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Fact Sheet
Better Brite Chrome and Zinc Shops Superfund Site
De Pere, Wisconsin

Revised: August 11, 1999

This fact sheet contains:

- A brief history of the site
- A summary of the interim cleanup of the properties
- A summary of the site investigation activities
- A description of the selected remedial action
- Project schedule

SITE HISTORY

The Better Brite Superfund site consists of two (2) separate properties located at 315 South Sixth Street (Zinc Shop) and 519 Lande Street (Chrome Shop), respectively. The site is located in a residential and light industrial area. Better Brite began operations at the Zinc Shop in the late 1960's. Vertical in-ground dip tanks were used for chromium plating operations. By 1978 the chrome plating operations began at the Chrome Shop site, and operations at the Zinc Shop had been converted to zinc plating only. The Chrome Shop engaged in the plating of 15 to 20-foot rollers for paper mills in the area. Spills and careless operations caused releases of chrome and zinc plating solutions to the environment. The contaminant of concern is hexavalent chromium dissolved in groundwater. Hexavalent chromium is considered a carcinogen.

The Better Brite sites were nominated for inclusion on the National Priority List (NPL) in October 1989, and added to the list on August 28, 1990. The Chrome and Zinc Shops were combined as one site for joint nomination to the NPL due to their proximity to one another and their related background. There was no viable responsible party (RP) present for the site. The Wisconsin Department of Natural Resources (WDNR) and United States Environmental Protection Agency (EPA) assumed responsibility for funding of the remedial action (RA) in an effort to minimize the threat to public health.

ZINC SHOP INTERIM CLEANUP

The Zinc Shop site is located at 315 South Sixth Street. The Zinc Shop closed in 1989. In 1990 through 1991 the EPA removed contamination that was an immediate hazard. The EPA removed illegally stored chemicals, cleaned up spill areas inside the shop, and removed some of the most contaminated soils. A sump was installed to collect and remove contaminated groundwater.

The Zinc Shop burned down in 1992. The EPA subsequently removed the building and the slab foundation. Contaminated soil was excavated from beneath the slab and the groundwater collection sump was enlarged to include the area beneath the building.

To date approximately 760,000 gallons of chromium contaminated water has been removed from the sump at the Zinc Shop and transported to the chrome shop for pretreatment.

CHROME SHOP INTERIM CLEANUP

The Chrome Shop site is located at 519 Lande Street. Plating stopped at the Chrome Shop in 1985. Activities at the chrome shop caused contaminated soil and water to wash into the yards of neighboring properties. In 1981 the shop owner removed some of the contaminated soil from the neighboring properties, installed a french drain and groundwater recovery sump system, and added clean topsoil. In 1986 the EPA removed drums, vats, tanks, and contaminated soil and water from the chrome shop. The buildings on site were dismantled and all of the material was properly disposed. A clay cover was placed over the contaminated soil and the site was surrounded with a security fence in 1988. EPA removed some of the most highly contaminated soil from the southwest corner of the Chrome Shop property and expanded the recovery sump area in 1993.

As part of the interim cleanup action, EPA built a wastewater treatment plant at the Chrome Shop site in 1990 to remove chromium from groundwater collected in the sumps. Groundwater is pumped from the Zinc Shop into a truck and the water is transported to the Chrome Shop for treatment. Treated water from the Chrome Shop and Zinc Shops sites flow to the City of De Pere wastewater treatment plant for additional treatment and release to the Fox River. At the Chrome Shop groundwater is pumped directly from the recovery sumps to the treatment plant.. Approximately 1,600,000 gallons of contaminated groundwater has been removed from the Chrome Shop site.

SITE INVESTIGATION

A subsurface investigation was conducted at both properties from July 1994 to September 1995 to determine the extent of contamination remaining at the two properties and determine an appropriate clean up strategy.

The remedial investigation showed that chromium is the primary contaminant in groundwater at both the Zinc Shop and Chrome Shop properties. Contaminated groundwater does not extend as far as the De Pere municipal well on Grant Street. Chromium contaminated groundwater has moved beyond the property boundaries at both sites but has not moved very far downwards into the clay beneath the sites. Contamination at both sites is limited to approximately 10 to 20 feet below grade and does not extend deep enough to threaten the sandstone aquifer from which the municipal well draws drinking water. Relatively impermeable limestone separates the upper clay from the sandstone aquifer. Approximately 20 feet of clay separate the contamination from the limestone bedrock.

EPA has removed the most highly contaminated soil from the Chrome and Zinc Shop sites during the initial cleanup activities. Chromium contamination has declined in groundwater at both sites following the initial site cleanup and groundwater removal activities. Continued groundwater pumping is necessary at the Zinc Shop property to prevent the remaining contaminated groundwater from migrating toward the residential areas.

Based on the results of the remedial investigation, a final remedial action design was developed to address the remaining contamination on site. The goals of the final remedial action is to prevent the migrations of contaminants in groundwater, to remediate the groundwater to protect human health and the environment, to meet state and federal standards, and to prevent human exposure to contaminated soils, groundwater that pose unacceptable risk.

PROPOSED REMEDIAL ACTION

A Design Report was finalized in January 1999. The remedial design was developed to achieve the goals established during the site investigation. Remedial action activities are planned for late summer to fall 1999.

The following work will be conducted as part of the remedial action:

- Stabilization of chromium in soil/groundwater at the Chrome Shop by the addition of an iron sulfate compound to the soil. Stabilization of the soil at the Chrome Shop should eliminate the need for further groundwater pumping. Approximately 17,000 cubic yards of soil will be treated.

  Hexavalent chromium is the most abundant form of the contaminant in the groundwater at the Better Brite site and is also a mobile form of chromium that dissolves in water. By the addition of iron sulfate (Fe SO_4) to the soil and groundwater at the Chrome Shop the hexavalent chromium will be chemically altered to form trivalent chromium, which is not considered a health threat. Trivalent chromium is considered immobile in groundwater.

  The iron sulfate compound will be added to the soil and mixed using a rototilling attachment on a backhoe. Soil will be treated in two-foot lifts to twenty feet below grade. Soil samples will be collected following soil treatment to confirm that stabilization has occurred.

- Continue extraction of groundwater at the Zinc Shop from the existing groundwater extraction sump. Continued groundwater pumping will reduce the potential for chromium contamination migration toward the municipal well and provide cleanup of the chromium contamination.

  Soil stabilization is not an option for cleanup of the remaining chromium contamination at the Zinc Shop due to structures and utilities within the area of contamination.

- Relocation of the treatment plant, which is currently located at the Chrome Shop, to the Zinc Shop. This will provide for a greater volume of groundwater extraction at the Zinc Shop and eliminate the need to truck water from the Zinc Shop to the Chrome Shop. The City of De Pere will continue to operate the treatment system following relocation.

- As a precautionary measure, groundwater recovery trenches will be constructed at 401 South 6th Street and 548 Butler Street. Any groundwater collected in the trenches will be pumped to the treatment plant for processing.

- Groundwater will be sampled periodically using the existing monitoring well network to make sure the chromium contamination has been immobilized at the Chrome Shop and that the sump system at the Zinc Shop continues to capture the contaminated groundwater.

PROJECT SCHEDULE

The remedial action is tentatively scheduled to begin on August 23, 1999. Soil stabilization activities at the Chrome shop will take approximately 6 weeks to complete. Following the soil stabilization the groundwater treatment building will be moved and reinstalled at the Zinc shop with construction of groundwater recovery trenches. Long term groundwater collection and treatment will continue at the Zinc shop following relocation of the building. The estimated date for completion of the soil stabilization and relocation of the groundwater treatment building is mid-November. Groundwater samples will be collected periodically from the site monitoring wells to evaluate the effectiveness of the remedial action.

INFORMATION AVAILABLE

For more information on the Better Brite Chrome and Zinc Superfund Site, please contact:

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BETTER BRITE PLATING CO. CHROME AND ZINC SHOPS

WISCONSIN

EPA ID# WIT560010118

Last Updated: January, 1999

EPA REGION 5
Brown County
DePere

Other Names:
Better Brite Zinc
Better Brite Chrome

8th Congressional District

Site Description

The Better Brite Plating Company Chrome and Zinc Shops site, located in Brown County, Wisconsin is a two acre site and consists of two sections of land that are divided by a residential area. Metal plating operations were conducted at the chrome shop from 1963 until 1985, and at the zinc shop from 1970 until 1989. Over 20,000 gallons of plating solution are thought to have leaked from in-ground plating tanks. A study of soil in 1979 identified chromium-contaminated soil in the areas to the west and south of the main building. Although Better Brite was ordered by the Wisconsin Department of Natural Resources (WDNR) to clean up the contamination in 1980, no action was taken. Several subsequent inspections, conducted by the WDNR from 1980 to 1987, revealed extensive on-site chromium contamination as well as contamination in the building's air handling system. In 1988, the WDNR razed the main building, partially fenced the site, covered the site with clay, placed topsoil on the clay cover, and seeded it. Also in 1988, USEPA allocated emergency funds to the WDNR to design a treatment system, which is now operational, for water being discharged from the site to the DePere Wastewater Treatment Plant. Approximately 46,000 people obtain drinking water from municipal wells within 3 miles of the site. DePere Municipal Well #2 is 500 feet down-gradient of the zinc shop.

Site Responsibility: This site is being addressed through Federal and State actions.

NPL LISTING HISTORY
Proposed Date: 10/26/89
Final Date: 08/30/90

Threats and Contaminants

Groundwater, and soil are contaminated with heavy metals including chromium and zinc, as well as cyanide and various volatile organic compounds (VOCs). Area residents may be exposed to contaminants through direct contact with or accidental ingestion of these contaminated materials. Contaminants have migrated into groundwater, but have not reach the sandstone aquifer. The sandstone aquifer serves as the municipal water supply for the city of DePere, and the villages of Allouez and Ashwaubenon.

Cleanup Progress

USEPA removed over 83 tons of contaminated soil, 9,270 gallons of chromic acid, 3,600 gallons of toxic liquids, 550 gallons of cyanide solution, 150 pounds of cyanide sludge, and 500 gallons of flammable liquids from the chrome shop facility in 1986. In 1990, USEPA removed hazardous materials from the zinc shop in the same manner. The water treatment system was completed in 1990, and is now fully operational. Surface removal of drums, vats, and tanks remaining on site was completed in 1991.

In 1991, USEPA selected interim actions including continuing operation of the 1990 groundwater treatment system, and improving the collection system at the chrome shop by extending trenches and regrading the soil to prevent flooding. Concrete slabs and contaminated soil beneath the slabs were removed from both shops.

A State-lead investigation into the nature and extent of remaining groundwater contamination at the site was completed in 1996. Final site cleanup remedies were selected, including in-place stabilization of soil and groundwater contaminants at the chrome shop, continued collection and treatment of contaminated groundwater at the Zinc Shop, actions to prevent exposure to contaminants in residential basements and ongoing groundwater monitoring. The design report is expected to be finalized by the end of January 1999 and construction is projected to begin in the spring of 1999.

Contacts

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Name
Phone Number
E-mail Address

Superfund Fact Sheet
Proposed Plan
Better Brite Chrome and Zinc
De Pere, Wisconsin

July 1996

DNR Recommends Cleanup Action

This fact sheet includes:

- *A brief history of the site;*
- *A summary and comparison of cleanup options considered for the site;*
- *A summary of the recommended cleanup plan;*
- *Information on how people can participate in choosing the final cleanup plan for the site; and*
- *Information on how to learn more about the site.*

Public Meeting to be Held

The Department of Natural Resources (DNR) will hold a public meeting at 7 p.m., Thursday, August 8 at the De Pere City Hall, 2nd Floor Council Chambers. The meeting will discuss the cleanup options in this fact sheet. Comments will be accepted orally or in writing.

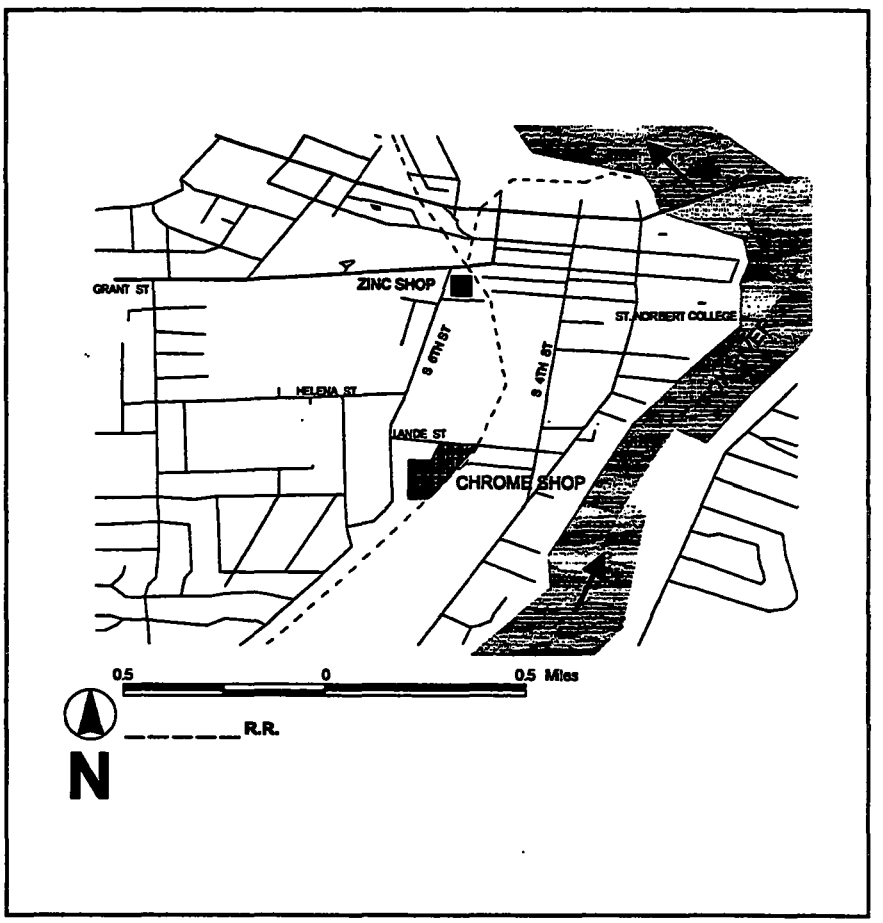

figure 1

The Wisconsin Department of Natural Resources (DNR) has completed a study of groundwater contamination at the Better Brite Chrome and Zinc Superfund site in De Pere, Wisconsin. The Remedial Investigation (RI) determined the type and extent of groundwater contamination and assessed the risks posed by the site to human health and the environment. The Focused Feasibility Study (FFS)

examined options to clean up contaminated groundwater. **After developing and evaluating these options, DNR is proposing to stabilize and/or solidify soils containing contaminated groundwater at the Chrome Shop, dismantle the existing pretreatment building, and reuse the current groundwater pretreatment equipment in a new building erected at the Zinc Shop. Groundwater extraction and pretreatment activities would continue at the Zinc Shop. Also, two private homes which have seepage of contaminated groundwater into their basements will be refurbished with an isolation system inside the basements, and a water collection and waterproofing system outside of the basements. Existing sumps would be sealed and the sump water rerouted to the sanitary sewer. These are options F and BE respectively.** These options are explained in more detail later in this fact sheet.

