



Superfund Record of Decision:

**Better Brite Plating Chrome &
Zinc, WI**



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15. Supplementary Notes			
16. Abstract (Limit: 200 words) <p>The 2-acre Better Brite Plating Chrome & Zinc site is composed of two plating facilities in De Pere, Brown County, Wisconsin. The site includes the 1.5-acre Chrome Shop and the 0.5-acre Zinc Shop, which are located approximately 0.5 miles apart. Because of their proximity and related backgrounds, the two sites were jointly nominated to the National Priority List and are addressed as a single site in this Record of Decision (ROD). Land use in the area is predominantly residential and commercial, with a wetlands located approximately one-quarter mile from the site. The estimated 15,000 area residents use the municipal wells drawing from the deep aquifer as a drinking water supply. A municipal well located approximately 250 feet from the site is thought to influence the ground water flow in the contaminated shallow aquifer, but impacts have not been observed in the municipal well onsite. From 1963 to the early 1970's, the Zinc Shop primarily plated chrome switching later to zinc. The Zinc Shop has a long history of improper operational procedures and spills into the surrounding soil. Wastewater and/or plating solutions routinely leaked between the floor and sill plate of the building. Reportedly underground vertical plating tanks were used early on. The Chrome Shop began chrome plating</p> <p>(See Attached Page)</p>			
17. Document Analysis a. Descriptors Record of Decision - Better Brite Plating Chrome & Zinc, WI First Remedial Action Contaminated Media: gw, sw Key Contaminants: VOCs (1,1-TCA, 1,1-DCE), other organics, metals (chromium, cyanide, lead) b. Identifiers/Open-Ended Terms c. COSATI Field/Group			
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Abstract (Continued)

operations during the early 1970's using several above-ground tanks and four buried vertical tanks in the plating process. In 1978 and 1979, the Chrome Shop was found to be responsible for surface spills, which resulted in construction of a shallow ground water extraction system around a portion of the site. Later, it was determined that the underground plating tanks from the Chrome Shop had leaked an unknown amount of plating solution and VOCs into the onsite ground water. Consequently, in 1985, the owner of the Chrome Shop filed for bankruptcy and operations ceased in 1986. In 1987, the State installed ground water monitoring wells at the site, which identified contamination by metals and VOCs in soil and ground water. In 1989, the Zinc Shop closed, and a private contractor removed the building that housed the Chrome Shop. The State constructed a clay cap and fenced around the area of highest soil contamination. In 1990, the Zinc Shop owner failed to comply with an Administrative Order to conduct clean-up activities. Subsequently, EPA performed an emergency removal action, which included shipping 350 cubic yards of hazardous and solid waste offsite and constructing a ground water collection sump. Ground water is collected, stored temporarily, and treated onsite. The residual chromium sludge from the ground water treatment is sent offsite for recycling. Later in 1990, EPA performed an additional emergency response, and provided for the construction of a wastewater pretreatment system and an extraction system to collect and pretreat shallow ground water prior to discharge offsite to the De Pere wastewater system. This ROD addresses Operable Unit 1, contaminated ground water and surface water, as an interim action. Future RODs will address remaining soil and ground water contamination. The primary contaminants of concern affecting the ground water and surface water are VOCs including 1,1,1-TCA and 1,1-DCA; other organics; and metals including chromium, cyanide, and lead.

The selected remedial action for this interim remedy includes continuing and expanding the current operation of the ground water extraction system and pretreatment facility, which will include pretreatment of the additional water collected by the surface water and ground water collection systems, and the Chrome and Zinc shops, with discharge to the De Pere wastewater system; improving surface water drainage, and constructing berms to control surface water runoff and to prevent contaminant migration; installing monitoring wells; fencing both shops; and applying siding materials on the exterior of the building at the Zinc Shop. The estimated present worth cost for this remedial action is \$500,000, which includes an annual O&M cost of \$60,000.

PERFORMANCE STANDARDS OR GOALS: All ARARs will be met during the final action for the site.

DECLARATION FOR THE RECORD OF DECISION

SITE NAME AND LOCATION

Better Brite Plating Co. Chrome and Zinc Shops Site
De Pere, Wisconsin

STATEMENT OF BASIS AND PURPOSE

This decision document presents the selected interim remedial action for the Better Brite Chrome and Zinc Plating Shop site, in De Pere, Wisconsin, which was chosen in accordance with the requirements of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), as amended by the Superfund Amendments and Reauthorization Act. of 1986 (SARA) and, to the extent practicable, the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). This decision is based on the administrative record for this site.

The State of Wisconsin concurs with the selected interim remedy.

ASSESSMENT OF THE SITE

Actual or threatened releases of hazardous substances from this site, if not addressed by implementing the response action selected in this ROD, may present an imminent and substantial endangerment to public health, welfare, or the environment.

DESCRIPTION OF THE SELECTED REMEDY

This interim remedial action is the first of two or more operable units for the site. This operable unit addresses contamination of groundwater through treatment, engineering controls and limiting site access. Subsequent operable units will continue to address contaminated soils and groundwater through the ongoing Remedial Investigation/Feasibility Study (RI/FS).

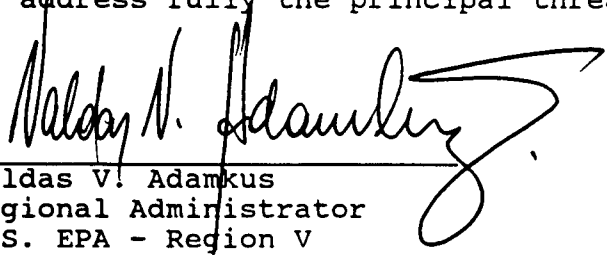
The major components of the selected remedy include:


- o Continued operation of the existing groundwater extraction and pretreatment facility;
- o Construction of berm(s) to divert the flow of surface water;
- o Installation of an additional extraction system to help alleviate ponding at the Chrome Shop;
- o Improvement of existing fences at the Chrome Shop and installation of fences at the Zinc Shop;

- o Application of siding and/or durable plastic to the exterior of the building at the Zinc Shop; and
- o Installation of monitoring wells to provide information concerning flow direction and chemistry of the groundwater.

DECLARATION

This Interim Action is protective of human health and the environment, complies with Federal and State requirements that are legally applicable or relevant and appropriate to the Interim Action and is cost effective. This action utilizes permanent solutions and alternative treatment technologies to the maximum extent practicable, given its limited scope. This action does not constitute the final remedy for the Better Brite Plating Co. Chrome and Zinc Shops site and the statutory preference for remedies that employ treatment that reduces toxicity, mobility, or volume as a principal element is addressed insofar as treatment is a principal component of this interim action. Subsequent actions are planned to address fully the principal threats posed by this site.


Valdas V. Adamkus
Regional Administrator
U.S. EPA - Region V


June 28, 1991.
Date

DECISION SUMMARY

SITE NAME, LOCATION AND DESCRIPTION

The Better Brite Plating Co. Chrome and Zinc Shops site is located in the City of De Pere, Brown County, Wisconsin, an urban area southwest of the City of Green Bay. The site includes 1.5 acres and .5 acres for the Chrome and Zinc Shops respectively, which are both situated approximately one quarter mile west of the Fox River. Both shops are in primarily residential areas and neither is currently operating due to financial difficulties (See Figure 1).

