Wisconsin county cyanide bans:

ONEIDA COUNTY

Section B Definition # 13.
Oneida County defines "solution mining" as "means the extraction of ore by the use of chemical reagents, including but not limited to cyanide heap leaching, vat leach mining or in situ leach mining technologies."

Section C
2. Prohibitions
d. "The following types of metallic mineral mining and prospecting activities or operations are prohibited:

1. The process of solution mining
2. Smelting or refining
3. Disposal of mining wastes at a prospecting or mining site in this county from a prospecting or mining site outside of the county."

VILAS COUNTY

Metallic Mining Ordinance
effective date: 6/16/99
Section 3.3

(1) Solution mining is prohibited. The process includes but is not limited to cyanide heap leach or vat leach mining, or leach mining with other toxic chemicals.

Groups that have signed on to the WISCONSIN CAMPAIGN TO BAN CYANIDE IN MINING

(as of April 5, 2001)

- Wolf Watershed Educational Project/ Midwest Treaty Network
- Mining Impact Coalition of Wisconsin Inc.
- Wisconsin Resources Protection Council
- Northern Thunder
- Wisconsin's Environmental Decade
- EarthWINS
- Wisconsin Stewardship Network
- Rusk County Citizens Action Group
- Superior Wilderness Action Network
- Clean Water Action Council of Northeastern Wisconsin
- Wolf River Watershed Alliance
- Wisconsin Greens
- University of Wisconsin Greens
- Natural State Water Protection Association (Arkansas)
- Rainforest Information Centre (New South Wales, Australia)
- Door County Environemntal Council

Please print off, save, post and circulate.

Wisconsin Campaign to Ban Cyanide in Mining

WHAT YOU CAN DO TO BAN CYANIDE IN MINING

The Wisconsin Campaign to Ban Cyanide in Mining invites all community groups and local governments to join in the effort to protect our environment from the threat of a cyanide disaster. Spills that we have seen in other countries can and have occurred here in the U.S. The Crandon mine plans to use up to 20 tons a month of sodium cyanide, which would be shipped in to the mine site on northern Wisconsin roads. No matter what processing method is used at the mine site, we cannot risk the release of even tiny amounts of cyanide into our waterways and fisheries.

After the Winter 2000 cyanide disaster in Europe, five Wisconsin groups--the Wolf Watershed Educational Project/Midwest Treaty Network, Mining Impact Coalition, Wisconsin Resources Protection Council, Northern Thunder, and Wisconsin's Environmental Decade--called for a ban on cyanide in Wisconsin mines. Legislation will be introduced into the next session of the Wisconsin Legislature to prohibit the use of cyanide in mining--based on similar efforts in Montana, Colorado, and the Australian state of New South Wales. NOW is the time to begin to support this campaign, and make it a top issue in the Fall election !!! For more background information, see the factsheet below, or http://www.alphacdc.com/treaty/cyanide.html.

1. **Circulate PETITION to Ban Cyanide in Mining.** Print off the petition to ban cyanide in mining at http://www.alphacdc.com/treaty/petition.html and get as many signatures as you can from your group, friends, and family, and at events such as fairs, powwows, concerts, etc. Print off and distribute the factsheet at the end of this message. Send completed petitions to the the Wolf Watershed Educational Project, c/o Midwest Treaty Network, P.O. Box 14382, Madison, WI 53714-4382.

2. **Pledge Campaign for CANDIDATES.** Demand that your State Assembly and Senate candidates (both incumbents and challengers) pledge to support a prohibition on cyanide in mining: "I hereby pledge to support and vote in favor of legislation to prohibit the use of all cyanide in Wisconsin mines and metallic ore processing facilities."

3. **Pass a GROUP RESOLUTION.** in your environmental organization, rod & gun club, union, church, fishing group, student group, Hazmat team, etc. (and any other community groups) for a cyanide ban in mining. **You can also simply respond to this letter and ask that your group be signed on to the Campaign.** All groups that passed resolutions for the 1998 mining moratorium bill should sign on to the new campaign as one way to potentially slow or stop the Crandon mine and other possible mines. Take the wording from the local government resolution below, and please send copies to the Wolf Watershed Educational Project.

4. **Make a CONTRIBUTION.** Make a tax-deductible contribution to "MTN/PC Foundation" and send it to: Wolf Watershed Educational Project (WWEP), c/o Midwest Treaty Network, P.O. Box 14382, Madison, WI 53714-4382.

5. **Share Information and GATHER DATA.** Help the Campaign gather data about cyanide in mining. Send the Campaign any information you have -- newspaper clippings, emails, webpage

links, organization contact information -- about problems with cyanide in mining and groups in other countries and states that are working to ban cyanide in mining.

6. **LOCAL GOVERNMENT RESOLUTION.** Have your local village, township, and county governments pass the following Local Government Resolution supporting a prohibition on the use of cyanide in Wisconsin mines, and send a copy to the WWEP. (If you are a tribal member, ask your representatives to introduce a similar resolution in your tribal council.)

Please print off, save, post and circulate.

Sample Resolution for Local (Village, Town, County, etc) Governments

ROLL CALL _____ Board
(County, Town, Village etc.), WISCONSIN

Session Date
Resolution No.
First Reading: Date
Second Reading: Date

RESOLUTION SUPPORTING A
PROHIBITION ON THE USE OF CYANIDE IN WISCONSIN MINES

WHEREAS mining companies are increasingly using cyanide to extract gold, silver, copper, zinc, and other metals from metallic ore; and,

WHEREAS the proposed Crandon zinc-copper mine near the Wolf River would use as much as 18 to 20 tons of sodium cyanide each month during its operation; and Wisconsin is known to contain other gold deposits that would likely require cyanide for processing; and,

WHEREAS cyanide poses serious environmental risks--from transportation on our roadways, from storage and use at the proposed Crandon mine site, and from residuals disposed in waste dumps; and,

WHEREAS cyanide is highly toxic, with tiny traces fatal to human beings, fish and wildlife, and acts as a powerful solvent that can release other toxins; and,

WHEREAS cyanide has been the cause of recent environmental disasters at U.S. mines (in Colorado, Nevada, Montana, Idaho, California, South Dakota, and South Carolina), and at many foreign mines (such as in Romania, Guyana, Canada, Kyrgyzstan, and Papua New Guinea), resulting in massive fish kills and contaminated drinking water; and,

WHEREAS in 1998, Montana voters banned cyanide for mining, and a similar ban initiative is underway in Colorado; and,

WHEREAS Wisconsin must have the strongest mining laws in the nation in order to protect our abundance of clean water,

NOW THEREFORE BE IT RESOLVED the (Town, Village, County, etc.) of _____ supports a prohibition on the use of cyanide reagents in Wisconsin mines and metallic ore processing facilities.

BE IT FURTHER RESOLVED that the Wisconsin State Legislature is urged to pass legislation to prohibit the use of cyanide in Wisconsin mines and metallic ore processing facilities.

BE IT FURTHER RESOLVED that a copy of this resolution be sent to the State Representative and State Senator representing (County, Town, Village etc.), the DNR Secretary, the Governor and the Wisconsin (Counties, Towns) Associations.

ROLL CALL
ADOPTED
LOST
VOTE TALLY

INTRODUCED BY:

STATE OF WISCONSIN
SS

(County, Town, Village etc.)

I, _____ Clerk of (County, Town, Village etc.), Wisconsin do hereby certify that the above is a true and correct copy of the resolution passed by the (County, Town, Village etc.) Board of Supervisors on this date.

Date
Signature

_____
Name of Clerk, (County, Town, Village etc.) Clerk

Please print off, save, post and circulate.

FACTSHEET ON CYANIDE IN WISCONSIN MINING

DANGERS OF CYANIDE IN MINING:

Sodium cyanide is acutely toxic to any living thing. Incredibly small amounts of cyanide can kill fish. For example, cyanide measured at 20 to 80 parts per billion can kill rainbow and brown trout. Birds and mammals that drink water or feed on cyanide-poisoned wildlife can be killed if they are exposed to cyanide at 40 to 200 parts per million--an amount also fatally toxic to humans.

Leftover cyanide at very small concentrations has harmed birds and other wildlife that drank mine pond wastewater. Cyanide is a powerful solvent that breaks down heavy metals--such as mercury, cadmium, chromium, and lead--that end up as waste products that need to be dumped. Cyanide can also break down and form complexes with other chemicals or metals and remain as toxic. Mixes of cyanide with other metals and chemicals can be just as toxic as cyanide itself, but they are not routinely monitored or carefully regulated.

CYANIDE AT THE CRANDON MINE:

Sodium cyanide would be used as a chemical "reagent" or solvent to dissolve out metals from the ore in

the "flotation process," particularly copper, gold and silver. There are significant amounts of gold and silver at Crandon; the DNR estimates as much as 1,100,000 ounces of gold, and 63,000,000 ounces of silver. Northern Wisconsin also has several other gold and silver deposits.

Rio Algom's Nicolet Minerals Company (NMC) proposes to transport up to 20 tons of cyanide per month to the Crandon mine site. Cyanide and other toxics such as sulfuric acid pose environmental risks from transportation and storage at the site and also from residuals in the waste dump and in the waste back-filled into the abandoned mine shaft.

DNR consultant Andres Trevino reported that if NMC uses truckloads of cyanide at the highest estimated rate, a one-month inventory would be 18-20 tons. If the mine were to operate for 28 years, over 6,000 tons of cyanide would be required. Trevino reported that most of the residual cyanide would end up in the pyrite concentrate that is proposed to be back-filled into the mine shaft, potentially in contact with groundwater. At least some residual cyanide would end up in the waste tailings dump.

Cyanide can be treated to become less toxic, but Trevino does not report that NMC is proposing any active destruction of the toxic chemical.

Instead it appears that NMC simply expects any leftover cyanide to break down naturally in the waste dump pond when exposed to sunlight. But colder temperatures, such as in northern Wisconsin, can stop the breakdown of cyanide.

CYANIDE DISASTERS AT MINES:

Colorado.
Cyanide spills from the Summitville gold mine contributed to severe environmental problems on a 17-mile stretch of the Alamosa River. It is now a federal Superfund site, with cleanup costing $170-200 million. http://www.responsiblemining.org

Montana.
Mines had 62 spills or leaks of cyanide in 1982-98. The Zortman-Landusky cyanide heap leach gold mine had repeated leaks and discharges, resulting in wildlife deaths and severe contamination of streams and groundwater.