PLEASE COMMENT ON THIS PLAN

Public input on the cleanup options and the information that supports these options is an important contribution to the cleanup selection process. Based on public comments or new information, DNR may modify the recommended cleanup option or select another option presented in this plan. Everyone is encouraged to review and comment on all options.

BACKGROUND

The Better Brite Superfund site includes two plating shops located about one-half mile apart in a residential and light industrial area of De Pere, Wisconsin. Both shops have histories of hazardous waste violations and practices that caused soil and water contamination.

Spills of chemicals used for plating caused the initial concern at both sites. Chromium was found in soil and puddles in neighbors' yards near the Chrome Shop, and in water seeping into basements near the Zinc Shop.

Zinc Shop - 315 South Sixth Street

Beginning in the 1960's, the Zinc Shop was used for chrome plating. It changed primarily to zinc plating in the 1970's, and closed in 1989. In 1990-91, the U.S.Environmental Protection Agency (EPA) removed contamination that was an immediate hazard. They removed illegally stored chemicals, cleaned up spill areas inside the shop, removed some of the most contaminated soils, installed a sump to remove contaminated groundwater, and covered parts of the building. Later, a fence and warning signs were installed. (The fence has since been removed.)

In September 1992, the Zinc Shop burned down. After the fire, the EPA disposed of the building materials, the building slab and contaminated soil discovered under the slab. The existing groundwater collection sump was expanded into the hole created by the excavation of the contaminated soil beneath the building slab. The Zinc Shop property was then covered with a layer of clay and seeded.

Chrome Shop - 519 Lande Street

The Chrome Shop operated from the early 1970's to 1985. Contaminated soil and water washed into neighboring yards as a result of Chrome Shop activities. In 1981, the shop owner removed some of the contaminated soil in residential yards and added clean top soil. In 1986, EPA removed drums, vats, tanks, contaminated soil, and water from the Chrome Shop. The buildings on site were decontaminated and dismantled and all of the materials were properly disposed. In 1988, DNR covered the most contaminated soil at the site with a layer of clay, seeded the cover, and put a fence around it.

In 1990, EPA built a wastewater treatment system on the Chrome Shop property to remove chromium and other metals from the groundwater collected from the sumps at both sites. The system discharges treated water to the city's sanitary sewer. From there, the water flows to the water treatment plant where it is again treated and released to the Fox River.

In 1993, EPA removed contaminated soil from the southwest corner of the former location of the Chrome Shop property and adjacent properties. A groundwater collection sump was built in the Chrome Shop excavation. When the collection sump was completed, clean soil was placed over the excavated area.

REMEDIAL INVESTIGATION

The Remedial Investigation, conducted between July 1994 and May 1995, included:

- installing nine **water table monitoring wells** and seven **piezometers** on and around the Zinc Shop property;
- installing nine water table monitoring wells and nine piezometers on and around the Chrome Shop property;
- collecting and analyzing groundwater samples;
- collecting and analyzing basement sump (water) samples; and
- reviewing all available soil information.

MONITORING WELLS

Monitoring wells are installed to gather information on groundwater such as elevation, temperature, pH, and chemical characteristics. Two kinds of monitoring wells were installed at the Better Brite Chrome and Zinc Shops site, water table monitoring wells and piezometers. **Water table monitoring wells** intersect the water table and provide information about the shallowest groundwater in an aquifer. **Piezometers** provide information about groundwater deeper in the aquifer.

INVESTIGATION RESULTS

The Remedial Investigation showed that chromium is the primary contaminant in groundwater at both the Zinc and Chrome Shop properties. Other metals and solvents were also detected at concentrations not considered safe for drinking.

Chromium-contaminated groundwater does not extend as far as the De Pere municipal well on Grant Street, nor has it moved deep enough to threaten the sandstone aquifer (located below the limestone) from which the municipal well draws drinking water.

Chromium-contaminated groundwater has moved beyond the property boundaries at both of the sites but has not moved very far downwards into the clays beneath the sites. Thirty to 40 feet of clay separates the sites from limestone bedrock at depth. Contaminated groundwater is found between 10 and 20 feet beneath the ground surface.

The basement sumps of two residential buildings, located just south of the Zinc Shop property, have been contaminated by chromium-contaminated groundwater. If the contaminated groundwater is controlled to prevent movement toward residential areas, then other residential basement sumps should not be affected by contaminated groundwater.

The chromium-contaminated groundwater near the Zinc Shop is slowly and steadily being drawn back toward the site by the existing groundwater sump.

Most of the chromium-contaminated groundwater is being captured by the sump at the Chrome Shop. However, the western edge of the contaminated groundwater is not influenced by the sump and needs to be captured.

EPA removed the most highly contaminated soils at both the Zinc and Chrome Shop properties. At the Zinc Shop, however, there are a few isolated "hot spots" where the concentrations of zinc, lead, and cyanide are at levels not considered safe and need to be addressed.

"Evaluating the Cleanup Options"

The following criteria will be used by the DNR to evaluate the groundwater cleanup options for the Better Brite Chrome and Zinc Superfund site. Community acceptance will be evaluated after the public comment period.

THRESHOLD CRITERIA

Overall protection of human health and the environment addresses whether a remedy provides adequate protection of human health and the environment and describes how risks from exposure to contaminants are eliminated, reduced or controlled through treatment or other controls.

Compliance with State and Federal laws addresses whether a remedy will meet all of the state and federal environmental laws.

BALANCING CRITERIA

Long-term effectiveness and permanence refers to ability of a remedy to maintain reliable protection of human health and the environment over time, once cleanup goals have been met.

Reduction of toxicity, mobility and volume through treatment is the anticipated performance of the treatment technologies.

Short-term effectiveness addresses the period of time needed to achieve protection and any adverse impacts on human health and the environment that may be posed during the construction and implementation period, until cleanup goals are achieved.

Ease of implementation is the technical and administrative feasibility of a remedy, including the availability of materials or services needed to implement the cleanup.

Cost includes estimated capital and operation and maintenance costs.

MODIFYING CRITERIA

Agency acceptance addresses EPA and DNR's comments or concerns with the proposed cleanup option.

Community acceptance summarizes the public's general response to the options described in the Proposed Plan.

EVALUATION:

Of these criteria, the final cleanup must meet the threshold criteria of protecting human health and the environment and complying with State law. If a proposed remedy meets these two criteria, it is evaluated against the balancing criteria and the modifying criteria in order to arrive at a final recommended option.

Cleanup Action Goals

The goal of the remedy selection process is to choose a remedy which is protective of human health and the environment and will maintain that protection over time. The specific goal of the cleanup action at the Better Brite Chrome and Zinc Shop Superfund site is to eliminate, reduce, or control risks to human health and the environment by preventing direct contact with, or ingestion of, chromium-contaminated groundwater and soil. The long-term goal for this site is to clean up the groundwater to meet Wisconsin groundwater standards within a reasonable time frame.

GROUNDWATER CONTROL AND REMEDIATION

Six options were carried through a detailed analysis in the Focussed Feasibility Study (FFS) prepared for the site. Detailed descriptions of each of these options are presented in the FFS which can be found at the information repository listed on the back page. Brief descriptions of the options are presented on this page.

Option A: No Action
The No Action option is developed to act as a baseline to compare all other options against. This alternative consists only of continued groundwater monitoring at the Better Brite sites. To accomplish this monitoring, 13 monitoring wells and the sump would be monitored at the Zinc Shop and 14 monitoring wells and the sump would be monitored at the Chrome Shop. In addition, there is one private well and one municipal water supply well which would also be monitored. Semi-annual groundwater monitoring at these locations would be used to document trends in contaminant concentrations. No action would be performed to collect or treat groundwater.

The costs for this option would be $87,200 per year for annual operation and maintenance.

Option B: Limited Action
Option B would consist of all actions under Option A plus groundwater recovery and treatment activities which are currently in operation at the Better Brite sites. Groundwater is recovered from the existing sumps and is pretreated at the existing chemical precipitation treatment facility on the Chrome Shop property before being discharged to the De Pere wastewater treatment plant. Fences would be built around the Zinc Shop property to restrict access. Restriction would be placed on the deeds at both properties to prevent installation of wells within the contaminated groundwater.

Hydrogeologic studies have determined that the sump at the Zinc Shop is providing complete capture of the contaminated groundwater there. The sump at the Chrome Shop is not providing capture of all of the contaminated groundwater at the site. The contaminated groundwater west of the Chrome Shop property is not influenced by the sump.

The capital costs for this option are $5,000 with annual operation and maintenance costs of $118,800.

Option C: Enhanced Groundwater Recovery and Treatment
Option C would consist of all actions under Options A and B plus a method of providing supplemental groundwater recovery at the Chrome Shop site to extract groundwater not currently captured by the existing sump.

The installation of a groundwater extraction trench at the western edge of the contaminated groundwater would provide the necessary capture to control the entire area of contaminated groundwater. Based on the groundwater flow direction and the extent of contamination, the groundwater recovery trench would need to be approximately 100 feet long, 20 feet deep, and should be oriented parallel to the Chrome Shop's western property boundary.

The capital costs for this option are $142,600 with annual operation and maintenance costs of $121,200.

Option D: Groundwater Recovery and Offsite Disposal.
Option D includes the monitoring, fencing and deed restrictions under Option B and the installation of an extraction trench under Option

C plus off-site disposal of contaminated groundwater. Under Option D, groundwater collected would be treated with an evaporation system at the Chrome Shop to reduce the volume of water which requires disposal. Groundwater would be collected as described under the other options.

Collected groundwater would be heated to vaporize the water. The steam would be discharged to the atmosphere, leaving the metal contaminants concentrated in the water left behind. Evaporation would reduce the volume of groundwater to be disposed of by about 70 percent.

For comparison purposes, if Option D were fully implemented, the capital costs would be $237,700 with annual operation and maintenance costs of $164,300.

Option E: In-situ Enhancements for Groundwater Remediation

Option E would consist of all actions under Options A, B and C plus adding equipment to condition the treated water and inject some of it back into the clay soils. An agent, such as ferrous sulfate (iron and sulfur compound), would be added to the treated water (at a concentration considered safe for drinking) to change the chromium to a less harmful form. Therefore, the more harmful form of chromium within the clay layer that is not easily extracted from the sump or trench would be changed to the less harmful form of chromium in-situ (in place). The less harmful form of chromium would stick on the clay particles which would reduce the chromium concentration in the groundwater.

Only the Chrome Shop property has sufficient room to construct infiltration trenches to inject water back into the contaminated clay. Because it is difficult to infiltrate liquids into clay soils, this remedy would be hard to implement.

The capital costs for this option are $517,300 with annual operation and maintenance costs of $170,680.

Option F: In-situ Stabilization and/or Solidification

Option F would provide the same capture of the contaminant plume at the Zinc Shop as does Options C and D. The equipment in the existing pretreatment building at the Chrome Shop would be moved to a new building (that meets State codes) at the Zinc Shop. Pretreatment removal of chromium from the Zinc Shop groundwater would continue. At the Chrome Shop property the existing pretreatment building would be removed and an in-situ stabilization and/or solidification action would be used to bind the soil and immobilize the chromium contaminated groundwater. Heavy equipment would be brought to the Chrome Shop to mix a dry or fluid treatment chemical into the contaminated soil and groundwater. The result would be a stabilized and solidified soil and groundwater mass.

STABILIZATION/ SOLIDIFICATION

Stabilization is a process where a treatment chemical is mixed into the in-place soil and groundwater to immobilize the chromium. If necessary, cement-like material would then be added to **solidify** the soil and groundwater.

Before this technology could be used, laboratory testing would be required to determine the treatment chemical that would be added to the groundwater and whether the soil would need to be solidified after the stabilization treatment.

This technique would not be used at the Zinc Shop because the contaminated groundwater exists under streets, homes and other structures. Use of this stabilization and/or solidification technique will eliminate the need for the current groundwater extraction and treatment activities at the Chrome Shop and eliminate the current trucking of contaminated groundwater from the Zinc Shop to the Chrome Shop for pretreatment. This option will eliminate the

contaminated groundwater at the Chrome Shop and will allow the property to be reused. A restriction on the deed at the Chrome Shop will be necessary to prevent any future excavation on the property.

The capital costs for this option are $1,318,300 with annual operation and maintenance costs of $103,400.

BASEMENT/SUMP EXPOSURE MITIGATION

Two buildings next to the Zinc Shop property have chromium in the basement sumps and/or in precipitate (crystal form) on the walls which could cause health impacts with prolonged exposure. The actions outlined below have been developed and evaluated solely to reduce exposure to contamination found in the basements/sumps of these two buildings. There is a possibility that contaminated soil exists near these buildings. The need for contaminated soil removal was not evaluated in the FFS, but will be evaluated during design of the remedial action. If contaminated soil is found, it will be removed and properly treated and disposed.

Option BA: No Action
The No Action Option is developed to serve as a baseline of comparison for other options. Under this option no action would be taken to address the seepage of contaminated groundwater into the structures. The existing exposures would continue and the potential for future exposure would remain. There are no costs associated with this option.

Option BB: Limited Action
Under this option, the DNR would place signs warning of possible health impacts. It would be up to the residents to heed these warnings and reduce exposure to the contaminants. The DNR could also pursue deed restrictions on the affected structures and property to limit use and exposure to the impacted areas and to ensure that future occupants would be notified of the potential problems. Responsibility to minimize exposure would fall solely on the occupants of the affected structures.

Total costs for this option are estimated at $6,400.

Option BC: Sump Isolation
This option includes all actions under Option BB and in addition, DNR would seal the basement sumps which collect contaminated groundwater. Prior to sealing the sumps, the sumps would be cleaned and any sediment removed would be properly disposed. Plexiglass covers would then be installed over the sump and silicone caulking would be used to seal the edges. The sump discharge would be routed to the sanitary sewer discharge.

