PRIVILEGED AND CONFIDENTIAL

ENVIRONMENTAL ASSESSMENTS OF HAMILTON INDUSTRIES FACILITIES TWO RIVERS, WISCONSIN

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February 1993

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I. INTRODUCTION

ENVIRON Corporation (ENVIRON) was retained by Patricia Pickrel, Esq., to assist her in providing legal advice to Fisher Scientific International, Inc. and to conduct environmental assessments of the three facilities owned by Hamilton Industries and located in Two Rivers, Wisconsin (Figure 1). The purpose of ENVIRON's review was to identify on-site and off-site concerns that could result in potentially significant liabilities or compliance costs. In addition, occupational health issues were briefly reviewed to determine whether any major areas of concern are present. In the context of this report, the term "significant" is generally used to describe potential areas of concern that could result in liabilities or compliance costs in excess of $25,000. ENVIRON's conclusions about the relative significance of the areas of concern are based primarily on our professional judgment and are meant to provide guidance in areas of uncertainty.

No environmental samples were collected as part of ENVIRON's efforts. Also, ENVIRON did not independently verify all of the written and oral information provided to us. Consequently, this report is accurate and complete only to the extent that information provided to ENVIRON was itself accurate and complete.

This report is subject to the attorney-client privilege.

II. SUMMARY OF MAJOR CONCLUSIONS

Based on our review to date, ENVIRON has identified the following area of concern for Hamilton Industries (Hamilton) that may result in potentially significant environmental liabilities or compliance costs.

Hamilton has disposed of wastes at various facilities, including four Superfund sites. There may be substantial liabilities associated with these disposal activities. However, given the limited information on quantities, it is difficult to estimate the magnitude of the liability. Additional environmental concerns for each of the three Hamilton facilities are presented below.

Hamilton Industries, Main Plant (18th Street)

- Asbestos-containing materials (ACM) are present throughout buildings at Hamilton's Main Plant, located at 1316 18th Street, Two Rivers, Wisconsin. These materials include insulation on boilers, piping, and ovens. Abatement of ACM has been conducted by Hamilton on an as-needed basis. The amount, condition, and potential need for further abatement of ACM at the facility are unknown. Estimated costs for conducting an asbestos survey to determine the need for such abatement is $10,000 to $20,000. An estimated bid of $156,447 has been provided to the facility for removal of ACM in the former steel plant area. Given the amount of potential ACM observed by ENVIRON, this bid is low. The facility also received a bid of $326,000 for removal of asbestos-containing thermal insulation identified during a site survey. It is unclear what areas of the facility are included in this estimate. To better evaluate potential asbestos abatement costs for the entire facility, a site-wide asbestos survey would be necessary.

- The Main Plant has a history of OSHA violations and workers compensation claims for trauma incidents and for respiratory exposures.

- Hamilton has not performed a comprehensive evaluation of Wisconsin air regulations, specifically, whether they are subject to Wisconsin Hazardous Air Pollutant Emission Standards. If the facility is subject to these standards, the facility could be required to apply additional control techniques to limit emissions, which could result in significant costs.

Hamilton Industries, Columbus Street Plant

- Hamilton has provided a cost estimate of approximately $50,000 for removal and replacement of approximately 2,000 linear feet of asbestos-containing pipe insulation remaining at the facility.

Hamilton Industries, Roosevelt Street Plant

- No likely significant environmental liabilities identified at the Roosevelt Street site.

III. HAMILTON INDUSTRIES, MAIN PLANT, 1316 18th STREET

The results of ENVIRON's investigation of Hamilton's Main Plant facility (the Site) at 1316 18th Street, are presented below. ENVIRON's review is based primarily on the following:

- A visit to the facility by William Stone and Kim Green of ENVIRON on December 2, 1992, accompanied by Patricia Pickrel, Esq. and interviews with William Tice, Superintendent of Maintenance, and Don Schnell, Facility Manger, of Hamilton. Mr. Tice and Mr. Schnell have been employed with Hamilton since 1956 and 1972, respectively.

- A review of documents provided by facility personnel including environmental permits, correspondence from regulators, documents concerning the operation of an on-site incinerator operation, and Material Safety Data Sheets. ENVIRON was not allowed, however, to review independently the facility's environmental records or files.

- A review of the Wisconsin Department of Natural Resources (DNR) Lake Michigan District Headquarter files in Green Bay on December 3, 1992, pertaining to the facility's air permit compliance, wastewater discharge permit compliance, and solid and hazardous waste.

- A review of results of an environmental data base search of federal and state data bases provided by Environmental Risk Information & Imaging Services (ERIIS) on December 3, 1992.

- A review of Sanborn fire insurance maps of the Site, obtained from ERIIS and dated 1891, 1898, 1904, 1913, 1922, 1929, and 1944.

- A review of the Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) lists during the month of December 1992, to determine whether any off-site management facilities identified by ENVIRON as used by Hamilton are listed.

- Aerial photographs of the Site for the years 1972, 1973, 1976, 1990 and 1992 were reviewed by ENVIRON.

A. Site Setting and History

Hamilton owns and operates a manufacturing facility at 1316 18th Street, Two Rivers, Wisconsin. This facility is commonly referred to as the Main Plant. Current operations at the facility involve the manufacture of wood laboratory furniture. The Site consists of approximately 13.1 acres of land and encompasses an area approximately four blocks north and south from 15th Street to 19th Street, and approximately one and one-half blocks east and west from Jefferson Street to the west bank of the East Twin River (Figure 2). There are three main building complexes on the facility; the wood plant and offices located north of 17th Street, the former steel plant located south of 17th Street, and the raw materials storage and the former dry kiln located on the east side of the plant across East River Street. These buildings consist of approximately 1.1 million square feet of indoor floor space and occupy most of the property. Railroad tracks run north and south along the eastern portion of the property between the dry kiln building and the wood manufacturing plant.

There is an open area in the southeastern portion of the property that is currently used for employee parking. This parking area has a cement surface and is located on the former site of a building where Hamilton used to manufacture washing machines and dryers. A smaller open area to the south of the parking lot is gravel-covered. A small open area on the northwest corner of the wood plant is also used as an employee parking lot and has an

asphalt surface. Hamilton also owns two small parking lots immediately adjacent to the facility. One is located across Jefferson Street between 16th Street and 17th Street; the other is located north of the plant buildings on the north side of 19th Street.

The Main Plant employs approximately 250 people and operates two shifts per day. There are several access points to the facility; the facility is not enclosed within fencing. A security force is employed to provide 24-hour surveillance of the facility.

The facility is located in the downtown area of the city of Two Rivers. Single-family homes are located to the north and west of the facility. The nearest residences are located approximately 30 feet from the northern border of the Site, across 19th Street. Commercial businesses are located immediately adjacent to the facility on the west and southwest sides, including a church and City Hall. Eggers Industries Plywood Division, East Plant, also a wood product manufacturer, has two buildings located adjacent to the facility on the northeast section of the property parcel. The East Twin River is located to the east of the facility merging with the West Twin River and Lake Michigan to the south of the facility.

According to Mr. Tice, Hamilton's initial operations involved the manufacture of wood type used in printing and wood medical cases and operations began at the Main Plant in 1903. However, as discussed in Section J, Sanborn fire insurance maps obtained by ENVIRON indicate that Hamilton Manufacturing Company was conducting operations at the Site in 1891. Thus it appears that Hamilton was manufacturing on the site prior to 1891. According to Mr. Tice, the Site may have been undeveloped prior to occupancy by Hamilton.

Buildings currently present on the Site are reported to date from 1903 to approximately 1960. Numerous building additions have occurred at the facility during this period. Many of the buildings are multi-storied and are constructed of a variety of building materials including brick, stone, wood, steel and concrete. Building conditions vary with age and past use.

According to Mr. Tice, the Site has always been involved in the manufacture of wood products. In 1917, the facility began production of drafting furniture. In World War I the facility was reportedly involved in the manufacture of airplane fuselages. Radio cabinets were produced throughout the 1920's. In the 1930's, Hamilton added the manufacture of

washing machines and dryers to its product line. According to Mr. Tice, this was discontinued in 1968. Also in the 1930's, Hamilton began production of wood furniture for children. During World War II, the facility reportedly manufactured metal ammunition boxes. In 1959, the facility began producing folding tables. In the 1960's, the manufacture of overbed tables, wire carts, shelving, stretchers and medical devices began. According to Mr. Tice, steel furniture manufacture was discontinued at the Main Plant about 1987. In 1968, Hamilton was purchased by American Hospital Supply Corporation and operated under the name American Hamilton. Hamilton was subsequently sold to Barancik Ltd. (Mr. Charles L. Barancik) in 1982, at which time American Hospital merged with Baxter Healthcare Corporation. Barancik Ltd. was the current owner of Hamilton until December 31, 1992.

Other properties currently owned by Hamilton are also located in Two Rivers and include the Columbus Street and Roosevelt Street plants. These facilities are described in Chapters IV and V below. According to counsel for Hamilton, there are four formerly owned properties. Table 1 lists these formerly owned properties along with information provided to ENVIRON regarding each property.

The topography of the Site is flat with a drop of about 8 feet to the open parking area on the southeastern portion of the property. Surface water runoff from the Site would generally drain to the east and southeast to the East Twin River. Stormwater is collected from roof drains and discharged via storm sewers to the East Twin River.

The facility and surrounding businesses and residences are serviced by city water and sewer. City drinking water is obtained from Lake Michigan. According to Mr. Tice there is no use of ground water either at the facility or locally. Mr. Tice was not aware of the depth to local ground water sources.

Based on a data base search conducted on December 3, 1992, the Main Plant is not listed on the U.S. Environmental Protection Agency (EPA) Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS). The CERCLIS list is a master list of sites where a release of hazardous substances to the environment has been reported. Of the sites currently and formerly owned by Hamilton, the former Hamilton facility located at 5500 Muddy Creek Road in Cincinnati, Ohio, is listed on the

TABLE 1
Properties Formerly Owned by Hamilton Industries

Site Location	Site Status
5500 Muddy Creek Road Cincinnati, OH 45328	100,000 square feet; reportedly produced hospital, homecare, and thermal products. Present on RCRIS, TRI, and CDS/AIRS data bases. On the CERCLIS list and designated as no further action planned.
8000 Castleway Drive Indianapolis, IN 46250	36,000 square feet of production area.
Kosciusko, Mississippi	No information.
143 S. Jackson Street Elkhorn, WI 53121	175,000 square feet; employed approximately 100 people; fabricated metal lunchroom tables and medical exam tables; acquired by Hamilton in 1986 or 1987 from A.O. Smith Company; property was sold in 1990. Present on RCRIS, TRI, and CDS/AIRS data bases.

Notes:

RCRIS (Resource Conservation Recovery Act Information System) identifies and tracks hazardous waste from the point of generation to the point of disposal. Sites listed in the RCRIS data base are those which comply with the regulations stipulated in the Resource Conservation Recovery Act.

TRI (Toxic Release Inventory) lists all facilities which manufacture, process, or import toxic chemicals in quantities in excess of 25,000 pounds per year and are required to register with the EPA under Section 313 of the Superfund Amendments and Reauthorization Act (SARA Title III) of 1986. Data contained in the TRI system covers approximately 20,000 sites and 75,000 chemical releases.

CDS (Compliance Data System) was developed in conjunction with the AIRS system. CDS contains compliance information including: compliance status, agency actions, and inspections, for the major sources of the five primary air pollutants.

AIRS (Aerometric Information Retrieval System) contains detailed information pertaining to over 85,000 sites which submit air emissions reports. Developed under the Clean Air Act, this data base also maintains data on compliance status and enforcement actions.

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CERCLIS list and is designated as requiring no further action or investigation. Hamilton reportedly produced hospital, homecare and thermal products at this facility. While historic operations conducted by Hamilton at the Muddy Creek facility may present a potential concern for liabilities, sites having the "no further action" notation are apt to present lesser concerns.

Environmental data base information on sites within a one-mile radius of the Main Plant is presented in Section J.

B. Description of Operations

Current operations at Hamilton's Main Plant involve the manufacture of wood laboratory cabinetry. These operations are mainly conducted in the wood plant which consists of buildings north of 18th street and west of East River Street. On-site processes include cutting and planing of wood and plastic laminate material, gluing of veneer panels, gluing of plastic laminate, assembly of cabinets, spray application of stain, and spray application of varnish. According to Mr. Tice, wood products will also occasionally be painted. The facility uses approximately 77,000 square feet of lumber per week, 19,000 square feet of particle board per week, and 38,000 square feet of plastic laminated wood per week. The facility manufactures approximately 500 cabinets per week.

Much of the lumber is initially stored in the building on the eastern portion of the facility that also contains drying kilns. Hamilton used to receive green lumber and dry it in these kilns; the facility no longer conducts lumber drying operations on-site. According to facility personnel, no lumber treatment operations were conducted at the site. However, prior to 1986, the facility did treat some cabinets with a vermin-proofing material called Wood Life which contained pentachlorophenol (PCP). Currently, cabinets are reportedly treated with a material called Kop-Coat.

Cabinets are constructed of whole lumber or of particle board to which veneer or plastic laminate are glued on. The facility reportedly purchases most of the plastic laminated wood used in operations, rather than constructing laminate on-site. As needed, Hamilton does produce plastic laminated wood counter tops by applying plastic laminate to particle board using a contact cement. Waste cement from this operation is disposed with

the facility's solid waste in on-site dumpsters. Veneer panels are applied using glue in a hot press. The facility uses approximately 4 to 5 drums per year of glue in the hot press operations. Waste glue from this operation is discharged to the sanitary sewer.

After being cut to size and planed, counter tops, which are usually constructed of plastic laminate on wood, are attached to the wood frame. Waste wood scrap and sawdust is burned on-site in the facility's boilers to generate steam for heat. After assembly the wood products are sent to the finishing area, where the non-laminate wood products have a stain applied to them in a spray application. After staining, varnish is applied also via spray application. The stains used at the facility are reported to be non-hazardous and are water-based. The varnishes used are solvent-based and, when spent, are considered a hazardous waste. Approximately 300 gallons of varnish are used per week. Approximately 50 gallons of solvents are used each week to clean spray guns and other equipment used in the varnishing operations. These cleaning solvents include methyl ethyl ketone, toluene, and Solvent Blend 533, which apparently contains a mixture of 6 solvents. Wastes from these cleaning operations are collected as hazardous and are currently disposed off-site. After finishing, the cabinets are sent through final assembly and are then stored on-site prior to distribution.