Nevada.
The Gold Quarry mine released about 245,000 gallons of cyanide- laden waste into two local creeks. In 1989 and 1990, a series of eight cyanide leaks occurred at the McCoy/Cove gold mine, releasing almost 900 pounds of cyanide.

South Dakota.
In 1998, 6-7 tons of cyanide-laced tailings spilled from the Homestake Mine, killing fish in Whitewood Creek, Black Hills.

Idaho.
The Grouse Creek gold mine, operated by Hecla with "state-of-the-art" technology in 1993-97, now faces the possible collapse of its cyanide waste pond dam. The federal government proposes to relieve the pressure by gradually releasing the cyanide into the Salmon River.
http://www.times.org/archives/2000/cyanide.htm

Guyana.
In 1995, over 860 million gallons of cyanide-laden tailings were released into a major river when a dam collapsed at the Omai gold mine.

Australia.
The Northparkes copper-gold mine in New South Wales killed 2700 birds in 1995. http://forests.org/ric/

Kyrgyzstan.
A truck transporting solid cyanide to the Kumtor mine plunged off a bridge in 1998, spilling 2 tons of

cyanide into local waters.

Papua New Guinea.
A helicopter crash in 2000 released cyanide bound for a gold mine.

Romania.
A huge February 2000 spill at the Aural gold mine destroyed much of the Tisza River ecosystem in Hungary and Yugoslavia; thousands of dead fish floated into the Danube.

OUR WEAKENED MINING LAWS

State Statute 160.19(12) says that metallic mines are exempt from the state Groundwater Protection Law. Statute 291.35 says that metallic mining waste is not subject to the state's stringent Hazardous Waste Management Law, even if it contains cyanide. Mine waste is instead regulated by DNR rules based on weaker standards for solid waste disposal. Unlike state statutes, the DNR has the power to grant variances and make changes to its own rules without legislative approval or public input.

Montana voters in 1998 banned the use of cyanide in mining, halting new sulfide mine permits. An initiative may soon be on Colorado's ballot. Wisconsin is thus BEHIND these two pro-mining states in its environmental laws. The Australian state of New South Wales is considering a similar ban.

A bill to ban cyanide in mining will be introduced in the next Wisconsin legislative session; contact your legislators and legislative candidates TODAY to support it! Take petitions (available on-line below) to your family, friends, and public events. Have your community group sign on to the Wisconsin Campaign to Ban Cyanide in Mining, and get your local governments to pass a resolution supporting a cyanide ban in mining.

FOR MORE DOCUMENTATION Log on the Wolf Watershed Educational Project http://www.alphacdc.com/treaty/cyanide.html or contact Dave Blouin at 608-233-8455, burroak15@aol.com

For national/international information log on Mineral Policy Center http://www.mineralpolicy.org Project Underground http://www.moles.org

PETITION TO BAN CYANIDE IN MINING http://www.alphacdc.com/treaty/petition.html

WISCONSIN CAMPAIGN TO BAN CYANIDE IN MINING (CBCM)
Wolf Watershed Educational Project
c/o Midwest Treaty Network
P.O. Box 14382, Madison, WI 53714-4382 USA
Hotline: (800) 445-8615, Tel/./Fax: (608) 246-2256
E-mail: mtn@igc.org Web: http://www.treatyland.com

Citing European Disaster, Environmentalists Call For Cyanide Ban At Crandon Mine

February 15, 2000

Representatives of five Wisconsin environmental groups today decried the destruction of the Tisza River

in Hungary and Yugoslavia, resulting from a cyanide spill at a Romanian gold mine owned by the Australian company Esmeralda Exploration. They made demands of the company proposing the Crandon mine in Forest County, to drop its plans for the use of cyanide at the mine site, and to disclose its core samples and reveal the amount of gold and silver in the deposit.

Zoltán Grossman, a spokesperson for the Wolf Watershed Educational Project, said that "The Tisza was one of the largest and most beautiful rivers in Hungary, figuring in many Hungarian songs and legends. Its waters fed enormous wetlands rich in migrating birds, and its plentiful fish fed numerous fishing communities. We are angry that metallic mining has destroyed the river, and the disaster makes us more committed to protect the pristine Wolf River fishery from the same fate."

Mining companies are increasingly using cyanide to extract gold and silver from metallic ore. The Crandon mine would use 5 to 18 tons of sodium cyanide per month during its operation, according to the September 1995 Crandon Mine Permit Application by Foth & Van Dyke (Table 4-9 Typical Reagent Storage Data). Tom Wilson, co-chair of the mining subcommittee of the Wisconsin Stewardship Network, and Northern Thunder spokesperson, observes that "sodium cyanide can be used in the flotation process to extract precious metals such as gold and silver from the crushed ore." Environmental, Native American, and sportfishing groups have raised concerns about the transportation of sodium cyanide and other highly toxic materials for the Crandon mine over Wisconsin roads and railroads. Tiny amounts of cyanide is fatal to human beings and animals.

The proposed Crandon mine is commonly referred to as a zinc-copper mine, but the 1986 Final Environmental Impact Statement (page 2) estimated that the mine would also produce 60,000 troy ounces of gold and 3,600,000 troy ounces of silver a year. In Wisconsin, mining companies do not have to reveal economic valuations of proposed mines. They are by law allowed to keep this important information secret, including assessments of its exploratory core samples.

"We have suspected for some time that the mining company wants the Crandon deposit for its gold and silver, because the prices of zinc and copper have remained very low," said Dave Blouin of the Mining Impact Coalition, "And by far the most common technique to mine gold is cyanide extraction, which has caused numerous disasters around the world--from Colorado and Nevada, to Spain and Romania, and to Guyana and Kyrgyzstan."

Besides environmental concerns, Blouin raised an economic concern about gold and silver mining in Wisconsin: "We are blocked from knowing how much gold Kennecott took out of its Ladysmith mine in 1993-97. The public has long demanded a full accounting of mining profits from all metals, so the companies cannot get away with natural resource burglary." The Ladysmith mine did not process ore on-site, but shipped it by rail to Canada for processing.

The five environmental groups--Wolf Watershed Educational Project, Mining Impact Coalition, Wisconsin Resources Protection Council, Northern Thunder, and Wisconsin's Environmental Decade, demanded:

1. That sodium cyanide be removed from the list of toxic substances allowed for operations at the Crandon site, or at any Wisconsin metallic mine, much as Montana voters have banned cyanide extraction at mines;
2. That Nicolet Minerals Company release the secret valuations of its Crandon exploratory core samples so Wisconsin citizens can know whether gold or silver cyanide extraction is a future option for the Crandon mine;
3. That the Department of Revenue disclose to the public how much net proceeds tax was paid by the Kennecott Corporation on all metals at the Ladysmith mine between 1993 and 1997. Al Gedicks, executive secretary of the Wisconsin Resources Protection Council, explained: "Wisconsin's mining tax law needs to be changed so that mining companies are required to disclose the amount of each metal that is taken out of an ore body, not just the total net proceeds."

Linda Sturnot of the Mining Impact Coalition in Milwaukee commented that "This cyanide spill in Europe is a grave reminder of the careless, irresponsible behavior we have witnessed over and over again by mining companies -- they simply cannot operate their mines safely. Wisconsin citizens must

continue our fight to deny Nicolet Minerals the opportunity to pollute our precious Wolf River." Rich Bogovich of Wisconsin's Environmental Decade, said, "This disaster provides proof, once again, that mining companies the world over will exploit environmental laws. Wisconsin's laws have their shortcomings, so even here mining companies should not be trusted, especially when the river at stake is the Wolf."

The Wolf Watershed Educational Project will highlight these demands at the Wisconsin Students/Youth Rally to Stop the Crandon Mine, planned for the State Capitol on Saturday, April 29 at 1 pm. The group is now conducting a statewide speaking tour to colleges, high schools, and youth clubs. For more information, call the toll-free Mining Hotline at (800) 445-8615 or log on http://www.treatyland.com. Posters are available on-line at http://www.alphacdc.com/treaty/poster_info.html.

Please write letters to the editor of your local newspaper about the danger from shipping 8-15 tons of cyanide monthly to the Crandon site, and about the DNR belittling of the danger. Send a copy also to Voice of the People, The Capital Times, Box 8060, Madison WI 53708 tctvoice@madison.com Please also send the us any copies of other articles, to Wolf Watershed Educational Project, P.O. Box 14382, Madison, WI 53714-4382.

COULD TOXIC SPILL KILL STATE RIVER?

Disaster in Europe Raises Concerns Over Crandon Mine

By Rob Zaleski, The Capital Times (Madison),
February 17, 2000, p. 1

Could a cyanide accident at the proposed Crandon mine cause the same kind of devastation as the recent cyanide spill in the Tisa and Danube rivers in Eastern Europe?

Absolutely, say five Wisconsin environmental groups, who Wednesday called for a ban of the poisonous chemical at the Crandon site in Forest County so that state residents never have to fear such a possibility.

But Bill Tans, the Crandon mine coordinator for the state Department of Natural Resources, cautioned that the situations were starkly different and that the possibility of such a disaster in the Wolf River basin was "pretty remote."

He joked that the odds were about the same as an atomic bomb explosion at the site, but quickly added, "I'm just being silly. I guess there's always a possibility of anything you can theorize. But the risk (at the Crandon site) is certainly very, very tiny."

The reason, Tans said, is that the sodium cyanide used in the extraction process at the Baia Mare gold mine in northwestern Romania was stored in holding ponds that overflowed Jan. 30 because of unusually heavy rains and snow. The poison destroyed virtually all aquatic life in the Tisa River, then flowed west into Hungary and then into the stretch of the Danube that runs through Yugoslavia.

The sodium cyanide that would be used in the vat leaching process at Crandon would be stored in a concrete facility at an enclosed mill at the mine site, Tans said.

"The fact that the two mines involve cyanide is really the only continuity between the two," he said.

He called the Eastern Europe spill one of the worst environmental disasters imaginable, but added, "Who knows what the environmental controls are in Romania? My guess is they are probably very lax."

