitrary criteria contained in AB 758, introduced in 1996, their survey focused on substantive documentation and real measurements of how well the mining industry is performing and can perform.

The survey was initiated in the fall of 1995. Hundreds of potential sites were screened to determine which were operating within or had historically operated within a sulfide ore zone. Over the course of several months, more than 150 telephone discussions with the companies, regulatory agencies and industry and environmental organizations were initiated to narrow the field of study. More than two dozen active and closed mines were identified for possible site visits, and 14 visits were conducted in the fall of 1996.

Modern Mining Success Stories: Six Exemplary Mines

- The Henderson Mine and Mill
Empire, Colorado
- The McLaughlin Mine
Lower Lake, California
- The Cannon Mine
Wenatchee, Washington
- The Viburnum Mine No. 27
Viburnum, Missouri
- The Stillwater Mine
Nye, Montana
- The Flambeau Mine
Ladysmith, Wisconsin



The survey reveals four key points:

- There are mines in Southwest Wisconsin that meet both criteria contained in AB 758.
- In addition, several active operations answered part of the challenge set for in AB 758, namely "that a mining operation has operated in a sulfide ore body in the United States and Canada for at least 10 years without polluting groundwater or surface water from acid drainage at the tailings site or at the mine site or from release of heavy metals."
- The bill sets arbitrary standards without scientific or technical basis and thus eliminates many exemplary mines from consideration, including many that use state-of-the-art technology and environmental controls but simply have been closed and reclaimed for less than the 10-year criterion. Mines examined as part of this study include those that have been successfully reclaimed within the last 10 years.
- A more meaningful yardstick for measuring the success of a mining operation must include the following criteria: the existing regulatory framework and the level of enforcement of those laws; the application of sound science and proven technology in all aspects of the mine's design and operations; the attention to reclamation, ongoing monitoring and closure inherent in modern mining; and the commitment of the mine operator to meet, or surpass existing environmental expectations as well as community and public expectations.

The Todd and Struhsacker survey evaluated environmental practices at modern mines and identified active, reclaimed, closed and partially closed mines that employ sound proactive and contemporary environmental management practices. In this manner, the survey focuses on identifying environmentally responsible mines that have been developed under the current regulatory framework and that have used modern pollution prevention and environmental protection technology. Metallic mining under the modern, stringent, environmentally sensitive regulatory climate at the state and federal levels is a completely different enterprise than 100 year ago...or even 20 years ago.

In short, the survey identified mines that meet a higher standard than AB 758 or subsequent bills demand.

Findings of Fact

Today's mines are highly regulated and make extensive use of pollution prevention technology. It is inappropriate to use environmental problems at antiquated mine sites to predict what will happen in the future at modern mines.

Environmentally responsible operations are evident at every active mine site explored by this survey.

There are examples of currently active sulfide mines that have been in operation for more than 10 years and have not caused surface or groundwater pollution.

There are several successfully closed and reclaimed mines that operated for at least 10 years

There are a number of old lead-zinc sulfide mines in southwestern Wisconsin that operated for more than 10 years, were either closed or mined out more than 10 years ago and have caused no known surface or groundwater pollution problems.

A more meaningful measure of compliance with all applicable environmental protection standards would evaluate operating and closed sites that are subject to rigorous and regular monitoring, reporting, and inspection requirements.

For a complete copy of the report, published by the Society for Mining, Metallurgy, and Exploration, Inc. (SME), please contact the Executive Director, Wisconsin Mining Association, P.O. Box 352, Madison, Wisconsin 53701-0352.

Footnotes:

1. For a complete record of the Flambeau Permitting Process, see Decision, Findings of Fact, Conclusions of Law and Permits, State of Wisconsin, Division of Hearings and Appeals.
2. Wisconsin's mining laws are discussed in detail in The Wisconsin Geological and Natural History Survey (WGNHS) of the University of Wisconsin-Extension Special Report 13, Wisconsin's Metallic Mining Regulations.
3. Several versions of the mining ban bill have been introduced: 1995-96, AB 758; 1997, AB 70 and SB 3.
4. Mr. Todd has degrees in wildlife ecology and more than 23 years' experience in environmental and regulatory affairs. Ms. Struhsacker is a geologist with over 20 years of experience in the mining industry. 11 of which have dealt with environmental and regulatory issues.