Except for infrequent special orders, no paints are currently applied to the wood furniture. Paints and lacquers have been used historically at the facility in the manufacture of steel furniture. Some wastes from these operations were formerly disposed of by burning on-site in the Main Plant's boilers. According to Mr. Tice, it is not known whether the paints formerly used in the manufacture of steel furniture may have contained lead. Also, no lead testing of paint used throughout the plant on walls and some floors has been conducted.

The facility is heated by burning wood and natural gas in four boilers to generate steam. Two of the boilers were installed in 1926; one boiler was installed in 1929; and the final boiler was installed in 1947. Exhaust from the boilers is discharged via a 200 foot high stack. The boilers are inspected annually by Factory Mutual Engineering and given an operating permit by Wisconsin Department of Industrial Labor and Health Relations (DILHR). Wood that is burned in the boilers consists of wood scrap and sawdust

generated by Hamilton in the wood plant operations and of wood scrap obtained from outside sources. According to Mr. Tice, all of the wood burned in the boilers consists of unfinished wood to which no varnish or stain has been applied. The amount of wood burned in 1990 was reported to be 17,000 lbs.

Asbestos

Currently, no asbestos is used in the manufacture of cabinets at the Main Plant. Asbestos has been used as a flame retardant material in products in the past. Reportedly, the use of asbestos in products at the Main Plant was discontinued in the early to mid-1980's.

During the site visit, ENVIRON observed the presence of large amounts of what appeared to be asbestos-containing material (ACM) in varying condition throughout the Main Plant. The observed material mainly consisted of insulation around piping. Mr. Tice confirmed that there is ACM present throughout the facility. Hamilton has conducted several asbestos-abatement projects in selected portions of the facility on an "as-needed" basis. According to Mr. Tice, damaged ACM in areas perceived to have to potential for human exposure have been examined and abated. ENVIRON was provided with several documents related to abatement projects in various areas of the plant. These removals appear to have been appropriately performed and the removed asbestos appears to have been properly disposed to approved landfills.

An asbestos evaluation of the Main Plant was conducted by the Wisconsin Department of Health and Social Services in 1984. Air samples collected for this evaluation did not indicate the presence of significant concentrations of asbestos. However, samples were collected from only two locations in the Main Plant. Dust samples collected from the Main Plant did indicate the presence of asbestos particles. The state recommended that Hamilton conduct a more thorough clean-up of dust in the facility.

A large amount of ACM was observed to be present in the boiler room (Building 3). Mr. Tice confirmed the presence of asbestos in the insulation of the boilers and stated that monitoring of air in the boiler room had not indicated the presence of asbestos fibers above

permissible exposure levels. Hamilton did request and receive a bid of $53,127 in July 1990, to remove asbestos insulation in the boiler room.

As steel product manufacture is no longer conducted at the Main Plant, Hamilton has considered demolishing the buildings used to house steel operations, which are located south of 17th Street. As part of these plans, Hamilton requested and received a bid dated June 25, 1991, of $156,447 to remove asbestos-containing insulation from piping, tank, and boilers, and transit boards from most of the buildings in the former steel plant. The facility also obtained a bid for demolition of buildings south of 17th Street that constitute the former steel plant. The bid amount was $1.5 million and included a bid for asbestos "work" of $165,635. Given the amount of potential ACM observed by ENVIRON in the former steel plant and the boiler room and the fact that a comprehensive asbestos survey of the facility has not been conducted, the bids for asbestos abatement of the former steel plant are low. Potential demolition worker exposure to asbestos-containing dust and fibers released during demolition activities may be of concern during such a project.

The facility also received a bid on June 21, 1991 of $326,000 for removal of asbestos-containing thermal insulation identified during a site survey. It is unclear from the proposal what areas are actually included in the bid and whether it includes areas in both the wood plant and the former steel plant.

The amount of asbestos present in the Main Plant facility and the potential need for and cost of remediation cannot be determined without performing a complete asbestos survey. ENVIRON estimates that a complete asbestos survey of the facility would cost between $10,000 and $20,000.

Polychlorinated Biphenyls (PCBs)

During the site visit, ENVIRON observed several electrical transformers at the Main Plant. According to Mr. Tice, several of the pole-mounted and pad-mounted transformers located at the facility are owned and maintained by the Wisconsin Public Service. According to Gary Erickson of the Wisconsin Pubic Service, the dielectric fluid in these transformers does not contain polychlorinated biphenyls (PCBs).

In addition, Hamilton owns and operates 18 pad-mounted electrical transformers and 1 pole-mounted electric transformer at the property. Testing of these transformers was conducted by Hamilton in the late 1980's and early 1990's. As a result of the testing many of the transformers were found to contain PCBs at varying concentrations. Eight of the transformers were retrofilled with non-PCB containing dielectric fluid. The PCB contaminated fluids were removed and disposed by PPM Inc. In addition, it appears that one transformer, formerly located in the front of Building 38, was removed and disposed of. Disposal of PCB wastes appears to have been conducted in accordance with regulatory requirements.

After retrofilling, PCBs were still present at measurable concentrations in 11 of the transformers. The concentration of PCBs in Hamilton's 19 transformers is listed in an environmental compliance assessment report performed by Mostardi-Platt Associates, Inc. (MPA), in July, 1991. According to Mr. Tice, these reported values are correct. As defined by the federal Toxic Substances Control Act (TSCA), 17 of Hamilton's transformers do not contain PCBs, i.e., contain PCBs at concentrations of 0-50 ppm, and 2 of the transformers are classified as PCB-contaminated, i.e., contain PCBs at concentrations of 50-500 ppm. Hamilton received a bid of $3,600 to remove and dispose of the 2 PCB-contaminated transformers; however, according to facility personnel, there are no current plans to remove any of the transformers.

Wisconsin regulates PCB wastes somewhat differently than the EPA, in that wastes containing PCBs of any concentration must be disposed in the same manner required under federal regulations for PCB wastes containing concentrations of 50-500 ppm. Thus, if Hamilton were to remove or drain any of its transformers containing PCBs, the wastes must be disposed by: incineration in an approved incinerator; burning in a high efficiency boiler; or landfilling in an approved chemical waste landfill.

Facility personnel had no knowledge of leaks or spills from the on-site transformers. MPA noted oil-staining on the concrete pad holding 6 electrical transformers near building 38. Three of these transformers reportedly contain measurable quantities of PCBs in the dielectric fluid. Subsequent to the MPA assessment, Hamilton had wipe sampling of the stained area performed. Results from this sampling did not indicate the presence of PCBs.

Thus this staining does not appear to constitute a potential source of contamination. It is recommended that Hamilton regularly inspect the transformers that contain measurable amounts of PCBs to ensure that no leakage occurs. Reportedly, Hamilton has no plans to replace or remove transformers.

Hamilton also reportedly had elevator hydraulic fluid in buildings 7A and 7B tested for PCB content. According to MPA, PCBs were not detected.

C. Chemical and Chemical Waste Storage

1. Underground Storage Tanks

The facility had one underground storage tank (UST), a 200-gallon steel gasoline tank of unknown age. This tank was located outside in a concrete vault adjacent to the pump house and provided power for the fire pump. The tank was removed in 1990 and, according to the contractor's removal report, was in good condition with no evidence of leakage. Volatile organic compound (VOC) readings of soil from around the tank reportedly did not show evidence of gasoline contamination. The contractor states that the tank abandonment conducted met clean closure requirements of the DNR. Also, the tank was tightness tested in September 1988 and was found to be tight (i.e., not leaking). It does not appear that the operation or removal of this tank constitute an environmental concern.

A 1959 insurance map indicates the possible presence at that time of two large (17,000 and 20,000 gallon) fuel oil USTs on the southeastern portion of the property adjacent to the Chicago North Western Railroad tracks. Hamilton personnel have no knowledge of the possible existence of these tanks. It is unknown whether the tanks actually existed at the property and whether they are still in place or were removed. A geophysical survey could be conducted to assess their possible presence. However, if past releases from these tanks occurred, potential current impacts on ground water quality are apt to be limited given the nearness of these tanks and, therefore, potentially contaminated ground water, to the East Twin River, and the time that has elapsed since these tanks may have been in operation.

During ENVIRON's site visit, a pipe was observed outside adjacent to the boiler room (Building 3) that appeared to be a potential fill pipe for an UST. Mr. Tice indicated that to the best of his knowledge, there was never an UST present at this location. Given the proximity of this pipe to boiler room, and that two of the boilers were equipped with oil burners in the early 70's, it is possible that a fuel oil UST could have been installed at this location to provide alternate fuel for the boilers.

2. Aboveground Storage Tanks

The following aboveground storage tanks (ASTs) are located at the Main Plant:

- 1 250-gallon propane tank
- 6 air compressor tanks
- 3 1,000-gallon waste solvent tanks
- 1 60,000-gallon water tank

The propane tank is located outside adjacent to the pump house and provides fuel for the fire pump. The air compressor tanks are located at various locations within the facility and are inspected annually by Factory Mutual Engineering and have Certificate of Operations issued by the Wisconsin DILHR.

The three solvent tanks are located within Building 5 and were formerly used to store waste solvents generated by Hamilton and other local businesses prior to incineration on-site in the facility's boilers. These tanks did not have any method of secondary containment around them. Hazardous wastes were stored adjacent to the tanks in 55-gallon drums which were then emptied into the ASTs. Spills during filling and emptying of these tanks would spread onto the concrete floor of Building 3. Paint on the floor under the tanks was noted by ENVIRON to be peeling. No floor drains were observed in the building. According to Mr. Tice, there has never been a significant leak or spill from either the waste solvent tanks or any of the other ASTs.

The three waste solvent tanks were reportedly cleaned out as part of the facility's actions to close out the tanks in accordance with its Resource Conservation and

Recovery Act (RCRA) Transportation, Storage, Disposal Facility (TSDF) Part B permit closure plan. Closure of these tanks is discussed further in Section D.

3. Drum and Other Storage Areas

According to the 1991 environmental compliance assessment of the facility performed by MPA, approximately 1200 different chemical or substances are used by Hamilton. Numerous product chemicals in drums and other containers are stored throughout the facility at a variety of locations, including Building 9, Building 2, Building 42, and Building 5. As full 55 gallon drums of raw material are received at the Site, they are moved to their respective areas to be used. Methylene chloride is stored on the third floor of the Building 13 in the wood plant. Paints, varnishes and solvents are also stored on this floor in the paint mixing room. Various areas in the vacated steel plant also contain stored chemicals. Drums of product lubricating oils for forklifts are stored in Building 5 along with varnish, contact cement, and methyl ethyl ketone (MEK) which is used as a cleaning solvent in varnishing operations. Drums at this location are stored on their sides and no provisions were apparent to handle material spills. ENVIRON observed that for many of the material storage areas of the Main Plant, drums and containers are stored in open areas without berming or other means of containing spills, if such occurred. According to Mr. Tice, facility personnel conduct weekly inspection of drum storage areas.

Reportedly, no full drums are stored outside. ENVIRON did not observe storage of empty drums outside.

Hazardous wastes, flammable solvents, and opened containers of paints are stored in a storage room referred to as the paint storage room located on the fifth floor of the wood plant finishing area in Building 9. Many of the materials in this area were stored in unidentified containers and appeared to be old and no longer in use. Waste solvents are collected into a 55-gallon drum that is reportedly removed off-site by a contractor for disposal once it becomes full. Materials in this area do not appear to be appropriately segregated or managed in accordance with hazardous waste storage requirements and general safety practices. This room also contains floor drains that

may be self-contained or may be connected to the sewer system. Spills in this room could potentially release hazardous materials to the Two Rivers water treatment plant, if the drain is connected to the sanitary sewer system, or to the East Twin River, if the drain is connected to the storm sewer system. Floor drains may also be present in other chemical storage areas in the Main Plant. Inspections of the hazardous waste area are conducted weekly by facility personnel; Hamilton keeps a log of these inspections.

Empty drums are stored at several locations around the facility and may or may not be labeled as to their former contents. Several empty drums, which were labeled as having contained hazardous waste, were found to be stored outside of central locations. Empty drums are eventually removed to the Columbus Street facility for off-site recycling by Acme Barrel or, if possible, are returned to vendors (e.g., glue drums).

It is recommended that the facility review and improve its chemical storage, handling, and spill prevention and response procedures. Discontinued chemicals or substances stored at the facility should be identified and disposed of properly. Incompatible hazardous chemicals or substances should be stored separately and the facility should consider installing berming around storage areas to provide secondary containment for potential spills. The facility should also consider staging all of the empty drums in one area prior to transfer to the Columbus Street facility. Also, the facility should review floor drain connections to determine whether there are any that have the potential to receive releases of hazardous substances and discharge such releases to the sanitary sewer or even to the storm sewer.

D. Hazardous and Nonhazardous Solid Waste

1. Current On-Site Waste Management

Based on the facility's annual hazardous waste activity report, Hamilton generated 8,835 pounds of hazardous waste in 1991. This included 2,808 pounds of flammable liquid (Hazardous Waste Code F005) from paint cleanup operations, 2,640 pounds of obsolete materials (F001), 1,048 pounds of materials (D001) from maintenance parts

cleaning operations, and 2,339 pounds of waste materials (F002) from flushing operations in the manufacturing of upholstered tops. The flushing operations most likely involved the generation of methyl ethyl ketone solvent waste.

According to facility personnel, waste solvents generated during manufacturing operations include toluene and methyl ethyl ketone. As discussed above, solvent wastes are accumulated in a drum in the paint storage room where approximately 55 gallons per month are generated, and in a drum in the control laboratory. Under current practices, no hazardous wastes are disposed on-site. All hazardous wastes in 1991 were collected for off-site disposal or recycling by the Safety Kleen Corporation of Dolton, Illinois, or Kaukauna, Wisconsin. Reportedly, Hamilton continued to use Safety-Kleen for all hazardous waste off-site disposal in 1992 and will do so again in 1993.

Current hazardous waste generation by Hamilton is less than historic generation rates as the facility no longer conducts painting, coating, and degreasing operations for steel furniture manufacture. Hamilton generated 18,704 pounds of hazardous waste in 1990; 11,929 pounds in 1989; 19,221 pounds in 1988; and 24,578 pounds in 1987. Since 1988, all waste materials have been disposed off-site.