However, Dave Blouin of Wisconsin's Mining Impact Coalition said that because cyanide is such a deadly chemical--"Just half a teaspoon can kill a human," he noted--even a minor spill by a "careless worker" could have serious consequences.

An even greater concern, he said, was the possibility of an accident involving trucks or railroad cars that would transport "massive quantities" of sodium cyanide to the Crandon site.

He also pointed out that Nicolet Minerals Co., a subsidiary of Rio Algom Ltd. of Toronto, which is seeking state and federal permits to extract 55 million tons of mostly zinc and copper from the underground mine, still hasn't indicated what it plans to do with the spent cyanide used in the extraction process.

"It makes no economic sense for the mining company to transport it to a refinery somewhere else," he said. "So the question becomes, what will it do with the stuff?"

Tans acknowledged that even a small spill at the storage site would be reason for concern but suggested it could be "dealt with appropriately with sump pumps" that drain into a concerete containment facility.

He also agreed that transporting sodium cyanide and other highly toxic materials is potentially hazardous. But he compared it to the risk of hauling diesel fuel and gasoline in tanker trucks on crowded highways.

"There a certain risk that they'll tip over and burst into flames as well," he said.

Blouin said the disaster in Eastern Europe confirmed what many environmentalists have been saying all along: That the risks involved with mining operations just aren't worth it. Which is why, he said, the Wisconsin Legislature passed the mining moratorium bill two years ago.

"To me, it's inconceivable that you'd want to take this kind of risk in such an ecologically sensitive area," he said. "It's clear now that even if a miniscule amount of cyanide got into Swamp Creek or the Wolf River, it would be absolutely catastrophic."

Besides the Mining Impact Coalition, environmental groups calling for the cyanide ban were Northern Thunder, the Wisconsin Resources Protection Council, the Midwest Treaty Network/Wolf Watershed Educational Project, and Wisconsin's Environmental Decade.

ENVIRONMENTAL ADVOCACY RESOURCES

- **New Cyanide Leach Mining Information Packet:**
  http://www.mineralpolicy.org/files/Cyanide_Leach_Packet.pdf
  We have just updated our Cyanide Leach Mining Information Packet. This information packet is designed to give readers a closer look at cyanide and the leaching process used in mining. It provides useful information from Cyanide Uncertainties, TRI, ATSDR "ToxFAQS", The Washington Post, and includes several fact sheets. To receive a copy, please email us at mpc@mineralpolicy.org or call us at (202) 887-1872. It can also be viewed and downloaded from

the above link, and should be on our website within the next few days.

Mineral Policy Center Protecting Communities and the Environment
1612 K St., NW, Suite 808, Washington, D.C. 20006
202-887-1872 (ph), 202-887-1875 (fax)
http://www.mineralpolicy.org, mpc@mineralpolicy.org

Background Articles on Cyanide in Mining: **in Wisconsin**, **United States**, **Outside the U.S.**

MTN Content Page

May 22, 2001

TO: MEMBERS OF SENATE ENVIRONMENTAL RESOURCES COMMITTEE

FROM: SENATOR JIM BAUMGART, CHAIR

RE: PUBLIC HEARING - MAY 10, 2001 on **SENATE BILL 160,** relating to prohibiting the use of cyanide in metallic mining

INFORMATION PASSED OUT AT PUBLIC HEARING

****

Many documents were passed out at the public hearing but there were not enough copies for all committee members. While you may have duplicates on some of these, there are many that you will not have.

WISCONSIN
DEPT. OF NATURAL RESOURCES

State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Scott McCallum, Governor
Darrell Bazzell, Secretary

101 S. Webster St.
Box 7921
Madison, Wisconsin 53707-7921
Telephone 608-266-2621
FAX 608-267-3579
TTY 608-267-6897

May 29, 2001

Mr. Tom Wilson
Northern Thunder
416 East Court Street
Viroqua, WI 54665

Dear Mr. Wilson:

This is in response to your recent request for information pertaining to the Flambeau Project and the proposed Crandon Project and serves to confirm and follow up on my e-mail message to you on May 23, 2001.

Citing the authority of the Open Records Law, you have requested copies of groundwater monitoring data collected at the Flambeau Mine site since October 1999, copies of the results of similar data collected by the Department, and copies of material that indicates the current proposal for the design of the liner system for the Crandon Project - Tailings Management Area. You also requested copies of all future groundwater monitoring data for the Flambeau Project.

In regard to the existing groundwater data for the Flambeau site, enclosed are copies of the results of groundwater sampling conducted since October 1999 by the company. You will be receiving copies of the results of sampling conducted by the Department under separate cover.

Contrary to the assertion in your request, Flambeau Mining Company has submitted all required groundwater monitoring data in a timely manner. They have not failed to submit any groundwater data. The annual report, which is a summary document, was missing tabular presentation of data from the two well nests in the backfilled pit. However the information was contained in graphical form and had previously been submitted to the department in the quarterly monitoring submittals.

Also enclosed are a table and a plan sheet containing information relating to the current proposed design of the Tailings Management Area (TMA) for the Crandon Project. Wisconsin has not established minimum design criteria for mining waste facilities. Rather than employing a "cookie cutter" approach to these facilities, the design of such facilities is developed on a case-by-case basis, taking into account the specific nature of the wastes to be contained and the environmental characteristics of the proposed waste site. The design is ultimately driven by a performance criteria, specifically the facility must be designed to comply with surface water and groundwater standards. Your letter implies that the design proposed for the TMA would not meet the design criteria established by the State of Nevada and you expressed concern that Wisconsin should at least be as stringent as Nevada in terms of design. After discussions with a Staff Engineer from the Nevada Department of Conservation and Natural Resources and reviewing the Nevada Administrative Codes, I must respectfully disagree with your inference that the proposed design of the Crandon TMA would not satisfy Nevada's minimum design criteria. The minimum liner design criteria in Nevada for a tailings facility, such as the proposed Crandon TMA, consists of a system

of containment equivalent to twelve inches of recompacted native, imported, or amended soils which have an in place recompacted coefficient of permeability of no more than $1x10^{-6}$ cm/sec. Following is an excerpt from the Nevada Administrative Code addressing this issue:

> *NAC 445A.437 Minimum design criteria: Tailings impoundments.*
> *1. A tailings impoundment must utilize a system of containment equivalent to:*
> *(a) Twelve inches of recompacted native, imported, or amended soils which have an in place recompacted coefficient of permeability of no more than $1x10^{-6}$ cm/sec; or*
> *(b) Competent bedrock or other geologic formations underlying the site which has been demonstrated to provide a degree of containment equivalent to paragraph (a).*
> *2. An alternate level of containment may be required by the department for all of the tailings impoundment or for a portion thereof after considering the following factors:*
> *(a) The anticipated characteristics of the material to be deposited;*
> *(b) The characteristics of the soil and geology of the site;*
> *(c) The degree to which the hydraulic head on the impoundment liner is minimized;*
> *(d) The extent and methods used for recycling or detoxifying fluids;*
> *(e) Pond area and volume;*
> *(f) The depth from the surface to all ground water; and*
> *(g) The methods employed in depositing the impounded material.*
> *(Added to NAC by Environmental Comm'n, eff. 9-1-89)—(Substituted in revision for NAC 445.24368)*

The composite liner system proposed for the Crandon TMA would be a much more effective containment system than one constructed in strict compliance with the above requirement and it far exceeds this basic design criteria. For you reference, I have enclosed a copy of the Nevada Administrative Code pertaining to regulation of mining operations.

Finally, regarding your request that you be sent future sampling results for the Flambeau Project, I will put a notation in the file that you should be sent such results. However, you should know that the Open Records Law does not require agencies to honor requests for information that has not yet been submitted. This matter is addressed in an Opinion of the Attorney General {73 Wis. Op. Att'y. Gen 38 (1984)} that states in part:

> *"As to your fourth question regarding prospective continuing requests for monthly updates, it is my opinion that the open records law does not contemplate that such a request be honored. The right of access applies only to extant records, and the law contemplates custodial decisions being made with respect to a specific request at the time the request is made. Secs. 19.32(2) and 19.35(1)(a), (h) and (4), Stats."*

Again, I intend to comply with your request for the future monitoring data on a voluntary basis. If you have not received the quarterly data within a reasonable time, please contact me and, if the data is available, I will send it to you.

Sincerely,

Lawrence J. Lynch

Lawrence J. Lynch, P.G., Mining Team Leader
Bureau of Waste Management

Enclosure

cc: Senate Environmental Resources Committee

Tom Wilson
Northern Thunder
416 East Court Street
Viroqua, WI 54665
phone & fax 608-637-3356
Resenergy@mwt.net

May 14, 2001

TO: Larry Lynch
Department of Natural Resources

This is to request, under the state's Open Records Law (19.35, Wis. State Statutes), access to correspondences and relative background material relating to requests by Senator Baumgart for a DNR response to two issues raised in my testimony before the Senate Environmental Resources Committee on SB 160, Bill to Ban Cyanide in Mining, Thursday May 10, Madison, WI.

Specifically I made two assertions to which Senator Baumgart requested further explanation from your department.:

1) "We have seen how flawed the present mine permitting system is where computer groundwater models under which the Flambeau Mine was permitted were allowed to be modified twice *after the fact* to meet new lower standards as original projections could not be met and the massive flows of the Flambeau River are allowed to dilute acid mine run off before ground water standards 1,000 feet on the other side of the river are compromised," and

2) "The same technologies, apparently being accepted by our DNR for the perpetual storage of the cyanide-laced tailings (rated toxic waste in any but the federally-exempted mining industry) facility at Crandon are the same types of configurations typically used in the heap leach facilities elsewhere--though to be built here to less rigorous standards than are required in other states. It should be noted, standards in other states far exceed those in Wisconsin, despite what some DNR officials claim: "Nevada ...has promulgated the most advanced cyanide mill tailings facility regulatory framework. The State of Nevada minimum design criteria for tailings impoundments include a 12 inch thick soil liner with a coefficient of permeability of 10^{-6} cm/sec, or equivalent. The design criteria for tailings impoundments under 192 requires three layers of solution containment - two of flexible geomembrane and a bottom liner of 3 feet of compacted soil with a coefficient of permeability no greater than 10^{-7} cm/sec, with geotextile leak detection collection system between the liners." (Risks Posed by Bevill Wastes, Environmental Protection Agency, 1997)"

As for the first issue, I have in my possession data from the Flambeau mine monitoring wells only as of October 1999, but it is my understanding that the numbers have changed very little since that date. I would appreciate more recent monitoring well numbers, if available, and to be provided with same as future reports are filed by the mining company. I also understand that these numbers were not, in fact, included in the most recent periodic reports from the mining company and would be interested to know why this was not required. Further, the DNR website regarding the Flambeau reclaimation states "In addition, as part of its inspection/surveillance program, the Department conducted periodic independent sampling to verify the results obtained by the company. Groundwater monitoring will continue at the site for at least the next 40 years to determine conditions within and around the backfilled pit." All of the data

I have seen has been provided by the mining company itself. Is the DNR, in fact, still conducting independent water quality verification sampling and is any of that data available?