The population of De Pere is approximately 15,000. De Pere has six municipal wells located in the deepest aquifer, which are not currently contaminated, all of which are within three miles of the site, with the closest 250 feet west of the Zinc Shop. The Chrome Shop is located less than one half mile southeast to the Zinc Shop. The Better Brite Chrome and Zinc Shops have been combined as one site because of their close proximity, related background and joint nomination to the National Priorities List (NPL) on August 28, 1990. Descriptions of each of the properties are as follows:

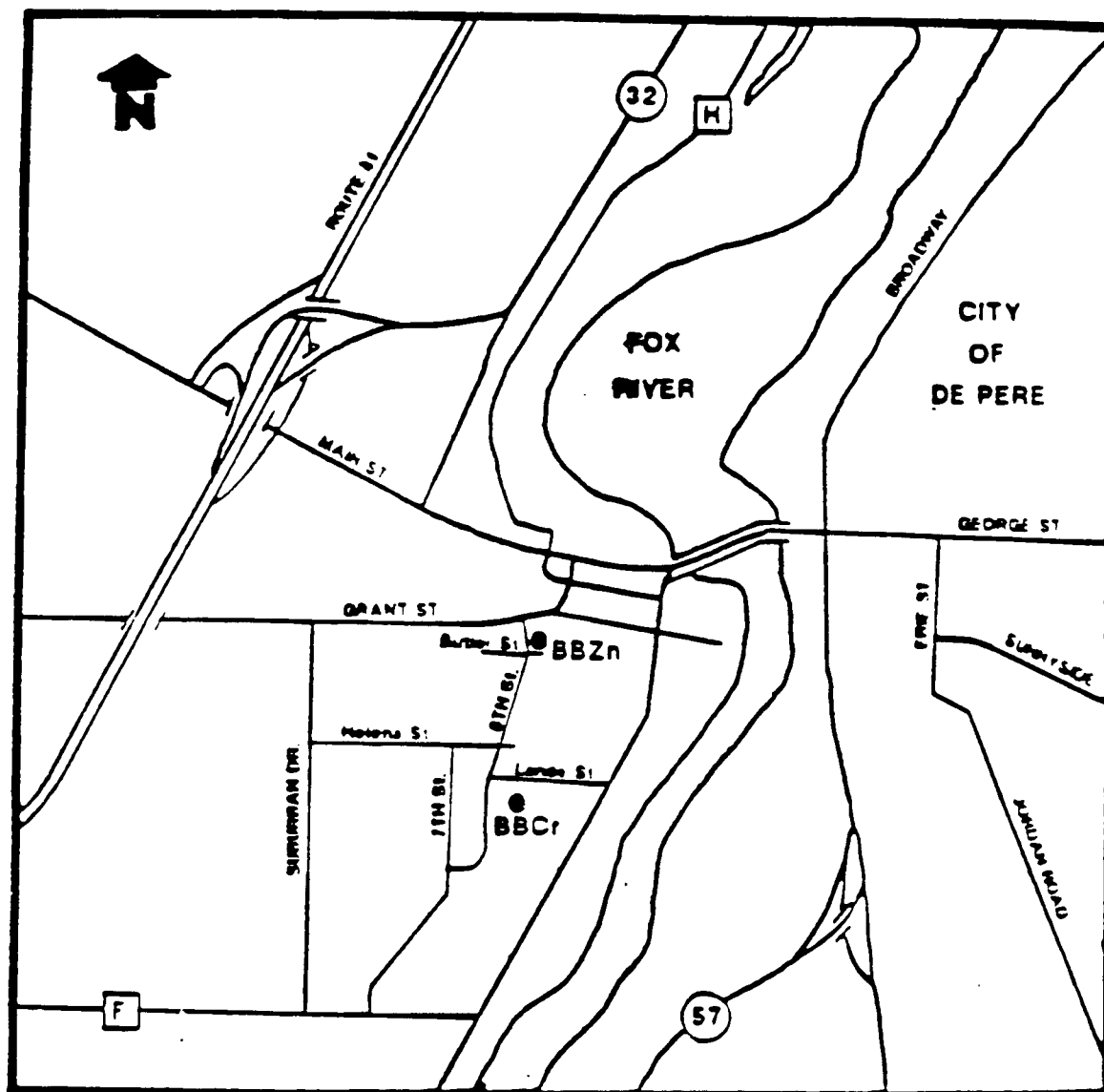
A. Better Brite Chrome Shop, 519 Lande Street, De Pere, Wisconsin

The Chrome Shop is located in a residential neighborhood and abuts residential property on three sides with an active railroad track to the east on the fourth side. The topography is generally flat except on the west side and south side property edges where it slopes downward to the adjacent properties. Surface water flow off site is, therefore generally to the south and west. Approximately 30 to 40 feet of reddish brown clay overlays the dolomite bedrock surface. The clay unit represents the area's shallow aquifer, which is contaminated at both facilities. The deep aquifers of the area consist of dolomite bedrock and an underlying sandstone unit, from which drinking water is obtained (See Figure 2).

B. Better Brite Zinc Shop, 315 South 6th Street, De Pere, Wisconsin

The site has residences located on three sides and a trucking company on the fourth side. The surface topography is generally flat. Surface water leaves the property to the north and east via natural contours. Soils near the site consist of 30 feet of lacustrine silty clay with lenses and seams of more permeable silts and sands above the dolomite bedrock. The groundwater flow direction in the aquifer is to the northwest and exhibits a strong downward gradient flow.