Hamilton is currently registered with the U.S. Environmental Protection Agency (EPA) as a hazardous waste generator. Under this RCRA designation, the facility generates more than 1,000 kilograms per month of hazardous waste but does not store these wastes on-site for more than 90 days. As a generator of hazardous waste, the facility is also required to: (1) obtain an EPA generator identification number; (2) prepare and use the Uniform Hazardous Waste Manifest; (3) establish preparedness and prevention programs, contingency plans, emergency procedures, and personnel training; (4) dispose of waste at RCRA-permitted facilities; and (5) institute a waste minimization program. Hamilton's EPA identification number is WID000608398. Based on results of WDNR inspections, facility documents and information provided by facility personnel, Hamilton appears to be in substantial compliance with applicable RCRA regulations, except for labeling and storage requirements and a possible need to conduct and document additional waste stream analyses. The facility may want to review its emergency preparedness and prevention program, including its contingency

plan and emergency procedures, to ensure they are complete and reflect current operations.

The DNR conducted a hazardous waste inspection of the Main Plant in April, 1989. The facility was found to be in violation of hazardous waste regulations for improperly labelling hazardous waste storage drums in the paint laboratory and the wood finishing storage area and for not closing these drums when not in use.

Hamilton held a hazardous waste transport service license which was issued by the DNR and expired on September 30, 1992. According to Mr. Schnell, this license was required for transport of both hazardous and nonhazardous wastes, but in 1990 the DNR separated the licensing of these wastes. The facility does not plan to obtain a license for the transport of either hazardous or nonhazardous wastes.

Other wastes generated at the facility include wood scrap, waste stain, waste glue, scrap metal, cafeteria waste, cardboard and paper trash, and stain and varnish spray booth filters. Most of the wood scrap is burned in the facility's boilers to generate heat. Scrap metal is handled by an affiliate of Sadoff-Ruddy Iron and Metal, a scrap recycler located in Fondulac, Wisconsin. Liquid waste stain and glue is disposed to the sanitary sewer. Paper, cardboard, and cafeteria trash, waste contact cement, and waste stain and varnish filters are placed in on-site dumpsters which are handled by Manitowoc Disposal Company. These wastes are disposed to the Ridgeview Landfill in Whitelaw, Wisconsin. The commercial dumpsters are located on the east side of the facility. According to Don Schnell, approximately 20,000 to 50,000 pounds of trash are generated per month. The Material Safety Data Sheet (MSDS) for the stain used at the Main Plant states that this material can be disposed in a landfill. Occasionally some scrap wood will be disposed to the Ridgeview Landfill. According to facility personnel, ash from operation of the boilers is considered to be nonhazardous and is also disposed to the Ridgeview Landfill.

Additionally, waste oil from forklift maintenance operations is generated and collected in drums for off-site recycling. Approximately one drum of waste oil is generated at the Main Plant in a year. Once a full drum of waste oil is collected, it is removed to the Columbus Street facility. According to documents provided to

ENVIRON, at least 150 gallons of waste oil were generated in 1990. In 1989, it appears that 1,095 gallons of waste oil were generated from operations both at the Main Plant and at the Columbus Street Plant. During 1988, 1989, 1990, and 1991, waste oil was handled by ESI-Rogers Oil Company. According to Mr. Tice, this disposal firm still handles the facility's waste oil.

Oily rags are placed in on-site dumpsters for disposal to the Ridgeview Landfill. Hamilton should review generation and disposal practices for rags to ensure that they do not contain hazardous waste such as solvents and do not constitute a hazardous waste. The facility should also evaluate whether the waste spray booth filters generated from varnishing operations, which are solvent-based, can be appropriately disposed to Ridgeview Landfill as a nonhazardous waste.

2. Historic On-Site Waste Management

Hamilton used to incinerate waste solvents, paints, and crank case oils in their on-site boilers as an additional energy source and as a means of disposing of such wastes. Wastes were burned in two of the four boilers designated as B23 and B24. Hamilton apparently began burning of hazardous wastes in 1974. Incineration of wastes other than wood was discontinued in 1987. Hamilton also accepted waste solvents from off-site sources for incineration in the boilers. These wastes were obtained from a variety of businesses in the Green Bay, Appleton, and Milwaukee area.

With the promulgation of regulations governing the incineration of waste materials, Hamilton submitted a RCRA Part A hazardous waste permit application to EPA in 1982 to store and incinerate hazardous wastes on-site. EPA granted the facility interim status to operate as a hazardous waste management facility until a RCRA Part B permit was granted for the facility. The DNR granted the facility a Hazardous Waste Facility Interim License on October 7, 1982, for storage and incineration of hazardous waste materials.

In 1986, Hamilton submitted a RCRA Part B permit application to the EPA for approval as a hazardous waste storage facility. This was done to permit on-site storage of hazardous wastes for more than 90 days prior to incineration in the boilers. The

facility was issued a Part B permit on January 30, 1986. Conditions of the Part B permit included disposal of boiler ash as a hazardous waste to an approved hazardous waste management facility, and chemical and physical analysis of wastes incinerated in the boilers.

ENVIRON's review of analytical results of the boiler ash generated during burning of liquid wastes in the boilers, confirmed its hazardousness due to corrosiveness. According to facility personnel, they have no knowledge of how boiler ash was disposed prior to 1974. According to facility personnel, between 1974 and 1980, when Hamilton was burning hazardous wastes in its boilers, the ash was landfilled off-site. Facility personnel did not know where the ash was disposed. After 1980, boiler ash was reportedly disposed to Ridgeview landfill as a nonhazardous waste, despite the fact that the facility was burning hazardous wastes in its boilers from 1980 until 1987. As discussed previously, boiler ash continues to be placed in the facility's dumpsters for disposal to Ridgeview Landfill.

The facility also applied for and received an exemption request for burning hazardous wastes for energy recovery from the DNR on May 6, 1986. As a result, the facility's waste burning operations were considered to constitute recycling and Hamilton was not required to obtain a license as a hazardous waste incinerator. The approval noted that the burning of waste solvents was also regulated by the Wisconsin air management program. Also, the approval listed emission limitations for burning operations that were to be met for substances such as chromium, lead, and chlorine, and for parameters such as pH. In addition, conditions such as no burning of wastes at a rate greater than 200 gallons per hour, and fingerprint analysis of off-site wastes, were included in the approval.

In 1983, Hamilton reported to the DNR that they had incinerated 564,285 pounds of hazardous wastes, the majority of which was received from outside sources. In 1985 the facility incinerated approximately 674,000 pounds of hazardous waste; and in 1987, the facility incinerated 83,329 pounds of hazardous waste. In 1988, the facility reported it had not incinerated any hazardous wastes.

As a result of an investigation of fallout from air emissions from Hamilton, the facility was issued an notice of violation (NOV) by the DNR in 1987 for violating Wisconsin's hazardous and air pollution laws. The company was found to be allowing particulate matter to be emitted, failing to submit adequate waste analysis plan, accepting and burning an unapproved waste, and failing to fingerprint (analyze) wastes prior to incineration. Hamilton was also found to be accepting and incinerating hazardous wastes which exceeded the maximum limitations for chloride and pH set in the company's 1986 exemption request approval from DNR. As a result, a Stipulation and Judgment was issued against Hamilton for the violations amounting to $25,000.

After issuance of the NOV, Hamilton ceased burning of hazardous wastes in the boilers and began sending all of the facility's hazardous wastes off-site for treatment and disposal.

After the facility had stopped incinerating wastes in 1987, Hamilton closed its hazardous waste storage facility reportedly in accordance with an approved closure plan that had been submitted to the DNR in January of 1988. According to Mr. Tice, closure consisted of the emptying and cleaning out of the three 1,000-gallon ASTs used to store liquid hazardous wastes prior to incineration. The walls and floors of the building that houses the tanks were also reportedly cleaned and painted. A closure inspection was conducted by the DNR on January 13, 1988, and a letter issued by the DNR on July 13, 1988, confirmed that Hamilton had closed its storage facility. Apparently, as a result of this closure, the facility is no longer considered to be a TSDF facility, according to the RCRIS listing. As described above, the facility's current designation is that of a hazardous waste generator only.

According to facility personnel the types of hazardous wastes generated and disposal methods employed at the Main Plant prior to the 1970's and 1980's is not known. The facility historically used the Two Rivers Landfill for waste disposal. Facility personnel have no knowledge of on-site disposal of wastes either to soils or the river; however, information is limited to more recent operations.

Off-site waste management and disposal firms and locations currently and historically used by Hamilton Industries for operations at all of its facilities, are discussed in Chapter VI.

E. Air Emissions

1. Current Operations

At the Main Plant facility there are two sources of air emissions, the boilers and the wood plant finishing operations. A 200 foot high stack exhausts four boilers which are used to generate steam and heat for the plant. Three of the boilers burn scrap wood and the fourth uses natural gas as a fuel source. There is no air emission control equipment on the boilers or the boiler stack. During cold weather all three wood-fired boilers are used; during warmer weather only one of the boilers is used. The natural gas-fired boiler is only used if the facility does not have enough wood chips in-house to burn for heat. The boiler stack is equipped with an opacity meter that trips an alarm if measurements exceed 20%.

Wood finishing operations consist of the spray application of solvent-based varnishes, water-based stains, and adhesives and cleaning of various pieces of equipment in the spray booth areas. Use of varnish, cement (adhesive), glues, and cleaning solvents results in emissions of VOCs, several of which are listed as hazardous air contaminants. The varnishing spray booth areas are equipped with air recovery systems and blanket-type paint filters.

Because the facility emits air pollutants, Hamilton submitted an application in 1986 for a mandatory operation permit (MOP) for existing sources including the boilers and the spray booths. The MOP application did not include burning of hazardous wastes in the boilers. According to the letter from the DNR acknowledging receipt, submittal of this application allowed the facility to continue operations until the Wisconsin DNR issued an air permit.

As the first step in the permitting process, the DNR issued a draft Preliminary Determination (PD) in November 1991 for wood finishing, formica production, and

boiler operations at the Main Plant. The facility was considered to be in an attainment area for all pollutants with National Ambient Air Quality Standards and was considered to be a major source due to VOC emissions. A major source in an attainment area is a facility which has the potential to emit 100 tons/year VOCs. The Department's determination was that the permit application could be approved.

No final version of the permit was issued by the DNR. With the passage of the 1990 Clean Air Act Amendments, the DNR has not been issuing MOPs and is now in the process of developing a new air operation permit program. Proposed rules for this program will be issued in early 1993. Under these rules, Hamilton will be required to submit a new application for an air permit. Applications for these permits will likely be sent to major source facilities in the fall of 1993; minor sources will be contacted on a more delayed schedule.

According to Vickie McKinney of the DNR Air Management Bureau, information presented in PD's will allow facilities to more easily complete new applications. Thus, air permitting costs that will be incurred by Hamilton should not be significant. Emission limitations listed in the draft PD will reportedly remain the same. Stack emissions testing may be required under the new permit.

Specific sources listed in the draft PD include: 4 boilers; 11 spray application varnish booths; cement spray application for formica counter tops; use of Blend 533-66 as a cleanup solvent in the 11 varnish booths; and use of methyl ethyl ketone as a cleanup solvent in the 11 varnish booths. For the wood-fired boilers the draft PD lists emission limits for: particulate matter; sulfur dioxide; nitrogen oxides; carbon monoxide; organic compounds; visible emissions; and hazardous air contaminants. For the varnish spray booths, the cement spray application, and use of cleanup solvents, emission limits are listed for organic compounds and hazardous air contaminants.

ENVIRON examined the air emission limit listed in the draft PD for particulate matter from the wood-fired boilers. The allowable emission rate for each of the three wood-fired boilers is 0.6 lbs/MMBTU/hr input to the stack. This equates to allowable particulate emission rates of 84 tons/yr for boiler B21, 42 tons/yr for boiler B23, and 42 tons/yr for B24. Thus, it appears that a total allowable emission rate for particulate

matter from operation of the boilers would be 168 tons/yr. The actual particulate matter emissions rate, as reported in the draft PD, is only 37.3 tons/yr; actual emissions in 1991 were reported to be only 54 tons.

Based on the estimate of the amount of wood used in 1990, and an emission factor for wood in an uncontrolled boiler of 8.8 lbs/tons wood (USEPA, Compilation of Air Pollution Factors, AP-42, 1986), ENVIRON estimated that the boilers emit 75 tons per year of particulate matter. While this figure is higher than actual emissions, it is still below the total allowable emission rate for particulate matter of 168 tons/yr and suggests that the facility would likely not have difficulty in meeting the emission rates established in the draft PD.

The 1990 Amendments to the federal Clean Air Act (CAA) do not include emission limitations for particulate matter. Therefore, it does not appear that these federal rules would require Hamilton to install control technologies for particulate matter on the boiler stack.

ENVIRON also examined air emission limits in the draft PD for sulfur dioxide, nitrogen oxides, and carbon monoxide emitted from the wood-fired boilers. Allowable emission rates in DNR's draft PD for these compounds are:

Boiler B21: 5 tons/yr for sulfur dioxide
20 tons/yr for nitrogen oxides
51 tons/yr for carbon monoxide

Boiler B23: 3 tons/yr for sulfur dioxide
4.8 tons/yr for nitrogen oxides
28 ton/yr for carbon monoxide

Boiler B24: 3 tons/yr for sulfur dioxide
4.8 tons/yr for nitrogen oxides
28 ton/yr for carbon monoxide

Actual rates derived by the DNR for all three boilers total 2.5 tons/yr for sulfur dioxide, 4.2 tons/yr for nitrogen oxides, and 25 tons/yr for carbon monoxide. Actual emissions in 1991 were reported to be 0.93 tons/yr sulfur dioxide, 6.29 tons/yr for nitrogen oxides, and 25 tons/yr for carbon monoxide.

Based on the estimate of the amount of wood used in 1990 of 17,000 tons, ENVIRON estimated that the boilers emit 1.3 tons/yr for sulfur dioxide, 24 tons/yr for nitrogen oxides, and 34 to 400 tons/yr for carbon monoxide. Except possibly for carbon monoxide, the actual total emission rates do not exceed the allowable emission rate for any of three boilers and are fairly comparable to the emission rate determined by ENVIRON based on EPA emission factors. This suggests that the facility would likely not have difficulty in meeting the emission rates established for the boilers in the draft PD for sulfur dioxide and nitrogen oxides. It is unclear whether the facility would be able to meet the emission limit set for carbon monoxide in the draft PD. Since this is the limit that will likely be adopted under the DNR's new air program, it is also unclear whether Hamilton will be able to meet the emission limit for carbon monoxide under its new air permit, when issued.