As for the second issue, public information provided by 'The Crandon Mining Company' "The Crandon Project Summary Update, 1996" indicates only a single geomembrane with no geotextile leak detection system. Admittedly this is rather dated material and if Nicolet's project plans have been revised and indeed meet the standards of the Nevada minimum design criteria, I would appreciate receiving a copy of these design specifications. Given the hightened vulnerability to ground- and surface water contamination in Wisconsin as opposed to the relatively arid conditions in Nevada, I would hope that we, at least meet those standards here.

Wisconsin's Open Records Law states, in relevant part: "In recognition of the fact that a representative government is dependent upon an informed electorate, it is declared to be the public policy of this state that all persons are entitled to the greatest possible information regarding the affairs of the government and the official acts of those officers and employees who represent them. Further, providing persons with such information is declared to be an essential function of a representative government and an integral part of the routine duties of officers and employees whose responsibility and duty is to provide such information."

The law continues, "To that end [the Open Records Law] shall be construed in every instance with the presumption of complete public access consistent with the conduct of governmental business. The denial of access generally is contrary to the public interest and only in exceptional cases can access be denied."

If any part of my request is denied, please state what part of the law you believe entities you to do so, and advise me of the process through which I may appeal.

As you know, the law requires you to respond to this request as promptly as possible. Thank you for your time and consideration.

Sincerely

Tom Wilson

Tom Wilson

c.c.

Senator James Baumgart
Senator Robert Coweles
Senator Dave Hansen
Senator Dale Schultz
Senator Robert Wirch

State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Scott McCallum, Governor
Darrell Bazzell, Secretary

JUN 4 2001

101 S. Webster St.
Box 7921
Madison, Wisconsin 53707-7921
Telephone 608-266-2621
FAX 608-267-3579
TTY 608-267-6897

May 30, 2001

Senator James Baumgart, Chairman
Senate Committee on Environmental Resources
Room 306 South – Capitol
Madison, WI 53707

Dear Senator Baumgart:

At the May 11, 2001 hearing conducted by the Senate Environmental Resources Committee regarding SB 160 (Cyanide Ban), you asked me to respond to statements made by Mr. Tom Wilson of Viroqua in his testimony on the legislation. I believe the specific statements that you wanted me to respond to were as follows:

> *1) "We have seen how flawed the present mine permitting system is where computer groundwater models under which the Flambeau Mine was permitted were allowed to be modified twice after the fact to meet new lower standards as original projections could not be met and the massive flows of the Flambeau River are allowed to dilute acid mine run off before ground water standards 1,000 feet on the other side of the river are compromised," and*
>
> *2) "The same technologies, apparently being accepted by our DNR for the perpetual storage of the cyanide-laced tailings (rated toxic waste in any but the federally-exempted mining industry) facility at Crandon are the same types of configurations typically used in the heap leach facilities elsewhere--though to be built here to less rigorous standards than are required in other states. It should be noted, standards in other states far exceed those in Wisconsin, despite what some DNR officials claim: "Nevada ...has promulgated the most advanced cyanide mill tailings facility regulatory framework. The State of Nevada minimum design criteria for tailings impoundments include a 12 inch thick soil liner with a coefficient of permeability of 10-6 cm/sec, or equivalent. The design criteria for tailings impoundments under 192 requires three layers of solution containment - two of flexible geomembrane and a bottom liner of 3 feet of compacted soil with a coefficient of permeability no greater than 10-7 cm/sec, with geotextile leak detection collection system between the liners." (Risks Posed by Bevill Wastes, Environmental Protection Agency, 1997)"*

6000

The Department has not changed the groundwater standards applicable to the Flambeau mine based on remodeling of the site. The company did reanalyze the site based on the considerable additional information obtained about the geology, mineralogy and hydrology of the area in the process of conducting the mining project. Prior to actual mining, information based on limited numbers of monitoring wells and core samples was used to predict groundwater flow and the geochemistry of the backfilled pit. As mentioned above, in the process of mining the ore body much additional information was obtained and it seemed prudent to revisit the issue of how the backfilled pit would respond

Committee members also asked me to check to see if the periodic Crandon Project status reports released by the Department are distributed to all legislators. In the past, only those legislators whose districts lie in the vicinity of the project area and other legislators with specific interest in the project have received the status reports. In speaking with our project manager, all legislators will receive future status reports. Also, as requested by the Committee, enclosed is the last status report (August 2000) issued by the Department. We intend to release a new report within the next couple of weeks.

Finally, I have also enclosed a copy of my testimony concerning SB 159 pertaining to directional drilling beneath the beds of the Great Lakes.

Sincerely,

Lawrence J. Lynch

Lawrence J. Lynch, P.G., Mining Team Leader
Bureau of Waste Management

From: resenergy@mwt.net
Sent: Monday, May 14, 2001 10:35 AM
To: lynchl@dnr.state.wi.us
Cc: Sen.Baumgart@legis.state.wi.us; Sen.Wirch@legis.state.wi.us; Sen.Cowles@legis.state.wi.us; Sen.Schultz@legis.state.wi.us; Sen.Hansen@legis.state.wi.us
Subject: Open Records Law Request

Open Records Law Request
Hard copy to follow

May 14, 2001

Tom Wilson
Northern Thunder
416 East Court Street
Viroqua, WI 54665
phone & fax 608-637-3356
Resenergy@mwt.net

TO: Larry Lynch
Department of Natural Resources

This is to request, under the state's Open Records Law (19.35, Wis.State Statutes), access to correspondences and relative background material relating to requests by Senator Baumgart for a DNR response to two issues raised in my testimony before the Senate Environmental Resources Committee on SB 160, Bill to Ban Cyanide in Mining, Thursday May 10, Madison, WI.

Specifically I made two assertions to which Senator Baumgart requested further explanation from your department.:

1) "We have seen how flawed the present mine permitting system is where computer groundwater models under which the Flambeau Mine was permitted were allowed to be modified twice after the fact to meet new lower standards as original projections could not be met and the massive flows of the Flambeau River are allowed to dilute acid mine run off before ground water standards 1,000 feet on the other side of the river are compromised," and

2) "The same technologies, apparently being accepted by our DNR for the perpetual storage of the cyanide-laced tailings (rated toxic waste in any but the federally-exempted mining industry)

facility at Crandon are the same types of configurations typically used in the heap leach facilities elsewhere--though to be built here to less rigorous standards than are required in other states. It should be noted, standards in other states far exceed those in Wisconsin, despite what some DNR officials claim: "Nevada …has promulgated the most advanced cyanide mill tailings facility regulatory framework. The State of Nevada minimum design criteria for tailings impoundments include a 12 inch thick soil liner with a coefficient of permeability of 10-6 cm/sec, or equivalent. The design criteria for tailings impoundments under 192 requires three layers of solution containment - two of flexible geomembrane and a bottom liner of 3 feet of compacted soil with a coefficient of permeability no greater than 10-7 cm/sec, with geotextile leak detection collection system between the liners." (Risks Posed by Bevill Wastes, Environmental Protection Agency, 1997)"

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As for the second issue, public information provided by 'The Crandon Mining Company' "The Crandon Project Summary Update, 1996" indicates only a single geomembrane with no geotextile leak detection system. Admittedly this is rather dated material and if Nicolet's project plans have been revised and indeed meet the standards of the Nevada minimum
design criteria, I would appreciate receiving a copy of these design specifications. Given the heightened vulnerability to ground- and surface water contamination in Wisconsin as opposed

to the relatively arid conditions in Nevada, I would hope that we, at least meet those
standards here.

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officers and employees who represent them. Further, providing persons with such information is declared to be an essential function of a representative government and an integral part of the routine duties of officers and employees whose
responsibility and duty is to provide such
information."

The law continues, "To that end [the Open Records Law] shall be construed in every instance with the presumption of complete public access consistent with the conduct of governmental business. The denial of access generally is contrary to the public interest and only in exceptional cases can access be denied."

If any part of my request is denied, please state what part of the law you believe entities you to do so, and advise me of the process through which I may appeal.

As you know, the law requires you to respond to this request as promptly as possible. Thank you for your time and consideration.

Sincerely

Tom Wilson

May 11, 2001

To:
Chairman James Baumgart and members,
Committee on Environmental Resources

Re:
Senate Bill 160 (Ban on cyanide in mining in Wisconsin)

Banning Cyanide in Mining in Wisconsin: Preventing One Type of Disaster BEFORE It Happens

There is no way to transport, use, or store cyanide with any reasonable guarantee of safety.

Potential for transportation accident:

At the Hearing May 10, a mining industry representative addressed the potential for a transportation accident, saying that the cyanide industry designs the transportion equipment with the most rigorous standards, as it is in their interest to have these substances transported safely.

Yet, athough safe transport is also in the interest of many industries, accidents on the road or on railroad tracks or in the air, are common.

There was a nuclear waste transportation accident right here in Wisconsin.

Two truck accidents involving cyanide, point to the probability of an accident someday when luck runs out, and just one more thing goes wrong...and some local community, or farther, pays the price.

Typically, disaster-level accidents involve more than one failure, or a series of things going wrong. The disastrous oil spill caused by the Exxon Valdez, involved a combination of causes from single-hull ship design, to a questionable presence of accountable authority. One nuclear plant accident was caused by a series of failures from an initial fire caused by untrained or slipshod maintenance, to equipment not responding properly.