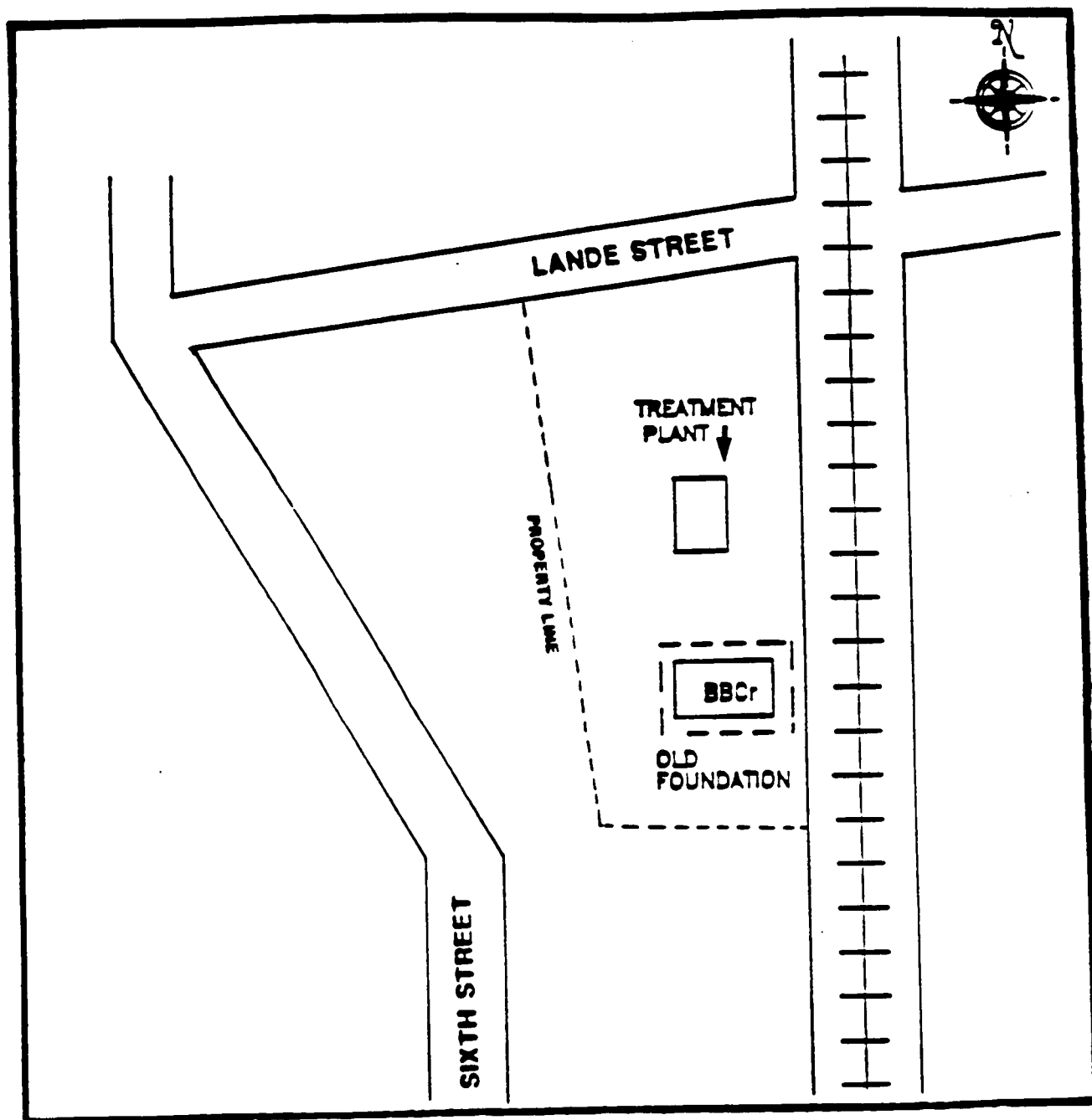
Better Brite sites location map



**BBCR = BETTER BRITE
CHROME SHOP**

**BBZn = BETTER BRITE
ZINC SHOP**

FIGURE 1



SITE MAP
BETTER BRITE CHROME
DEPERE, WISCONSIN
NOT TO SCALE

FIGURE 2

There is a municipal well located approximately 250 feet to the northwest which is thought to influence the groundwater flow in the shallow aquifer.

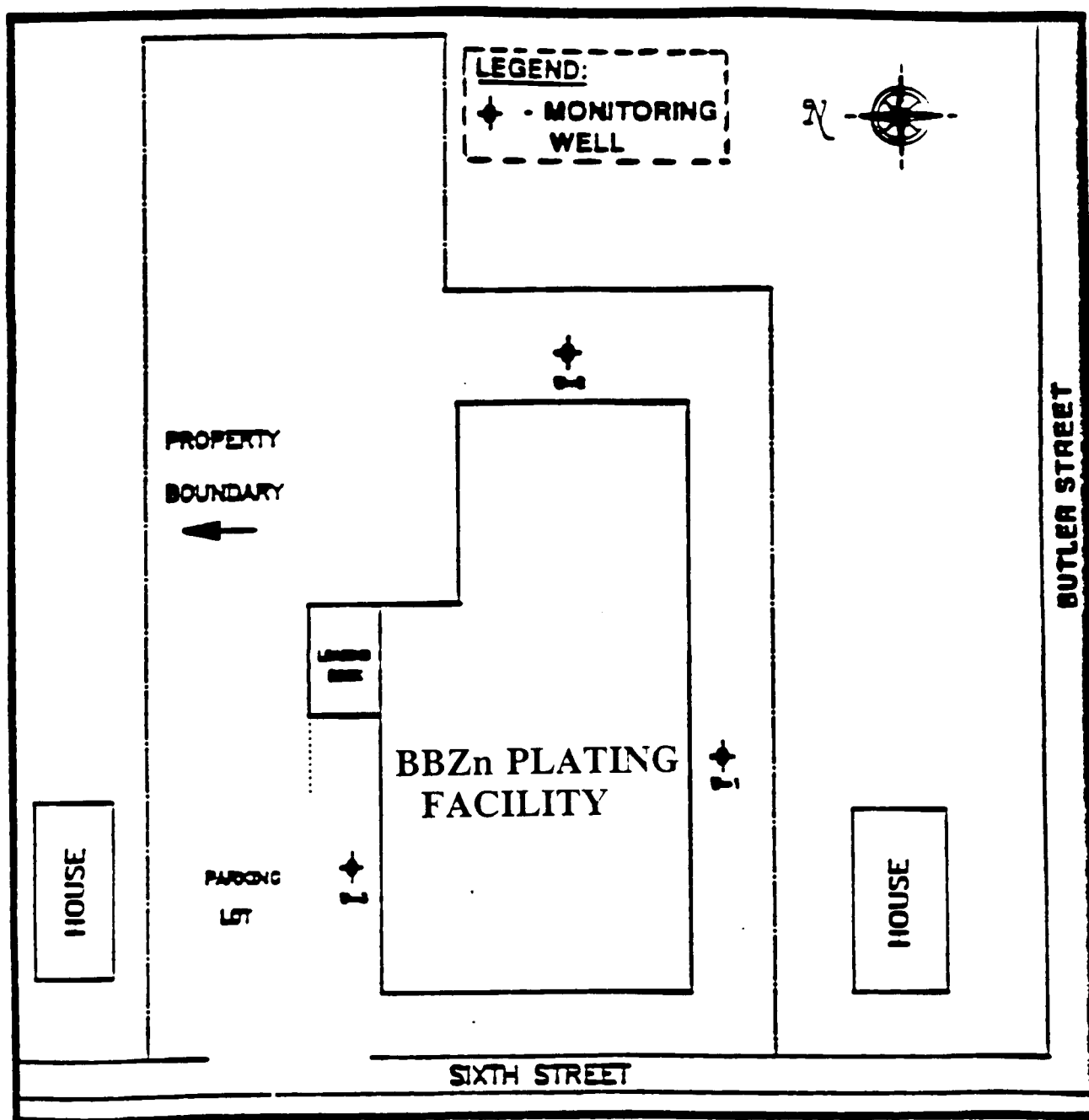
It is also thought that other municipal wells in the area may also influence the groundwater flow in the shallow aquifer (See Figure 3). These drinking water wells are located in the deeper bedrock aquifer of the area.

SITE HISTORY AND ENFORCEMENT ACTIVITIES

The Wisconsin Department of Natural Resources (WDNR) and the United States Environmental Protection Agency (U.S. EPA) are currently developing further remedial and enforcement activities to investigate and clean up the site, in addition to the action proposed by the Declaration. The history and enforcement activities relating to each of the shops are as follows:

A. Better Brite Chrome Shop

The Chrome Shop began chrome plating in the early 1970s and ceased in 1986. It used four vertical tanks buried 18 to 22 feet in the ground and several above-ground tanks in the plating process. Documented surface spills in 1978 and 1979 resulted in the construction of a shallow (15 feet deep) groundwater extraction system around a small portion of the site. It was later found that the underground plating tanks had leaked an unknown amount of plating solution and volatile organic compounds (VOCs) directly into the groundwater. U.S. EPA's Emergency Response Section removed some of the accumulated waste materials and contaminated soils. In Fall 1987, WDNR, utilizing their Environmental Fund, installed groundwater monitoring wells at the site to investigate the extent of contamination. High levels of chromium and VOCs were found in soil borings and in the groundwater samples taken both on and off site. In 1989, the building housing the Chrome Shop, was removed by a private contractor. WDNR, utilizing their Environmental Fund, constructed a clay cap and erected a fence around the area of highest soil contamination. U.S. EPA's Emergency Response Section constructed a wastewater pretreatment system and extraction system to collect and pretreat shallow groundwater prior to its discharge to the De Pere wastewater system. This groundwater collection system is still in operation and pumps approximately 5,000 gallons a day during the wettest times of the year. The system has been operating since October 1990. The Better Brite Plating Co. Chrome and Zinc Shops and its owners and operators have been referred to the Wisconsin State Department of Justice several times since 1979 for spills and hazardous waste violations. Legal efforts remain in progress.