The 1990 Amendments to the federal Clean Air Act (CAA) do not include emission limitations for sulfur dioxide, nitrogen oxides, or carbon monoxide. Therefore, it does not appear that the federal rules would require Hamilton to install control technologies for these emissions on the boiler stack.

The DNR reportedly conducts routine inspections of air emission sources at the Main Plant. In 1990, a visual inspection of emissions from Hamilton's stack conducted by the DNR resulted in the facility being issued a NOV for exceeding the Wisconsin opacity limit of 40%. Hamilton reportedly made changes to allow the boilers to operate more efficiently, thus reducing the opacity. A Malfunction Prevention and Abatement Plan for the boiler equipment was also prepared and submitted to the DNR. No enforcement action was taken for the opacity violation. As stated in a letter from the DNR, as of March, 1992, no additional visible emission violations have occurred. According to a 1988 air inspection report, the facility was found to be in compliance with all applicable DNR air regulations.

According to Mr. Tice, no employee or citizen has complained regarding air emissions from this facility. However, this does not appear to be accurate, as, during a 1987 DNR investigation, complaints against the facility were lodged by local businesses for damage to the finish of automobiles from fallout from air emissions from Hamilton. These complaints are discussed in greater detail below.

Other State Air Regulations

Wisconsin has developed Hazardous Air Pollutants Emissions Standards (HAPES) which apply to all air emission sources which emit hazardous air contaminants. A hazardous air contaminant is any air contaminant for which state ambient air quality standards do not exist. For example, standards are listed for n-butyl alcohol and toluene which were reported on the facility's 1991 Toxic Chemical Release Inventory Reporting Form (Form R) as air emissions. The Wisconsin emission rates established for these compounds are 131.16 lbs/hour and 29.472 lbs/hour, respectively, for points greater that 25 feet in height.

It does not appear that Hamilton has made a thorough or careful determination of whether they are exempt or not from the HAPES regulations. The facility submitted a letter to the DNR, Bureau of Air Management stating that, while they emit hazardous air contaminants, they believe that emissions at the 18th Street facility do not exceed the emission limits for any HAPES contaminants except for formaldehyde in a gluing process. The HAPES limit for formaldehyde is 250 pounds per year. Application of Best Available Control Technologies (BACT) would be required for emissions above the limit. The facility's MOP application indicates that actual formaldehyde emissions from the gluing process are 16 pounds per year. As the amount of formaldehyde emitted from the gluing process appears to be well below the HAPES limit, Hamilton's statement to the DNR appears to be incorrect. It should be noted that, according to Steve Dunn of the DNR Air Management Bureau, evaluations of HAPES should be made for maximum potential emission rates, not actual rates.

Compounds such as benzene, formaldehyde, and phenol, which are emitted during the burning of wood, also have established HAPES. Emissions from the combustion of

wood by combustion units are exempt from HAPES if they operate with good combustion technology (i.e., operate with a minimum of emissions of hazardous air contaminants). Good combustion technology is determined on an individual case-by-case basis by the DNR and may include consideration of factors such as carbon monoxide emissions, temperature, and retention time. Hamilton wrote the DNR to inquire about the requirements for good combustion technology and stated that they felt they would meet any such requirements. However, according to the DNR, it is up to the state to make a determination of whether good combustion is being achieved. Testing is usually required for items such as carbon monoxide in making such a determination. Thus, Hamilton's compliance with this requirement is uncertain.

The DNR document entitled *The Definition of Good Combustion Technology for Wood*, states that hazardous combustion emissions are exempted from limits if the system utilizes "good combustion technology". The system capacity must be at least 10 MMBTU/hr and cannot burn any fuels which are glued, treated or coated. The minimum furnace exit temperature is 1250°F and the minimum furnace gas residence time is 1 sec. If the system capacity is between 10 and 50 MMBTU/hr, the maximum 8 hour average CO concentration is 600 ppmdv with 7% O_2 and if the capacity is greater than 50 MMBTU/hr, the maximum 8 hour average CO concentration is 500 ppmdv with 7% O_2.

Discussions with the DNR regarding potential nitrogen oxides (NO_x) Reasonably Achievable Control Technology (RACT) standards for existing non-utility boilers have indicated that Wisconsin is in the early stages of developing such standards. Wisconsin appears to be further along in the development of NO_x standards for utility boilers than non-utility boilers. These standards, when set, may be somewhat more stringent than the EPA's NO_x RACT for utility boilers. Wisconsin RACT standards for utility boilers will likely include a preference for increasing the combustion efficiency of the boiler, rather than imposing add-on controls. Wisconsin may adopt a similar policy for non-utility boilers.

The facility may also want to review the applicability of Wisconsin's Organic Emission regulations to operations at the 18th Street facility for the spray varnish

operations and possibly for solvent parts cleaning operations. These rules govern the amount of photochemically reactive organic compounds that may be emitted from process lines that apply coatings. If the facility is not exempt from these regulations (i.e., if emissions from each source are greater than 30 lbs/day or 6.2 lbs/hr), then emissions of photochemically reactive organic compounds must be controlled by 85%. This can be achieved by: (1) control devices; or by (2) evaluating and limiting the amount of volatile compounds present in the varnishes used by Hamilton.

Other Federal Air Regulations

On December 16 and 17, the USEPA conducted an open meeting on Proposed Wood Furniture Rules and/or Control Techniques Guidelines. This meeting was held to discuss the development of: (1) a Control Techniques Guideline covering volatile organic compound emissions associated with wood furniture manufacturing; and/or (2) proposed rules regulating hazardous air pollutant emissions for this industry. Promulgation of these rules would likely not occur in the near future.

According to Steve Dunn of the DNR, Air Management Bureau, if EPA were to develop and issue a Control Techniques Guideline, the state of Wisconsin would enact the guideline in nonattainment areas, but not in attainment areas such as Two Rivers. If EPA were to instead develop numeric emission standards, Wisconsin would, in accordance with federal law, adopt these standards into the state's air regulations. If Wisconsin had already established a standard under its Organic Emission Rules or HAPES which is covered by a new EPA rule, EPA's standard would be adopted regardless of whether it was more or less restrictive.

The 1990 Amendments to the federal CAA will designate as major sources those emitting any of 189 toxic chemicals listed in the amendments at a rate of more than 10 tons per year or more than 25 tons per year for combined chemicals. Under the amendments, major sources must meet emission levels using Maximum Achievable Control Technology (MACT). As reported on its 1991 Toxic Chemical Release Inventory Reporting Form (Form R), the facility emitted 6.3 tons of n-butyl alcohol and 6.7 tons/yr of toluene for a total of 13 tons for the year. Therefore, it appears unlikely

that the 1990 CAA Amendments will result in significant liability for the Main Plant. However, it should be noted that the Wisconsin DNR determined that potential emissions of volatile organic compounds at the Main Plant were 532 tons/yr, based on information provided in the 1986 MOP application. Operations in 1986 included spray painting which, as discussed below, would result in greater VOC emissions than current operations. Hamilton may want to carefully review or test the amount of VOCs that are actually emitted at the Main Plant.

2. Historic Operations

During the period when Hamilton was manufacturing metal furniture at the 18th Street plant, the facility operated several paint spray booths. Paint usage consisted of mostly powder-type paint and a water-based enamel. The powder paint was applied electrostatically to metal parts and then heat activated in a curing oven. The enamel was baked on in an oven. These processes may account for organic emissions reported in the draft PD being much higher than they currently appear to be.

Prior to submittal of the 1986 application for a MOP, it is unclear as to whether the facility had air permits for all of its emissions. However, Hamilton does appear to have received approval from the DNR in 1974 and again in 1980 to burn hazardous waste material in its boilers. The facility also appears to have received an air pollution control permit on September 18, 1980, authorizing construction and operation of eight new paint arrestor spraying booths in the former steel plant. While it is unclear whether Hamilton had applied for and received all appropriate air permits and approval for its operations prior to 1986, it appears unlikely that this would present a significant liability given the level of review of air emissions that has been conducted to date by the DNR.

Emission limits set in the September 18, 1980, air permit for the construction and operation of the eight paint spraying booths required that the paint used contain less than 2.33 lbs/gas VOCs (less water). The permit also required the facility to discontinue use of existing spray booths. No in-stack monitoring or ambient air quality monitoring by the facility was required. During a 1986 inspection, Hamilton was found

to be using an acrylic paint for metal coating that exceed the VOC content limit, and using older paint spray booths, instead of the new ones exclusively. The inspection report states that operation of the old existing spray booths would be reviewed under the MOP program. All of the spray booths currently used in the wood plant are older ones.

During the period that Hamilton was burning hazardous wastes in their boilers, complaints were received from Two Rivers businesses and residences regarding fallout from the Hamilton facility. An investigation of the problem was conducted by the DNR, Air Management Bureau, in May 1987. It was concluded that Hamilton was the major source of the fallout occurring in downtown Two Rivers. The source of the fallout was identified as incomplete combustion of waste solvents in the boilers with subsequent exhaust to the 200 foot boiler exhaust stack, and overspray from the metal coating spray paint booths.

As a result of the fallout investigation, the facility was issued a notice of violation (NOV). The facility was found to be in violation of state air pollution laws for allowing particulate matter to be emitted. The hazardous waste violations have been previously discussed. The Stipulation and Judgment issued against Hamilton for the violations amounted to $25,000. In response to the NOV, Hamilton instituted corrective actions to reduce paint overspray and ceased burning of hazardous wastes in the boilers.

Hamilton was named as the responsible party for the fallout problem in several insurance claims filed for damage to automobiles. These claims were paid by Hamilton's insurance carrier, Liberty Mutual Insurance Company. Payments to individuals ranged from $121 to $294. It also appears that a payment of $7,439 was made to a local car dealership for damage. According to counsel for Hamilton, no other environmental insurance claims have been made against the facility.

Stack testing conducted for Hamilton in 1973, indicated that particulate emissions have historically exceeded established limits. Testing results indicated an average particulate matter emission rate of 1.14 lbs/MMBTU/hr. As listed in the draft PD, the limit is 0.6 lbs/MMBTU/hr. It is not known how burning operations may have changed over the 19 years since the stack testing was conducted. However more

current data on actual emissions do not appear to exceed allowable limits listed in the draft PD.

F. Wastewater Discharges

1. Sanitary Discharges

Wastewater generated at the Main Plant consists of sanitary waste, blowdown from the boilers, and condensate from the facility's air compressors. Water treatment chemicals are added to the boiler water and, consequently, are contained in the boiler blowdown. Wastewater is discharged to the City of Two Rivers Sewage Treatment Plant. In addition, liquid waste materials from gluing and staining operations, and, reportedly, any potential releases to indoor floor drains, are discharged to the sanitary sewer.

The Main Plant does not have a permit for discharge of its sanitary waste to the Two Rivers Sewage Treatment Plant. According to Mike Lewis, the City Engineer, industrial facilities in Two Rivers are not required to have any type of wastewater discharge permit for operations, regardless of type of discharge.

A 1975 letter from the City of Two Rivers indicates that the facility is required to submit quality and quantity data for its sanitary sewer discharges to the City of Two Rivers, who in turn are required to report this information to the DNR. The facility conducts annual testing of the boiler blowdown and submits the results of this testing to the city and the DNR. The blowdown is reportedly tested for oil and grease, chromium, zinc, pH, BOD, total suspended solids, nitrate and nitrites nitrogen, total kjeldahl nitrogen, and total phosphorus.

The 1991 MPA report indicates that the City of Two Rivers maintains pretreatment standards for all effluent discharges into the treatment system. These standards are reportedly 40 ppm total phosphates and 350 ppm total suspended solids. There do not appear to be any federal or state pretreatment requirements for wood office furniture manufacturing (Standard Industrial Classification Code (SIC) 2521).

Wastewater testing is not conducted of waste glue, waste veneer and veneer washdown, and air compressor condensate. The facility may want to review with the city that discharges of these materials are allowable and do not have to be tested.

2. Stormwater Discharges

The Main Plant has five discharge outfalls to the East Twin River. Hamilton had a Wisconsin Pollution Discharge Elimination System (WPDES) permit for discharges to the river. The permit appears to have expired in September of 1990. According to facility personnel they applied for, but have not received, a new WPDES permit. Allowed discharges under this permit included noncontact cooling water, boiler blowdown, steam condensate effluent, and boiler bleed-off. These wastewaters are discharged with the facility's stormwater from roof drains. As a condition of the permit, discharges could not contain toxic additives.

Historically, the facility appears to have discharged all of the wastewaters listed in the permit to the East Twin River, but by 1990, discharges consisted only of noncontact cooling water and stormwater. Reportedly, the noncontact cooling water did not contain additives. In accordance with the WPDES permit, Hamilton conducted discharge monitoring. This consisted of collecting annual grab samples of discharges for measurement of pH and quarterly grab samples for measurement of temperature. Samples were collected from three of the facility's five discharge outfalls. Additional testing of the discharges for analytical parameters was reportedly also periodically conducted.

The facility's Wastewater Discharge Information Summary submitted to renew the WPDES permit, dated March 14, 1990, listed the facility's wastewater discharges as stormwater from roof drains and noncontact cooling water generated by the power wash in the steel plant. Because the facility has ceased steel plant operations, currently only stormwater from the facility's roof drains is discharged to the East Twin River. Consequently, it does not appear that Hamilton would be required to maintain the WPDES permit because the permitted discharges no longer occur.

Under recent Clean Water Act (CWA) regulations, stormwater discharges for industries with Hamilton's SIC code are now required to obtain a stormwater discharge permit (if stormwater has the potential to receive pollutants). Hamilton has completed and submitted an individual application for a WPDES stormwater discharge permit. This application was submitted to the DNR in January, 1991.

Facility personnel stated that they have no reason to believe that process or sanitary wastewaters are entering the stormwater system and, thus, the East Twin River, or that stormwater is entering the sanitary sewer system. Also, facility personnel state that they have no reason to believe that floor drains, including those that could potentially receive spills of process or waste materials, are connected to the storm sewer system. However, Hamilton has not conducted dye tests or an extensive review of as-built diagrams of the floor drains to determine discharge points. The potential discharge of hazardous materials to either the storm sewer system or the sanitary sewer system through releases to floor drains could present a potential environmental concern.