Total costs for this option are estimated at $8,900.

Option BD: Wall and Floor Isolation
This option includes sealing the sumps under Option BC plus the construction of walls and floors within the buildings to isolate and reduce exposure not only to the water collected in the sumps but also to seepage through the masonry foundation, walls and floors.

Walls would be of wood frame construction with sheet rock. Floor construction would also consist of a wooden frame with plywood and flooring suitable for its current use. Maintenance will be the owner's responsibility.

Total costs for this option are estimated at $23,900.

Option BE Basement Isolation with External Controls
This option includes the sump isolation and construction of walls and floors included in Option BD. In addition a waterproofing action is included. If the basement walls are

determined to be structurally sound then the outside portions of the walls will be sealed with a waterproofing material.

After waterproofing, an exterior foundation drain and sump system will be installed and then backfilled with gravel. The collected water will be pumped to the Zinc Shop sump for further treatment.

Total costs for this option are estimated at $44,800.

Summary of Remedial Alternatives

Shaded boxes, Option F and Option BE, indicate options recommended by DNR.

* Present worth costs include the capital costs (the money needed today to build the remedy) plus 30 years of operation and maintenance (O&M) for the remedy in today's dollars.

Alternative Description	Compliance with State Laws/ Protection of Human Health & Environment	Estimated Cost	Other Considerations
GROUNDWATER CONTROL AND REMEDIATION OPTIONS			
A. No Action All current activities are suspended and only groundwater monitoring would be conducted on a semi-annual basis.	- Risks due to ingestion and dermal contact exposures from contaminated groundwater would not be reduced. - State groundwater standards would not be met.	Capital Cost - $0 Annual O&M - $87,200 Present Worth* - $1,082,100	Used for comparison purposes only.
B. Limited Action Continue operations with current existing system and monitor groundwater on a semi-annual basis. Install additional fencing and record deed restrictions.	- Risks due to ingestion, and dermal contact exposures from contaminated groundwater would be addressed except for the western area at the Chrome Shop. - State groundwater standards not met in the area of uncontrolled groundwater.	Capital Cost - $5,000 Annual O&M - $118,760 Present Worth - $1,478,700	All contaminated groundwater is not contained and treated.
C. Supplemental Groundwater Recovery and Treatment All actions as stated in B above plus the installation of an extraction trench at the Chrome Shop to capture and control of the western area of contaminated groundwater.	- Risks due to ingestion and dermal contact are reduced because all areas of groundwater contamination would be contained. - State groundwater standards would be met because contaminated groundwater would eventually be restored to standards.	Capital Costs - $142,600 Annual O&M - $121,200 Present Worth - 1,646,100	Estimated cleanup time to restore groundwater is greater than 200 years.

Alternative Description	Compliance with State Laws/ Protection of Human Health & Environment	Estimated Cost	Other Considerations
D. Groundwater Recovery, Reduction of Volume using Evaporation, and Offsite Disposal Monitoring as described in A above, fencing and deed restrictions as described in B above, installation of the trench as described in C above with the use of an evaporation system to reduce the volume of water to be disposed of.	- Refer to C above.	Capital Costs - $237,700 Annual O&M - $164,300 Present Worth - $2,275,800	Trucking of water from the Zinc Shop to the Chrome Shop would continue. Most of the existing pretreatment equipment would not be used. Estimated cleanup time is greater than 200 years.
E. In-situ Enhancements for Groundwater Remediation All the actions as stated in C. above, plus the necessary equipment to condition the treated water and inject some of it back into the aquifer at the Chrome Shop to change the chromium into a less harmful form.	- Refer to C above. - Would require approval to reinfiltrate treated groundwater back to the Chrome Shop.	Capital Costs - $517,300 Annual O&M - $170,700 Present Worth - $2,635,300	Injection would only be used at the Chrome Shop and would be difficult to implement. Trucking of the water from the Zinc Shop to the Chrome Shop for treatment would continue. Estimated cleanup time would be somewhat less than 200 years.
F. In-situ Solidification/ Stabilization The existing wastewater process equipment would be relocated from the Chrome Shop to a new building at the Zinc Shop, the treatment building at the Chrome Shop would be removed and all the contaminated soil at the Chrome Shop would be stabilized and/or solidified in place, thereby treating the groundwater contamination. Pumping and treating contaminated groundwater at the Zinc Shop would continue as at present. Monitoring and deed restrictions under option B would be implemented.	- Refer to C above. The timeframe for reducing groundwater contamination at the Chrome Shop would be greatly reduced.	Capital Cost - $1,318,300 Annual O&M - $103,400 Present Worth - $2,601,400	Stabilization and/or solidification would only be used at the Chrome Shop. (Structures and roads make it impossible to treat groundwater in-situ at the Zinc Shop.) After treatment, the Chrome Shop property could be reused. The wastewater treatment process would be moved and would operate at the Zinc Shop. Trucking of water between the shops would not be needed. Groundwater would be cleaned up at the Chrome Shop when the treatment process is complete.

Alternative Description	Compliance with State Laws/ Protection of Human Health & Environment	Estimated Cost	Other Considerations
BASEMENT/SUMP EXPOSURE MITIGATION			
BA. No Action No action would be taken to stop the seepage of contaminated groundwater into basements.	- Existing chromium in and around the foundation is a source of continuing or future exposure. - Chrome levels in basement sump have, in the past, been above levels considered safe.	Capital Cost - $0	Basement mitigation aimed solely at 2 structures.
BB. Limited Action Warning signs would be placed in the structures. Deed restrictions may be used to notify future occupants of possible exposure.	Only reduces risk to residents if warnings heeded.	Capital Cost - $ 6,400	Residents must heed warnings to reduce their exposure to chrome contamination.
BC. Sump Isolation Basement sumps at 2 properties would be sealed in addition to the institutional controls of BB.	Reduces actual risk to residents by removing contaminated sediment from sumps, sealing sump area and routing discharge to the sanitary sewer.	Capital Cost - $8,900	Plexiglass covers would be installed after sumps & pumps cleaned. On-going maintenance would be the owners responsibility.
BD. Wall and Floor Isolation Secondary walls and floors would be constructed within each structure in addition to cleaning and sealing the sumps.	Reduces actual risk to residents by isolating foundation from direct contact as well as removing sediment and sealing sumps. Sump discharge will be routed to the sanitary sewer.	Capital cost - $23,900	Walls would be wood frame and sheet rock; floors would be wood frame with plywood and flooring. Maintenance would be the owner"s responsibility.
BE. Basement Isolation with External Control In addition to Option BD, a foundation drain would be installed along the exterior basement walls and exterior and interior basement walls would be sealed with impermeable, waterproof substances.	Reduces actual risk to residents by isolating the foundations and ensuring additional movement of contaminated groundwater into the foundations will not occur.	Capital Cost - $44,800	Excavated soils that contain chrome contamination would be properly treated and disposed. Necessary dust control and health precautions would be taken during construction. Maintenance would be the owner's responsibility.

Evaluation of Groundwater Cleanup Options

1. Overall Protection of Human Health and the Environment

Option A offers little overall protection.

Option B offers much improved protection by virtue of containing most, but not all, of the contaminated groundwater and using institutional controls to restrict exposure.

Options C, D, E and F offer the greatest protection by containing all of the contaminated groundwater and using institutional controls.

2. Compliance with State Laws

NR 140, Wisconsin's groundwater regulations, is the major factor in determining compliance with state laws.

Option A does not comply with the requirements of NR140 to control the source and restore groundwater quality.

Option B takes active measures to contain and restore groundwater quality but leaves a portion of the groundwater at the Chrome Shop unaddressed.

Options C, D, E and F all contain and actively restore groundwater quality.

3. Long-term Effectiveness and Permanence

Option A would allow continued possible exposure to residual chrome and solvents in the contaminated groundwater. Therefore, it is not effective in mitigating risks over the long-term.

Option B offers improved long-term performance because it actively removes a major portion of the contaminated groundwater. However, the area of uncontained contaminated groundwater west of the Chrome Shop could represent a potential exposure risk to people.

Options C and D contain and remove for treatment the entire volume of contaminated groundwater. It is estimated that it will take longer than 200 years to cleanup the groundwater at the Chrome and Zinc Shops.

Option E contains the contaminated groundwater and removes a majority of the contaminated groundwater but immobilizes some of the chromium in clay beneath the Chrome Shop. This residual chrome could represent a potential risk if the soil is ever excavated. It is difficult to predict the cleanup time frame under E, but it would be somewhat less than 200 years.

Option F contains the contaminated groundwater at the Zinc Shop site and immobilizes the groundwater contamination at the Chrome Shop. Chrome left in the soil at the Chrome Shop could present a potential risk if the soil is ever excavated.

4. Reduction of Toxicity, Mobility or Volume through Treatment

Option A offers no treatment.

Options B, C, D, E, and F all offer a substantial reduction in toxicity, mobility, and volume through the removal and treatment or immobilization of a majority of the dissolved subsurface contaminants.

5. Short-term Effectiveness
Options A and B have no short-term construction risks associated with them.

Options C and D require dust control during construction of the proposed trench.

Zinc Shop will be removed, treated and disposed.

The capital cost for this remedy would be $1,363,100. Annual O&M would be $103,400. That adds up to $2,646,200 over 30 years.

The DNR believes these measures together will adequately address the Chrome and Zinc Shop contamination problems within a reasonable time frame and at a reasonable cost.

PUBLIC COMMENT INVITED

Comments provided by residents and other interested parties are valuable in helping DNR and EPA select a cleanup action for the Better Brite Chrome and Zinc Superfund site. DNR and EPA encourage you to share your views about the recommended cleanup action and the options presented in this fact sheet.

Please send written comments to Terry Evanson at the address below. Comments must be postmarked by August 26, 1996.

DNR will respond to comments in a document called a Responsiveness Summary. The Responsiveness Summary will be attached to the Record of Decision and will be made available to the public in the Administrative Record File at the address listed below. The Record of Decision will explain the cleanup option that is chosen for the Better Brite Chrome and Zinc Superfund site and why it was chosen.

INFORMATION AVAILABLE

The Administrative Record File contains information used to make a decision on the selection of a cleanup action at Better Brite Chrome and Zinc Superfund Site. The information repository, which contains the administrative record file, is located at:

Brown County Public Library
De Pere Branch
380 Main Avenue
De Pere, Wisconsin

For more information on the Better Brite Chrome and Zinc Superfund Site, contact the following individuals:

Terry Evanson
Project Manager
Wisconsin DNR SW/3
P. O. Box 7921
Madison, WI 53707
(608) 266-0941

Mary Young
Public Health Educator
Division of Health
1414 E. Washington Ave.
Madison, WI 53701
(608) 267-6844

Richard Boice
Project Manager
US EPA Region 5
77 W. Jackson Blvd.
Chicago, IL 60604
(312) 886-4740

USE THIS SPACE TO WRITE YOUR COMMENTS

Your input on the recommended cleanup option for the Better Brite Superfund site is important to DNR and EPA. Comments provided by the public are valuable in helping DNR and EPA select a final option for the site.

You may use the space below to write your comments. Comments must be postmarked by August 26, 1996.
If you have any questions about the comment period, please contact Terry Evanson at (608) 266-0941.

Please send your comments to: Terry Evanson, Project Manager, Wisconsin DNR, P. O. Box 7921, Madison, WI 53707.

Name: _____

Address: _____

_____

INFORMATION
DEPARTMENT OF NATURAL RESOURCES
Box 7921 Madison, WI 53707

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PAID
MADISON, WI
PERMIT 906

*** <<13615>>
ANNETTE L. WEISSBACH
DNR, LMD HDQRS.
1125 N. MILITARY, BOX 10448
GREEN BAY WI 54307-0448

Superfund Fact Sheet

Better Brite Chrome & Zinc
De Pere, Wisconsin

June 1994

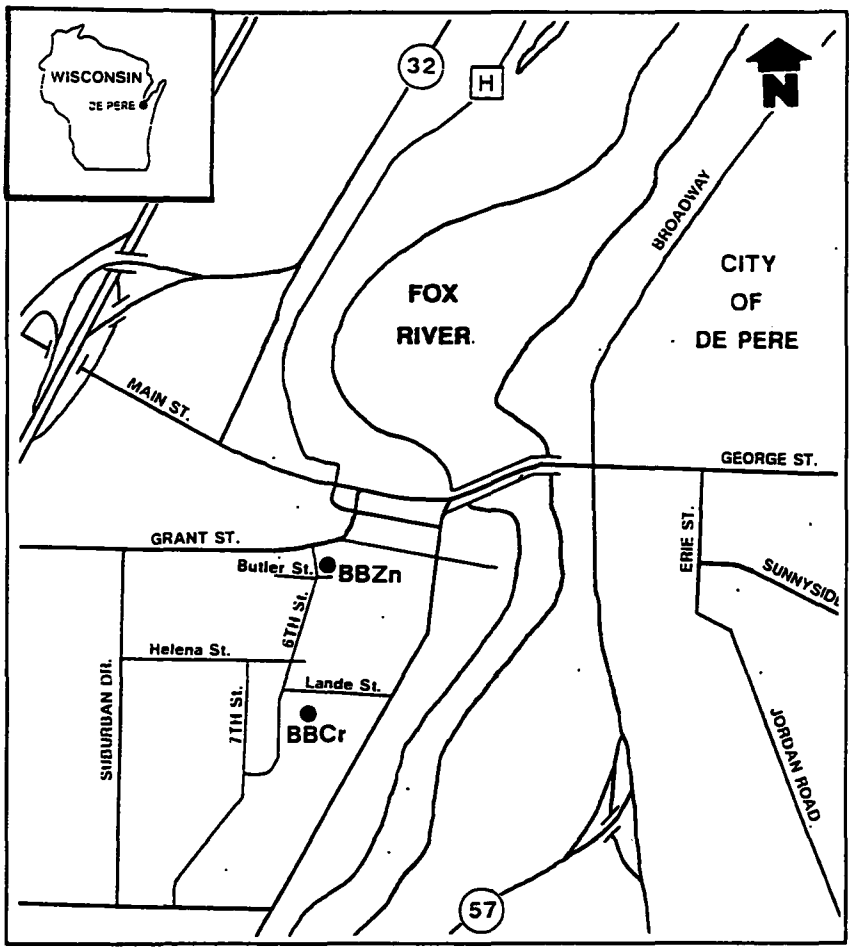
Superfund Study to Continue at Better Brite

This fact sheet includes:

- *Goals of this investigation;*
- *A summary of activities already completed at the site;*
- *Activities currently planned for the Better Brite site;*
- *A tentative schedule for upcoming events; and*
- *Information on how to learn more about the site.*

PUBLIC MEETING

The DNR will hold a public meeting to discuss upcoming investigation activities at the Better Brite Superfund site from 7-9 p.m. on Monday, June 27. The meeting will be held at the De Pere City Hall, City Council Chambers, 2nd Floor, 335 S. Broadway, De Pere, Wisconsin.



not to scale

(July 5, 1994)

Additional investigative work will begin June 27, 1994 as the Wisconsin Department of Natural Resources (DNR) continues to study the Better Brite Chrome and Zinc Superfund site. This investigation began in 1991 and has included many Environmental Protection Agency (EPA) actions to stop further soil and groundwater contamination and to remove soil contamination.