SITE MAP
BETTER BRITE ZINC
DEPERE, WISCONSIN

NOT TO SCALE

FIGURE 3

B. Better Brite Zinc Shop

The Zinc Shop operated from 1963 to 1989. Prior to moving the chrome plating operation to the Lande Street location, this facility plated chrome in deep, vertical plating tanks similar to those used at the Chrome Shop. File information indicates that these tanks were never properly decommissioned. Consequently, they continue to be a source of contamination. Since the early 1970s, after the chrome plating operations moved to Lande Street, the facility primarily plated zinc. The facility has a long history of poor operation and spills onto the surrounding soils. Wastewater and/or plating solutions routinely leaked between the floor and sill plate of the building along the south and east walls. In 1987, WDNR, utilizing the Environmental Fund, installed wells to monitor groundwater quality. Sample results obtained from these wells showed the soil and groundwater around the building to be contaminated with heavy metals, cyanide and VOCs. Chrome was found in the basement of an adjoining residence located directly south of the facility.

On May 7, 1990, John Zenner and the Zinc Shop, Inc., were issued a proposed Administrative Order by Consent to conduct cleanup at the Zinc Shop, but the parties did not respond to the proposal in a timely manner. Therefore, on June 4, 1990, a Unilateral Administrative Order was issued to John Zenner and the Zinc Shop, Inc. ordering the parties to conduct cleanup activities at the Zinc Shop. The Respondents failed to comply with the Unilateral Administrative Order.

In July 1990, U.S. EPA's Emergency and Enforcement Response Branch (ERRB) shipped 350 cubic yards of hazardous and solid waste off site. A groundwater collection sump was constructed along the east side of the building. The sump began operation in August 1990. So far, approximately 12,000 gallons of contaminated groundwater have been pumped out. Additional groundwater is pumped as the collection sump recharges.

After the groundwater is extracted it is sent to the pretreatment system where it is held in temporary storage until 5000 gallons is available for batch treatment. Several steps are involved, first hydroxide and polymer are added, then acid to balance the ph. This precipitates the chrome and zinc from the groundwater. The chromium sludge is dewatered and sent off site for recycling at a RCRA licensed facility.

The waste is a RCRA D007 characteristic waste. U.S. EPA believes that the water generated from the pretreatment system originated from the electroplating baths; therefore, the contaminated soil and groundwater is not considered to be a RCRA F006 waste, which is designated as a wastewater treatment

sludge from an electroplating operation. Since this is merely characteristic waste, actions at the site can proceed under the Soil and Debris exemption of the Land Disposal Restrictions until that exemption expires.

COMMUNITY PARTICIPATION

A Community Relations Plan for the Better Brite Plating Co. Chrome and Zinc Shops site was finalized in September 1990. This document lists contacts and interested parties throughout government and the local community. It also established communication pathways to ensure timely dissemination of pertinent information. Subsequently, a fact sheet outlining the emergency removal activities was distributed in April 1990, in conjunction with an April 19, 1990 availability session. A tour of the pretreatment facility was held February 19, 1991. A fact sheet was also distributed in February 1991. The Proposed Plan for this Interim Action for the Better Brite Plating Co. Chrome and Zinc Shops site was sent to the Information Repository April 26, 1991. All site related documents were made available in the Administrative Record and the information repository maintained at the Brown County Public Library De Pere Branch, 380 Main Avenue, De Pere, Wisconsin. An index of the Administrative Record is found in Appendix C. The notice of availability of these documents was published in both The Green Bay Press Gazette and De Pere Journal on April 25, 1991.

A public comment period for this Interim Action was held from May 1, 1991 through May 31, 1991. In addition, a public meeting was held on May 9, 1991, to present the preferred alternative as presented in the Proposed Plan for this Interim Action. A court reporter was present at the meeting. A transcript is available and is part of the Administrative Record. All comments received by U.S. EPA prior to the end of the public comment period, including those expressed verbally at the public meeting, are addressed in the Responsiveness Summary which is attached to this ROD as Appendix A.

The provisions of Sections 113 (K) (2) (B) (i-v) and 117 of the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) have been satisfied.

SCOPE AND ROLE OF OPERABLE UNIT OR RESPONSE ACTION WITHIN SITE STRATEGY

U.S. EPA has currently organized this project into two or more operable units. The first operable unit is an Interim Action to address contamination of the groundwater by chromium by-products and other constituents. Subsequent operable units will constitute the final response action at the site and will address the remaining groundwater and soil contamination.

The contamination problems at the site are complex, as is the case with many Superfund sites. The contaminated areas at each shop represent a potential threat to residents in the immediate area who use the groundwater for drinking. Direct contact with contamination at the site also poses a potential threat. Since the Remedial Investigation components for aquifer and soil remediation will take an extended period of time to complete, U.S. EPA and WDNR are proposing this Interim Action. This Interim Action will continue and expand the ongoing activities to reduce the contamination source, to help protect the municipal drinking water supply through installation of additional monitoring wells, to reduce ponding by control of surface water runoff, and limit direct contact threats to neighboring residents and trespassers by securing the site. Current funding for the groundwater pumping and operation of the pretreatment facility will expire in October 1991. This ROD is necessary for U.S. EPA to continue these activities. Limited additional actions will also be taken to minimize direct contact with contamination. U.S. EPA believes that contamination has migrated off-site, but does not know the extent of contamination at this time. This action will not address the principal threat at the site. Subsequent operable units will address the principal threat. This Interim Action is considered consistent with the final site remediation.

SUMMARY OF SITE CHARACTERISTICS

To date, a number of contaminants have been detected in the groundwater, surface water and soil near the site. Contaminants found during past site investigations are as follows:

Contaminants of Concern

<u>Carcinogens</u>	<u>Non-Carcinogens</u>	
Tetrachloroethylene	1,1,1 -Trichloroethane	Lead
Benzene	Cadmium	Cyanide
1,1-Dichloroethane	Chromium	Zinc
DDT	Barium	

Table 1 shows the levels of contaminants found in the groundwater and the respective Federal and State groundwater standards for the contaminants. The results presented in Table 1 are from sampling performed by the WDNR on October 16, 1989. Figure 4 shows the locations of the wells sampled. The maximum contaminant levels (MCLs) as set by the Federal Safe Drinking Water Act are identified in the Table. The Enforcement Standards and the Preventative Action Limits (PALs), as set by the Wisconsin Administrative Code of NR 140, are also listed. If no remedial action is taken at the Better Brite site, the contamination could eventually affect drinking water supplies.