Regulatory Time Line

Comprehensive Regulations Define Modern Mining

Date	Commencement of Mining Activities	Enactment of Environmental Laws or Regulations Affecting Mining
1825	Upper Mississippi Valley lead mining (Southwestern Wisconsin and adjacent Iowa and Illinois)	<div style="border: 1px solid black; padding: 10px; text-align: center;"> <p>Over 140 years of mining before these laws and regulations were passed</p> </div>
1849	California—gold mining	
1858	Colorado—precious metals mining	
1859	Nevada—Comstock Lode silver and gold mining	
1862	Montana—gold mining	
1863	Utah—copper mining	
late 1860s	Upper Mississippi Valley zinc mining (Southwestern Wisconsin and adjacent Iowa and Illinois)	
1875	South Dakota—Black Hills gold mining	
1877	Colorado—base metal mining, and Arizona—copper mining	
1882	Montana—copper mining	
1917	Colorado—molybdenum mining	National Historic Preservation Act
1965	Nevada—Carlin-type gold mining started	Air Quality Act
1966		National Environmental Policy Act (NEPA)
1967		Occupational Safety and Health Act (OSHA), Clean Air Act, and CA Environmental Quality Act (CEQA)
1969		MT Metal Mine Reclamation Act and MT Environmental Policy Act (MEPA)
1970		Federal Water Pollution Control Act/Clean Water Act
1971		Endangered Species Act
1972		Safe Drinking Water Act (SDWA) and U.S. Forest Service Mining Regulations
1973		CA Surface Mined Land Reclamation Act (SMARA)
1974	Mining begins at Henderson Mine, CO	Federal Land Policy and Management Act (FLPMA), Resource Conservation and Recovery Act (RCRA), Clean Water Act Amendments, and CO Mined Land Reclamation Act
1975		Mine Safety and Health Act (MSHA), Surface Mining Control and Reclamation Act (SMCRA), WI Metallic Mining Reclamation Act, and ID Surface Mining Act
1976		Archeological Resources Protection Act
1977		Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), also known as Superfund
1979		U.S. Bureau of Land Management Mining Regulations
1980	Mining begins at Jerritt Canyon, NV	SD Mined Land Reclamation Act, WI Metallic Mineral Mining (Ch. NR 132) and Regulation of Metallic Mining Waste (Ch. NR 182)
1981	Viburnum Mine No. 27 becomes drinking water source for Viburnum, MO	Hazardous and Solid Waste Amendments, CA Chapter 15 Discharges of Waste to Land, Article 7, Mine Waste Management
1982		
1984		
1985	Mining begins at Cannon Mine, WA, McLaughlin Mine, CA, and Sleeper Mine, NV	
1986	Mining begins at Goldstrike Mine, NV and Montana Tunnels, MT	Superfund Amendments and Reauthorization Act, and Emergency Planning and Community Right-to-Know Act
1987	Mining begins at Stillwater Mine, MT	UT Mined Land Reclamation Act (amended)
1988		ID Code §39-118A (statutory provision requiring permits for processing ore by cyanidation)
1989		NV Mined Land Reclamation Act and MT Admin. R. §§26.4.160 to .168, and NV Water Pollution Control Law
1990		
1993	Mining begins at Flambeau Mine, WI	Clean Air Act Amendments and CO Mined Land Reclamation Act Amendments



Davis Creek Reservoir at the McLaughlin Mine in Lower Lake, California. Built as a freshwater reservoir for the mine, it is now an ecological research site for University of California at Davis.