(Continued next page)

(Continued from page 1)

The two shops that make up the Better Brite Superfund site are located in residential neighborhoods of De Pere, Wisconsin. The Chrome Shop site is less than one-half mile southeast of the Zinc Shop site. (The map on page one shows the location of the Better Brite Chrome Shop site on Lande St. and the Zinc Shop site on 6th St.)

Metal plating operations conducted at these shops since the early 1960s contaminated soil and groundwater as a result of spills and leaking storage tanks. The DNR, EPA and the public are concerned with the impact these two sites may have had or may be having on human health and the environment. For a detailed history of the site, please refer to the April 1990 EPA fact sheet. (A copy can be reviewed at the De Pere Branch of the Brown County Public Library, or obtained from Cara Norland at the address listed on page 4.)

Completed Activities

Cleanup activities have already started at the Better Brite site to reduce threats to human health and the environment and to collect information about the site. Activities that have been completed include:

- Removal of the hazardous materials stored or abandoned at the Zinc and Chrome Shops.
- Installation and operation of a groundwater extraction sump at the Zinc Shop site.
- Installation and operation of a groundwater extraction sump and a groundwater pre-treatment facility at the Chrome Shop site.
- Excavation and disposal of contaminated soil from the installation of the sump at the Zinc Shop site and from other sources at the Chrome Shop site.
- Installation of a retention berm along the south and western sides of the Chrome Shop property to prevent surface water run-off.
- Removal and disposal of the Zinc Shop building and foundation.
- Excavation and disposal of highly contaminated soils under the Zinc Shop foundation. Construction of a groundwater extraction sump in the excavation, using the sump previously constructed at the site.
- Excavation and disposal of part of the former Chrome Shop foundation and highly contaminated soils that were under the foundation. Construction of a groundwater extraction sump in the excavation. This sump replaced the previous sump at this location.
- Removal and disposal of highly contaminated surface soils to the east and southeast of the former Chrome Shop.
- Testing of soil was completed by EPA during the fall of 1992 and throughout 1993.

Health Assessment

The Wisconsin Division of Health released an assessment of the site's health impacts in 1991. Previous soil excavations are expected to eliminate all current paths of public exposure to site contaminants. The upcoming investigation will address groundwater, a possible future impact on public drinking water.

Investigation Planned

Objectives of the Investigation

The goal of this investigation is to determine the extent of groundwater contamination and possible ways contamination could move off-site.

How are these different? Who put first sumps in?

Groundwater Contamination

This investigation will focus on determining the extent and amount of groundwater contamination. One groundwater extraction sump was constructed in the excavated soil area at each shop. Samples from these sumps will be collected and analyzed to determine the level of contaminants in groundwater under the site.

At the Zinc Shop site, 14 borings will be drilled at eight locations at various depths. At the Chrome Shop site, 18 borings will be drilled at nine locations at various depths. Groundwater monitoring wells will be installed in the boreholes to show the extent of groundwater contamination at each site. These wells, including the existing wells will be sampled and analyzed twice this year.

One private well near the Chrome Shop site will be sampled. Ten basement floor sumps are expected to be sampled.

The quality of water from the Grant Street municipal well next to the Zinc Shop site has been monitored by the City of De Pere twice a year. No contamination has been found. Further investigation and sampling will show if there is a potential for contamination to move to the municipal well from the site.

If groundwater contamination is found off of the site, further sampling of monitoring wells, private wells or the municipal well may be necessary.

Surface and Subsurface Soil Contamination

No additional information is needed to further define the extent of remaining surface soil contamination. No additional surface soil cleanup actions are expected at this time.

No subsurface soil samples are proposed, but workers will watch for soils stained by contaminants. The cleanup action for subsurface soils will depend on the depth and amount of contamination.

THE SUPERFUND PROCESS

Much of the investigation and cleanup activity has already been completed by EPA. DNR is now taking the lead to ensure that site contamination will not cause a threat to human health or the environment in the future.

IDENTIFICATION
Identify site hazards and evaluate the need for action under the Superfund program

INVESTIGATION
Gather information to support a decision on the most appropriate remedy for the site

ALTERNATIVES
Identify the best cleanup alternative based on nine Superfund criteria

PRESENT RECOMMENDED ALTERNATIVE

PUBLIC INPUT
Minimum 30 day comment period held on the proposed plan, investigation and other contents of the Administrative Record

MAKE FINAL DETERMINATION ON REMEDY

DECISION FOR REMEDY
Summarize the analysis of alternatives, and explain the rationale for the remedy selected

DESIGN AND CONSTRUCT REMEDY

PUT REMEDY INTO ACTION

OPERATION AND MAINTENANCE

DELETE FROM NATIONAL PRIORITIES LIST

Tentative Schedule

June 27	• Investigation work begins • Monitoring wells will be checked for damage
July	• Monitoring wells will be drilled at the Zinc Shop site
August	• Monitoring wells will be drilled at the Chrome Shop site
September	• Monitoring wells will be sampled • Private wells will be sampled • Municipal wells will be sampled • Extraction sumps will be sampled
October	• Results from September sampling expected
November	• Monitoring wells will be sampled • Extraction sumps will be sampled
January	• Results from November sampling expected
Spring 1995	• Investigation Report will be completed

Future Activities

Based on the results of this investigation, a range of possible cleanup alternatives will be developed to clean or control the movement of contaminated groundwater. A fact sheet outlining the alternatives will be sent to people on the mailing list, a public meeting will be held, and everyone will be asked to comment on the proposed alternatives.

INFORMATION AVAILABLE

Anyone interested in reviewing more information about the Better Brite Chrome and Zinc Superfund site is encouraged to review the various documents that have been prepared for the site. Copies of technical documents and correspondence are available for review at the Administrative Record located at:

The De Pere Branch
Brown County Public Library
380 Main Ave.
De Pere, WI

Summer Hours: Monday/Tuesday/Thursday
10 a.m. - 8 p.m.
Wednesday/Friday
10 a.m. - 5 p.m.

For more information on the Better Brite Superfund site, contact any of the following individuals:

Kate Freiberg, Project Manager
(608) 267-5232
Cara Norland, Community Relations
(608) 267-0540
Dept. of Natural Resources, SW/3
P. O. Box 7921
Madison, WI 53707

Kim Bro, Environmental Engineer
Division of Health
1414 E. Washington Ave.
Madison, WI 53701
(608) 267-6845

David Linnear, Project Manager
U. S. EPA, HSRW-6J
(312) 886-1841
Susan Pastor, Community Relations
U. S. EPA, P-19J
(312) 353-1325
77 W. Jackson Blvd.
Chicago, IL 60604
Toll Free: 1-800-621-8431

United States
Environmental Protection
Agency

Region 5
Office of Public Affairs
230 South Dearborn Street
Chicago, Illinois 60604

Illinois, Indiana,
Michigan, Minnesota,
Ohio, Wisconsin

5-10-91

EPA

FACT SHEET

U.S. EPA RECOMMENDS INTERIM CLEANUP PLAN FOR BETTER BRITE CHROME AND ZINC SHOPS

MAY 1991

INTRODUCTION

The United States Environmental Protection Agency (U.S. EPA) is recommending an alternative to address contamination at the Better Brite Plating Co. Chrome and Zinc Shops, DePere, WI. This alternative is an interim measure. A final cleanup plan will be recommended following a more in-depth investigation of the site.

U.S. EPA and Wisconsin Department of Natural Resources (WDNR) are recommending:

- to continue operating the Chrome Shop's pretreatment facility, constructed by U.S. EPA's Emergency Response Branch, which incorporates ground-water intercept systems;
- to secure both Shop areas; and
- to install additional monitoring wells to determine the direction of ground-water flow at and near both areas.

It is necessary to take these steps now in order to prevent ground-water contamination from spreading and entering the City of DePere's public wastewater treatment system. These activities will cost approximately $500,000.

The other alternative considered was "no action." The Superfund program requires that a no-action alternative be considered at every site. This alternative assumes that nothing would be done to address any human health and environmental concerns. No cost would be involved with this alternative.

PUBLIC MEETING

U.S. EPA will hold a public meeting to explain this interim action and to accept comments on both alternatives considered:

DePere City Hall
City Council Chambers, 2nd Floor
335 S. Broadway
DePere, WI

Thursday, May 9, 1991
7:30 p.m.

OPPORTUNITIES FOR PUBLIC INVOLVEMENT

U.S. EPA wants input on the recommended interim cleanup alternative as well as the no-action alternative discussed in the agency's proposed plan. Comments submitted by residents and other members of the public are valuable in helping U.S. EPA select an interim action for the Better Brite site. **The comment period will run from May 1-31, 1991.** Based on new information or public comments, U.S. EPA, along with WDNR, may change the recommended alternative or select another alternative.

There are two ways to provide input during the comment period:

1. Written comments may be sent to Susan Pastor, U.S. EPA's Community Relations Coordinator for the Better Brite site. Her address is U.S. EPA, Office of Public Affairs, 230 S. Dearborn St., Chicago, IL 60604. **Comments must be postmarked by May 31, 1991.**

2. Written and verbal comments may be submitted to U.S. EPA during the May 9 public meeting. A court reporter will be present to record verbal comments for the record.

U.S. EPA will consider all comments before a final decision is made. U.S. EPA's responses to comments will be included in a document called a Responsiveness Summary. The Responsiveness Summary will be attached to the Record of Decision which will describe U.S. EPA's selected interim cleanup option for the Better Brite site.

To assist those individuals interested in submitting comments to U.S. EPA, the proposed plan and other site-related documents are available for review at the Brown County Public Library, DePere Branch, 380 Main Ave., DePere, WI.

FUTURE ACTIVITIES

A long-term investigation will be conducted by WDNR later this year. Following the investigation, U.S EPA and WDNR will develop a list of permanent cleanup alternatives for the site. A comment period concerning a permanent cleanup plan will be held by U.S. EPA and WDNR. At the conclusion of this comment period, a second Record of Decision will be signed by U.S. EPA. During this time, WDNR will be the "lead" agency while U.S. EPA acts in a support capacity. This means the State will initiate and oversee all field work, prepare site-related reports, work with technical contractors, receive and interpret results and recommend a final cleanup plan for the Better Brite site. The final cleanup plan will involve remediation of surface soil and ground water to continue protection of human health and the environment. The agencies will also agree on a permanent cleanup solution for the entire site.

SITE HISTORY

The Chrome Shop is located at 519 Lande St. in a residential neighborhood with an active railroad track to the east. The Chrome Shop operated its chrome plating business from the early 1970s to 1986 using underground and above-ground tanks in its plating process. Plating solution, chromium and other hazardous compounds were discovered in surface spills and underground leaks reported to WDNR during the shop's years of operation.

U.S. EPA's Superfund Emergency Response Section removed accumulated waste materials and contaminated soil. It also installed a wastewater pretreatment system to collect and pretreat ground water prior to discharge to the DePere sanitary sewer. The building was removed and the site was rezoned by the City of DePere from business to residential. Wisconsin's Environmental Fund was used to construct a clay cap and to erect a fence around the old building site.

The Zinc Shop is located at 315 S. 6th St. in a mixed residential and light industrial area approximately one-half mile from the Chrome Shop. The facility operated from 1963 to 1989. Prior to moving the chrome plating operation to the Lande Street location, this facility plated chrome in underground tanks similar to what was constructed at the Chrome Shop. Files indicate that these tanks were never properly abandoned. After the chrome plating business moved to Lande Street, this facility continued to plate zinc. Wastewater and plating solutions routinely leaked between the floor and sill plate of the building along the south and east walls. The Wisconsin Environmental Fund installed monitoring wells to obtain soil and ground-water samples. These samples showed contamination of heavy metals, cyanide and other compounds. U.S. EPA placed hazardous and solid waste found on site into containers and shipped it off site. U.S. EPA also installed a ground water collection sump on the east side of the building to collect contaminated ground water.

FOR MORE INFORMATION

The following representatives may be contacted for further information about the Better Brite Site interim cleanup action:

Susan Pastor, 5PA-14
Community Relations Coordinator
(312) 353-1325

David Linnear, 5HS-11
Remedial Project Manager
(312) 886-1841

U.S. EPA
230 S. Dearborn St.
Chicago, IL 60604
Toll Free: 1-800-621-8431

Jim Leverance
State Community Relations Coordinator
WDNR
101 S. Webster
Madison, WI 53707
(608) 266-2632

Terry Koehn
State Project Coordinator
WDNR
1125 N. Military Ave.
Green Bay, WI 54307
(414) 492-5869

U.S. ENVIRONMENTAL PROTECTION AGENCY, 5PA-14
REGION 5
OFFICE OF PUBLIC AFFAIRS
230 S. DEARBORN ST.
CHICAGO, IL 60604

State of Wisconsin

Department of Health & Social Services

Health Information for Hazardous Waste Sites

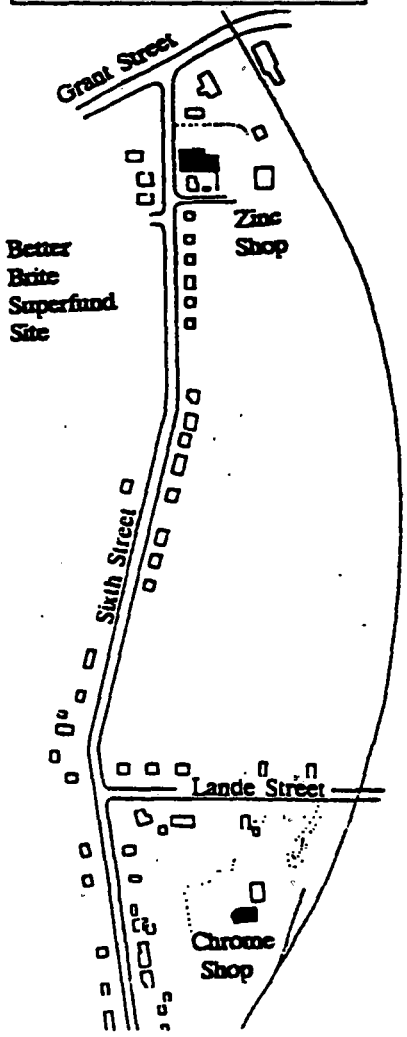
Better Brite Chrome and Zinc Shops

The Better Brite Chrome and Zinc Shops are one of thirty-nine "Superfund" sites in Wisconsin. The Wisconsin Division of Health (DOH) is evaluating each site's present and future potential to harm public health. This brochure summarizes the findings and recommendations from the DOH's health assessment of the site based on data collected from the Wisconsin Department of Natural Resources (DNR) and from the U.S. Environmental Protection Agency (USEPA).