Potential for accident at the proposed minesite:

Spills are occurring all the time, around the world.

In Alaska for example, information about Prudhoe Bay came under discussion due to the proposal to drill in the Arctic Refuge. Spills are frequent there, and a recent examination revealed stuck valves.

The mining industry speaker, in reference to two mining accidents in Colorado, said that they were caused by mismanagement.

Here in Wisconsin, we not only have no guarantee of accident-free mining, but also the evidence points to its near-inevitability.

On one occasion, a mining industry representative said, here in Wisconsin, that the storage liners will eventually leak.

On another occasion, a mining official here said that if a spill gets into the waterways, they have no technology to clean it up.

On the DNR/mining industry statistics interpretation and Risk Assessment:

Because cyanide is a major toxin, if it spills, it can be a major disaster. That is why pleasant-sounding statistics on this type of risk cannot be interpreted the same way as non-disaster accidents.

Even only one accident can cause a major disaster that could damage or destroy local communities or entire regions, with potential statewide or further impacts.

Risk assessment involving major toxic spills must take into account the toxicity involved, and the possible impacts even if it happens only once.

Potential impacts of spill into water systems:

Some number of people could lose their drinking water supplies. It could be localized--or it could spread farther or in different directions, than anyone could predict.

Also, the potential would be there for the entire region to lose their fishing, tourism, and farming industries.

We already have a mercury problem with our fish--let's not add cyanide.

It could take only one accident, in transport or at the minesite, to cause the type of disaster that would make some people wish they had never allowed this.

Respectfully submitted,

Sierra Powers
member, Wisconsin Green Party
mining analyst for over ten years

26 Sherman Ter. #4
Madison, Wi 53704

Vote Record

Senate - Committee on Environmental Resources

Date: 5-31-01

Bill Number: SB 160

Moved by: Sen. Baumgart Seconded by: Sen. Hansen

Motion:

Committee Member	Aye	No	Absent	Not Voting
Sen. Jim Baumgart, Chair	X			
Sen. David Hansen	X			
Sen. Robert Wirch	X			
Sen. Robert Cowles	X			
Sen. Dale Schultz		X		
Totals:	4	1		

[X] Motion Carried [ ] Motion Failed

Vote Record

Senate - Committee on Environmental Resources

Date: 5-31-01
Moved by: Sen. Schultz
Seconded by: Sen. Cowles
Clearinghouse Rule:
Appointment:
Other:

AB: SB:
AJR: SJR:
AR: SR:

A/S Amdt:
A/S Amdt: to A/S Amdt:
A/S Sub Amdt: LRB50134/1
A/S Amdt: to A/S Sub Amdt:
A/S Amdt: to A/S Amdt: to A/S Sub Amdt:

Be recommended for:
- ☐ Passage
- ☐ Introduction
- ☒ Adoption
- ☐ Rejection
- ☐ Indefinite Postponement
- ☐ Tabling
- ☐ Concurrence
- ☐ Nonconcurrence
- ☐ Confirmation

Committee Member	Aye	No	Absent	Not Voting
Sen. Jim Baumgart, Chair	☐	☒	☐	☐
Sen. David Hansen	☐	☒	☐	☐
Sen. Robert Wirch	☐	☒	☐	☐
Sen. Robert Cowles	☒	☐	☐	☐
Sen. Dale Schultz	☒	☐	☐	☐
Totals:	2	3		

☐ Motion Carried ☒ Motion Failed

Vote Record

Senate - Committee on Environmental Resources

Date: 5-31-01
Moved by: Sen. Schultz
Seconded by: Sen. Cowles
Clearinghouse Rule:
Appointment:
Other:

AB: SB:
AJR: SJR:
AR: SR:

A/S Amdt:
A/S Amdt: to A/S Amdt:
A/S Sub Amdt: LRBs0134/1
A/S Amdt: to A/S Sub Amdt:
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- ☐ Nonconcurrence
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Committee Member	Aye	No	Absent	Not Voting
Sen. Jim Baumgart, Chair	☐	☒	☐	☐
Sen. David Hansen	☐	☒	☐	☐
Sen. Robert Wirch (Poiving)	☐	☒	☐	☐
Sen. Robert Cowles	☒	☐	☐	☐
Sen. Dale Schultz	☒	☐	☐	☐
Totals:	2	3		

☐ Motion Carried ☒ Motion Failed

Good Morning Senators. My name is Dale Alberts and I am President of Nicolet Minerals Company. I appreciate the opportunity to share our views on Senate Bill 160. With me today is Ray Carey, an attorney and lobbyist who represents the company in Madison.

Nicolet Minerals Company opposes SB 160.

They say patience is a virtue ... that old saying is being put to the test with this mining project. Nicolet Minerals has proposed to build a mine near Crandon that will provide environmental safeguards that are unprecedented in the industry. Not only has Nicolet "played by the rules" in Wisconsin, it has voluntarily written new pages in the regulatory playbook.

These measures include technologies like cement grouting to protect water table levels, the extraction of pyrite from the tailings so that the long-term environmental risk from the tailings has been eliminated and a state of the art water treatment system, which the public demanded, have added somewhere between $20 - $30 million in additional capital cost just for added environmental protection measures. These measures were announced three years ago.

These environmental controls have been undertaken not only to meet state and federal environmental regulations, but to be better than the standards. That's part of Nicolet Mineral's commitment to its neighbors ... with whom it will share, and therefore must protect, the state's environmental resources.

Environmental and industrial regulations are appropriate ... and necessary. But, in my opinion, those regulations should be justified *and* supported by science. Regulations should also address verified environmental problems or threats ... with the regulations carefully measured to achieve specific goals, minimizing unintended and unnecessary consequences to business. Finally, regulations should not be used as a "hammer" to single out an industry.

To be honest, Senate Bill 160 doesn't really "regulate" anything: it singles out the mining industry for a complete ban on the use of cyanide when it is widely and safely used in other industries all over the state.

For all of the reasons articulated in the testimony you have heard today, we believe that SB 160 is bad science *and* bad policy. Let me spend a few moments summarizing what we know:

First, we now know that the examples of cyanide use trotted out by the mine's opponents to scare people – heap leaching, typically at gold mines – is *not* applicable to the Crandon mine. The Crandon mine is a zinc/copper mine (*not* a gold mine) that will use the froth flotation process to extract its metals from the ore. This process occurs indoors and, as other representatives of the company have testified, is subject to numerous state-of-the-art protective measures. By contrast, heap leaching occurs outdoors on a very large scale.

Supporters of the bill are comparing apples to oranges. This may sound a little familiar: I ask the supporters of this bill to point to just one example ... just one example ... where there has been a significant cyanide-related environmental problem at a mine using the froth flotation process. I think, in this case, silence speaks volumes.

Second, we now know that very little cyanide – 7 tons a month – will be used at the mine and that the vast majority of it will be actively destroyed in the floatation process. The remaining residual amounts range from non-detectable in the tailings to .0011 mg/l in the backfill and are hundreds of times lower than an amount that could pose *any* danger to the environment. The supporters of the bill are correct that small amounts of cyanide can be acutely toxic. My point today is this: the residual amounts of cyanide not destroyed in the process will still be hundreds of times lower than even those small amounts the mine's opponents point to as being toxic.

In fact, the residual cyanide contained in our backfill is less than allowed in drinking water.

Third, we now know that mining uses only 13% of the cyanide in industrial processes and, in fact, 50 *other* companies in this state use cyanide. Cyanide is used, for example, in plastics, pharmaceuticals and electroplating. You have been shown information today that shows how these industries have their own effluent limitations for the direct and indirect discharge of cyanide into the waters of the state. These limits are hundreds and sometimes thousands of times higher

than any concentration of cyanide that will be left over after ore processing at Crandon. And the Crandon mine will not "discharge" cyanide to any waters of the state.

The Crandon mine's use of cyanide is frankly a typical industrial use. The Crandon Mine's use of NaCN will pose no greater risk than any of the other 50 companies currently using it. Cyanide has been used in the floatation process for 70 years with no problems.

So what justifies singling out the Crandon mine? Certainly not environmental concerns ... that much has been established today. I'll leave that question with the Committee. However, there is a fourth issue that I'll let Ray Carey speak to, and that is whether this bill would be legal if enacted.

[Ray Carey's testimony]

In summary, Nicolet Minerals is opposed to Senate Bill 160. We oppose the bill because it would ban a very important reagent – cyanide – at the Crandon mine, without a single shred of evidence that its use at the Crandon mine will pose a

threat to the environment. Support for the bill is grounded in misinformation, inapplicable disaster stories, bad science ... and, with some, an evident desire to harass a single industry in this state.

But we are pressing forward. We will open the Crandon mine. We will provide hundreds of well-paying jobs in a part of the state that sorely needs them. And we will operate a mine that will meet or be better than every environmental standard.

Thank you for your time. I'd be happy to answer any questions.

HOW WILL NMC USE CYANIDE

Good afternoon. My name is Bruce Arthur. I am Metallurgical Manager at Nicolet Minerals. I am here today to tell you how we will use cyanide in the mill that we will build and operate near Crandon.

Based on extensive testing, we estimate that the Crandon mine will use an average of 7 tons of sodium cyanide per month.. The cyanide will be transported by truck to the plant site in the form of solid briquettes, not in liquid form. Trucking of cyanide and other chemicals is strictly regulated by the US Department of Transportation. Trucks will enter the plant site via the access road to be built from Country Trunk Highway 55 and the sodium cyanide will be off-loaded directly into the enclosed reagent storage and mixing area.

NMC will have a Spill Prevention Control and Countermeasures Plan prior to commencing construction and operations. NMC will also have a trained Emergency Response Team that will be capable of responding to any situation related to sodium cyanide or any other reagent used at the site.

The sodium cyanide briquettes are dissolved in water in a mixing tank for addition to the flotation process. The mill will be designed to safely contain spills and employees will be trained in proper handling procedures. The reagent storage and mixing areas will have impermeable poured concrete sloped floors that drain to sumps. The sodium

cyanide storage, mixing and holding area will have dedicated sumps and be isolated by berming from other areas.

The purpose of using sodium cyanide in the milling process is as a depressant in what is called the froth flotation process. The ore that is mined underground is hoisted to the surface and is subjected to a grinding process that produces a very fine sand-like material that is slurried with water. Various chemical reagents are added to this sand-water slurry to promote flotation of specific minerals while preventing flotation of other minerals.