Documents provided to ENVIRON include a DNR Complaint Record indicating that on December 21, 1990, Hamilton was observed to be dumping 11 55-gallon drums of paint to the storm sewer in violation of Wisconsin Code F-9. There is also a notation that dumping had also occurred the previous Friday. ENVIRON has no further information on this practice.

G. On-site Soil and Ground Water Contamination

During ENVIRON's site visit, heavy staining of soil in an area approximately 6 feet by 6 feet was observed near the Main Plant's boiler stack. Condensate from one of the facility's air compressors was previously discharged to the ground in this area, instead of to the sanitary sewer system. In 1991, the compressor's condensate discharge was routed to the sanitary sewer system. No testing of this stained area has been conducted.

During their 1991 site assessment, MPA observed a stained area of soil and gravel beneath the glue delivery port on the east side of the facility. Due to the presence of snow on the ground during ENVIRON's visit, this area could not be observed. According to

MPA, this staining resulted from spills of glue used in the wood plant. The delivery port has reportedly been moved inside the building to eliminate spills.

According to Hamilton personnel, other than the areas discussed above, there are no known instances of soil or ground water contamination at the Main Plant, nor were any observed at the time of ENVIRON's site visit. Also, according to Mr. Tice and Mr. Schnell, there have been no reportable spills or nonreportable spills of waste materials at the site.

H. Emergency Planning and Community Right-to-Know

The Main Plant is subject to the requirements of the Emergency Planning and Community Right-to-Know Act (EPCRA) of 1986, also known as Title III of the Superfund Amendments and Reauthorization Act (SARA). Hamilton is subject to these requirements because they store and use chemicals requiring MSDSs under the Occupational Safety and Health Administration's (OSHA) Hazard Communication Standard, in excess of reportable quantities.

Specifically, the facility is subject to the Community Right-to-Know Requirements (Sections 311 and 312) of EPCRA and is required to submit Tier I or Tier II inventory forms for those chemicals present in quantities greater than 10,000 pounds, or greater than Threshold Planning Quantities (TPQs) for Extremely Hazardous Substances (EHSs), to local and state emergency planning authorities. For reporting year 1991, the facility prepared a Tier II form for Perkins L100LF, a liquid resin used in laminating veneer. Because the facility apparently handles EHSs above their TPQs, it is also subject to EPCRA Emergency Planning requirements (Section 302). These regulations require that the facility notify the state emergency response board (SERB) of all EHSs stored above TPQs. For reporting year 1991, the facility provided notification of the storage of Perkins L100LF.

Under SARA Title III, Section 313, manufacturing facilities are required to report annual releases of certain toxic chemicals to the USEPA. A Toxic Chemical Release Inventory Reporting Form (Form R) is required to be submitted for each toxic chemical used in excess of 10,000 pounds per year. For reporting year 1991, the facility had

reportable releases of n-butyl alcohol and toluene as air emissions and submitted Form RS for these releases.

Wisconsin has adopted the federal EPCRA regulations and requires reporting to the DNR of releases of hazardous substances and hazardous chemical inventories in addition to federal reporting. Based on documents provided to ENVIRON, it appears that the Main Plant is in substantial compliance with EPCRA.

I. Occupational Safety and Health (OSHA)

The Main Plant has a history of OSHA violations. A comprehensive review of present compliance with OSHA regulations was beyond the scope of ENVIRON's review. Records of inspections by OSHA officials and listings of numerous subsequent violations along with fines were included in the documents provided to ENVIRON.

In 1990, 120 Workers Compensation claims were filed against Hamilton Industries. Records provided to ENVIRON indicate that by the end of November, 121 claims had been filed in 1991. Claims against the facility include both trauma incidents and respiratory exposures.

The worker compensation claims do not support the assertion by facility personnel that there have been no worker complaints regarding indoor air quality. VOC odors were noticeable during ENVIRON's site visit in several areas of the wood plant. Hamilton does not conduct routine air monitoring for VOC, dust, or asbestos. Five dust collectors are operated in the wood plant.

The facility does maintain a Hazard Communication Program. As required, MSDSs are available for worker review in the first aid room of the Main Plant. As the facility continues to reduce its use of hazardous chemicals, the MSDS files should be reviewed and updated to reflect current usage.

Hazardous Waste and Material Handling training is conducted annually at the Main Plant. OSHA training programs at the Main Plant include Powered Industrial Truck Safety, Respiratory Policy and Procedures, Confined Space Procedures, Hoist/Crane Safety, and Lock-Out/Tag-Out Procedures. The facility also has a Hearing Conservation Program

which requires hearing protection in several areas of the plant and audiometric testing for certain workers.

J. Review of Environmental Information

ENVIRON contracted with ERIIS in Alexandria, Virginia to conduct a search of electronic data bases for any sites in the vicinity of the 18th Street facility. ERIIS provided ENVIRON with their findings in a report prepared on December 3, 1992.[1] In their report, ERIIS identified all relevant sites within a 1-mile radius, and the results of this search are discussed in the following sections, as well as a review of Sanborn Fire Insurance Maps and aerial photographs.

1. Federal Data Bases

The search of federal data bases reviewed the following lists and identified the following number of sites on each list (in parentheses) within the vicinity of the 18th Street facility:

- The National Priorities List (0)
- The CERCLIS List (2)
- Toxic Release Inventory (0)
- RCRIS - Large Quantity (8)
- RCRIS - Small Quantity (7)
- ERNS (0)
- FINDS (27)
- Docket (0)
- Nuclear (0)
- Open Dump (0)

[1] ERIIS does not specifically identify the date of the most recent update for each of the data bases they search. In general, this information is obtained from the printouts provided, where possible.

a) The National Priorities List (NPL)

The NPL Report, also known as the Superfund list, is an EPA listing of uncontrolled or abandoned hazardous waste sites. The list is primarily based on a score that the site receives from the EPA's Hazardous Ranking System. These sites are targeted for possible long-term remedial action under the Superfund Act. According to the data base search, no NPL sites are located in the vicinity of the site.

b) The Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) List

The CERCLIS list is a compilation of known and suspected uncontrolled or abandoned hazardous waste sites. These sites have been investigated, or are currently under investigation by the EPA, for the release, or threatened release of hazardous substances. Once a site is placed on the CERCLIS Report, it may be subjected to several levels of review and evaluation, and ultimately placed on the National Priorities List. While it might be determined that some CERCLIS sites require no further action, others could pose a real or perceived environmental threat to neighboring properties, affecting property values. According to the data base search, there are two CERCLIS sites located within a 1-mile radius of the site. The City of Two Rivers Landfill located on Riverview Drive in Two Rivers was designated as "no further action" after a screening site inspection in January of 1990. Similarly, the Two River Landfill-Edgar Schultz Property was designated as "no further action" after a screening site inspection in April of 1989.

c) Toxic Release Inventory (TRI) Sites

The Toxic Release Inventory (TRI) contains information on the estimated releases of toxic chemicals into the environment. The TRI Report includes data relating to the amount of chemicals that are stored at a facility, and the estimated quantity that has been emitted into the environment. There were no TRI facilities identified within a 1-mile radius of the site.

d) Resource Conservation and Recovery Information System (RCRIS) - Large Quantity Generators and TSD Facilities

The Resource Conservation and Recovery Information System (RCRIS) report of large quantity generators and treatment, storage, and disposal (TSD) facilities contains information pertaining to those facilities that are required to register their hazardous waste activity under the Resource Conservation and Recovery Act.

There were eight large quantity generators located within a 1-mile radius of the site. Hamilton Industries was identified as a transporter as well as a large quantity generator. Hamilton waste codes included F003 (spent nonhalogenated solvents, mixtures or still bottoms of xylene, acetone, ethyl acetate, ethyl benzene, ethyl ether, methyl isobutyl ketone, n-butyl alcohol, cyclohexanone, and methanol), F005 (spent nonhalogenated solvents, mixtures or still bottoms of toluene, methyl ethyl ketone, carbon disulfide, isobutanol, pyridine, benzene, 2-ethoxyethanol, and 2-nitropropane), F017, U002 (acetone), U031 (n-butyl alcohol), U159 (methyl ethyl ketone), U220 (toluene), and U239 (xylenes/benzene).

The Eggers Industries Plywood Division East Plant (1819 East River Street, Two Rivers), Eggers Industries Plywood Division West Plant (1702 13th Street, Two Rivers) and EVM Inc. (1009 Madison Street, Two Rivers) were all identified as large quantity generators with only one waste code, D001 (a solid waste that exhibits the characteristic of ignitability, but is not listed as a hazardous waste in Subpart D).

Enterprise Plating Works (1207 Monroe Street, Two Rivers) was identified as a large quantity generator with waste codes D002 (a solid waste that exhibits the characteristic of corrosivity, but is not listed as a hazardous waste in Subpart D), F007 (spent cyanide plating bath solutions from electroplating operations), F008 (plating bath residues from the bottom of plating baths from electroplating operations where cyanides are used in the process), F009 (spent stripping and cleaning bath solutions from electroplating operations where cyanides are used in the process), P029 (cuprous cyanide), P106 (sodium cyanide), and P121 (zinc cyanide).

Two Rivers Community Hospital (2500 Garfield, Two Rivers) was identified as a large quantity generator with waste codes F003 (see Hamilton description), U115 (ethylene oxide), and U155 (methapyrilene). Cool City Cleaners (1908 Washington, Two Rivers) was identified as a large quantity generator with waste code F002 (spent nonhalogenated solvents, mixtures or still bottoms of tetrachloroethylene, methylene chloride, trichloroethylene, 1,1,1-trichloroethane, chlorobenzene, and 1,1,2-trichloroethane).

US Oil-Two Rivers Terminal (2212 School Street, Two Rivers) was also identified as a large quantity generator with waste code D002 (see Enterprise Plating Works).

All of the eight previously mentioned facilities were designated as RCRA compliant.

e) Resource Conservation and Recovery Information System (RCRIS) - Small Quantity Generators and Transporters

The Resource Conservation and Recovery Information System (RCRIS) report of small quantity generators and transporters contains information pertaining to those facilities that are required to register their hazardous waste activity under the Resource Conservation and Recovery Act. There were seven small quantity generators located within a 1-mile radius of the site: Formite Tube Co. Inc. (1816 Tenth Street), Two Rivers Tire and Muffler (1033 22nd Street), Tegen Industries Ltd. (1902 22nd Street), Super America (1630 22nd Street), Torrison Chevrolet (3303 Lincoln Avenue), Krajnik Chevrolet (3303 Lincoln Avenue), and Estran Corp. (2811 18th Street).

All of the previously mentioned facilities are located in Two Rivers and were designated as RCRA compliant.

f) Emergency Response Notification System (ERNS)

The Emergency Response Notification System (ERNS) is a national computer data base system that is used to store information on the release of hazardous substances into the environment. The ERNS reporting system contains preliminary

information on specific releases, including the spill location, the substance released, and the responsible party. There were no ERNS sites identified within the 1-mile radius search area.

g) Facility Index Systems (FINDS)

The FINDS report is a computerized inventory of all facilities that are regulated or tracked by the EPA. These facilities are assigned an identification number which serves as a cross-reference for other data bases in the EPA's program system. Each FINDS record indicates the EPA Program Office that is responsible for the tracking of the facility.

There were 27 FINDS facilities, including Hamilton, within a 1-mile radius of the site. These facilities are all located in Two Rivers, and their data bases are presented in the following table:

Facility	Location	Data Base(s)
Hamilton Industries	1316 18th Street	HWDMS/RCRIS, PCS, CDS/AIRS, TRI
Formite Tube Co. Inc.	1816 10th Street	HWDMS/RCRIS
Crescent Woolen Mills Co.	1016 School Street	HWDMS/RCRIS
EVM Inc.	1009 Madison Street	HWDMS/RCRIS
Two Rivers WWTP	12th and Washington	HWDMS/RCRIS, PCS
Two Rivers Water & Light Dept.	1415 Lake Street	HWDMS/RCRIS, FATES
Enterprise Plating Works	1207 Monroe Street	HWDMS/RCRIS
Eggers Industries Inc. - Plywood	1702 13th Street	HWDMS/RCRIS
Mirro Corp. - Plt 4	14th and Monroe	HWDMS/RCRIS
Mirro Corp. - Plt 1	1509 16th Street	HWDMS/RCRIS
GTE Two Rivers Control Off	1609 Adams Street	HWDMS/RCRIS
US Postal Service - Two Rivers	1516 18th Street	Docket, FFIS
Eggers Industries Inc. - Plywood	1819 E. River Street	HWDMS/RCRIS
Cool City Cleaners	1908 Washington St.	HWDMS/RCRIS
Petroleum Conservation Inc.	1910 20th Street	HWDMS/RCRIS

Facility	Location	Data Base(s)
Tegen Industries Ltd.	1902 22nd Street	HWDMS/RCRIS
Ernst Auto Haus	816 22nd Street	HWDMS/RCRIS
Two Rivers Community Hospital	2500 Garfield Street	HWDMS/RCRIS
Washington High School	1500 27th Street	HWDMS/RCRIS
Krajnik Chevrolet Inc.	3303 Lincoln Avenue	HWDMS/RCRIS
Torrison Chevrolet Inc.	3303 Lincoln Avenue	HWDMS/RCRIS
Hamilton Industries	Roosevelt Avenue	HWDMS/RCRIS, CDS/AIRS
Metal Ware Corp.	1700-1710 Monroe Avenue	HWDMS/RCRIS
Two Rivers City Landfill - Schultz	State Highway 42	CERCLIS
City of Two Rivers Landfill	Riverview Drive	CERCLIS
Two Rivers U.S. Coast Guard Station	13 East Street	HWDMS/RCRIS
Estran Corp.	2811 18th Street	HWDMS/RCRIS

The HWDMS (Hazardous Waste Data Management System) maintains information concerning over 5,000 facilities that treat, store, or dispose of hazardous waste. Further, this system stores data associated with the 165,000 handlers who either generate or transport hazardous materials. RCRIS was discussed in Sections d and e. PCS (Permit Compliance System) contains information pertaining to over 76,000 facilities that are permitted to discharge waste into bodies of surface water. Also, this system stores selective summaries of information for facilities with National Pollution Discharge Elimination System (NPDES) permits. AIRS (Aerometric Information Retrieval System) contains detailed information pertaining to over 85,000 sites which submit air emissions reports. Developed under the Clean Air Act, this data base also maintains data on compliance status and enforcement actions. CDS (Compliance Data System) was developed in conjunction with AIRS and contains compliance information including: compliance status, agency actions, and inspections, for the major sources of the five primary air pollutants.