A site qualifies for "Superfund" when it is determined that there is a release or threatened release of hazardous substances which may endanger public health, welfare or the environment.

**** *Trespassing on these Superfund sites is dangerous* ****

SITE LOCATION



SITE SUMMARY

The Better Brite Superfund site includes two plating shops located about one-half mile apart in a residential and light industrial area of De Pere, Wisconsin. Both shops have histories of hazardous waste violations and practices that caused soil and water contamination.

High levels of chromium in surface water and shallow groundwater caused the initial concern at both sites. Chromium was found in soil and puddles in neighbors' yards near the chrome shop, and in water seeping into basements near the zinc shop. So far, contamination has not reached a city well located about 250 feet west of the zinc shop. The city well draws water from an aquifer (180 feet deep) that is not contaminated.

Neighbors have voiced concerns about the sites for many years. Since 1979, state and federal agencies have tested soils, air,

groundwater, puddles, and garden vegetables. Samples of home-grown tomatoes were tested in 1980 and showed no more chromium than tomatoes purchased in a grocery store.

History

Zinc Shop - 315 South Sixth

The zinc shop was the originally a chrome shop that began operations in 1963. It changed primarily to zinc plating in the 1970's, and stopped operating in 1989. In 1990 and 1991, contractors for the USEPA removed contamination that was an immediate hazards. They removed illegally stored chemicals, cleaned up spill areas inside the shop, removed most contaminated soils, installed a sump to remove polluted groundwater, and covered much of the building with plywood to help keep children from touching contaminated building materials.

Chrome Shop - 519 Lande Street

The chrome shop operated from the early 1970's to 1985. Contaminated soil and water from the company property eventually washed into neighboring yards. In 1981, the owner removed contaminated soil in residential yards and added clean top soil. In 1986, the USEPA emergency response branch removed drums, vats, tanks, and contaminated soil and water from the chrome shop. The buildings on site were decontaminated and all wastes were properly disposed. In 1988, when the building was sold, the DNR covered the most contaminated soil at the site with a layer of clay, seeded the clay cover, and put a fence around it.

In 1990, the EPA built a system on the chrome shop property to pretreat at least 2,000 gallons of contaminated groundwater per day from both sites. The system discharges its treated water to the city's sanitary sewer.

CONTAMINATION

Groundwater under the site properties contains metals and solvents (see table 1). If groundwater is left untreated, these chemicals could slowly seep through soils and bedrock and eventually reach the city well nearby.

Surface water in backyard puddles near the chrome shop and basements near the zinc shop have higher-than-normal levels of chromium. High levels of the type of chromium (hexavalent) found in groundwater at the sites can irritate skin and the digestive tract. People who have become sensitized to chromium could develop skin rashes following exposure to the substance. Little is known about how much exposure to chromium causes rashes in sensitive people.

The most contaminated soil on the properties has been removed. However, contamination remains. Yards near the chrome shop, where seepage occurred, have higher-than-normal levels of chromium present. These levels of contamination are not expected to cause health problems to people who live in the residences.

In 1988, one sample of soil near the railroad tracks at the chrome shop showed high levels of lead. No further testing for lead in soils has been done in this area of the site. If lead contamination is more widespread, it may be a more serious health threat at the site. Lead is known to affect the nervous systems of children who are frequently exposed to it. Lead does not generally move great distances because it tends to hold onto soil particles.
Some insulation in the wall of the zinc shop

Department of Health & Social Services

WISCONSIN DIVISION OF HEALTH

The Wisconsin Division of Health is concerned about the health and well-being of Wisconsin citizens. It has a cooperative agreement with the U.S. Agency for Toxic Substances and Disease Registry (ATSDR) to provide the following Superfund site services:

- **HEALTH ASSESSMENT:** Visit, study, and evaluate data on or around hazardous chemical Superfund sites to determine if there is a current or potential threat to public health. Assessments may also be done at hazardous non-Superfund sites by formal request of concerned citizens. Each site will be evaluated to see if further investigation is needed.

- **EDUCATION & HEALTH CONSULTATIONS:** Answer health related questions and provide information about chemical contamination to communities.

- **HEALTH STUDIES, DATA & RESEARCH:** Monitor the health of residents around Superfund sites, determine if long term health studies are needed, and if necessary conduct those studies.

- **EMERGENCY RESPONSE:** Providing health related information when the public is threatened by hazardous materials related to Superfund sites.

ATSDR is a federal agency that evaluates health hazards associated with Superfund site. Congress passed 2 acts giving ATSDR its authority and directing the U.S. Environmental Protection Agency to supervise cleanup of the sites. The Superfund acts are; the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and Superfund Amendment and Reauthorization Act (SARA).

Wisconsin's Department of Natural Resources DNR identifies and recommends sites for the federal Superfund or National Priority List (NPL). US EPA determines which DNR recommended sites will be on the NPL and is responsible for the final clean-up of the site.

contains high levels of cyanide and could be a public health threat if touched. In March 1991, the EPA covered deteriorated siding with plywood to prevent children from handling insulation.

HEALTH CONCERNS

Community Health Concerns

Neighbors of the site are concerned about health effects from touching chemicals in water that enters their basements and yards. They are also concerned about touching contaminated soil in their yards or eating garden vegetables grown in that soil. They have experienced various health effects they feel may be related to the pollution.

Conclusions

* The De Pere drinking water supply could eventually become contaminated by chemicals from the sites if the problem is not corrected.
* If there are private wells near the site, they need to be evaluated for possible contamination.
* Groundwater that forms puddles in neighboring yards or seeps into basements is contaminated with chromium.
* High levels of lead in soil near the chrome shop could pose a health hazard if the contamination is widespread.
* Contaminated insulation at the zinc shop may be exposed if the plywood covering is not maintained.
* Vegetables grown in yards near the sites are not a health concern.

Division of Health Recommendations -

* The De Pere Water Department should continue regular testing of water from the city well near the zinc shop for contaminants from the site.
* The spread of groundwater contamination between the site and the city well should be studied during the remedial investigation. If contaminants spread beyond the reach of the existing groundwater collection systems, additional measures to capture contaminants may be needed.
* The remedial investigation should include a search for nearby, private wells. If wells exist within the known area of contamination, water should be teste, and residents advised of the possible hazard of using their private well water for drinking.
* Surface soils around the site should be tested further during the remedial investigation for such metals as lead.
* Contaminated insulation at the zinc shop should remain covered and out of the reach of children.
* Neighbors should continue to avoid yellow-tinged water in puddles or basement water if they are observed. Residents should call the DNR if they suspect that the water is contaminated.

table 1

Chemical	*shop*	*medium*	*common use*
chromium	*cr/zn*	*s,gw*	*electroplating*
cyanide	*cr/zn*	*s,i*	*metal treatment*
lead	*cr*	*s*	*gasoline production*
1,1,1-trichloroethane	*cr/zn*	*gw*	*degreaser*
tetrachloroethylene	*zn*	*gw*	*dry cleaning*
1,1-dichloroethylene	*cr/zn*	*gw*	*plastic production*
benzene	*cr*	*gw*	*gasoline production*

cr - chrome shop
zn - zinc shop
s - soil
gw - groundwater
i - insulation

INFORMATION RESOURCES

ADDITIONAL HEALTH INFORMATION: If you have health concerns related to the site, contact your physician. Explain your situation and what you may have been exposed to. Your physician may contact your local public health agency or the Wisconsin Division of Health with any questions.

Shirley Rok, RN, Director
De Pere Department of Health
335 S. Broadway
De Pere, WI 54115-2593
(414) 339-4054

DOH - Division of Health
Mary Young
P.O. Box 309
Madison WI 53701-0309
(608) 267-6844

The DOH will provide copies of the public comment draft health assessment upon written request.

For additional health information contact the Agency for Toxic Substances and Disease Registry (ATSDR)
Louise Fabinski/Denise Jordan-Izaguirre
230 S. Dearborn, Chicago, IL 60604
(312) 353-8228

OFFICIAL RECORDS
Brown County Public Library
De Pere Branch
380 Main Avenue
De Pere, WI

OTHER SITES: If you have concerns about other sites and think they may contain dangerous chemicals, contact the Solid and Hazardous Waste Coordinator at the Lake Michigan District DNR office (see address below)

PROGRESS ON THIS SITE
For information on the site contact:

U.S. EPA - Region 5
230 South Dearborn
Chicago, Il., 60604
1-800-621-8431

Susan Pastor, 5 PA-14
Community Relations Coordinator
(312) 353-1325

David Linnear, 5 HS-11
Remedial Project Manager
(312) 886-1841

DNR - Lake Michigan District
Terry Koehn, State Project Coordinator
1125 N. Military Ave.
Green Bay, WI 54307
(414) 492-5869

WATER QUALITY STANDARDS: For information about specific standards for chemicals found in drinking water in Wisconsin, contact the DNR, Lake Michigan District office (above).

Prepared by
Wisconsin Department of Health and Social Services
May 1991

Printed on recycled paper

United States
Environmental Protection
Agency

Region 5
Office of Public Affairs
230 South Dearborn Street
Chicago, Illinois 60604

Illinois, Indiana,
Michigan, Minnesota,
Ohio, Wisconsin

EPA

FACT SHEET

BETTER BRITE CHROME & ZINC SITES

QUESTIONS & ANSWERS

FEBRUARY 1991

CHROME SITE

Q. When did the on-site water treatment begin operation?

A. The on-site treatment system began operating in October 1990.

Q. Why was it late in beginning operation?

A. The system was scheduled for installation/operation in Summer 1990. The delay was caused by difficulties in obtaining some of the equipment for the treatment system and in negotiating a contract to install the system.

Q. How does the system work?

A. The system collects chromium-contaminated water from a recovery well drilled deep into the ground of the contaminated area and from the existing on-site collection system. Contaminated water is stored in a 6,000-gallon holding tank until treatment. Up to 2,000 gallons of chromium-contaminated water will be treated daily making it safe for discharge into the DePere sanitary sewer. Contaminants removed from the water by the treatment system will be sent to an approved disposal facility.

Q. Where are these approved disposal facilities?

A. Two facilities are being considered. The chromium-contaminated sludge may be sent to a metals reclaimer, or recycler, in Illinois or Pennsylvania. There, chromium is extracted, recycled, and reused. Another option is to fix, or solidify, the sludge with cement to put the material in a non-leachable condition. The solidified waste would be sent to a landfill.

Q. Who is paying for the system?

A. Federal Superfund money, through the Emergency Response Branch, is funding the system. In addition, Superfund paid for the construction of the treatment building, installation of the recovery well, the Chrome Site's 1986 cleanup, and the entire Zinc Site cleanup. Typically, U.S. EPA tries to identify all parties responsible for contamination at or near a Superfund site. U.S. EPA expects these parties to fund the field work and necessary cleanup. To date, the Better Brite Company and trustee have not agreed to fund any cleanup activities. In the Fall, U.S. EPA will turn over the "lead role" to the Wisconsin Department of Natural Resources (WDNR). WDNR and the City of DePere are preparing a cooperative agreement to operate the system. U.S. EPA's Emergency Response Branch will fund the operation of the system until October. After that, U.S. EPA's Remedial Branch, which handles long-term investigations and cleanups, will share the cost of operating the system with WDNR.

Q. How long will the system operate?

A. The system will operate for five years. If further treatment is required after five years, some adjustments to the treatment system may be necessary.

Q. What is meant by the term, "lead role?"

A. When turning over the "lead role" to a state, U.S. EPA supports a state agency (in this case WDNR) during the life a Superfund project. Some funding is also provided by U.S. EPA. The state actually initiates and oversees all field work, prepares site-related reports, works directly with technical contractors, receives documents and results, and proposes cleanup-decisions. A U.S. EPA Remedial Project Manager will be consulted by WDNR as the project progresses for assistance in reviewing and approving site-related documents as well as for concurrence on proposed clean-up measures. When U.S. EPA has the "lead," the state provides similar support.

Q. What is the next step?

A. The next step is for a Record of Decision (ROD) to be signed by U.S. EPA's regional administrator. This document will pave the way for U.S. EPA to continue to pay for the system's operating costs until WDNR assumes the "lead role" and its cooperative agreement with the City of DePere becomes effective. However, before the ROD is signed, a public comment period and public meeting will be held to discuss U.S. EPA's proposed plan concerning the continuing operation of the treatment system.

Q. When will the site be totally "clean?"

A. The Zinc Site should be "clean" by the end of March. By then, all drums containing hazardous material will be removed from the building. Ground water will continue to be collected and treated at the water treatment facility at the Chrome Site.

Q. How is contaminated water removed from the Zinc Site and transported to the Chrome Site's water treatment facility?

A. A 5,000-gallon hazardous waste licensed tank truck will place a four-inch hose into the ground-water sump and remove the accumulated contaminated ground water. Then, it is taken by truck to the Chrome Site for treatment.

Q. What is the next step for the Zinc Site?

A. The Zinc Site will be included in the RI/FS process that was explained in the previous section. Like the Chrome Site, additional long-term cleanup measures will be selected, if necessary, and included in the ROD.

Q. Does WDNR also have the "lead role" for the Zinc Site?

A. The WDNR has the "lead role" at the Zinc Site since it has been combined with the Chrome Site on U.S. EPA's National Priorities List (NPL) for hazardous waste sites. Being placed on the NPL makes them eligible for Superfund's long-term investigation and cleanup program.

Q. Who is paying for the past and present removal of drums and waste and for future RI/FS activities?

A. Superfund monies are funding the removal and RI/FS activities. Various legal activities are pending against the former owner of the property in an effort to recover costs already incurred. If an agreement to fund the RI/FS cannot be reached among U.S. EPA, WDNR, and the the property owner, legal action may be taken to recover future RI/FS costs, as well.