Sodium cyanide is used in base metal mineral processing worldwide. Its first use in this application was in 1922. Other zinc mining operations that use sodium cyanide as a depressant include the Red Dog Mine in Alaska, and Pend Oreille in Washington. Zinc/lead mines in southwestern Wisconsin also used cyanide in a similar process until 1979, when the last mine closed. There has not been a recorded environmental problem with cyanide related to the flotation process.

The use of cyanide at Crandon is vastly different from gold mining operations where cyanide is used to leach the gold. The Crandon process will not use any type of leaching process, and the froth flotation will only occur indoors, in a safe, well-regulated environment.

In the Crandon process, copper and lead are the first minerals to be floated while the other minerals, including zinc and iron (pyrite) remain in the slurry. A mixture of lime, zinc sulfate and sodium cyanide is added to the grinding process so that the reagents are adequately mixed with the ore and coated onto the mineral surfaces. This mixture depresses zinc and pyrite while still allowing the copper and lead minerals to float.

The slurry is agitated in a flotation machine that has a mixer mechanism and air addition. A foaming or frothing agent is added to produce bubbles that the floatable minerals attach to and rise to the surface of the flotation cell for removal as a concentrate.

The froth flotation process destroys about 99.75% of the cyanide. The only detectable concentrations of cyanide that may be leftover will be in the pyrite concentrate that will be used as backfill in the mine. The highest detected level was 0.011 mg/L. This level is far below the drinking water standard, or even Wisconsin's Preventative Action Limits for groundwater which are one-tenth the level of the enforcement standards for groundwater.

Any residual cyanide that may enter the Tailings Management Facility will degrade rapidly as a result of oxidation and volatilization.

Sodium cyanide has been safely used in the base metal industry for years. It is proven technology and is the only reagent that has produced satisfactory results on the

Crandon ore. The results of metallurgical testing show that the use of sodium cyanide is currently required as a flotation reagent at Crandon. In addition, most substitutes to cyanide pose unknown environmental risks. By contrast, cyanide is well-understood.

In summary, cyanide will be transported safely to the Crandon facility. All use of the chemical will done indoors, in an enclosed, well-designed, concrete facility. Cyanide will be used in a froth flotation process, not heap leaching, and nearly all of the chemical will be destroyed during that process. Finally, any trace amounts that exist in the backfill will be well below any groundwater limits, including the preventative action limits.

Thank you for the opportunity to share this information with the committee.

CYANIDE BAN TALKING POINTS

AND RESPONSES TO NICOLET MINERALS COMPANY (NMC)

(There's No Safe Level of Cyanide)

The Risks of Using Cyanide are Not Worth Taking

Water is more precious than copper, zinc or gold – or mining company profits. The use of cyanide in mining poses an unreasonable risk to the health of people, wildlife and fish in Wisconsin. The claimed benefits of mining do not outweigh the potential for long-term or permanent environmental damage from cyanide, especially in the pristine areas of Northern Wisconsin where most potential mine sites are located.

Does the Bill Single Mining Industry Out? Yes

It is common for legislatures to target regulations and to restrict or prohibit on certain activities related to a broader problem. Courts have repeatedly upheld such regulations. Nicolet Minerals Company has threatened to sue the state if it enacts a ban on the use of cyanide in mining, but such an equal protection challenge has little chance of success.

The mining industry would **use far more cyanide** than any other industry. The Crandon mine alone will use an estimated 200 tons of cyanide per year – more than 1,000 pounds per day. (One teaspoon of a 2% cyanide solution is fatal to humans. Much smaller amount are toxic for fish.) Other potential Wisconsin mines would also use large amounts of cyanide.

Mining is treated differently already. It is regulated under its own chapter of the statutes (ch. 293). For instance, Wisconsin's first regulations concerning wetlands applied only to the mining industry.

Mining is different than other industries. **It takes place in the natural environment.** For instance, the Crandon mine is in the middle of wetlands and is surrounded by lakes and streams that flow into one of the state's most treasured resources, the Wolf River – which flows into Lakes Poygan, Butte des Morts and Winnebago.

Mining deserves to be targeted. An April 2001 report by the federal EPA said metallic mining is responsible for more than half the releases of toxic substances ("materials that cause death, disease, or birth defects in organisms that ingest or absorb them") into the environment. Most cyanide disasters are related to mining.

The *Crandon* mine is *not* being singled out. The proposal applies to any new mine in Wisconsin. For instance, gold deposits in Taylor County are presently being explored.

NMC Says Flotation Ore Processing is Different Than Heap Leaching

The worst disasters have not happened during ore processing. They have happened before processing (such as transportation or storage) or after processing (from wastes). They can happen because of human error.

In the Oct. 28, 2000 Vilas County News-Review, NMC spokesman Dale Alberts said, "There are no known instances of environmental degradation as a result of cyanide used as a flotation reagent." Unfortunately, the statement is untrue. For instance, Asarco's Black Cloud mine in Colorado used flotation. EPA reported in 1994 that the mine "consistently exceeded discharge limitations for total suspended solids, cyanide, zinc and manganese" and said the discharge was toxic to aquatic life.

NMC Says Cyanide Occurs Naturally

So do many dangerous substances. (Uranium, for instance.) The fact that something occurs naturally does not mean that large or even small amounts are not dangerous or lethal.

NMC Says Cyanide Is In Coffee

Fish don't drink coffee. People can tolerate some cyanide. However, much smaller amounts are toxic to wildlife and especially to fish and other aquatic life. Cyanide disasters destroy rivers and other waters.

One teaspoon of 2% cyanide solution is fatal to humans. That ain't coffee.

NMC Says There's Little Chance of Contamination

In the Oct. 28, 2000 Vilas County News-Review, NMC spokesman Dale Alberts said, "There is very little chance of any kind of cyanide contamination coming from our operation." He did not say there is no chance.

Spills and leaks are a fact of life with mining companies. The Crandon mine would use more than 1,000 pounds of cyanide per day for 28 years. Is NMC saying no liner or pipe will leak, no spill will occur, no waste dump will overflow, no machinery will fail, and no human will make a mistake or be careless for 28 years?

Transportation of Cyanide Could Lead to Accidents.

For instance, on April 5, 2001, a truck carrying cyanide went off the road and crashed in South Dakota. Authorities said they were lucky the truck crashed into a snowbank, which cushioned the blow and prevented release of the cyanide.

A May 1998 truck accident delivering cyanide to a mine in Kyrgyzstan overturned into the Barskoon River. Four people, as well as livestock and fish, were reportedly killed as a result of the spill.

of Peace with the Rev. Richard Edna in 1994, and three broth- Enger; a sister, Anne (Lee) Nel- son Menasha; a brother-in-law, nephews, and dear friends. A memorial service will be held in

Council says no to mine cyanide, sends message to Madison

By Pete Bach
Post-Crescent staff writer

An Appleton alderman succeeded in getting the Common Council to take a stance against the use of cyanide in Wisconsin mining.

Ald. Richard Gosse's move to ban the use of the toxic compound carried on an 11-2 vote, with two aldermen abstaining. Three other aldermen were absent.

A copy of the city's stance will be forwarded to Madison, where a measure – Assembly Bill 95 – is pending in committee.

The legislation would ban the use of cyanide to mine minerals anywhere in the state.

On the Web
Nicolet Minerals Co.:
www.crandonmine.com

Cyanide spills have polluted streams in four western states and also caused disasters overseas.

Cyanide has been suggested for use at Crandon in Forest County to help extract gold and silver along with copper and zinc from centuries-old deposits.

Council endorsement came after brief comments from Gosse and Ald. Paul Trelc, one of the two to oppose a ban.

"We've got half the picture here," Trelc said, adding that he had spoken with Nicolet Minerals Company and determined that some of the concerns raised in Gosse's resolution have been resolved.

"I think there were still a great many unanswered questions as to what kind of hazards we're really dealing with if at all," he said.

"That's the whole point," Gosse argued in reply. "There's a lot of risk involved with this."

Cyanide is lethal to fish and wildlife in relatively small concentrations and can be fatal to humans.

Environmentalists have long opposed the Forest County mine for fear it would pollute the Wolf River, which joins the Fox River downstream and flows into Lake Winnebago, source of Appleton's drinking water.

OBITUARIES

Myra Linda Ernst
Oshkosh

Friends and families of the deceased have prepared these obituaries and funeral announcements.

They are a tribute to their loved ones' accomplishments and a service to friends who would like to pay their respects.

To submit announce-

Age 82, entered eternal life on Tuesday, April 3, 2001 at Bethel Home in Oshkosh. Myra Linda Ernst was born on January 1, 1919 on the Neitzel homestead in the Town of Black Wolf, Winnebago County, the youngest of eight children of Fred and Flora the Town of Byron; a son of Christ H. and Louise A. Rose Hoeppner. On September 11, 1948 he married Hildegarde Schultz in Germany where he was serving with the U.S. Army. Following the death of his first wife in 1986, he married Geraldine "Gerry" Dunn on February 16, 1991 in Fond du Lac.

Ray was a veteran of World War

place at Riverside Cemetery.

Brettschneider-Trettin-Lederer
606 N. Oneida St., Appleton
733-7383/www.btlfuneral.com

Judson Loomis
301 E. Florida Ave.
Appleton

Age 87, formerly of Griswald

Dale D. Nichols, Sr.
Meadow Woods Apts.
Seymour

Age 73, formerly of Shiocton, passed away on Wednesday, April 4, 2001 at his residence. Arrangements are pending at the Borchardt & Moder Funeral Home in Shiocton.

tives. Walter was preceded in death by his parents, Emma and Herman; his wife, Marie; and six sisters: Eden Jarchow, Lillian Demand, Ella Leileau, Irma Elmer, Esther Nienke, and Mildred Rindt; five brothers: Arthur, Harry, Clarence, Louis, and Elmer.

The funeral liturgy will be on Saturday, April 7, 2001 at 1 p.m.