TRI was discussed in Section c. FATES (FIFRA and TSCA Tracking System) contains information regarding Federal Insecticide, Fungicide, and Rodenticide Act

(FIFRA) and Toxic Substances Control Act (TSCA) legislation. This data base also contains selected data concerning pesticide producers. Docket is a national system containing all pertinent information regarding a civil or administrative enforcement action taken by the EPA, or state agency, against violators of environmental laws or statutes. FFIS (Federal Facility Information System) is an index of selected federally-owned facilities. It is a monitoring and tracking tool for the Office of Federal Facilities Enforcement. Its main purpose is to monitor pollution abatement programs for federal facilities worldwide. CERCLIS was discussed in Section b.

h) Civil Enforcement Docket

The Civil Enforcement Docket (Docket) is the USEPA's system for tracking civil judicial cases filed on the agency's behalf by the Department of Justice. Docket contains information on filed civil cases dating from 1972 to the present. There were no facilities identified in the Docket data base within a 1-mile radius of the site.

i) Nuclear Facilities

The Nuclear Facilities list identifies active nuclear power plants. There were no nuclear facilities identified within the 1-mile search radius.

j) Open Dump

The Open Dump report is a listing of those facilities that have accepted solid waste, but do not meet the EPA's requirements of a solid waste disposal facility. Further, these facilities do not accept hazardous or industrial waste. There were no open dumps identified within the 1-mile search radius.

2. State Data Bases

The search of state data bases reviewed the following lists and identified the following number of sites on each list (in parentheses) within the vicinity of the site:

- Wisconsin Leaking Underground Storage Tanks (2)
- Wisconsin Underground Storage Tanks (266)
- Wisconsin Landfills (0)

a) Wisconsin Leaking Underground Storage Tanks

The data base reviewed consisted of a list of active Wisconsin leaking underground storage tank sites. There were two facilities identified as having a leaking underground storage tank within a 1-mile radius of the site. These facilities included Lawrence Hansen property (300 Forest Avenue) and Super America (1630 22nd Street).

b) Wisconsin Underground Storage Tanks

There are 266 underground storage tanks located within Two Rivers (zip code 54241). Hamilton Industries was listed as having the following underground storage tanks:

Location	Capacity (gal)	Registration No.
Roosevelt	560	361800119
	2000	361800120
	560	361800031
	4000	361800032
	2000	361800033
	200	361800034
Columbus	4000	361800106
	2000	361800234
18th Street	200	361800107

c) Wisconsin Permitted Landfills

There were no permitted landfills identified within a 1-mile radius of the facility.

3. Sanborn Fire Insurance Maps

Sanborn Fire Insurance Maps often contain considerable historical information relating to the use(s) of individual structures, locations of fuel and chemical storage tanks, and storage of other potentially toxic or hazardous substances for a given site. Sanborn maps for the years 1891, 1898, 1904, 1913, 1922, 1929 and 1944 were reviewed.

According to Mr. Tice, Hamilton's initial operations involved the manufacture of wood type used in printing and wood medical cases and operations began at the Main Plant in 1903. However, Sanborn Fire Insurance Maps obtained by ENVIRON indicate that Hamilton Manufacturing Company was conducting operations at the current site in 1891. Thus, it appears that Hamilton was manufacturing on the site prior to 1891. This map notes that Hamilton was involved in the manufacture of wood type and cases and indicates that the facilities occupied the eastern portion of the block between 18th and 17th Street and East River Street and Jefferson Street, and an area east of East River Street and the East Twin River between 17th and 18th Street. Also, various other small businesses and residences appear to be located on the land surrounding Hamilton Manufacturing Company that was later used by Hamilton to expand manufacturing operations. According to Mr. Tice, the Site may have been undeveloped prior to occupancy by Hamilton.

In 1898, admittance of Sanborn to Hamilton was refused. In 1904, the Sanborn map shows Hamilton expanding to occupy the entire area between 17th and 18th Streets and between the East Twin River and Jefferson Street. The 1913 map is similar to the 1904 map and denotes Hamilton as a manufacturer of wood and steel printers, type, furniture, dental cabinets and textile work. The Hamilton property expands considerably in the 1922 map to include the area between 16th and 17th Streets from Jefferson Street to the East Twin River. This area included lumber piles, iron and steel work and a machine shop. The 1929 map is essentially the same as the 1922 map.

Buildings currently present on the Site are reported to date from 1903 to approximately 1960. Numerous building additions have occurred at the facility during this period. Many of the buildings are multi-storied and are constructed of a variety of building materials including brick, stone, wood, steel and concrete. The most current

Sanborn Map available for the Site, dated 1944, indicates that the Hamilton Manufacturing Company occupies all of the land between 18th Street and 16th Street and between Jefferson Street and the East Twin River. Areas north of 18th Street and south of 16th Street, which Hamilton currently occupies, have not been extensively built upon. Operations are noted to be the manufacture of wood and metal furniture.

4. Aerial Photographs

One aerial photograph (dated approximately 1990) provided by Hamilton was reviewed. This photograph did not show any evidence of spills or discharges. Five aerial photographs of the facility were obtained by ENVIRON. The years of these photos were 1972, 1973, 1976, 1990 and 1992. Nothing suggesting spills or discharges was observed in any of these photographs.

IV. HAMILTON INDUSTRIES, COLUMBUS STREET FACILITY

The results of ENVIRON's investigation of Hamilton's facility (the Site) at 400 Columbus Street, Two Rivers, Wisconsin, are presented below. ENVIRON's review is based primarily on the following:

- A visit to the facility by Thomas Fusillo and Claudine Gorman of ENVIRON on December 2, 1992, and interviews with William Tice, Superintendent of Maintenance, and Don Schnell, Facility Manger, of Hamilton. Mr. Tice and Mr. Schnell have been employed with Hamilton since 1956 and 1972, respectively.

- A review of documents provided by facility personnel including environmental permits, correspondence from regulatory agencies, documents concerning the operation of an on-site incinerator operation, and Material Safety Data Sheets. ENVIRON was not allowed, however, to review independently the facility's environmental records or files.

- A review of the Wisconsin Department of Natural Resources (DNR) Lake Michigan District Headquarter files in Green Bay on December 3, 1992, pertaining to the facility's air permit compliance, wastewater discharge permit compliance, and solid and hazardous waste.

- A review of results of an environmental data base search of federal and state data bases provided by Environmental Risk Information & Imaging Services (ERIIS) on December 3, 1992.

- Sanborn fire insurance maps of the Site were requested, but no maps were available for the site.

- A review of the Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) lists during the month of December 1992, to determine whether any off-site management facilities identified by ENVIRON as used by Hamilton are listed.

- Aerial photographs of the Site for the years 1973 and 1990 were reviewed.

A. Site Setting and History

The Hamilton Industries Columbus Street facility is located in an area of Two Rivers which is both residential and industrial (see Figure 1). The plant buildings comprise approximately 350,000 ft^2, and the parking areas comprise approximately 120,000 ft^2, while the balance of the 80 acre site is wooded and includes some designated wetlands, according to the U.S.G.S. topographic map. The facility was constructed by Hamilton in 1964. According to Hamilton personnel, the property was previously undeveloped wooded land.

The original building was constructed in 1964 and additions were completed in 1973, 1980, and 1990. The original construction includes buildings 50 and 51 which have areas of 131,400 ft^2 and 148,800 ft^2, respectively. Buildings 50A, 100 and 51A were constructed in 1973, 1980, and 1990 and occupy 44,800 ft^2, 27,600 ft^2, and 25,500 ft^2, respectively.

Located northeast of the Site is a Wisconsin Public Service Company office (local utility) while the area to the north and west of the facility is undeveloped. The Chicago Northwestern railroad runs along the southern edge of the property. Further south are residences, Highway 42, and Lake Michigan. Paragon Electric is located east of the facility.

The topography of the Site is southeast toward Lake Michigan at approximately 595 feet MSL. Ground water is shallow and located approximately 6 feet below the surface. Potable water is obtained from the City of Two Rivers with Lake Michigan as the source. Natural gas, which is supplied by Wisconsin Public Service Company, is used to heat the facility.

B. Description of Operations

1. Current Operations

The Hamilton Industries Columbus Street facility manufactures laboratory tops and cabinets. Metal operations are performed during the manufacturing process. Coils of steel are received, stored, sheared, and sent to notching operations. The metal is pressed, cut, and sent through a brake press to turn angle bends. Metal pieces are also welded. The metal is then sanded and ground. Subsequent to these processes, the metal parts are cleaned, dried and then painted. A baking oven is used on the metal parts subsequent to removal of residual water and solvent from the metal surfaces by evaporation. Finished metal parts are then assembled and packaged.

Approximately 2,000 steel cabinets and 100 fume hoods are produced each week by 480 employees. Weekly material usages include 290,000 pounds of sheet and bar steel, 6,350 pounds of powder coating paint, 150 gallons of liquid paint and 56 gallons of solvents.

2. Asbestos-Containing Material (ACM)

There is approximately 2,000 linear feet of asbestos-containing pipe insulation located in the facility. According to Hamilton personnel, approximately $50,000 would be needed to remove this insulation.

3. Polychlorinated Biphenyls (PCBs)

There are three pad-mounted electrical transformers located outside of Building 50. Hamilton Industries owns and operates these transformers. The transformers were tested for the presence of PCBs in 1983 by Westinghouse Electric Corporation. There were no PCBs detected in the dielectric fluid of all three transformers.

C. Chemical and Chemical Waste Storage

1. Underground Storage Tanks

There were two former underground storage tanks located at the facility which were removed in 1988. The 4,000 gallon tank contained diesel fuel and the 2,000 gallon tank contained gasoline. These two tanks are still present in the Wisconsin underground storage tank data base. Prior to removal of the tanks, a minor leak (.05 gph) was detected in the 2,000 gallon tank and a moderate leak (.15 gph) was detected in the 4,000 gallon tank during tank integrity testing. Two soil borings were installed in the vicinity of the tanks in 1988 by Miller Engineers to evaluate potential releases from the tanks. The soil borings showed no signs of soil or ground water contamination, but no soil samples were collected for laboratory analysis. The tank removals were observed by the City of Two Rivers fire chief, Ken Swade, and he stated that there was no leakage or product in the excavation or ground water.

2. Aboveground Storage Tanks

There are four aboveground storage tanks used in the metal washing process. The tank capacities are 6,000, 3,000, 2,000 and 2,000 gallons. These tanks are discussed further in Section F. Also, there are cylinders of compressed acetylene, argon, air and helium in the welding area. These cylinders were all chained down at the time of the Site visit.

3. Drum and Other Storage Areas

Most paints, solvents, and hazardous waste are stored in the paint mixing and chemical storage room. Floor drains which drain outside to the storm sewer system are present in the paint and chemical storage room and thus are a potential pathway for soil and/or ground water contamination if a discharge or spill were to occur.

Empty drums and 3 or 4 drums of waste oil are staged outside on a concrete elevated pad with a cover. According to Hamilton personnel, there is no history of

leaks or spill associated with any chemical storage area. The Columbus Street plant does have a spill prevention control and emergency plan.

D. Hazardous and Nonhazardous Solid Waste

Waste solvents are generated in cleaning operations at the facility. These solvents are disposed of by Safety Kleen of Dolton, Illinois. In 1991, 3,874 pounds of waste solvents were generated. Waste oil is recycled by ESI Rogers Oil Co. of Waterloo, Wisconsin. In 1991, 575 gallons of waste oil were generated. Nonhazardous office and box trash is picked up by Manitowoc Disposal and transported to the Ridgeview Landfill in Whitelaw, Wisconsin. Scrap metal is stored outside and is picked up by Sadoff Iron & Metal. According to Hamilton personnel, there has never been any on-site disposal of waste nor were any apparent areas of waste disposal evident at the time of the site visit. The Columbus Street facility was listed as a large quantity generator in the RCRIS data base (see Section H). The waste type for the facility was listed as D001 (exhibits the characteristic of ignitability, but is not listed as hazardous in Subpart D) and the facility was designated as being RCRA compliant.

E. Air Emissions

There is one multi-user paint spray booth, an automatic booth, and a baking oven at the facility. The paint booths use a spray powder paint which is applied electrostatically. The automatic booth has a powder paint recycling system. Small amounts of water-based paints with 2.5 pounds of VOC per gallon are used for special orders. A mandatory operation permit application (MOP) was submitted to the Wisconsin Department of Natural Resources for all air pollution sources in 1986. According to the letter from the WDNR acknowledging receipt, submittal of this application allowed the facility to continue operations until the agency takes final action on the issuance of a permit. There has been no final WDNR determination of the permit. The agency is currently in the process of developing a new air operation permit program. Proposed rules for this program will be issued in January 1993. Hamilton will be required to submit a new application for an air permit under these rules.

The 1991 VOC emissions at the facility were estimated to be 4.6 tons/year. It is unlikely that the 1990 Clean Air Act Amendments will result in significant liability for the facility given their relatively low VOC emissions.

Wisconsin law NR422.10 states that metal coating operations must use wet paints of 3 pounds VOC per gallon or less. Hamilton is in compliance with this law in that they use a water based coating which has a VOC content of 2.5 pounds per gallon.

F. Wastewater Discharges

1. Sanitary Discharges

At the Columbus Street facility, a power washer is used to clean and coat sheet steel used in the manufacturing process. A detergent iron phosphate wash is used. The phosphating is completed in four stages, each within a tank. The first stage is the phosphate tank which is discharged once every 10-12 weeks and has a capacity of 6000 gallons. The second stage is the fresh water rinse tank, which has an overflow of 5 gal/min and is discharged every week with a capacity of 3000 gallons. The third stage is the sealer tank which is discharged every 2 weeks and has a capacity of 2000 gallons. The fourth stage is the anti-water spot tank which is discharged every week and has a capacity of 2000 gallons. The stages are discharged into a collection trough and collection pit, and are then pumped to the sanitary sewer.

Hamilton tests the discharges from these tanks twice a year and reports the results to the WDNR. The pollutants analyzed for include cadmium, chromium, copper, lead, nickel, silver, zinc, and total cyanide. Total toxic organics are not included because Mangill Chemical, the material supplier, verified to Hamilton that the products used in the power washer do not contain any toxic organics. The samples are flow proportional composites and are obtained in the tank discharge pipe just prior to the collection trough. During the discharge of each tank, various samples are taken. These samples are mixed together and a final sample is obtained from the composite mixture. This procedure is used on all the stages. The facility compares its data to the Metal

Finishing Pretreatment Standards. In all of the results of analyses reviewed, none of these standards were exceeded.