Q. Will additional studies be done after the ROD is signed?

A. Additional studies will be done, however, WDNR will be the "lead" agency while a Remedial Investigation/Feasibility Study (RI/FS) is conducted. An RI is an in-depth investigation which involves extensive sampling, data collection, and analysis. An FS uses the information generated during the RI to develop a list of cleanup methods for possible use at Better Brite. Another ROD to address any long-term problems will be signed upon completion of the RI/FS.

Q. Who may be contacted for further information?

A. The following people may be contacted for further information:

U.S. EPA

Steve Faryan, 5HS-12
On-Scene Coordinator, Chrome Site
(312) 353-9351

David Linnear, 5HS-11
Remedial Project Manager
(312) 886-1841

Susan Pastor, 5PA-14
Community Relations Coordinator
(312) 353-1325

Toll Free: 1-800-621-8431, 9 a.m. - 4:30 p.m., weekdays

WDNR

Jim Reyburn
State Project Coordinator
(414) 492-5864

Jim Leverance
Statewide Community Relations Expert
(608) 266-2632

ZINC SITE

Q. What is the current status of the Zinc Site?

A. U.S. EPA is making final disposal arrangements for eight drums filled with floor scrapings which accumulated during last Fall's removal of an automatic plating unit. The drums will be taken to an approved disposal facility in Detroit, MI.

Q. Who may be contacted for further information?

A. The following people may be contacted for further information:

U.S. EPA

Walter Nied, 5HS-12
On-Scene Coordinator
(312) 886-4466

David Linnear, 5HS-11
Remedial Project Manager
(312) 886-1841

Susan Pastor, 5PA-14
Community Relations Coordinator
(312) 353-1325

Toll Free: 1-800-621-8431, 9 a.m. - 4:30 p.m., weekdays

WDNR

Jim Reyburn
State Project Coordinator
(414) 492-5864

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(608) 266-2632

United States
Environmental Protection
Agency

Office of Public Affairs
Region 5
230 South Dearborn Street
Chicago, IL 60604

Illinois, Indiana
Michigan, Minnesota
Ohio, Wisconsin

SUPERFUND FACT SHEET

Better Brite Chrome and Zinc sites De Pere, Wisconsin

April 1990

This fact sheet . . .

- **outlines site history.**
- **describes the removal action plan.**
- **contains a glossary of technical terms.**

U.S. EPA contacts

Chrome site:
Steve Faryan
On-Scene Coordinator
U.S. EPA - EERB
230 South Dearborn Street
Chicago, IL 60604
(312) 353-9351

Zinc site:
Walter Nied
On-Scene Coordinator
U.S. EPA - EERB
230 South Dearborn Street
Chicago, IL 60604
(312) 886-4466

Susan Pastor
Community Relations Coordinator
U.S. EPA - Office of Public Affairs
230 South Dearborn Street
Chicago, IL 60604
(312) 353-1325

U.S. EPA toll free number:

Monday - Friday
9 a.m. - 4:30 p.m.
Central Time

1-800-621-8431

Clean-up activities continue at Better Brite sites

This fact sheet contains information concerning the Better Brite Chrome and Zinc **Superfund** *sites (Better Brite sites) in De Pere, Wisconsin. It outlines the sites' history, Wisconsin Department of Natural Resources (WDNR) involvement, U.S. Environmental Protection Agency (U.S. EPA) activities, and future plans for the sites. Technical terms are highlighted in* **bold** *print and defined in the glossary section.*

The Better Brite sites are currently being addressed by the U.S. EPA Emergency and Enforcement Response Branch (EERB) as two separate projects. Because of their close proximity, related background history, and their joint proposal to the **National Priorities List** *(NPL) in October 1989, the sites have been combined for the purposes of this fact sheet and other community relations activities.*

The Better Brite sites consist of two former plating facility locations: a **chromium** *plating operation at 519 Lande Street (Chrome site) and a* **zinc** *plating facility at 315 South Sixth Street (Zinc site). The sites are located within three blocks of each other in a residential neighborhood in De Pere. Current* **removal** *(see "Superfund") efforts are being performed by U.S. EPA EERB, with the close involvement of WDNR and the City of De Pere. The Wisconsin* Department of Health *and Social Services (WDHSS) and the* **Agency for Toxic Substances and Disease Registry (ATSDR)** *are providing support in studying health-related aspects pertaining to the sites.*

Site history

In 1963, the lumber yard at 315 South Sixth Street was converted into a chromium plating operation called Better Brite Plating, Inc. Better Brite opened an additional chromium plating facility in 1970 at 519 Lande Street. In the late 1970s, the main function of the Sixth Street facility shifted from chromium to zinc plating. Both facilities are located approximately 1/4 mile west of the Fox River. The Sixth Street facility is within 250 feet of the nearest municipal well.

Throughout the late 1970s and the 1980s, WDNR conducted numerous inspections of the facilities, and as a result, issued citations to Better Brite for documented **Resource Conservation and Recovery Act** violations. Throughout the course of operations at the Chrome site, approximately 20,000 to 60,000 gallons of plating solution is believed to have leaked from in-ground plating vessels and several spills of hazardous materials have been reported. Numerous inspections of the Zinc site and sampling performed on soils near the facility have indicated the presence of elevated levels of **cyanide** and the following metals: chromium, zinc, **cadmium**, lead, silver, selenium, copper, and nickel. The level of cadmium found in the drummed sludge was high enough to classify the sludge as hazardous waste which requires disposal at a U.S. EPA-approved hazardous waste disposal facility. Results from continuous monitoring of the nearby municipal well have indicated that contamination has not reached the area's drinking water.

In August 1979, Better Brite installed several ground-water monitoring wells, a ground-water collection system, and a retention berm to prevent surface-water runoff in an attempt to monitor and

contain possible contamination of the ground water and site soils at the Chrome site. In addition, contaminated soil from neighboring properties south and west of the main building was excavated and deposited on the Chrome site property.

An extent of contamination study conducted by an outside contractor for Better Brite in September 1979 identified chromium-contaminated surface soils near the main building at the Chrome site. In February 1980, the Wisconsin State's Attorney filed suit on behalf of the WDNR, ordering Better Brite to clean up the designated contaminated areas. This order was not adhered to, as documented by several subsequent inspections by WDNR from 1980 to 1985. These inspections revealed extensive on-site surface and subsurface chromium contamination at the Chrome site.

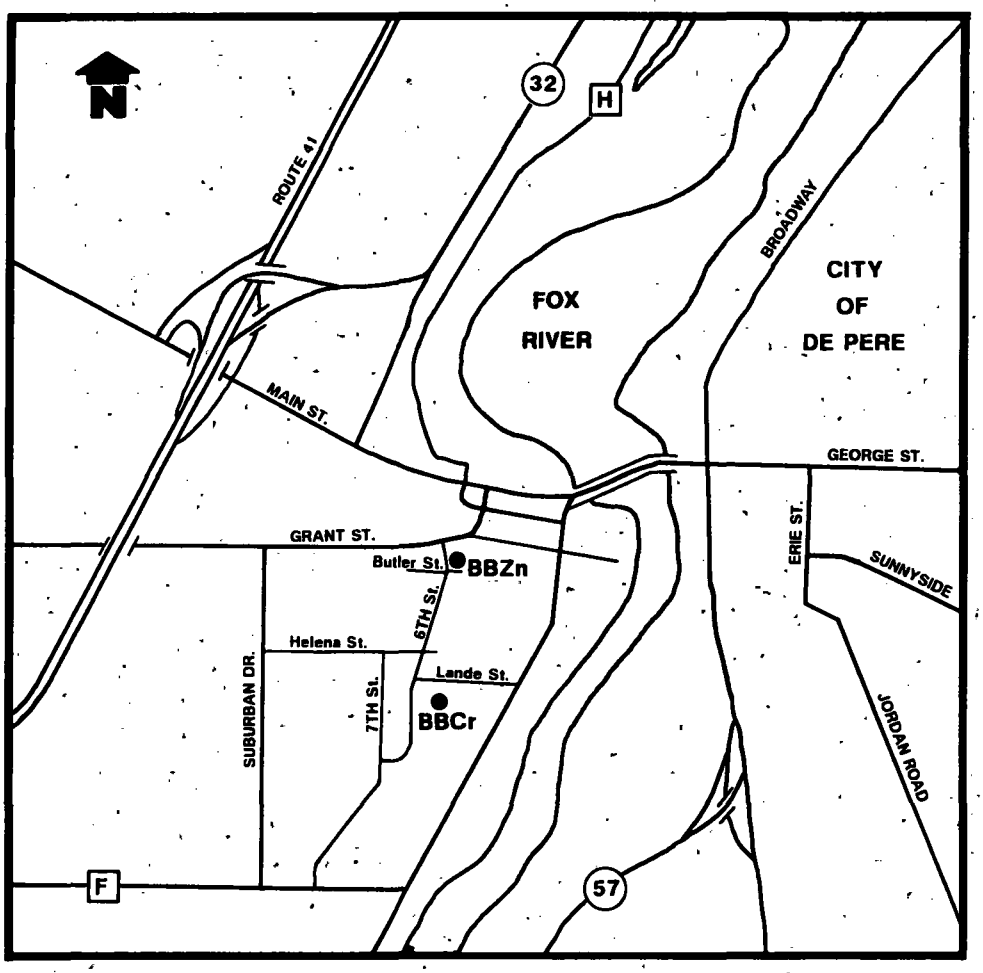
Better Brite Plating, Inc. filed for bankruptcy and discontinued Chrome site operations in October 1986. The Zinc site, however, continued operating with John Zenner as acting examiner/trustee. In December 1986, Zenner officially purchased the Zinc site and its equipment (with exception of the hazardous waste accumulated at the site and the lease of the property underlying the building) and incorporated under the name, the Zinc Shop. Operations at the Zinc Shop continued until July 1989.

In June 1987, WDNR conducted subsurface soil core sampling and installed several monitoring wells in the Zinc site area. Monitoring of these wells throughout the next two years verified ground-water contamination in the area of the building of both chromium and zinc.

U.S. EPA involvement

In spring 1986, WDNR requested assistance from U.S. EPA at the Chrome site in investigating reports of abandoned drums and tanks, which were found to contain chromic acid, cyanide, and solvents. Results from this investigation, combined with results from previous inspections by WDNR, established that conditions at the Chrome site presented a significant threat to human health and the environment. Subsequently, WDNR requested assistance from U.S. EPA EERB in containing the immediate threats.

Better Brite sites location map



U.S. EPA EERB then conducted removal activities at the Chrome site from September 1986 until April 1987. Activities included the removal of all on-site contaminants contained in drums, tanks, and vats, the installation of a site monitoring well, the removal of visibly stained soils from the south and southwest sides of the building, and removal of wastes from the facility plating pits. Visually contaminated soils were excavated around the plating pits and then all tanks, vats, and drums were removed and scrapped or disposed of at a U.S. EPA-permitted landfill. In total, U.S. EPA EERB removed approximately 83 tons of contaminated soil, 9,270 gallons of chromic acid, 3,600 gallons of base/neutral liquids, 550 gallons of cyanide solution, 150 pounds of cyanide sludge, and 500 gallons of flammable liquids.

Samples were collected from several areas, including the southeast corner of the property and in the excavated area south of the facility. Results from the sampling effort were given to ATSDR for the study of possible health effects to neighbors of the site. ATSDR also studied results from earlier U.S. EPA and WDNR sampling efforts, and at that point, determined that the concentrations of chromium present did not pose a health threat to the adjacent residents.

In 1988, U.S. EPA EERB again responded to the Chrome site at the request of WDNR. Chromium-contaminated water was collecting in the adjacent neighbors' backyards, causing chromium to deposit in soils and gardens on their properties. U.S. EPA authorized pumping of the water into the City of De Pere sanitary sewer as an interim measure to eliminate ponding.

In the summer of 1989, the Chrome site building and contents were sold by the owner of the property, Zenner. The City of De Pere and WDNR stipulated to the buyer of the property that the area beneath the building had to be capped

EPA SUPERFUND FACT SHEET

The Removal Program -- Emergency Response

What is a "Removal"?

A **Removal** is an action designed to minimize or eliminate threats to human health and the environment posed by the release or presence of hazardous substances. The U.S. Environmental Protection Agency (U.S. EPA) funds, plans, and oversees removals under the authority of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA, commonly known as **Superfund**).

To administer the large and complex task of cleaning up hazardous waste sites under Superfund, the U.S. EPA established several internal programs. The **Removal Program** is charged with both responding to emergencies involving hazardous materials and conducting in-depth actions costing up to a maximum of $2 million and taking up to a maximum of one year. Exceptions to go beyond the funding and time limits are allowed if the removal action is consistent with long-term actions to be taken at the site.

What are typical Removal situations, activities?

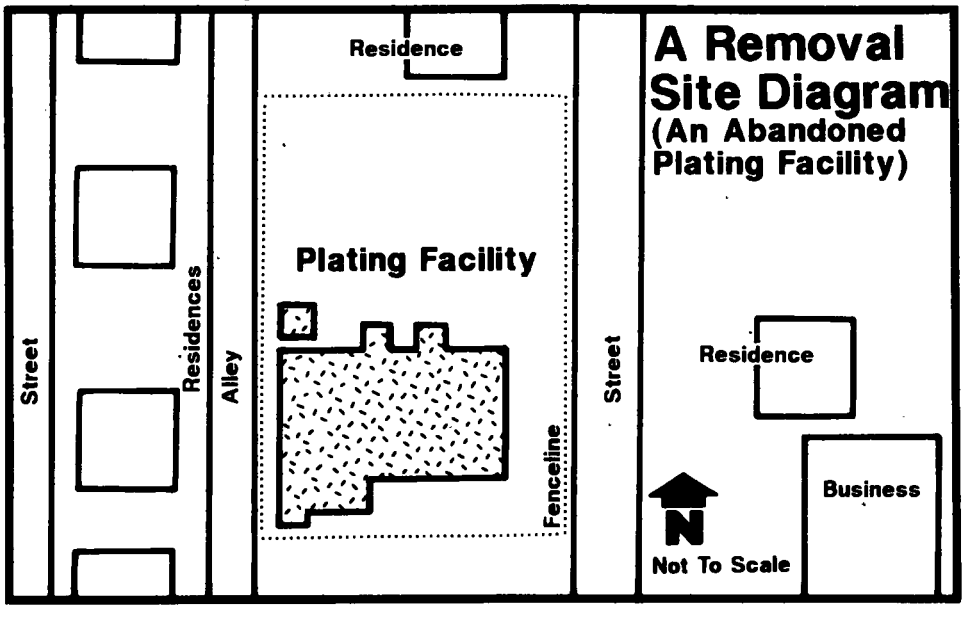
U.S. EPA responds to a variety of removal situations, for example: an abandoned industrial facility with hazardous materials in close proximity to surrounding population; contaminated drinking water; a chemical warehouse fire; an unregulated waste dump containing scattered piles of deteriorating drums; an abandoned industrial dump which is isolated from public access but poses a potential threat to the environment.