LANGLADE COUNTY

RESOLUTION #37-2001

INTRODUCED BY: EXECUTIVE, SAFETY & LOSS CONTROL, EMERGENCY GOVERNMENT AND LEGISLATIVE COMMITTEE

INTENT: SUPPORT ASSEMBLY BILL #95 PROHIBITING THE USE OF CYANIDE IN WISCONSIN MINES

WHEREAS, cyanide is a highly toxic poisonous compound with tiny traces of cyanide fatal to human beings, fish and wildlife; and

WHEREAS, mining companies, including the proposed Crandon zinc-copper mine near the Wolf River, choose cyanide to extract metals from the ore body; and

WHEREAS, cyanide poses serious environmental risks and has caused recent environmental disasters at mines located in Colorado, Nevada, Montana, Idaho, California, South Dakota and South Carolina, and in countries such as Romania, Guyana and Canada; and

WHEREAS, cyanide is known to contaminate drinking water; and

WHEREAS, Wisconsin must enact mining laws that protect our fragile environment, including prohibiting the use of cyanide and other highly toxic compounds in Wisconsin mining operations.

NOW THEREFORE, BE IT RESOLVED, by the Langlade County Board of Supervisors to support Assembly Bill #95 for the prohibition of the use of cyanide in Wisconsin mines and metallic ore processing facilities.

BE IT FURTHER RESOLVED, that the Langlade County Board of Supervisors urges the Wisconsin State Legislature to adopt legislation to reduce the use of cyanide and other highly toxic compounds in Wisconsin mines and metallic ore processing facilities.

BE IT FINALLY RESOLVED, by the Langlade County Board of Supervisors that the County Clerk distribute a copy of this resolution to the State Representatives and Senators representing Langlade County, the DNR Secretary, the Governor and the Wisconsin Counties Association.

EXECUTIVE,
SAFETY & LOSS CONTROL,
EMERGENCY GOVERNMENT AND
LEGISLATIVE COMMITTEE

James R. Jansen

Anthony Koss

Eugene Kamps

Ione E. Orgeman

Robert Benishek

ADOPTED BY THE COUNTY BOARD OF LANGLADE COUNTY THIS 17th DAY OF APRIL, 2001.

Kathryn Jacob, County Clerk
rp- KJ

RESOLUTION

"Whereas, mining companies are increasingly using cyanide to extract gold, silver, copper, zinc, and other metals from metallic ore; and

Whereas the proposed Crandon zinc-copper mine near the Wolf River would use as much as 18-20 tons of sodium cyanide each month during its operation; and Wisconsin is known to contain other gold deposits that would likely require cyanide for processing; and

Whereas cyanide possess serious environmental risks from transportation on our roadways, from storage and use at the proposed Crandon mine site, and from residuals disposed in waste dumps; and

Whereas the sodium cyanide will be transported by trucks which have a high probability of using Highway 41 for their travels; and

Whereas cyanide is highly toxic, with tiny traces fatal to human beings, fish and wildlife, and acts as a powerful solvent that can release other toxins; and

Whereas many of Appleton's Citizens use the Wolf River Area for recreational purposes; and

Whereas cyanide has been the cause of recent environmental disasters at U.S. mines (in Colorado, Nevada, Montana, Idaho, California, South Dakota and South Carolina), and at many foreign mines (such as in Romania, Guyana, Canada and other countries), resulting in massive fish kills and contaminated drinking water; and

Whereas the Wolf empties ultimately into Lake Winnebago, the source of Appleton's drinking water; and

Whereas in 1998 Montana voters banned cyanide mining and in 2000, the Czech Republic did the same; and

Whereas Wisconsin must have the strongest mining laws in the nation in order to protect our abundance of clean water; and

Whereas the new company in charge of the Crandon project is the South African Mining Company Billiton, based in London; and

Whereas Billiton's Senior Manager of Corporate Affairs has said his company does not 'like to be where we are not wanted';

Now Therefore Be It Resolved the City of Appleton supports a prohibition on the use of cyanide reagents in Wisconsin mines and metallic ore processing facilities; and

Be It Further Resolved that the Wisconsin State Legislature consider passing legislation to prohibit the use of cyanide in Wisconsin mines and metallic ore processing facilities; and

Be It Further Resolved that no company planning to use cyanide or other toxic chemicals in a mine near the pristine Wolf River will be 'wanted' by Appleton in the Wolf River Watershed; and

Be It Further Resolved that a copy of this resolution be sent to Appleton's State Senators and Representatives, the DNR Secretary, and the Governor."

April 4, 2001

Timothy M. Hanna, Mayor

Cynthia I. Hesse, City Clerk

City of Milwaukee

Office of the City Clerk

200 E. Wells Street
Milwaukee, Wisconsin 53202

Certified Copy of Resolution

FILE NO: 001592

Resolution supporting a prohibition on the use of cyanide in Wisconsin mines.

Whereas, Mining companies are increasingly using cyanide to extract gold, silver, copper, zinc and other metals from metallic ore; and

Whereas, The Nicolet Mining Company (NMC) is proposing an underground mine in Forest County, which lies partly within the Town of Nashville, to extract zinc, copper, silver and gold from metallic sulfide deposits; and

Whereas, NMC's proposed zinc-copper mine would use as much as 18 to 20 tons of sodium cyanide each month during its operations and Wisconsin is known to contain other gold deposits that would likely require cyanide for processing; and

Whereas, Cyanide poses a serious environmental risk – from transportation on our roadways, from storage and use at NMC's proposed mine site and from residuals disposed in waste dumps; and

Whereas, Cyanide is highly toxic, with tiny traces fatal to human beings, fish and wildlife, and acts as a powerful solvent that can release other toxins; and

Whereas, Cyanide has been the cause of recent environmental disasters at U.S. mines in Nevada, Montana, Idaho, California, South Dakota and South Carolina and at many foreign mines, such as Romania, Guyana, Canada, Krygyzstan and Papua, New Guinea, resulting in massive fish kills and contaminated drinking water; and

Whereas, In 1998, Montana voters banned cyanide for mining and a similar ban has been passed by the Czech Republic; and

Whereas, Wisconsin must have the strongest mining laws in the nation in order to protect our abundance of clean water; now, therefore, be it

Resolved, By the Common Council of the City of Milwaukee that the city supports a prohibition on the use of cyanide reagents in Wisconsin mines and metallic ore processing facilities to ensure the health, safety and welfare of all Wisconsin residents; and, be it

Further Resolved, That the Wisconsin State Legislature is urged to pass legislation to prohibit the use of cyanide in Wisconsin mines and metallic ore processing facilities to protect the health, safety and welfare of all Wisconsin residents; and, be it

Further Resolved, That a copy of this resolution be sent to members of the city's delegation to the state legislature, the Secretary of the Department of Natural Resources and Governor Scott McCallum.

I, Ronald D. Leonhardt, City Clerk, do hereby certify that the foregoing is a true and correct copy of a(n) Resolution passed by the COMMON COUNCIL of the City of Milwaukee, Wisconsin on March 20, 2001.

Ronald D. Leonhardt

Ronald D. Leonhardt
City Clerk

April 05, 2001

Date Certified

Cyanide: Unneeded and Unsafe

The Truth about Cyanide and Mining

Senate Bill 160 *would ban the use of cyanide in Wisconsin mining. Nicolet Minerals Company (NMC), a subsidiary of the Australian company BHP Billiton, is opposing the bill, using misleading statements about cyanide and its use.*

The truth is that cyanide is a highly toxic, environmentally dangerous chemical. NMC wants to use millions of pounds of cyanide at its proposed Crandon mine, near the headwaters of the Wolf River – despite the fact that alternatives to cyanide are being used at similar mines.

There Are Better Alternatives than Cyanide

It is wrong for Nicolet Minerals Company to say there are no proven substitutes for cyanide in processing ore.

- At least three mines in Canada are processing or have processed copper/zinc/lead/pyrite ores (as the proposed Crandon mine plans to) ***without using cyanide***:

    - Noranda, Inc., Brunswick Mine, Bathurst, New Brunswick, Canada
    - Noranda, Inc., Heath Steele Mine, Miramichi, New Brunswick, Canada
    - Boliden Westmin Ltd., Myra Falls Concentrator, Myra Falls, British Columbia, Canada

- Two of the mines, which are owned by Noranda, currently use sulfur dioxide and starch for the same purpose as BHP Billiton (NMC) proposes to use cyanide. Sulfur dioxide and starch are less toxic than cyanide and cost less. Noranda is well known for being a cost-effective producer.

- Wisconsin should require mining companies to use the best available, least toxic technology.

- In 1999, 16 of the 18 leading U.S. zinc mines and 11 of 15 leading U.S. copper mines did not use cyanide.

Accidents Can Happen Regardless of Process

It is misleading for NMC to say that accidents – such as the well-known cyanide disasters at mines using the heap-leaching process – could not happen at the proposed Crandon mine simply because it would use flotation to process ore.

- **Cyanide would be exposed to environment.** Cyanide would be exposed to the environment at the on-site landfill[1] and in the mine shafts where NMC plans on burying mine wastes.

- **Sites using flotation and heap-leaching can experience similar problems.** Many of the reported accidents involving cyanide occur before or after the ore processing step. Human errors, leaks, spills and waste handling accidents can occur at any point.

- **The flotation process causes accidents, too.** Most mines using flotation ***do not use cyanide***. But in 1994, the EPA reported that Colorado's Black Cloud mine – while using the flotation process – consistently exceeded limits for cyanide with discharges that were shown to be toxic to aquatic life.

NMC's Comparisons to Cyanide in Food Are Intended to Mislead

It is misleading for NMC to say substances such as table salt, coffee, road salt, cigarette smoke and peaches contain larger concentrations of cyanide than the Crandon tailings will.

- **The food concentrations cited are inappropriate and misleading.** The correct comparison for foods is the quantity contained in a standard serving or the amount of cyanide actually ingested as a result of eating these foods (not the concentration in the substance). An example of NMC's misleading figures is its claim that a up of coffee contains 6 parts per million of cyanide. If true, that number would be ***30 times the drinking water standard*** and ***120 times the standard for water with aquatic life***.