In October of 1991, the WDNR conducted a pretreatment inspection of the Columbus Street facility. The inspection activity included review of the Baseline Monitoring Report and Periodic Compliance Reports. The agency concluded that the plant is in compliance with Pretreatment Standards for the Existing Sources-Metal Finishing Category.

According to Nanette Jameson of the Wisconsin Department of Natural Resources (Lake Michigan District Headquarters in Green Bay) and Mike Lewis, City Engineer of Two Rivers, no permit is necessary in conjunction with this process discharge. However, the discharge monitoring reports must be filed twice annually and the pretreatment standards must be met.

2. Stormwater Discharges

Hamilton has submitted a stormwater permit application for an individual permit with the Wisconsin Department of Natural Resources. The application is for the discharge of noncontact cooling water and stormwater runoff through one outfall. The facility currently holds a general permit (WPDES 0044938-2) for the discharge of their noncontact cooling water to Lake Michigan. The current permit states that no additives are used in the discharge water.

Prior to 1977, the process water associated with the metal washing operation was discharged to the storm sewer system. The washing operation used six tanks at that time, including two caustic cleaner tanks, two water rinse tanks, a zinc phosphate tank, and a chrome-free sealer tank. Apparently, a chrome sealer was used prior to 1975 because a Hamilton memo from 1975 states that chromium violations were no longer a problem. Hamilton violated limits for suspended solids, zinc, and phosphorus throughout 1976 and 1977. As a result, the washing operation was hooked up to the sanitary sewer system in August of 1977. Violations of the storm water permit (WPDES general permit WI-0026816) occurred in 1978 for the parameters of total iron, suspended solids, total phosphorus, and total zinc. Hamilton notified the WDNR that

these exceedances were due to leakage from the compactor when cleanup materials were placed there. The compactor was located in a truck well with a floor drain.

G. On-site Soil and Ground Water Contamination

According to Hamilton personnel, there are no known instances of soil or ground water contamination at the Site nor were any observed by ENVIRON at the time of the site visit.

H. Emergency Planning and Community Right-to-Know

The Columbus plant is subject to the requirements of the Emergency Planning and Community Right-to-Know Act (EPCRA) of 1986, also known as Title III of the Superfund Amendments and Reauthorization Act (SARA). Based on documents provided to ENVIRON, it appears that the facility is in substantial compliance with EPCRA.

I. Occupational Health

In 1991, there were instances of employee complaints in the Crating Department. Liberty Mutual met with Hamilton personnel in 1991 to attempt to resolve this issue. Symptoms reported included headaches, burning eyes, and sore/dry throat. Liberty Mutual conducted air monitoring in the Crating Department area and determined that worker exposure to total chromium and nickel was controlled (all samples had levels of non-detect or $<10\%$ of the TLV of either compound). Samples analyzed for ozone were all non-detect. Liberty Mutual determined that the complaints were random and that no source could be pinpointed. However, they recommended that if the complaints should begin to occur again, that thorough records are kept so that a source may be determined. In 1987, there was a worker's compensation claim filed by an employee who developed sinus problems due to chemical irritation from fumes coming from the burn off oven area.

Numerous OSHA violations occurred at the facility in 1980/81 and 1983/84 including exceedances of total nuisance particulates for spray painters. An OSHA inspection occurred in 1986, and no significant violations occurred.

The facility has a written hazard communication program, MSDSs in the first aid room, a respiratory protection program and provides hazardous waste training.

J. Review of Environmental Information

ENVIRON contracted with ERIIS in Alexandria, Virginia to conduct a search of electronic data bases for any sites in the vicinity of the Columbus Street facility. ERIIS provided ENVIRON with their findings in a report prepared on December 3, 1992.[2] In their report, ERIIS identified all relevant sites within a 1-mile radius, and the results of this search are discussed in the following sections, as well as a review of Sanborn Fire Insurance Maps and aerial photographs.

1. Federal Data Bases

The search of federal data bases reviewed the following lists and identified the following number of sites on each list (in parentheses) within the vicinity of the Columbus Street facility:

- The National Priorities List (0)
- The CERCLIS List (0)
- Toxic Release Inventory (1)
- RCRIS - Large Quantity (2)
- RCRIS - Small Quantity (2)
- ERNS (0)
- FINDS (7)
- Docket (0)
- Nuclear (0)
- Open Dump (0)

a) The National Priorities List (NPL)

The NPL Report, also known as the Superfund list, is an EPA listing of uncontrolled or abandoned hazardous waste sites. The list is primarily based on a score that the site receives from the EPA's Hazardous Ranking System. These sites

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[1] ERIIS does not specifically identify the date of the most recent update for each of the data bases they search. In general, this information is obtained from the printouts provided, where possible.

are targeted for possible long-term remedial action under the Superfund Act. According to the data base search, no NPL sites are located in the vicinity of the site.

b) The Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) List

The CERCLIS list is a compilation of known and suspected uncontrolled or abandoned hazardous waste sites. These sites have been investigated, or are currently under investigation by the EPA, for the release, or threatened release of hazardous substances. Once a site is placed on the CERCLIS Report, it may be subjected to several levels of review and evaluation, and ultimately placed on the National Priorities List. While it might be determined that some CERCLIS sites require no further action, others could pose a real or perceived environmental threat to neighboring properties, affecting property values. According to the data base search, no CERCLIS sites are located within a 1-mile radius of the site.

c) Toxic Release Inventory (TRI) Sites

The Toxic Release Inventory (TRI) contains information on the estimated releases of toxic chemicals into the environment. The TRI Report includes data relating to the amount of chemicals that are stored at a facility, and the estimated quantity that has been emitted into the environment. One facility located within the vicinity of the site was identified in the TRI Report. Paragon Electric Company, Inc. (606 Parkway Blvd., Two Rivers, WI 54241) was identified as releasing the following chemicals and annual quantities to the air: trichloroethylene (16,500 lbs fugitive, 60,380 lbs stack), aluminum fume or dust (250 lbs fugitive), copper (250 lbs fugitive), and N-butyl alcohol (9,200 lbs fugitive, 22,300 lbs stack).

d) Resource Conservation and Recovery Information System (RCRIS) - Large Quantity Generators and TSD Facilities

The Resource Conservation and Recovery Information System (RCRIS) report of large quantity generators and treatment, storage, and disposal (TSD) facilities contains information pertaining to those facilities that are required to register their hazardous waste activity under the Resource Conservation and Recovery Act.

The Hamilton Industries facility on Columbus Street was listed as a large quantity generator of waste type D001 (a solid waste that exhibits the characteristic of ignitability, but is not listed as a hazardous waste in Subpart D). One facility located within a 1-mile radius of the site was identified as a large quantity generator. Paragon Electric Company in Two Rivers was identified as generating waste codes D001, F001 (spent halogenated solvents used in degreasing, spent solvent mixtures, and still bottoms from the recovery of these solvents and mixtures), and F005 (spent nonhalogenated solvents, spent solvent mixtures and still bottoms from the recovery of these spent solvents and mixtures). Waste code F001 solvents include tetrachloroethylene, trichloroethylene, methylene chloride, 1,1,1-trichloroethane, carbon tetrachloride, and chlorinated fluorocarbons. Waste code F005 solvents include toluene, methyl ethyl ketone, carbon disulfide, isobutanol, pyridine, benzene, 2-ethoxyethanol, and 2-nitropropane. Both the Hamilton and Paragon facilities were listed as RCRA compliant.

e) Resource Conservation and Recovery Information System (RCRIS) - Small Quantity Generators and Transporters

The Resource Conservation and Recovery Information System (RCRIS) report of small quantity generators and transporters contains information pertaining to those facilities that are required to register their hazardous waste activity under the Resource Conservation and Recovery Act. There were two small quantity generators located within a 1-mile radius of the site: Wisconsin Public Service Corp. (800 Columbus Street, Two Rivers, WI) and Formite Tube Company, Inc. 1816 Tenth Street, Two Rivers, WI). Both of these facilities were listed as RCRA compliant.

f) Emergency Response Notification System (ERNS)

The Emergency Response Notification System (ERNS) is a national computer data base system that is used to store information on the release of hazardous substances into the environment. The ERNS reporting system contains preliminary information on specific releases, including the spill location, the substance released, and the responsible party. There were no ERNS sites identified within the 1-mile radius search area.

g) Facility Index Systems (FINDS)

The FINDS report is a computerized inventory of all facilities that are regulated or tracked by the EPA. These facilities are assigned an identification number which serves as a cross-reference for other data bases in the EPA's program system. Each FINDS record indicates the EPA Program Office that is responsible for the tracking of the facility.

The Hamilton Industries facility located on Roosevelt Avenue was identified as being listed on HWDMS/RCRIS and CDS/AIRS. The Hamilton Industries facility on Columbus Street was also listed on HWDMS/RCRIS, CDS/AIRS, and TRI.

Five other FINDS facilities were located within a 1-mile radius of the site: Paragon Electric Company (606 Parkway Blvd., Two Rivers), Wisconsin Public Service Corporation (800 Columbus Street, Two Rivers), Formite Tube Company, Inc. (1816 10th Street, Two Rivers), Crescent Woolen Mills Company (1016 School Street, Two Rivers), and EVM Inc. (1009 Madison Street, Two Rivers). All of these facilities were listed in the HWDMS or RCRIS data bases. The HWDMS (Hazardous Waste Data Management System) maintains information concerning over 5,000 facilities that treat, store, or dispose of hazardous waste. Further, this system stores data associated with the 165,000 handlers who either generate or transport hazardous materials. RCRIS was discussed in Sections d and e. AIRS (Aerometric Information Retrieval System) contains detailed information pertaining to over 85,000 sites which submit air emissions reports. Developed under the Clean Air Act, this data base also maintains data on compliance status and

enforcement actions. CDS (Compliance Data System) was developed in conjunction with AIRS and contains compliance information including: compliance status, agency actions, and inspections, for the major sources of the five primary air pollutants. Paragon Electric is also included in the TRI data base which was discussed in Section c.

h) Civil Enforcement Docket

The Civil Enforcement Docket (Docket) is the USEPA's system for tracking civil judicial cases filed on the agency's behalf by the Department of Justice. Docket contains information on filed civil cases dating from 1972 to the present. There were no facilities identified in the Docket data base within a 1-mile radius of the site.

i) Nuclear Facilities

The Nuclear Facilities list identifies active nuclear power plants. There were no nuclear facilities identified within the 1-mile search radius.

j) Open Dump

The Open Dump report is a listing of those facilities that have accepted solid waste, but do not meet the EPA's requirements of a solid waste disposal facility. Further, these facilities do not accept hazardous or industrial waste. There were no open dumps identified within the 1-mile search radius.

2. State Data Bases

The search of state data bases reviewed the following lists and identified the following number of sites on each list (in parentheses) within the vicinity of the site:

- Wisconsin Leaking Underground Storage Tanks (1)
- Wisconsin Underground Storage Tanks (980)
- Wisconsin Landfills (0)

a) Wisconsin Leaking Underground Storage Tanks

The data base reviewed consisted of a list of active Wisconsin leaking underground storage tank sites. One facility (Paragon Electric, 606 Parkway Blvd., Two Rivers) was identified as having a leaking underground storage tank.

b) Wisconsin Underground Storage Tanks

There are 980 underground storage tanks located within Manitowoc and Two Rivers (zip codes 54220 and 54241). Hamilton Industries was listed as having the following underground storage tanks:

Location	Capacity (gal)	Registration No.
Roosevelt	560	361800119
	2000	361800120
	560	361800031
	4000	361800032
	2000	361800033
	200	361800034
Columbus	4000	361800106
	2000	361800234
18th Street	200	361800107

c) Wisconsin Permitted Landfills

There were no permitted landfills identified within a 1-mile radius of the facility.

3. Sanborn Fire Insurance Maps

Sanborn Fire Insurance Maps often contain considerable historical information relating to the use(s) of individual structures, locations of fuel and chemical storage tanks, and storage of other potentially toxic or hazardous substances for a given site. No Sanborn Maps were found for this site for the period covering the years 1867-1990.

4. Aerial Photographs

One aerial photograph for the Columbus Street facility was provided by Hamilton. The photograph appears to be from the early 1970s. In this photograph, the drum storage area was not covered. However, there was no evidence of soil staining or spills. Two aerial photographs were obtained by ENVIRON. The years of these photos were 1973 and 1990. Nothing suggesting spill or discharges was observed in either of these photographs.

V. HAMILTON INDUSTRIES, ROOSEVELT STREET PLANT

The results of ENVIRON's investigation of Hamilton's facility (the Site) at 2145 Roosevelt Street, Two Rivers, Wisconsin, are presented below. ENVIRON's review is based primarily on the following:

- A visit to the facility by Thomas Fusillo and Claudine Gorman of ENVIRON on December 2, 1992, and interviews with William Tice, Superintendent of Maintenance, and Don Schnell, Facility Manger, of Hamilton. Mr. Tice and Mr. Schnell have been employed with Hamilton since 1956 and 1972, respectively.

- A review of documents provided by facility personnel including environmental permits, correspondence from regulatory agencies, documents concerning the operation of an on-site incinerator operation, and Material Safety Data Sheets. ENVIRON was not allowed, however, to review independently the facility's environmental records or files.

- A review of the Wisconsin Department of Natural Resources (DNR) Lake Michigan District Headquarter files in Green Bay on December 3, 1992, pertaining to the facility's air permit compliance, wastewater discharge permit compliance, and solid and hazardous waste.

- A review of results of an environmental data base search of federal and state data bases provided by Environmental Risk Information & Imaging Services (ERIIS) on December 3, 1992.

- A review of Sanborn fire insurance maps of the Site, obtained from ERIIS and dated 1922, 1929, and 1944.

- A review of the Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) lists during the month of December 1992, to determine whether any off-site management facilities identified by ENVIRON as used by Hamilton are listed.

- Aerial photographs of the Site for the years 1972, 1973, and 1990 were reviewed.