Table 1:
Groundwater Sample Results (ppb)
WDNR October 16, 1989

Chrome Shop Well #	Chromium	Cadium	Lead	Zinc	1,1,1 -Trichloro ethane	1,1 -Dichloro ethane	Cyanide
101B	<100	<20	<100	<20	ND	ND	NA
101A	<100	<20	<100	<20	15	1.2	-
102B	<100	<20	<100	<20	ND	ND	-
102A	<100	<20	<100	410	ND	ND	-
103B	1000	<20	<100	<20	500	27	-
104A	<100	<20	<100	<20	53	16	-
105A	30,000	<20	<100	<20	69	7	-

Zinc Shop

Well #	Chromium	Cadium	Lead	Zinc	1,1,1 -Trichloro ethane	1,1 -Dichloro ethane	Cyanide
1B	160	<20	<100	<20	21	2.2	100
1A	570	<20	<100	<20	4	1.6	160
2B	38000	<20	<100	<20	ND	ND	80
2A	48000	<20	<100	24	5.3	ND	230
3B	6600	<20	<100	<20	100	9.8	90
3A	35000	<20	<100	<20	400	35	170
MCL	100	5	50	-	200	-	200
ES	50	10	50	5000**	200	850	200
PAL	5	1	5	2500**	40	85	40

MCL - Federal Safe Drinking Water Act, Maximum Contaminant Level
 ES - WAC NR140 Enforcement Standard (Public Health Standard)
 PAL - WAC NR140 Preventative Action Level (Public Health Standard)
 A and B Indicates Wells Locations
 ND - Not Detected
 NA - Not Analyzed
 ** Stated Limit for Zinc is Public Welfare Standard
 < - Less than

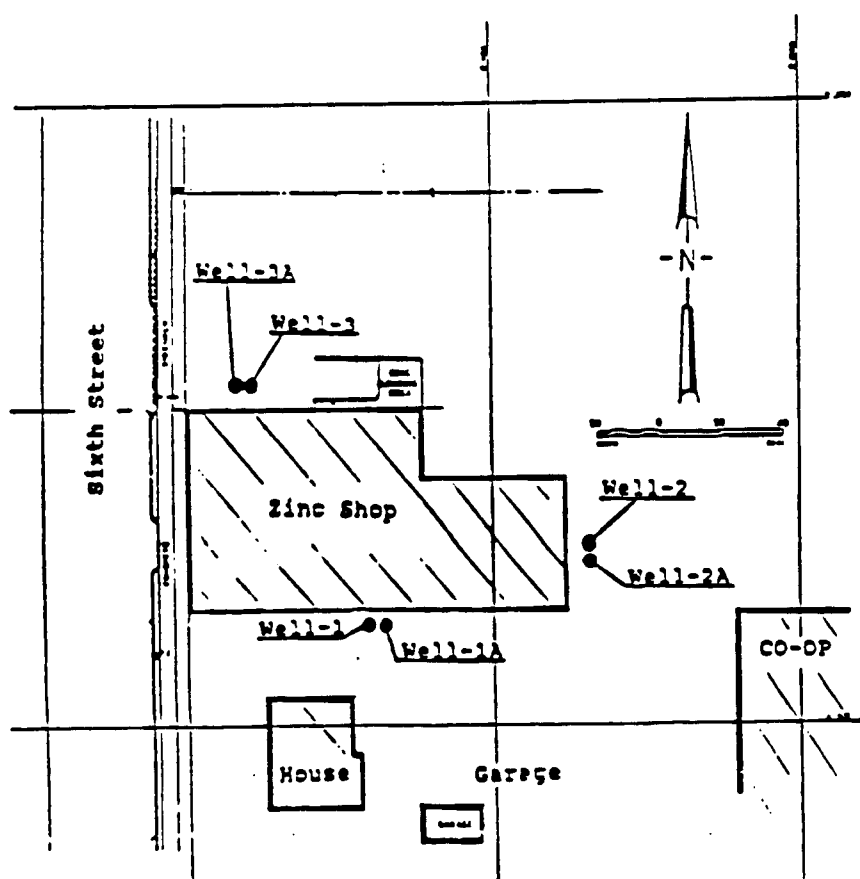
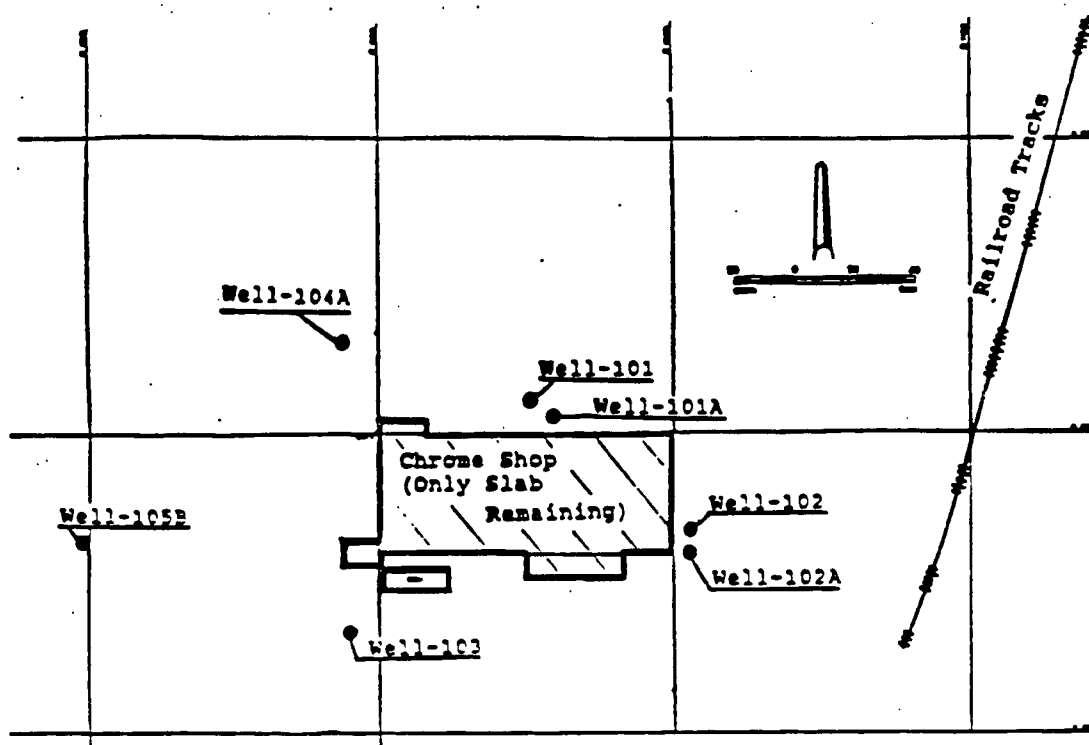


FIGURE 4

SUMMARY OF SITE RISKS

A baseline risk assessment will be part of the Remedial Investigation/Feasibility Study (RI/FS) which will be completed later. However, current site risks can be estimated from the following available information.