Usually the vision that first comes to mind is the "moon suit", the fully encapsulated protective gear worn in situations of extreme danger. Personal protective gear includes respiratory equipment, hard hat, specialized coveralls, gloves, and steel re-enforced boots.

Several pieces of portable equipment are brought to the removal site to assess the air quality. Specialized equipment provides data to address some basic questions when personnel approach a site: Enough oxygen in the air to breathe? Potential for fire or explosion? What chemicals are in the air? Any radiation present?

Activities common to removal actions are monitoring and sampling of on-site materials or contaminants. According to site specifics, ground water and/or air monitoring devices are installed to track and assess contamination. Samples for laboratory analysis are collected throughout the removal process. Samples are obtained from a variety of sources: soil, sludge, dust, containers/drums, ground water, surface water, and even residential tap water.

Again, according to site specifics, the necessary equipment is mobilized to complete the stabilization process. Berms/dikes contain oils and liquids, air strippers clean liquids, booms absorb liquids, water treatment systems filter contaminants from water, heavy equipment excavates soil, and fences secure the area. In addition to this equipment, office and decontamination facilities for site personnel are established.



Types of Removal Actions

	Classic Emergency	Time-Critical	Non-Time Critical
Definition	Actions initiated in response to a release or threat of release that poses a risk to public health or welfare or the environment, such that cleanup or stabilization actions must be initiated within hours or days after completion of the preliminary assessment regardless of cost or duration of the response.	Actions initiated in response to a release or threat of release that poses a risk to public health or welfare or the environment, such that cleanup or stabilization actions must be initiated within six months after completion of the preliminary assessment.	Actions initiated in response to a release or threat of release that poses a risk to public health or welfare or the environment, such that initiation of removal cleanup or stabilization actions may be delayed for six months or more after completion of the preliminary assessment.
Example	Response to a fire in a chemical warehouse.	Response to an abandoned industrial facility with hazardous materials in close proximity to surrounding population.	Response to an abandoned industrial dump which is isolated from public access but poses a potential threat to ground water.

Who performs emergency responses, removals?

Six states comprise U.S. EPA Region 5: **Minnesota, Wisconsin, Illinois, Indiana, Michigan, and Ohio.** Each state has environmental agency personnel who responds to environmental emergencies, as well as U.S. EPA representatives. U.S. EPA Region 5 established the Eastern (located in Detroit) and Western (located in Chicago) Emergency Response Units to better respond to emergency situations. Each U.S. EPA office is staffed with environmental engineers, geologists, chemists, and biologists, and is equipped with instruments, response materials, and safety gear.

Time is precious when responding to an emergency and because situations vary dramatically the mobilization procedure is quite involved. Mobilizing an emergency response team includes obtaining as much information as possible about the situation; developing a site safety plan (e.g., identifying the nearest hospital with a full-service emergency room, listing known and potential hazards, and identifying appropriate hazardous material handling procedures); checking personal gear and equipment (e.g., special clothing, breathing apparatus, monitoring devices); assembling personnel with the appropriate skills; and, coordinating efforts with state and local officials.

When not responding to environmental emergencies, U.S. EPA and supporting technical contractor personnel conduct site assessments and inspections, attend and present specialized training courses, develop site-specific removal plans and monitor on-going clean-up activities.

Environmental emergency?

Notify your local police department and/or the state environmental agency.

Illinois Environmental Protection Agency

24-hour Emergency Response (217) 782-3637

Minnesota Pollution Control Agency

24-hour Emergency Response (612) 296-8100

Ohio Environmental Protection Agency

24-hour Emergency Response (800) 282-9378

Michigan Department of Natural Resources

24-hour Emergency Response (800) 292-4706

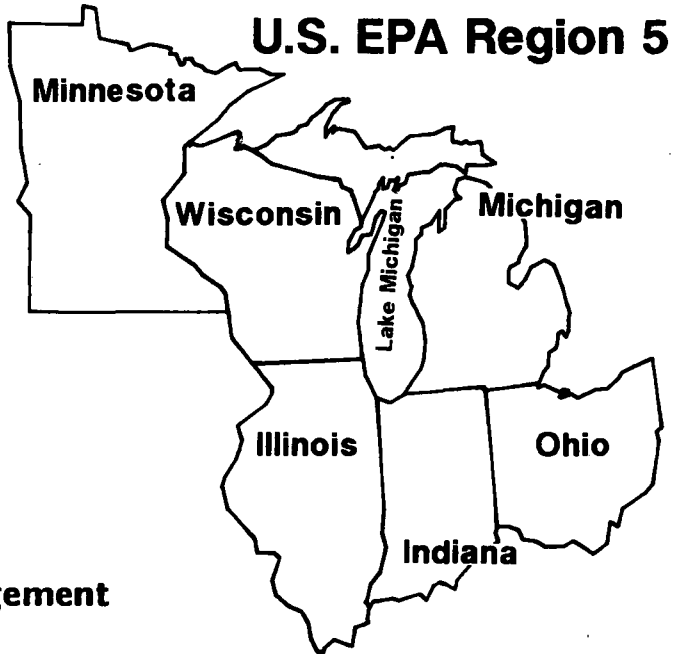
Wisconsin Department of Natural Resources

24-hour Emergency Response (608) 266-3232

Indiana Department of Environmental Management

24-hour Emergency Response (317) 241-4336

U.S. EPA Region 5



(covered) and the pond closed off. The Chrome site operations building and concrete foundation were removed and the former building area was capped with clay. The area also was fenced to prevent public access.

In October 1986, U.S. EPA EERB conducted a site assessment at the Zinc site at the request of WDNR. An inventory of materials and storage units present on site was taken and samples were collected from the sump water in an adjacent house and from soil on the south side of the Zinc site. Sampling results indicated elevated levels of chromium, zinc, and cyanide. The enforcement case was then referred to the Wisconsin Department of Justice (WDOJ). WDOJ is still taking action concerning the Zinc site.

Upon the request of WDNR, U.S. EPA's EERB performed a second site assessment at the Zinc site in October 1989. This assessment confirmed WDNR reports of illegal storage of hazardous materials and contamination of surface soils in an adjoining residential property.

Proposed removal plans

In an effort to eliminate the threat of ground-water contamination and continued off-site movement of contaminants at the Chrome site, U.S. EPA EERB is installing an on-site water treatment system. A protective building has already been built to house the system, and U.S. EPA EERB is currently awaiting the arrival of the water treatment equipment. The system includes a recovery well, a 6,000-gallon holding tank, a staging pad (an area used for securely storing drummed wastes), and diking. The system was designed in cooperation with the city of De Pere and is expected to be operational in June 1990.

The system will treat up to 2,000 gallons of chromium-contaminated water per day, making it safe for discharge into the De Pere sanitary sewer. Contaminants removed from the water will be sent to an approved disposal facility.

Operational costs can only be covered for one year after implementation under the Superfund Removal Program. The City of De Pere will run the system under the supervision of U.S. EPA EERB for the first year. Additional costs and the responsibility of running the treatment system will then shift to the City of De Pere and WDNR.

U.S. EPA EERB has been conducting soil sampling in the backyards of adjacent residences to determine whether contaminants are present, and if so, whether they pose an immediate threat to public health and the environment. If an immediate threat, as defined by U.S. EPA guidelines, is found to exist, then U.S. EPA EERB can act immediately in developing a plan to implement a removal action to eliminate the threat. If contaminants are not found to be immediately threatening, then U.S. EPA or WDNR will conduct a long-term study and necessary cleanup.

Following the U.S. EPA EERB October 1989 assessment of the Zinc site, a work outline was developed to eliminate the immediate threats to human health and the environment. Aspects of the work outline already have been implemented at the Zinc site.

Hazardous materials stored in tanks, drums, and plastic containers on site have been sampled and sorted according to type. The materials will be shipped to a U.S. EPA-approved disposal facility. The building was secured and heat and lights were hooked up to prevent any freezing of the wastes during winter.

Sampling of soils from the Zinc site and the yards of adjoining residences has been implemented. The sump water in a neighboring residence is also being analyzed, along with several on-site monitoring wells. An extent of contamination study will be conducted, and then contaminated soils may be excavated and removed from the site. Topsoil in the area will then be replaced.

All tanks, vats, and the floor of the facility will be decontaminated. Any contamination deemed not immediately threatening to public health and the environment will be addressed by U.S. EPA or WDNR in the long-term study.

Better Brite sites mailing list

Please place my name on the Better Brite mailing list.

NAME: _____
ADDRESS: _____
CITY, STATE, ZIP: _____
AFFILIATION: _____
TELEPHONE: _____

To be placed on the Better Brite sites mailing list, please complete and mail this form to: Susan Pastor, Community Relations Coordinator, Office of Public Affairs 5PA-14, U.S. EPA - Region 5, 230 South Dearborn Street, Chicago, IL 60604.

Information Repository available for public review

For more information concerning the Better Brite sites, an Information Repository is available for public review at the De Pere Branch of the Brown County Library. The repository contains technical documents and U.S. EPA information.

De Pere Branch - Brown County Library
380 Main Avenue
De Pere, WI 54115

Hours:
Monday - Thursday: 10 a.m. - 9 p.m.
Friday and Saturday: 10 a.m. - 5 p.m.
Closed Sunday

Glossary

Agency for Toxic Substances and Disease Registry (ATSDR) - ATSDR is part of the U.S. Department of Health and Human Services (HHS). Under Superfund, ATSDR has been given the legal authority to provide health effects information to U.S. EPA. The major responsibilities of ATSDR are the evaluation of populations with current or potential exposure to waste sites, development of health advisories, and the follow-up on populations for the evaluation of future health effects.

Base/neutral - A group of organic (carbon-containing) compounds that do not readily tend to evaporate. They can cause burning when coming into contact with skin. They tend to adhere to soil particles and therefore, move slowly through soils.

Cadmium - Used in electroplating, the manufacture of batteries, and as a pigment. Chronic exposure to cadmium can damage the liver and kidneys. It also has been associated with hypertension. Heavy smoking appears to increase the risk of cumulative toxic effects of cadmium exposure. Studies on animals have shown that cadmium can produce tumors and birth defects.

Chromic acid - A poisonous acid which is corrosive to skin. It has the potential for explosion if combined with certain chemicals. It is used in chromium plating and process engraving.

Chromium - Used in electroplating, photography, and as a paint pigment. Acute ingestion of one form of chromium causes hemorrhages of the gastrointestinal tract. Airborne chromium has caused lung and other respiratory cancers in workers who were frequently exposed to it on the job.

Cyanide - A poison that asphyxiates the cells in the body. Warning signs of cyanide poisoning include dizziness, numbness, rapid pulse, and nausea. A large dose can cause immediate unconsciousness. It is primarily used in the extraction of ores, electroplating, and metal treatments. It is also used in fumigation and in the manufacturing of pharmaceuticals.

National Priorities List (NPL) - The NPL is the list which prioritizes hazardous waste sites in the country which are eligible for cleanup under Superfund. If an immediate threat to public health and the environment exists at an NPL site, it can be alleviated through a removal action by U.S. EPA EERB. If contamination does not present an immediate threat, then the site is normally subject to a long-term study followed by a remedial action. This leads to an effective cleanup by the U.S. EPA Remedial Enforcement and Response Branch.

Reource Conservation and Recovery Act (RCRA) - A federal law that established a regulatory system to track hazardous substances from the time of generation to disposal. The law requires safe and secure procedures to be used in treating, transporting, storing and disposing of hazardous substances. RCRA is designed to prevent new, uncontrolled hazardous waste sites.

Sludge - A semi-solid residue from any of a number of air or water treatment processes. Sludge can be a hazardous waste.

Solvents - Substances capable of dissolving another substance to form a solution. The primary uses of industrial solvents are as cleaners for degreasing, in paints, and in pharmaceuticals. Many solvents are flammable and toxic to varying degrees.

Superfund - The common name used for the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). Enacted in 1980, CERCLA authorizes the federal government to respond directly to releases of hazardous substances that may endanger public health or the environment. Depending on the level of threat or potential threat posed by the hazardous substances, U.S. EPA will initiate either a removal action (for emergency situtations) or a remedial action (long-term evaluation and preparation for cleanup at sites where contaminants do not present an immediate threat).

Zinc - A bluish white crystalline metallic element. It is generally combined with cyanide for plating purposes. This combination can be highly toxic.

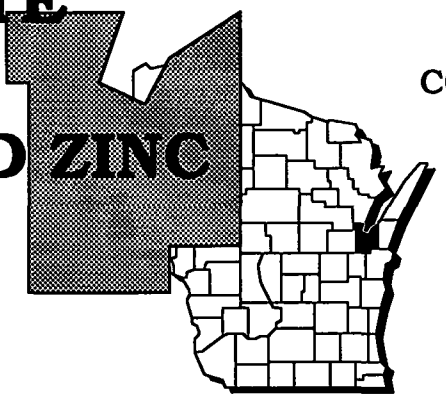
EPA

U.S. Environmental Protection Agency
Region 5
Office of Public Affairs (5PA - 14)
230 South Dearborn Street
Chicago, Illinois 60604

BETTER BRITE PLATING CO. CHROME AND ZINC SHOPS

WISCONSIN

EPA ID# WIT560010118



REGION 5

CONGRESSIONAL DIST. 08

Brown County

DePere

Aliases:
Better Brite Zinc
Better Brite Chrome

Site Description

The 2-acre Better Brite Plating Co. Chrome and Zinc Shops site consists of two sections that are divided by a residential area. Metal plating operations were conducted at the two shops from the early 1960s until the company filed for bankruptcy in 1985. While the plants were in operation, the Wisconsin Department of Natural Resources (WDNR) documented numerous violations and spills at the facility, including a spill of 2,200 gallons of *acid* in 1979. In order to remedy the situation, Better Brite installed groundwater monitoring wells and constructed a collection system that allowed collected water to be pumped to a central surface water holding pond. Better Brite also constructed a slope to prevent surface water *runoff*. In addition, Better Brite excavated soil from neighboring properties and deposited it on the site. A study of soil in 1979 identified chromium-contaminated soil in the areas west and south of the main building. Although Better Brite was ordered to clean up the contamination in 1980 by the WDNR, no action was taken. Several subsequent inspections by WDNR from 1980 to 1985 revealed extensive on-site chromium contamination, as well as contamination in the building's air handling system. Shortly after operations ceased, the WDNR received a complaint that yellow water was running from the chrome shop into the city sewer. Subsequently, the WDNR investigated this incident and found chromium in the runoff and soil at a neighboring residence. The City of DePere is periodically pumping a trench on the chrome shop property and discharging the waters collected to the DePere Wastewater Treatment Plant. In 1988, the WDNR was notified that the site had been sold, and the new owners planned to remove the plating building. To prevent exposure to contaminated soil, the WDNR razed the main building, partially fenced the site, covered the site with clay, placed topsoil on the clay cover, and seeded it. In 1988, the EPA allocated emergency funds to the WDNR to design a treatment system for water being discharged from the site to the DePere Wastewater Treatment Plant. The owners abandoned the site in 1989. Approximately 46,000 people obtain drinking water from municipal wells within 3 miles of the site. DePere Municipal Well #2 is 500 feet *downslope* of the zinc shop.