Modern Mining:

Science, Technology and
Comprehensive Regulations
Make it Possible

*Crandon Mining Company Announces
Environmentally Responsible Mining Survey Results*

Take a Look for Yourself at Modern Mines Across America



Ongoing environmental monitoring at the Flambeau Mine in Ladysmith, Wisconsin

Crandon Mining Company has conducted a year-long intensive survey of modern mining industry environmental practices. This survey included over 150 interviews with mining industry representatives and state and federal regulatory authorities with jurisdiction over mining in the U.S. and Canada, and visits to 14 sulfide mining operations in California, Washington, Montana, Colorado, Nevada, Missouri, New York, and Wisconsin. The survey was conducted by independent environmental consultants who are experts in evaluating environmental issues associated with mining.

What did those experts find? Environmentally responsible sulfide mining is occurring all across the country. Many of the mine sites researched during the survey are located in scenic, high altitude mountainous areas that receive severe winter weather and provide valuable habitat for terrestrial and aquatic wildlife. The many environmentally sensitive settings prove that similar sulfide mining can be done in an environmentally responsible manner in Wisconsin—especially in light of Wisconsin's stringent mining regulations. These regulations require state-of-the-art engineering design, pollution prevention technology, monitoring, and financial guarantees to ensure that Wisconsin mines are built, operated, and reclaimed to the highest environmental standards.

A few examples of environmentally responsible sulfide mines include the following:

The Henderson Mine and Mill

This molybdenum sulfide mine and mill have maintained a spotless environmental compliance record since 1976 when mining and milling operations commenced. Located less than a two-hour drive west of Denver, Colorado, at an elevation of 10,346 feet in the spectacular mountain scenery of the Colorado Front Range; the areas immediately around the mine and mill serve as Denver's back yard and receive intensive year-round recreational use. Denver residents regularly use areas adjacent to the mine and mill sites for fishing, camping, picnicking, hunting, hiking, skiing, and snowmobiling. Treated wastewater from the operation supports a thriving population of Boreal toads, a species that the U.S. Fish and Wildlife Service is considering listing as threatened and endangered. Streams downstream from both the mine and mill facilities are excellent brown and brook trout fisheries. Both the mine and the mill are located in Denver's watershed, and two reservoirs associated with the nearby reclaimed Urad Mine are used as municipal reservoirs for the city of Golden, Colorado.

The Viburnum Mine No. 27

Developed in geology similar to that found in southwestern Wisconsin's lead-zinc mining district, the water from this lead-zinc-copper sulfide mine, which operated from 1960 to 1978, is so clean it has served as the primary domestic water source for the town of Viburnum, Missouri, since 1981.

The McLaughlin Mine

Straddling three counties about 70 miles north of San Francisco in the rugged mountainous terrain of California's Coast Range, this gold mine is acknowledged by regulators, environmentalists, and the mining industry to be a model of effective environmental practice. Proactive mine planning and permitting processes, pollution prevention features, and reclamation and habitat management programs are just some of the mine's successful environmental efforts that have been adapted for use at other mine sites. Comprehensive environmental monitoring of the McLaughlin Mine confirms the ecological effectiveness of these practices. This monitoring demonstrates that



The tailings management area at the active Henderson Mill near Parshall, Colorado

since its development in 1985, the mine has operated without environmental harm, and has not only protected but actually enhanced the quality of both on-site and downstream habitats and improved downstream water quality. Using ecology-based habitat management planning, resource values of the surrounding landscape that were disturbed by historic mining are in the process of being restored and enhanced. Ultimately the entire mine site and attached buffer lands of thousands of acres will become a wildlife preserve and an environmental studies field research station for the University of California.

The Stillwater Mine

Located in southern Montana in the magnificent Beartooth Mountains on the northern edge of the Absaroka-Beartooth Wilderness, about 30 miles north of Yellowstone National Park, this platinum-palladium sulfide mine is an excellent example of environmentally responsible mining in an extremely beautiful and sensitive environment. Operating since 1987, the Stillwater Mine has maintained a clean environmental record. The only domestic source of these strategic minerals, the Stillwater operation includes an off-site smelter in Columbus, Montana, with state-of-the-art pollution control equipment. This underground mine is recognized by regulators, environmental groups, and industry experts for its excellent concurrent reclamation activities, wildlife enhancement projects, community support programs, and responsive environmental management. In addition to its scenic attributes, the area around the mine is also recognized for its recreational opportunities—the mine is adjacent to the Stillwater River, a Montana Blue Ribbon Trout Fishery.