Currently, monitoring of the municipal wells has not shown site related contaminants in the municipal water supply. However, investigations conducted at the Chrome and Zinc Shops do indicate that chromium contamination increases with depth in the monitoring wells installed within the shallow aquifer. The shallow aquifer beneath the site recharges or leaks into the deeper aquifer, which is the source of drinking water for De Pere and some of the surrounding communities. If the levels of chromium and other contaminants increase and are allowed to spread, contamination will eventually degrade the deeper aquifers and potentially reach municipal water supplies which utilize the sandstone aquifer. The deep aquifer and municipal wells are vulnerable to contamination from the Chrome and Zinc Shops because the deep aquifer is geologically open to infiltration from the shallow aquifer above. There are reportedly private wells in the dolomite aquifer, which are located near the sources of contamination.

Based on the information supplied to U.S. EPA, the Agency has determined that a person using water supplied by private wells in the dolomite aquifer is at a possible future risk of exposure to drinking water contaminated with VOCs and metals. This possible risk of exposure is assumed, based on levels of contamination present within the shallow aquifer. This discussion is also based on the site's current condition. It is possible that contaminants may reach the sandstone aquifer and introduce potential risks to the municipal drinking water supply. In addition, there is potential for the public to come into contact with contaminated water that may be ponding on the surface or seeping into nearby residents' basements. In either of these situations, there is a potential for the public to come into contact with contaminated drinking water, surface water or soil. Fencing at the shops is required to reduce the potential for the public to come into direct contact with on-site contaminants. Surface water drainage control is necessary to avoid contact with ponding of contaminated water and runoff to the nearby river. Actual or threatened releases of hazardous substances from this site, if not addressed by implementing the response action selected in this ROD, may present an imminent and substantial endangerment to public health, welfare, or the environment.

DESCRIPTION OF ALTERNATIVES

Pursuant to CERCLA and the NCP, U.S. EPA must follow a series of steps for choosing a plan to protect human health and the environment from an actual or potential threat of contamination. U.S. EPA is required to consider a number of possible alternatives and then evaluate them according to certain standards or criteria (See Summary of Comparative Analysis of Alternatives).

In order to continue to minimize an actual or potential imminent threat to human health and the environment in the Better Brite site area, U.S. EPA is proposing to continue the ongoing removal actions and take additional limited action for the period that the RI/FS is being conducted and until actions of the alternative chosen for the second operable unit begin. The proposed Interim Action alternative includes pretreatment of the groundwater and added site security as described below. This proposed cleanup alternative is evaluated against a "no-action" alternative to determine whether this interim cleanup action is necessary or appropriate to prevent public exposure to contamination; to ensure that it will not increase contamination problems around the shops; and to ensure that the Interim Action is consistent with any final cleanup plan for the site. Alternatives for the site are as follows:

Alternative 1 - No Action: U.S. EPA would not take any action. The pretreatment facility presently controlling the source of contamination would cease operating as it does currently, in October 1991. Untreated, contaminated groundwater would enter the City of De Pere's wastewater system and possibly pond at the surface. Site security would continue to be inadequate to properly deter trespassers. There is no cost associated with this alternative. Applicable or relevant and appropriate requirements (ARARs) would not be addressed by this alternative.

Alternative 2 - Pretreatment Facility Operation: This alternative will work in tandem with subsequent source control and aquifer remediation measures. With this alternative, groundwater at the Chrome and Zinc Shops will continue to be collected, treated and modified before being discharged into the City of De Pere's wastewater system. Surface water runoff at the Chrome Shop will be controlled with additional ground contouring and berming. This will reduce the possibility for ponding of contaminated water off site. The operation and maintenance of the pretreatment plant will continue until a final remedy is implemented. Any residual created by this Interim Action will be managed according to State and Federal ARARs including Resource Conservation and Recovery Act (RCRA) Land Disposal Restrictions (LDRs).

Because of possible direct contact exposure at the Zinc Shop, U.S. EPA plans to secure the area with fencing and apply more durable materials on the Zinc Shop building's exterior. Groundwater monitoring wells will also be installed near a municipal well to

monitor the aquifers and serve as an early detection system for potential contamination of the municipal well. In addition, miscellaneous site restoration may be conducted on an as needed basis.

At this point, it is not known how long this Interim Action will be necessary. It is anticipated that this Interim Action will last at least five (5) years or until the final cleanup plan regarding restoration of the contaminated aquifer and contaminated soils has been selected and completely implemented.

The implementation of this alternative will continue to intercept contaminated groundwater and pretreat it prior to discharge to the City of De Pere's wastewater system, and will increase site security to discourage trespassing. By doing so, any actual or potential imminent threats will be minimized.

Certain ARARs will be met given the limited scope of the Interim Action. These include ARARs regarding wastewater pretreatment standards, well installation requirements, Wisconsin waste management guidelines, and waste management requirements for any pretreatment residuals including hazardous waste regulations. It is expected that subsequent remedial actions for the site will meet all ARARs.

Approximate associated costs for this alternative are as follows:

Estimated Construction Cost: \$440,000
Estimated Annual Operation and Maintenance Cost: \$60,000
Estimated Present Worth: \$500,000

SUMMARY OF COMPARATIVE ANALYSIS OF ALTERNATIVES

To evaluate the alternatives presented in this ROD, U.S. EPA uses the following nine criteria. The first seven criteria are used in evaluating all the alternatives, with more emphasis on the Threshold Criteria. The Threshold Criteria need to be met by any final remedial action chosen, while the Primary Balancing Criteria and the Modifying Criteria are used to further evaluate the alternatives, selecting an alternative based on the best balance of all the criteria. The Modifying Criteria are used to further assess U.S. EPA's Proposed Plan after the public comment period is over and comments from the community have been received. The criteria are as follows:

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 posed through each pathway are eliminated, reduced or controlled through treatment, engineering controls, or institutional controls.

COMPLIANCE WITH ARARS (APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS) addresses whether a remedy will meet all of the applicable or relevant and appropriate requirements of other Federal and State environmental statutes and/or provide grounds for invoking a waiver. An Interim Action or operable unit need not meet all ARARS but any subsequent final remedial action must satisfy all ARARS or meet the criteria justifying waiving an ARAR.

PRIMARY BALANCING CRITERIA:

LONG-TERM EFFECTIVENESS AND PERMANENCE refers to expected residual risk and the 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, OR VOLUME THROUGH TREATMENT is the anticipated performance of the treatment technologies a remedy may employ.

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.

IMPLEMENTABILITY is the technical and administrative feasibility of a remedy, including the availability of materials and services needed to implement a particular option.

COST includes estimated capital and operation and maintenance costs, also expressed as net present worth costs.

MODIFYING CRITERIA:

STATE ACCEPTANCE reflects aspects of the preferred alternative and other alternatives that the State favors or objects to, and any specific comments regarding the State ARARS or the proposed use of waivers. The Proposed Plan should address views known at the time the plan is issued but should not speculate. The assessment of State concerns may not be complete until after the public comment period is held.

COMMUNITY ACCEPTANCE summarizes the public's general response to the alternatives described in the Proposed Plan, based on public comments received. Like State Acceptance, evaluations under this criterion usually will not be completed until after the public comment period is held.

See Table 2 for an evaluation of the alternatives for the site using these criteria.

Table 2
Evaluation of Interim Action Alternatives

Threshold Criteria:

- 1) Overall protection of human health and the environment;

Alternative 1: Imminent threats to public health or the environment would not be reduced or eliminated. Contaminants may reach unsafe levels in the public drinking water supply and in residential areas. Risks due to direct contact contaminants will still exist.