- **The types of cyanides found in some foods have different properties and are distinctly less toxic.** It is misleading to compare the minute amounts of cyanide

[1] Tailings dumps like the one proposed for Crandon can collapse, leading to catastrophic releases of pollution. Since 1960, 74 examples of tailings dam failures have been documented. For instance, the ***owner of the Crandon mine, BHP*** (now BHP Billiton), had a tailings dam failure at Pinto Valley, Arizona on October 22, 1997. According to the Phoenix New Times, "More than 317,000 cubic yards of mining waste the consistency of toothpaste squeezed from the heap and flowed into Pinto Creek below, filling it rim to rim, 70 feet across and 42 feet in some places, for three-quarters of a mile. Gray liquid oozed and ran from the muck, turning another three-quarter mile reach downstream into an environmental nightmare." Heavy rains at the BHP mine had also washed tons of tailings down Pinto Creek in 1993.

in some foods to the thousands of pounds of sodium cyanide to be used at the proposed Crandon mine.

- **Processing and cooking of foods greatly reduces cyanide concentrations.** Lima beans, for example, if eaten raw rather than cooked, can be fatal.

- **Many of the foods cited by NMC have cyanide in the part of the food not normally eaten.** For example, cyanide is found in the seeds and pits of peaches, pears and cherries and not the fruit.

- **The issue is fish and aquatic life, not human consumption.** Humans can metabolize low levels of cyanide – but fish, other aquatic life and wildlife cannot. For example, the death of 500 deaths of foals in Kentucky last spring was attributed to trace amounts of cyanide found on the cherry tree leaves the foals ate.

- **Road salt is used over broad areas.** Road salt contains less toxic forms of cyanide, is less concentrated and is used over a very broad area. In addition, road salt is used where deemed necessary to protect public safety. However, with cyanide, there are alternatives to its use in mining, making its unnecessary.

The Proposed Volumes of Cyanide are Huge

It is misleading for NMC to say "small quantities" of cyanide will be used at its proposed mine.

- **Between 5 and 13 *million* pounds of cyanide are proposed.** NMC permits would allow it to use between 14,000 and 36,000 pounds of cyanide per month. Over the projected 30 years of the project, this amounts to between 5 and 13 million pounds of cyanide. (The mean lethal dose for humans is 50 to 200 mg, or 0.0001 to 0.0004 pounds. The amount toxic to aquatic life is much smaller.)

- **NMC's use of cyanide would result in process water being as much as 125 times the drinking water standard for cyanide and 500 times the standard for fish**. At 50% solids in solution, 0.06 to 0.2 pounds of ore per ton of cyanide would result in concentrations equivalent to 7.5 to 25 mg/L of free cyanide in solution, the concentration that can be expected in tailings. The concentrations are 37 to 125 times the drinking water standard for cyanide (0.2 mg/L) and as much as 500 times the water standard for aquatic life (0.05 mg/L).

NMC Has No Plans to Destroy Cyanide Waste

It is misleading for NMC to say that most of the cyanide is destroyed prior to placing the tailings in the landfill or back into the mine.

- **NMC has no plans to destroy its cyanide waste.** Its permit application provides no information on destruction of cyanide waste.

- **NMC will simply landfill its cyanide waste** and rely on natural degradation to reduce concentrations. But natural degradation relies on sunlight and warm temperatures – unreliable conditions in Northern Wisconsin.

- **Cyanide is NOT actively destroyed in the froth flotation process.** Cyanide ***can*** be destroyed so that it does not end up in the tailings, but this requires an additional step in the milling process that NMC has no plans to use.

Cyanide Persists in the Environment

It is wrong for NMC to claim cyanide does not persist in the environment and that it readily degrades into harmless compounds.

- The implication that cyanide decomposition is instantaneous is incorrect. In fact, some references give the half-life for cyanide degradation in years.

- A jury recently awarded a $100 million verdict (recently overturned on appeal) against a company that buried cyanide-laden waste decades ago in Milwaukee County. The DNR estimates there could be up to 44 of these cyanide-contaminated sites in Wisconsin. At these sites, cyanide-laden waste has persisted in the environment – sometimes lasting for decades – causing environmental damage and massive clean-up costs.

Mining Is and Should Be Treated Differently

It is inappropriate for NMC to say that SB 160 unfairly singles out the mining industry by treating mining differently than other industrial users of cyanide.

- **The mining industry is already treated differently.** Mining is regulated under its own chapter of the statutes (Ch. 293) that give it special treatment. For example, mining waste is statutorily exempt from hazardous waste laws. Plus, unlike other industrial users of cyanide that are required to destroy cyanide waste, mining companies are allowed to simply landfill cyanide waste and rely on natural degradation to reduce concentrations.

- **The mining industry deserves to be treated differently.** Metallic mining accounts for more than half of the nation's toxic releases according to an April 2001 EPA report.

- **It is common for legislatures to target regulations** and to restrict or prohibit certain activities related to a broader problem. Courts have repeatedly upheld such regulations.

- **Mining takes place in the natural environment.** For instance, the proposed Crandon mine is in the middle of wetlands and is surrounded by lakes and streams that flow into one of the state's most treasured resources, the pristine Wolf River.

Cyanide Transportation is an Unnecessary Risk

- **Cyanide is not currently used in Northern Wisconsin.** Most potential mine sites are in Northern Wisconsin.

- **Recent events have raised new concerns about the transportation of highly toxic substances.** Transportation of hazardous materials can no longer be considered routine. Wisconsin should not substantially increase the transportation of cyanide in Wisconsin when there are alternative methods of processing ore.

STATUS REPORT ON THE REVIEW OF THE PROPOSED CRANDON MINE: August 2000

Department of Natural Resources
Box 7921, Madison, WI 53707

What's New with DNR's Review of the Crandon Project?

- **New metallic mining webpage**
- **Preliminary mine inflow numbers**
- **The mine water contingency plan**
- **Potential effects on groundwater from the re-flooded mine**
- **Irrevocable trust fund rule**
- **Project review schedule**

New webpage unveiled

In February the Department unveiled a newly revised metallic mining website, which contains a wealth of new information regarding the proposed Crandon mine, the reclaimed Flambeau mine, and the general mine permitting process. The website includes a "What's New?" button which will be regularly updated to announce upcoming meetings. The Department intends the website to be easily used by anyone interested in state metallic mining issues. Any questions or comments about the website should be directed to Dave Kunelius in Rhinelander (715) 365-8924, or to Jeff Schimpff in Madison (608) 267-7853. The web address is:

http://www.dnr.state.wi.us/org/es/science/mining/

The DNR releases preliminary mine inflow estimates from its groundwater flow model

As previously announced, the Department and its consultants have completed the majority of the work on the preliminary regional groundwater flow model that was originally submitted by Nicolet Minerals Company in support of the permit applications and the Environmental Impact Report. The Department made many changes to the model, including significant adjustments in how the bedrock and the ore body are represented in the model. These changes resulted in mine inflow estimates far more conservative than the estimates of the company. As a result of the modeling work, the Department developed estimates of the range of potential mine inflow rates for the proposed mine (a 'high end' and a 'low end'). The Department estimates that the high end mine inflow could be 1,580 gallons per minute, while the low end mine inflow could be 600 gallons per minute. By comparison, the company's high end estimate of mine inflow, called the practical worst case, is 775 gallons per minute. The Department's provisional or draft estimates are likely to change, however, as explained below.

In June the company announced that it would make changes to its proposed grouting plan for the underground mine. Grouting is a technique extensively used in the mining industry to reduce the amount of water seeping into a mine. By injecting a mixture of cement with small amounts of performance-enhancing additives under pressure through drill holes bored into the surrounding bedrock, the amount of water flowing out of the rock can be greatly reduced. The company's revised plan proposes additional grouting partly down the sides of the ore body in addition to the grout blanket at the top of the mine as originally proposed. We will evaluate the proposed changes to verify the plan's effectiveness.

To evaluate how the grout plan changes could affect our predictions of water inflow into the mine, we will modify our groundwater flow model. If the re-modeling progresses as anticipated, and the revised flow model predictions differ from the current results, we will use the new model outputs as the basis for our groundwater and surface water impact analyses. Changes in our impact analyses also could necessitate changes to the company's surface water mitigation plan and its environmental monitoring plan.

Our final flow model predictions on effects of the project on groundwater and surface waters will be contained in our draft Environmental Impact Statement (DEIS). Our flow model work also will be detailed in a report to be released at approximately the same time as the release of the DEIS.

The mine water contingency plan

Due to the difference between the Department's and Nicolet Minerals Company's high end estimates of groundwater inflow into the mine, we recently required the company to submit a contingency plan for coping with the additional mine inflow that the Department's model predicts could be possible. The company initially had designed its wastewater treatment system with a 726 gallons per minute (gpm) maximum capacity and the disposal facilities with a maximum capacity of 626 gpm. Under its initial proposal, the company also would employ a variety of techniques to prevent groundwater inflow from entering the mine. Toward this end, Nicolet Minerals Company would implement several actions:

- using an aggressive grouting plan to fill the interconnected cracks in the rocks through which the groundwater might enter the mine;
- preserving the layer of massive saprolite/till, which exists at the upper surface of the bedrock and acts as somewhat of a natural groundwater barrier;
- controlling the drainage of water stored in the bedrock prior to development of the shafts; and
- sequencing the development of the ore stopes to minimize the volume of mine inflow at any given time by using data from exploratory drifts which may reveal the amount of inflow likely from a particular stope.

However, in the event that the design capacity of the wastewater treatment and discharge system is exceeded, the company has proposed the following new contingency measures:

- The currently-proposed wastewater treatment facility includes two reverse osmosis treatment trains, each having a capacity of 370 gallons per minute. If the data indicated that more inflow could be expected, the company could add up to three additional treatment trains, each at 370 gallons per minute;
- Studies show that the proposed soil absorption site, designated as Area H, could accept more water than in the current plan – up to 1,800 gallons per minute. This would require redesign of the piping system. Mounded groundwater beneath each cell would be limited;
- Alternative Area A, located just west of the proposed plant site, which was investigated during the absorption site selection process, could be developed and accept a modest amount of groundwater; and
- The company could implement a 'continuous mitigation' plan, in which any soft water bodies (such as Little Sand Lake, Deep Hole Lake, and Skunk Lake) requiring mitigation by the company could be mitigated year round. The company would thus be offsetting the entire loss due to mine dewatering.

The Department is evaluating this submittal, and the final proposed plan will be discussed in the draft Environmental Impact Statement.