The Cannon Mine

Located at the intersection of South Miller and Circle Streets, this gold mine was developed in 1985, one block south of the Wenatchee, Washington, city limits. This agricultural community of approximately 40,000, known as “the apple capital of the world,” is about 150 miles east of Seattle. With residents, parks, churches, schools, hospitals, and an equestrian center

as its neighbors, the Cannon Mine is a model of environmentally responsible mining in an established urban environment. The mine, which operated for nine years, is now in the final stages of reclamation, and nearly all traces of this

once bustling underground mining and milling project are gone. All of the millsite buildings have been removed, the area regraded, and replanted; the mine portal has been plugged; and the tailings management area has been reclaimed and planted with natural grasses. The local school district has converted the mine buildings into offices and an equipment maintenance facility. As quoted in a July 2, 1996, article entitled “A Promise Kept—Mine Tailing Cleaned Up” in the *Wenatchee World*, a local official states that the mine has done a good job living up to its promises—“The scale of the (reclamation) work is just amazing. It’s been a good project.”

The Flambeau Mine

Located in northern Wisconsin’s Rusk County, practically within the city limits of Ladysmith and immediately adjacent to the Flambeau River, this copper mine has complied with all applicable environmental regulations since opening in 1993. Stormwater runoff from sulfide waste material and the operating open pit, along with groundwater infiltration into the pit, are treated in a state-of-the-art water treatment facility that produces mine discharge water which has proven safe at 100 percent concentration (i.e., without dilution) for the most sensitive aquatic life and meets state drinking water safety standards. Examinations of fish, crayfish, macro-invertebrates, and dragonfly; sediment sampling; and habitat characterization both above and below the mine discharge point prove the mine water has not adversely affected river life. Upon completion of mining in 1997, the open pit will be backfilled and the site will be recontoured and revegetated to pre-mining conditions. City officials credit the mine with creating an economic miracle for the local community of 4,000 people. Tax revenue from the mine has stimulated an economic development boom in Rusk County where the unemployment rate has fallen from 15.3% just prior to the mine opening to 4.0% in October 1996. The Flambeau Mine is one of Rusk County’s top tourist attractions, with over 30,000 people per year visiting the mine’s information center.

The Henderson Mine and Mill

Location Empire, CO (mine), Parshall, CO (mill)
Type of Mine Underground Molybdenum Mine with Tailings Area
Tons of Ore 130 million tons of ore mined to date
Size of Mine Over 100 miles of underground workings, mill site and tailings disposal area cover approximately 3,500 acres
Contact Ms. Anne Beierle, Environmental Manager
Climax Molybdenum Company

McLaughlin Mine

Location Lower Lake, CA
Type of Mine Open-Pit Gold Mine with Tailings Area
Tons of Ore Approximately 40 million tons of ore and 130 million tons of waste rock mined, and 2.7 million ounces of gold produced to date
Size of Mine The open pit is approximately one mile long, one-half mile wide, 1,000 feet deep, and covers about 210 acres; the total mine area is approximately 1450 acres, 700 of which are now reclaimed
Contact Mr. Raymond E. Krauss, Environmental Manager
McLaughlin Mine, Homestake Mining Company

Cannon Mine

Location Wenatchee, WA
Type of Mine Underground Gold Mine with Tailings Area
Tons of Ore 4.5 million tons of ore mined to produce 1.25 million ounces of gold and 2 million ounces of silver
Size of Mine Total mine area is approximately 200 acres; the site is now reclaimed
Contact Mr. Gary Bates, Vice President
Selland Construction

Viburnum Mine No. 27

Location Viburnum, MO
Type of Mine Underground Lead, Zinc, and Copper with Tailings Area
Tons of Ore 8,593,390 tons of ore to produce 350,703 tons of lead concentrate, 20,956 tons of zinc concentrate, and 22,702 tons of copper concentrate
Size of Mine The No. 27 mine was one of three mines feeding a central mill. The No. 27 underground workings extended for over a mile to the north and west of the shaft and approximately one-half mile to the south of the shaft
Contact Mr. John E. Carter, Manager Mining Properties
The Doe Run Company