Alternative 2: Imminent threats to human health due to ingestion of contaminated groundwater would be minimized by controlling the source of contamination. Exposure to VOCs, heavy metals, and other contaminants would be reduced during the time it takes to determine the final cleanup for the Better Brite site. This alternative is protective, considering the limited scope of the action.

- 2) Compliance with applicable or relevant and appropriate requirements (ARARS):

Alternative 1: There have been and will continue to be levels of contaminants which reach or exceed U.S. EPA and WDNR MCLs, Enforcement Standards and/or PALs in the groundwater. ARARS will not be met with this alternative.

Alternative 2: Prior to discharge to the City of De Pere wastewater system, the collected groundwater and surface water will need to be treated to meet the pretreatment standards as set by the receiving Publicly Owned Treatment Works, pursuant to the Clean Water Act. The City of De Pere is responsible for implementing a pretreatment program in accordance with 40 CFR Part 403. Pretreatment program requirements are included in the National Pollutant Discharge Elimination System (NPDES) permit reissued to the City pursuant to the Clean Water Act (CWA) in March 1991. The WDNR approved the De Pere pretreatment program on January 31, 1985. The objectives for the general pretreatment program include preventing the introduction of pollutants to publicly owned treatment works

(POTW) which will interfere with operations of the POTW or which will pass-through the POTW (40 CFR 403.2) The discharge from the Better Brite Plating Co. Chrome and Zinc Shops Superfund Site must comply with the requirements established by the City of De Pere pursuant to its approved pretreatment program. These requirements include compliance with local limitations and reporting requirements. Table #3 list the pretreatment standards. Wisconsin's Waste Management guidance will be followed when managing the pretreatment residuals. Disposal of any residuals resulting from the pretreatment system or from the excavation of contaminated soils will need to meet applicable State and Federal disposal regulations including Resource Conservation and Recovery Act (RCRA) Land Disposal Regulations. In addition residuals will be managed in accordance with Wisconsin's guidance, "In-State and On-Site Management of Hazardous Waste at Clean-up Actions" dated March 24, 1991. Both agencies agree to consider this guidance a "to be considered."

U.S. EPA's EERB handled the disposal of residuals by labelling them as F006 and D007 wastes. Without evidence that wastewater contaminated the soils and groundwater, RCRA ARAR's may not be applicable. Therefore, it is not yet possible to determine if the waste is listed or characteristic. It will be treated as a characteristic waste due to past groundwater concentration levels.

TABLE 3
City of De Pere
Pretreatment Plant Discharge Limits

Chromium	7.0 mg/l
Zinc	4.2 mg/l
Cadmium	1.2 mg/l
Copper	4.5 mg/l
Lead	0.6 mg/l
Nickel	4.1 mg/l
Mercury	0.005 mg/l
Cyanide	1.9 mg/l
VOCs	Not a fire or explosion hazard

Primary Balancing Criteria:

3) Long-term effectiveness:

This criterion is not applicable to this action since this action is deemed an Interim Action. This Interim Action is intended to provide protection to human health and the environment during the period the RI/FS is conducted, until a final remedy is selected and implemented.

4) Reduction of toxicity, mobility, or volume through treatment:

Alternative 1: Contaminant toxicity, mobility and volume would be reduced only until September 1991, at which time the pretreatment system will cease operation as it exists currently, if this alternative is selected.

Alternative 2: By pretreating the groundwater, chromium contaminants are removed. The chromium sludge that is recycled achieves the reduction of toxicity, mobility and volume of contaminants because the contaminants will be re-utilized in product. The chromium sludge that cannot be recycled is stabilized prior to disposal and achieves a reduction in mobility of the contaminants.

5) Short-term effectiveness:

Alternative 1: No short-term effectiveness would be achieved. The present pretreatment system would cease operation, as it exists currently in October 1991.

Alternative 2: The upgrades to the extraction system, contouring the surface to collect surface water runoff, installation of site security and monitoring wells can be completed within several months. The pretreatment facility will continue to operate. This alternative will reduce exposure to contaminants in the soils, surface water, and groundwater at and around the Chrome and Zinc Shops. No adverse impacts on human health or the environment are anticipated during the construction and implementation of this alternative.

6) Implementability:

Alternative 1: The pretreatment facility would cease operating. No additional services would occur. No implementation problems.

Alternative 2: The technology for implementation of this alternative is available, easy to implement and, for the most part, already in place at the site. Services and materials not already present at the site should be easily obtainable.

7) Cost:

Alternative 1: There is no cost associated with this alternative.

Alternative 2: Approximate associated costs for this alternative are as follows:

Estimated Construction Cost: \$400,000
Estimated Annual Operation and Maintenance: \$100,000
Estimated Present Worth: \$500,000

MODIFYING CRITERIA:

8) State Acceptance:

The WDNR has been actively involved in past and present activities at this site. The WDNR agrees to this action and WDNR's letter of concurrence is attached as Appendix B.

9) Community Acceptance:

This criteria will be addressed in the Responsiveness Summary, attached to the ROD.

SELECTED REMEDY

U.S. EPA's preferred alternative for the Interim Action at the Better Brite Plating Co. Chrome and Zinc Shops site is Alternative 2. This alternative includes the following actions:

- * Continue and expand the current operation of the pretreatment facility, by including the pretreatment of water collected by surface water collection systems and groundwater extraction systems at the Chrome and Zinc Shops and achieve Federal, State and local pretreatment standards prior to discharge to the De Pere wastewater system.

- * Improve surface water drainage at the shops and collect the surface water runoff from the shops, preventing contamination from leaving the shop areas. Modify the groundwater collection systems as appropriate at the Chrome and Zinc Shops.

- * Secure the site grounds and facilities (Chrome and Zinc Shops), as appropriate, to deter trespassers from accessing the site and coming into contact with contaminated soil and debris through installation of fencing and siding material.

* Install monitoring well(s) to better monitor potential contamination within the deep aquifer and serve as an early detection system for potential contamination of the municipal well.

Approximate costs associated with the preferred alternative are as follows:

Estimated Construction Cost: \$400,000
Estimated Annual Operation and Maintenance Cost: \$100,000
Estimated Present Worth: \$500,000

No unacceptable short term risks or cross media impacts will be caused by implementation of this Interim Action.

STATUTORY DETERMINATIONS

Under its legal authorities, EPA's primary responsibility at Superfund sites is to undertake remedial actions that achieve adequate protection of human health and the environment. In addition, Section 121 of CERCLA establishes several other statutory requirements and preferences. These specify that when complete, the selected remedial action must comply with ARARs under Federal and State environmental laws, unless a statutory waiver is justified. The selected remedy must also be the most cost effective and utilize permanent solutions and alternative treatment or resource recovery technologies to the maximum extent practicable. Finally, the statute includes a preference for remedies that employ treatment that permanently and significantly reduce the toxicity, mobility or volume of hazardous substances, pollutants and contaminants. The following sections discuss how the selected remedy, where applicable, meets the statutory requirements and preferences.

A. Protection of Human Health and the Environment

The selected remedy provides for protection of human health by limiting the public from exposure to contaminated surface water, groundwater, and soils during the performance of the RI/FS at the site and subsequent final remedial action for the Better Brite Site. The Interim Action will limit the migration of contaminated groundwater from beyond the Shop areas until a final remedial action is selected and implemented.

The remedial objective of this operable unit is the protection of human health. Protection of the environment will be achieved by a subsequent final remedial action that will further address contaminated groundwater, soils and on-site sources of contamination.