Site Responsibility: This site is being addressed through Federal actions.

NPL LISTING HISTORY

Proposed Date: 10/26/89

Threats and Contaminants

Groundwater, surface water, and soil are contaminated with heavy metals including chromium and various *volatile organic compounds* (VOCs). Area residents may be exposed to contaminants through touching or accidentally ingesting these contaminated materials. Contaminants have *migrated* into shallow groundwater that forms the municipal water supply for the town of DePere, and the villages of Allouez and Ashwaubenon. An explosion of the flammable liquids that were dumped directly onto the on-site soil is also possible.

Cleanup Approach

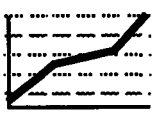
This site is being addressed in two stages: initial actions and a *long-term remedial phase* focusing on cleanup of the entire site.

Response Action Status

Initial Actions: The EPA removed over 83 tons of contaminated soil, 9,270 gallons of chromic acid, 3,600 gallons of toxic liquids, 550 gallons of cyanide solution, 150 pounds of cyanide *sludge*, and 500 gallons of flammable liquids from the facility in 1986. These wastes were subsequently treated and disposed of in an EPA-approved *landfill*. In 1987, an additional drum of decontaminated water was removed and transported for treatment off site. The 131 drums containing contaminated material have been secured and staged in the building; the empty drums were secured and staged outside the building. The EPA covered highly contaminated areas of the site with plastic to prevent further off-site migration of contaminants. To ensure security, the EPA is providing 24-hour surveillance until site contamination has been completely addressed. Surface removal of drums, vats, and tanks still remaining on site began in 1990. The water treatment system is to be completed in 1990.

Entire Site: An investigation into the nature and extent of remaining contamination is planned to begin in 1991. Based on the results of this investigation, final site cleanup remedies will be selected.

Environmental Progress



The numerous removal activities described above have greatly reduced the potential for explosion and exposure to hazardous materials at the Better Brite Plating Chrome and Zinc site while final cleanup activities are being planned. The EPA continues to review all remaining surface contaminants and provide security at the site.

United States Environmental Protection Agency | Office of Solid Waste and Emergency Response | Publication No. 9230.1-05/FS | January 1990

EPA Superfund Technical Assistance Grants

Office of Emergency and Remedial Response
Hazardous Site Control Division (OS-220)

Quick Reference Fact Sheet

WHAT ARE TECHNICAL ASSISTANCE GRANTS

Background of Program -- In 1980, the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) -- otherwise known as "Superfund" -- established a trust fund for the cleanup of hazardous waste sites in the United States. CERCLA was amended and reauthorized when Congress passed the Superfund Amendments and Reauthorization Act (SARA) of 1986. The U.S. Environmental Protection Agency (EPA), working in concert with the States, is responsible for administering the Superfund program.

An important aspect of the Superfund program is citizen involvement at the local level in decision-making that relates to site-specific cleanup actions. For this reason, community outreach activities are underway at each of the 1,200 sites that are presently on, or proposed for listing on, the National Priorities List (NPL). The NPL is EPA's published list of the most serious abandoned or otherwise uncontrolled hazardous waste sites nationwide, which have been identified for possible remedial cleanup under Superfund.

Recognizing the importance of community involvement and the need for citizens living near NPL sites to be well-informed, Congress included provisions in SARA to establish a Technical Assistance Grant (TAG) Program intended to foster informed public involvement in decisions relating to site-specific cleanup strategies under Superfund.

In addition to regulatory and legal requirements, decisions concerning cleanup initiatives at NPL sites must take into account a range of technical considerations. These might include:

- Analytical profiles of conditions at the site;
- The nature of the wastes involved; and
- The kinds of technology available for performing the necessary cleanup actions.

The TAG Program provides funds for qualified citizens' groups to hire independent technical advisors to help them understand and comment on such technical factors in cleanup decisions affecting them.

Basic Provisions of the Technical Assistance Grants Program

- Grants of up to $50,000 are available to community groups for the purpose of hiring technical advisors to help citizens understand and interpret site-related technical information.
- The group must cover 20 percent of the total costs of the project to be supported by TAG funds.
- The group must budget the expenditure of grant funds to cover the entire cleanup period (which averages six years).
- There may be only one TAG award per NPL site; however, the grant may be renewed.

USES OF TECHNICAL ASSISTANCE GRANTS

Citizen groups may use grant funds to hire technical advisors to help them understand information that already exists about the site or information developed during the Superfund cleanup process. Acceptable uses of these grant funds include payments to technical advisors for services such as:

- Reviewing site-related documents, whether produced by EPA or others;
- Meeting with the recipient group to explain technical information;
- Providing assistance to the grant recipient in communicating the group's site-related concerns;
- Disseminating interpretations of technical information to the community;
- Participating in site visits, when possible, to gain a better understanding of cleanup activities; and
- Traveling to meetings and hearings directly related to the situation at the site.

TAG funds may <u>not</u> be used to develop new information (for example, additional sampling) or to underwrite legal actions in any way, including the preparation of testimony or the hiring of expert witnesses.

You can obtain a complete list of eligible and ineligible uses of grant funds by contacting your EPA Regional Office or the Headquarters information number listed at the end of this pamphlet. In addition, this information is included in the EPA publication entitled *The Citizens' Guidance Manual for the Technical Assistance Grant Program* (OSWER Directive 9230.1-03), also available from your Regional EPA Office.

WHO MAY APPLY

As stated in the 1986 Superfund amendments, groups eligible to receive grants under the TAG program are those whose membership may be affected by a release or threatened release of toxic wastes at any facility listed on the NPL or proposed for listing, and where preliminary site work has begun. In general, eligible groups are groups of individuals who live near the site and whose health, economic well-being, or enjoyment of the environment are directly threatened. Any group applying for a TAG must be nonprofit and incorporated or working towards incorporation under applicable State laws. Applications are encouraged from:

- Groups that have a genuine interest in learning more about the technical aspects of a nearby hazardous waste site; and
- Groups that have, or intend to establish, an organization to manage a grant efficiently and effectively.

For example, such groups could be:

- Existing citizens' associations;
- Environmental or health advocacy groups; or
- Coalitions of such groups formed to deal with community concerns about the hazardous waste site and its impact on the surrounding area.

Groups that are <u>not</u> eligible for grant funds are:

- Potentially responsible parties: any individuals or companies (such as facility owners or operators, or transporters or generators of hazardous waste) potentially responsible for, or contributing to, the contamination problems at a Superfund site;
- Academic institutions;
- Political subdivisions; and
- Groups established and/or sustained by governmental entities (including emergency planning committees and some citizen advisory groups).

HOW TO APPLY FOR A GRANT

Requirements -- When applying for a TAG, a group must provide information to EPA (or to the State, if the State is administering the TAG program) to determine if the group meets specific administrative and management requirements. The application also must include a description of the group's history, goals, and plans for using the technical assistance funds. Factors that are particularly important in this evaluation process include:

- The group's ability to manage the grant in compliance with EPA grant and procurement regulations;
- The degree to which the group members' health, economic well-being, and enjoyment of the environment are adversely affected by a hazardous waste site;
- The group's commitment and ability to share the information provided by the technical advisor with others in the community;
- Broad representation of affected groups and individuals in the community; and;
- Whether the applicant group is nonprofit and incorporated for TAG purposes. (Only incorporated groups may receive grants. Groups must either be incorporated specifically for the purpose of addressing site-related problems or incorporated for broader purposes if the group has a substantial history of involvement at the site.)

In general, a group must demonstrate that it is aware of the time commitment, resources, and dedication needed to successfully manage a TAG. Applicant groups should consult *The Citizens' Guidance Manual For The Technical Assistance Grant Program* for detailed instructions on how to present such information.

Notification Procedures and Evaluation Criteria -- The 1986 Superfund amendments state that only one TAG may be awarded per site. To ensure that all eligible groups have equal access to technical assistance and an equal opportunity to compete for a single available grant (if a coalition of groups proves to be impossible), EPA has established a formal notification process, which includes the following steps:

- Groups wishing to apply for a technical assistance grant must first submit to EPA a short letter stating their group's desire to apply and naming the site(s) involved. If site project work is already underway or scheduled to begin, EPA will provide formal notice through mailings, meetings, or other public notices to other interested parties that a grant for the site soon may be awarded.
- Other potential applicants would then have 30 days to contact the original applicant to form a coalition.
- If potential applicants are unable to form a coalition, they will notify EPA within this time period and EPA will accept separate applications from all interested groups for an additional 30-day period.
- EPA would then award a grant to the application that best meets the requirements described above.

The maximum grant that can be awarded to any group is $50,000. The actual amount depends on what the group intends to accomplish. A group's minimum contribution of 20 percent of the total costs of the technical assistance project can be covered with cash and/or "in-kind" contributions, such as office supplies or services provided by the group. These services might include, for example, publication of a newsletter or the time an accountant donates to managing the group's finances. The value of donated professional services is determined based on rates charged for similar work in the area.

In special cases where an applicant group intends to apply for a single grant covering multiple sites in close proximity to each other, EPA can allow a waiver of the $50,000 grant limit. In such cases, however, the recipient cannot receive more than $50,000 for each site to which it intends to apply funds (example: 3 sites x $50,000 = maximum grant amount of $150,000).

CHOOSING A TECHNICAL ADVISOR

When choosing a technical advisor, a group should consider the kind of technical advice the group needs most and whether a prospective advisor has the variety of skills necessary to provide all of the advice needed. Each technical advisor must have:

- Knowledge of hazardous or toxic waste issues;
- Academic training in relevant fields such as those listed above; and
- The ability to translate technical information into terms understandable to lay persons.

In addition, a technical advisor should have:

- Experience working on hazardous waste or toxic waste problems;
- Experience in making technical presentations and working with community groups; and
- Good writing skills.

Technical advisors will need specific knowledge of one or more of these subjects:

Chemistry: Analysis of the chemical constituents and properties of wastes at the site;

Toxicology: Evaluation of the potential effects of site contaminants upon human health and the environment;

Epidemiology: Evaluation of the pattern of human health effects potentially associated with site contaminants;

Hydrology and Hydrogeology: Evaluation of potential contamination of area surface water and ground-water wells from wastes at the site;

Soil Science: Evaluation of potential and existing soil contamination;

Limnology: Evaluation of the impact of site runoff upon the plant and animal life of nearby streams, lakes, and other bodies of water;

Meteorology: Assessment of background atmospheric conditions and the potential spread of contaminants released into the air by the site; and/or

Engineering: Analysis of the development and evaluation of remedial alternatives and the design and construction of proposed cleanup actions.

A grant recipient may choose to hire more than one technical advisor to obtain the combination of skills required at a particular site. For example, a group may be unable to find a single advisor experienced in both hydrology and epidemiology, two of the skills most needed at its site. Another approach would be to hire a consulting firm that has experience in all the needed areas. *The Citizens' Guidance Manual for the Technical Assistance Grant Program* identifies other issues that citizens' groups may wish to consider in hiring a technical advisor.

ADDITIONAL INFORMATION

For further information on the application process or any other aspect of the TAG program, please contact your EPA Regional Office or call the national information number, both of which are listed below. An application package is available free by calling the EPA Regional Office for your State (see map on back cover). Each application package includes all the necessary application and certification forms as well as a copy of *The Citizen's Guidance Manual For The Technical Assistance Grant Program*. This manual contains sample forms with detailed instructions to assist you in preparing a TAG application.

EPA Superfund Offices

EPA Headquarters
Office of Emergency & Remedial Response
401 M Street, SW
Washington, DC 20460
(202) 382-2449

EPA Region 1
Emergency and Remedial Response Division
John F. Kennedy Building
Boston, MA 02203
(617) 573-5701
Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont

EPA Region 2
Superfund Branch
26 Federal Plaza
New York, NY 10278
(212) 264-4534
New Jersey, New York, Puerto Rico, Virgin Islands

EPA Region 3
Superfund Branch
841 Chestnut Building
Philadelphia, PA 19106
(215) 597-3239
Delaware, District of Columbia, Maryland, Pennsylvania, Virginia, West Virginia

EPA Region 4
Emergency and Remedial Response Branch
345 Courtland Street, NE
Atlanta, GA 30365
(404) 347-2234
Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee

EPA Region 5
Emergency and Remedial Response Branch
230 S. Dearborn Street
Chicago, IL 60604
(312) 886-1660
Illinois, Indiana, Michigan, Minnesota, Ohio, Wisconsin

EPA Region 6
Superfund Program Branch
Allied Bank Tower
1445 Ross Avenue
Dallas, TX 75202-2733
(214) 655-2200
Arkansas, Louisiana, New Mexico, Oklahoma, Texas

EPA Region 7
Superfund Branch
726 Minnesota Avenue
Kansas City, KS 66101
(913) 236-2803
Iowa, Kansas, Missouri, Nebraska

EPA Region 8
Waste Management Division
1 Denver Place
999 18th Street
Denver, CO 80202-2413
(303) 564-7040
Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming

EPA Region 9
Superfund Programs Branch
215 Fremont Street
San Francisco, CA 94105
(415) 454-744-1766
Arizona, California, Guam, Hawaii, Nevada, American Samoa

EPA Region 10
Superfund Branch
1200 6th Avenue
Seattle, WA 98101
(206) 442-0603
Idaho, Oregon, Washington, Alaska

Superfund/RCRA Hotline
(800) 424-9346 or 382-3000
in the Washington, DC, metropolitan area (for information on programs)

National Response Center (800) 424-8802
(to report releases of oil and hazardous substances)

EPA Superfund Offices