Stillwater Mine

Location Nye, MT
Type of Mine Underground Platinum-Palladium Mine with Tailings Area
Tons of Ore 3.3 million tons of ore and 2.7 million tons of waste rock mined to date, with over 2 million ounces of platinum group metals produced to date
Size of Mine Over 27 miles of underground workings
Contact Mr. Bruce E. Gilbert, Environmental Affairs Manager,
Stillwater Mining Company

Flambeau Mine

Location Ladysmith, WI
Type of Mine Open-Pit Copper Mine
Tons of Ore Just under 2 million tons of ore, and 10 million tons of waste rock
Size of Mine The pit is about 550 feet wide, 2,600 feet long, and 225 feet deep, and covers about 35 acres
Contact Tom Myatt, General Manager

For more information about environmentally responsible mining and the technology, people, science and regulations that make it possible, please contact:

Executive Director
The Wisconsin Mining Association
P.O. Box 352
Madison, Wisconsin 53701-0352

Industrial Minerals Around the House

<u>Item</u>	<u>Minerals Needed to Produce Them</u>
Carpet	<i>Calcium carbonate, limestone</i>
Glass/Ceramics	<i>Silica sand, limestone, talc, lithium, borates, soda ash, feldspar</i>
Linoleum	<i>Calcium carbonate, clay, wollastonite</i>
Glossy Paper	<i>Kaolin clay, limestone, sodium sulphate, lime, soda ash, titanium dioxide</i>
Cake/Bread	<i>Gypsum, phosphates</i>
Plant Fertilizers	<i>Potash, phosphate, nitrogen, sulphur</i>
Toothpaste	<i>Calcium carbonate, limestone, sodium carbonate, fluorine</i>
Lipstick	<i>Calcium carbonate, talc</i>
Baby Powder	<i>Talc</i>
Hair Cream	<i>Calcium carbonate</i>
Counter Tops	<i>Titanium dioxide, calcium carbonate, aluminum hydrate</i>
Household Cleaners	<i>Silica, pumice, diatomite, feldspar, limestone</i>
Caulking	<i>Limestone, gypsum</i>
Jewelry	<i>Precious & semi precious stones</i>
Kitty Litter	<i>Attapulgate, montmorillonite, zeolites, diatomite, pumice, volcanic ash</i>
Fiberglass Roofing	<i>Silica, borates, limestone, soda ash, feldspar</i>
Potting Soil	<i>Vermiculite, perlite, gypsum, zeolites, peat</i>
Paint	<i>Titanium dioxide, kaolin clays, calcium carbonate, mica, talc, silica, wollastonite</i>

Concrete	<i>Limestone, gypsum, iron oxide, clay</i>
Wallboard	<i>Gypsum, clay, perlite, vermiculite, aluminum hydrate, borates</i>
Spackling	<i>Gypsum, mica, clay, calcium carbonate</i>
Pencil	<i>Graphite, clay</i>
Carbon Paper	<i>Bentonite, zeolite</i>
Ink	<i>Calcium carbonate</i>
Microwavable Container	<i>Plastics, talc, calcium carbonate, titanium dioxide, clay</i>
Sports Equipment	<i>Graphite, fiberglass</i>
Pots and Pans	<i>Aluminum, iron</i>
Optical Fibers	<i>Glass</i>
Fruit Juice	<i>Perlite, diatomite</i>
Sugar	<i>Limestone, lime</i>
Drinking Water	<i>Limestone, lime, salt, flourite</i>
Vegetable Oil	<i>Clay, perlite, diatomite</i>
Medicines	<i>Calcium carbonate, magnesium, dolomite, kaolin, barium, iodine sulphur, lithium</i>
Porcelain Figurines	<i>Silica, limestone, borates, soda ash, gypsum</i>
Television	<i>35 different minerals</i>
Automobile	<i>15 different minerals</i>
Telephone	<i>42 different minerals</i>