B. Compliance with Applicable or Relevant and Appropriate Requirements (ARARs)

The preferred alternative is designed to meet the City of De Pere's wastewater standards. Any residuals from the pretreatment facility or excavated contaminated soils will be managed in accordance with Wisconsin's Waste Management guidelines and will meet Federal and State regulations governing off-site disposal, including RCRA LDR. ARARs not met by the Interim Action will be met by the subsequent final remedial action or criteria for an ARAR waiver will be met.

C. Cost Effectiveness

U.S. EPA believes that the preferred alternative is cost effective and is consistent with any subsequent final remedial action for the site.

D. Utilization of Permanent Solutions and Alternative Treatment Technologies to the Maximum Extent Practicable

The preferred alternative does not propose to resolve the contamination problems at the Better Brite Plating Co. Chrome and Zinc Shops site, but is intended to act as an Interim Action until a final remedy is selected and implemented. Additional investigation work will be conducted by the WDNR and U.S. EPA to study the contamination in and around the Chrome and Zinc Shops more extensively. When the Agencies have developed plans to address the remaining contamination, they will notify the community and will hold a public meeting to discuss findings of the RI/FS and any proposed final action to address the Better Brite site.

This Interim Action addresses the statutory preference for reduction in toxicity, mobility and volume achieved through treatment as a principal element of the selected remedy. Future operable units will specifically address the remediation of on-site sources and contaminated soils and groundwater with respect to statutory requirements.

E. Preference for Treatment

Since the selected alternative treats inorganic contamination from metal plating by-products and reduces their toxicity, mobility and volume, this Interim Action addresses the preference for treatment. This statutory preference will also be evaluated in future operable units.

The preferred alternative is believed to provide the best balance among alternatives with respect to the criteria used to evaluate remedies especially the five (5) balancing criteria. Based on the information available at this time and the limited scope of this Interim Action, U.S. EPA believes that preferred alternative protects human health and the environment, would comply with ARARs,

would be cost effective, would utilize permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable, would satisfy the preference for treatment as a principal element and would be consistent with any subsequent final remedial action selected for the Better Brite Plating Co. Chrome and Zinc Shops site.

DOCUMENTATION OF SIGNIFICANT CHANGES

There have not been any significant changes from the remedial action proposed in the U.S. EPA's Proposed Plan to the one presented in this ROD.

RESPONSIVENESS SUMMARY

Appended to this ROD is the Responsiveness Summary which presents background information and summarizes the public comments received during the public comment period and U.S. EPA's responses to the comments.



State of Wisconsin DEPARTMENT OF NATURAL RESOURCES

Carroll D. Besadny
Secretary
Lake Michigan District Headquarters
1125 N. Military Avenue
P.O. Box 10448
Green Bay, Wisconsin 54307-0448

June 26, 1991

File Ref: WID-560010118
Brown Co. - SW/SF

Mr. Valdas Adamkus, Regional Administrator
U.S. Environmental Protection Agency
230 South Dearborn Street
Chicago, IL 60604

Subject: Selected Superfund Remedy - Interim Action
Better Brite Plating Chrome and Zinc Plating Shop

Dear Mr. Adamkus:

The Wisconsin Department of Natural Resources (WDNR) is providing you with this letter to document the State of Wisconsin's concurrence on the Interim Action Remedy proposed for the Better Brite Superfund Site. The proposal, as identified and more fully described in the Record of Decision, includes the following activities:

- 1) EPA will continue operating the groundwater pretreatment plant, constructed through EPA's Emergency Response Program, for a five (5) year period, commencing October 1991.
 - The pretreatment plant is to continue operating as a temporary remedial measure, funded through EPA. The continued operation of the pretreatment system is necessary to reduce and control contaminant migration.
 - The State will be responsible for contracting for operation of the plant. The State will pay the selected contractor and be reimbursed by EPA over the five (5) year period.
 - Operation of the on-site extraction systems is included as part of operation of the pretreatment plant.

Mr. Valdas Adamkus - June 26, 1991
Concurrence - Better Brite Superfund Site

- Treatment residuals will be managed in accordance with Wisconsin's "Interim Policy for Promoting the In-State and On-Site Management of Hazardous Wastes in the State of Wisconsin".
- 2) Construct a berm or berms to divert surface water away from nearby residential areas, with collection and treatment of diverted water prior to discharge.
- 3) Improve existing fencing at the Chrome Shop and install fencing at the Zinc Shop.
- 4) Apply siding and/or durable plastic to the exterior of the building at the Zinc Shop, to prevent direct contact.
- 5) Install a limited number of groundwater monitoring wells (<5) to provide information concerning flow direction and chemistry of the groundwater.
- Until the limits of contamination are better understood, none of the monitoring wells are to penetrate the sandstone aquifer of the area. Without an evaluation of the extent of contamination at the site, the risks associated with penetrating the sandstone aquifer may outweigh the potential benefits of such a well.
- It is expected that these wells would consist of water table observation well(s) and piezometer(s) screened in the unconsolidated sediments and possibly piezometer(s) screened in the upper portion of the underlying dolomite bedrock unit.

Estimated costs associated with the above activities, including continued operation of the pretreatment system for a five year period, are presented below. The State of Wisconsin will contribute ten percent (10%) of the costs associated with the Better Brite Site Interim Action.

Estimated Construction Cost	\$400,000
Estimated Operation Present Worth	\$100,000
Estimated Total Present Worth	\$500,000

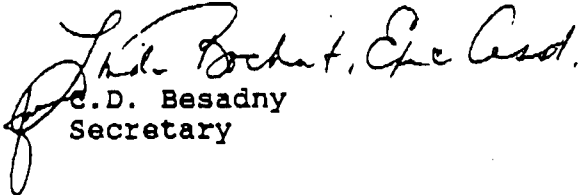
The WDNR concurs with the selected remedy described above and presented in the Record of Decision for this Interim Action at the Better Brite Site. EPA has assured the WDNR that this Interim Action will not trigger the ten (10) year operation and maintenance provision of CERCLA, section 104(c)(3)(C). The State of Wisconsin assures the EPA, pursuant to section 300.510 of the NCP, that it has an approved capacity assurance plan in place.

Mr. Valdas Adamkus - June 26, 1991
Concurrence - Better Brite Superfund Site

Thank you for your support and cooperation in the contamination problem at the Better Brite Site of DePere, Wisconsin. The state recognizes and appreciates U.S. EPA's efforts as the lead agency to date on this project. We anticipate that this favorable working relationship will be continued in the future when the state is the lead agency on all future actions. We also understand that our staff will continue to work in close consultation with your staff during the Remedial Design and Remedial Action Phases associated with this Interim Action.

If you should have any questions regarding this matter, please contact Mr. Paul Didier, Director of the Bureau of Solid and Hazardous Waste Management, at (608) 266-1327.

Sincerely,


C.D. Besadny
Secretary

cc: Lyman Wible - AD/5
Paul Didier - SW/3
Patricia Hanz - LC/5
Lee Bouschon - WS/2
Dave Hantz - WW/2
Robert Barnum - LMD-WS
Doug Rossberg/Terry Koehn - LMD-SW
Mark Giesfeldt/Sue Bangert/Celia VanDerLoop - SW-3
Sue Louisnathan/David Linnear - EPA Region V SHS-11