A. Site Setting

The site is located at 2145 Roosevelt Avenue, Two Rivers, Wisconsin. The site is composed of three non-contiguous parcels of land. An undated site map shows "Parcel G" as composed of contiguous tax lots 33 and 34, while "Parcel H" and "Parcel I" are non-contiguous lots located approximately 200-400 feet to the east of "Parcel G". Parcel G is the part of the site where manufacturing operations have occurred. Parcel H appears to be only an access lot to Parcel I. Parcel I was previously used as a lumberyard for storage and drying of wood. According to Hamilton personnel, the total area of the site is approximately six acres while the building covers approximately 73,560 square feet.

The site is located within approximately 300 feet of Lake Michigan, in a mixed commercial/industrial and residential area. Residential areas are located immediately across the street to the north, east and west of the site. The Chicago and Northwestern Railroad abuts the southern property boundaries of Parcels G and I, and at one time spur lines from the railroad were used to unload wood at both Parcels G and I. Highway 42 and Lake Michigan are located to the south of the railroad line. Formite Tile Company has a facility located to the east of the lumber yard. West of the Roosevelt facility parking lot is Oil Service, Inc.

The site was reportedly developed by Hamilton Industries in the late 1940s. Hamilton personnel were unaware of the use of the site prior to development by Hamilton. To evaluate prior land use, ENVIRON reviewed Sanborn maps for the site from the years

1922, 1929, and 1944, which cover only Parcels H and I. The 1922 map shows a small building labeled as a cigar factory located on part of what is now Parcel H, while no structures or other uses are shown on Parcel I. The 1929 map shows that the previous cigar factory building had been removed and a small shed had been constructed on parcel I. The 1944 map shows that the small shed had been removed from Parcel I and no other structures had been constructed. ENVIRON also reviewed a 1959 Factory Mutual map, which covered Parcels H and I. This map showed that most of parcel I was covered with lumber piles from 20-28 feet high and there were two wood unloading sheds located at the southern end of Parcel I, adjacent to the railroad tracks. The map also showed a shed for storage of the lumber lift truck as well as a small shed for storage of drums of gasoline and a 500-gallon gasoline underground storage tank.

B. Description of Operations

Current operations at the site are limited to warehousing of completed furniture and some furniture parts. The building is largely filled with storage racks. Fork lift trucks powered by batteries or propane are used to load and unload the storage racks. There were no remaining manufacturing equipment or operations at the time of ENVIRON's visit. According to Hamilton personnel, manufacturing operations ceased at this facility in approximately 1984.

Based on records reviewed, past operations at the site included manufacturing of drafting tables and laboratory table tops. Drafting table manufacturing was performed using wood and standard wood shop machinery, including table saws, routers, glue hot press, planers and sanders. Laboratory table tops were constructed of wood fiber in a resin matrix and "chemstone", a material composed of cement and asbestos, which was cut and fabricated to meet customer's specifications. Cutting of the chemstone was performed on a table saw with a water spray to suppress dust. Spray painting of both drafting tables and laboratory tops with acrylic paint was also conducted. Wastes generated reportedly included sludge from chemstone cutting, dust from cutting and sanding operations that was collected in a baghouse during part of the operation of the facility, paint filters, and paint wastes.

As previously described, drying of lumber for use in furniture manufacture was also performed on a separate parcel near the manufacturing facility.

The site has six transformers, which Hamilton reports are owned and operated by the City of Two Rivers. Three transformers appear relatively new, while three are older and are no longer in use. Only one of the older transformers is labeled as non-PCB containing, so the remaining two older transformers may be PCB-containing. Hamilton personnel were unaware of any analytical results for any transformers at the site.

There is reportedly no asbestos present in building materials; ENVIRON observed no insulation or other material that appeared to contain friable asbestos.

C. Chemical and Waste Storage

1. Underground Storage Tanks

A 560-gallon underground tank which had been used for gasoline and diesel storage was removed in September 1986 by Jim's Excavating of Whitelaw, Wisconsin. No documentation was available on the condition of the tank upon removal or any soil or ground water contamination resulting from the tank's operation. Since the tank was shown on a 1959 Factory Mutual map, it is likely that the tank may have been thirty years old or more at the time of its removal.

The review of available state data bases identified a total of six underground tanks registered at the site, including the 560-gallon tank known to have been removed. The six underground tanks at the site included on the state data base are two 2,000-gallon tanks, one 4,000-gallon tank, one 200-gallon tank, and two 560-gallon tanks. Aside from the one 560-gallon tank known to have been removed from the site, no information on the other five tanks was available from Hamilton Industries or from DNR files. Based on ENVIRON's review, it appears that the 560-gallon tank was registered twice by Hamilton and that the other four tanks may have been incorrectly assigned to the Roosevelt Street facility and are actually the tanks located at the other two Hamilton facilities. ENVIRON found no evidence that underground tanks were currently or previously present at the facility, other than the 560 gallon tank.

2. Aboveground Tanks

The only aboveground tank present at the facility is a steel propane gas tank that is owned by Ferrell Gas. There are no records of any other aboveground tanks having ever been used during the facility's history.

3. Chemical Storage Areas

Current operations at the facility do not require the use or storage of significant quantities of chemicals. There is a flammable material storage cabinet which is located inside the warehouse building and contains small containers of chemicals, including gasoline, hydraulic oil, heptane, and cleaning solutions. Historical aerial photographs indicate that drums were stored outside in the past, although Hamilton personnel believe that only empty drums were stored outside.

D. Waste Generation and Disposal

1. Waste Generation

The waste currently generated at the site is solid nonhazardous waste, which is stored in a dumpster prior to pickup for off-site disposal. The facility previously generated hazardous waste which was disposed off-site. These hazardous wastes included flammable liquids, presumably waste solvents and oils from the former painting operations, and sludge from the former chemstone cutting operation. In addition, the facility generated baghouse dust from the sanding operations. The sludge was determined to be a hazardous waste by the Wisconsin DNR in May 1981 based on its high pH, typically 13. Following this determination by the DNR, Hamilton added acid to the sludge to lower the pH to 9-10 as requested by the DNR, and disposed of the sludge as non-hazardous waste. Analysis of both the sludge and the baghouse dust found less than 1 percent asbestos. Although Hamilton did not provide complete documentation of volumes of wastes generated, the records reviewed by ENVIRON indicated the following quantities of waste generated:

Type of Waste	Time Period	Volume Generated
Flammable Liquid (D001)	June-December 1981	1,155 gallons
Flammable Liquid (D001)	February-December 1983	1,430 gallons
Flammable Liquid (D001)	February-December 1984	980 gallons
Flammable Liquid (D001)	January-May 1985	240 gallons
Stone Cutting Sludge	May 1981-February 1982	40,000 gallons
Baghouse Dust	1982 Estimate	1.09 tons/month

In 1990, Hamilton Industries requested USEPA to change its status to a nongenerator of hazardous waste; USEPA approved this request in October 1990.

2. Waste Disposal

Solid waste is currently transported by Manitowoc Disposal for disposal at Ridgeview Landfill, Whitelaw, Wisconsin. No hazardous waste is currently being generated at the facility.

Past waste disposal practices have not been fully identified by Hamilton. Based on information reviewed by ENVIRON, the following disposal history has been developed for the various wastes generated at the facility.

- Waste oils and solvents -- were apparently transported to the main plant for incineration during the period when the main plant was incinerating wastes in the boilers. Hamilton provided manifests and other records that document this disposal during the period 1981-1985. Because manufacturing operations ceased in approximately 1985, it is likely that significant quantities of these wastes were not generated after 1985. It is not clear how these wastes were disposed of prior to the initiation of incineration at the main plant in 1974.

- Stone sawing sludge -- was probably generated by the facility beginning in 1968, when the chemstone sawing operation began at the facility. Hamilton documents indicate that as of 1981 the sludge was being collected by Francis Sauer Excavating in a tank truck and were brought to property owned by Fred

Radandt & Sons in the area of Shoto, Wisconsin for disposal. This site was apparently not a permitted waste disposal facility. It is not certain when this disposal began and there were no records concerning the disposal of this material prior to 1981. In May 1981, following an inspection by the DNR, Hamilton obtained approval from the DNR for disposal of this sludge as non-hazardous waste at the Lemberger Landfill, Whitelaw, Wisconsin, with the requirement that the pH of the sludge be adjusted to be within 9-10 prior to disposal. Documents provided by Hamilton indicate that approximately 40,000 gallons of sludge were transported to Lemberger for disposal during the period May 1981 to February 1982. In 1982, Hamilton received approval from Waste Management of Wisconsin for disposal of the sludge at the Waste Management landfill in Menomonee Falls, Wisconsin. Records indicate that approximately 9,700 gallons (81,000 lbs.) of sludge were shipped to Waste Management in May and June 1982. In May 1982, Hamilton completed installation of equipment to monitor and adjust the pH of the water generated by the stone sawing operation. At that time, Hamilton also ceased recirculating the stone sawing water, which eliminated the generation of sludge, and began to discharge the water to the sanitary sewer. Discharge of this material to the sanitary sewer was approved by DNR and the City of Two Rivers.

- Baghouse dust -- was probably generated beginning in the 1970s when the air control system, including the baghouse, were installed. In 1982, Hamilton received approval for disposal of this material at the Waste Management landfill at Menomonee Falls, Wisconsin. In 1982, Hamilton estimated that approximately 1.09 tons of baghouse dust were generated each month. Although ENVIRON did not have complete disposal records for this material, records for the period February-March 1985 indicate that 25,500 pounds of asbestos dust waste were disposed at Menomonee Falls, Wisconsin. A 1977 inspection report by the USEPA indicated that at that time the baghouse dust was being transported by a Hamilton Industries truck to the Two Rivers

Landfill, and that previously some of the baghouse dust had been taken to the main plant for incineration but this practice was stopped due to difficulties in handling the material.

E. Air Emissions

There are currently no significant sources of air emissions and no air emission permits for the site. During the period of active manufacturing at the facility, there were several sources of air emissions. Information from DNR files indicates air emission issues were raised by neighboring residents in the 1970s prior to the installation of the baghouse. A 1972 DNR inspection indicated that asbestos emissions to the ambient air were occurring at the plant from the sanding operation, which was exhausted to the atmosphere without any controls. In specifications for a dust control system for the plant (which were approved by the Wisconsin Department of Industry, Labor, and Human Relations, Industrial Safety and Buildings Division in September 1973), Hamilton proposed placing hoods on a table saw, belt sander, carriage saw, sand blast booth, and tenoner, which would be connected to a baghouse for collection of the dust. From the information reviewed, it is uncertain exactly when the baghouse and dust control measures were completed, however a 1977 USEPA inspection report indicates that the sanding and other finishing operations had already been connected to a baghouse at that time.

A 1981 DNR inspection report indicated that the acrylic spray painting was being conducted using paints containing 3.15 #/gal of solvent, resulting in an annual use of 9.53 tons per year of solvent. The acrylic paint operation was reported by DNR as not regulated due to the fact that it had been constructed and operational in 1968 and was therefore not subject to regulations. The baghouse stack operation was found by DNR to be in compliance with visible emission limits of 0% opacity for any stack venting an asbestos manufacturing process, and in compliance with particulate emission rate of 0.4#/1000#gas, based on reasonable assumptions concerning baghouse integrity.

F. Wastewater Discharges

1. Wastewater

Only sanitary wastewater is currently discharged into the local POTW. The facility reportedly has no current pretreatment requirements for its POTW discharge. No process waste waters are currently being generated and the facility has no wastewater discharge permits. As previously discussed, during the period from approximately 1982 to 1984, the facility discharged water from the chemstone sawing operation to the sanitary sewer after making a pH adjustment; this discharge was approved by the City of Two Rivers and the Wisconsin DNR.

2. Storm Water

Storm water runoff from the facility discharges into Lake Michigan. There are reportedly no process water or cooling water discharges from the facility. Hamilton Industries has filed an individual storm water discharge permit application. In 1974, Hamilton was issued WPDES permit No. WI-0026824 for discharges to Lake Michigan via the storm sewer system. In February 1976, Hamilton requested to the DNR that the WPDES permit be revoked because the surface water runoff from the site consisted entirely of runoff from the roof drains, and all process and sanitary waste waters were discharged directly into the municipal sewerage system. In October 1976, the DNR revoked the permit as requested by Hamilton.

G. On-site Soil and Ground Water Contamination

ENVIRON did not observe any apparent soil contamination during the site visit. Some uncertainty exists due to lack of information concerning the underground storage tank and past drum and other material handling and storage practices.

H. Occupational Health and Safety

Hamilton has a written hazard communication program that covers all three Hamilton facilities in Two Rivers, including the Roosevelt Street facility. During the site visit,

however, Hamilton Industries personnel were unsure whether MSDS sheets were available at the facility.

There was no record of any recent OSHA inspections. In 1981, based on one or more inspections by OSHA, the facility received a Citation and Notice of Penalty for several violations, including improper storage of respirators, lack of sufficient monitoring for potential asbestos exposures, and insufficient labeling of asbestos wastes. No penalty was assessed for these violations, two of which were corrected immediately and two of which were to be corrected within 60 days. There is no further documentation of other OSHA inspections or violations.

I. Other Issues

1. Asbestos

Hamilton Industries personnel were not aware of a significant asbestos issue at the facility. ENVIRON did not observe any friable potentially asbestos-containing material during the site inspection. Manufacturing of products containing asbestos reportedly ceased in November 1984. In a January 1987 letter to the USEPA, Hamilton stated that following the cessation of asbestos manufacturing in 1984, the duct work for the dust collection system was removed and disposed of, and the interior factory areas were certified to be free of asbestos.

2. PCBs

Hamilton Industries reports that the six transformers located at the facility are owned by the City of Two Rivers; three of the transformers appear to be fairly new, while the three older transformers are no longer being used. The facility personnel did not have any data on PCB content of any of the transformers. One of the older transformers was labeled as non-PCB containing, while labels were not observed on the other transformers.

3. EPCRA

The facility does not appear to be subject to the reporting requirements of EPCRA based on the existing operations at the facility.

J. Review of Environmental Information

ENVIRON contracted with ERIIS in Alexandria, Virginia to conduct a search of electronic data bases for any sites in the vicinity of the Roosevelt Street facility. ERIIS provided ENVIRON with their findings in a report prepared on December 3, 1992.[3] In their report, ERIIS identified all relevant sites within a 1-mile radius, and the results of this search are discussed in the following sections, as well as Sanborn Fire Insurance Maps and aerial photographs.

1. Federal Data Bases

The search of federal data bases reviewed the following lists and identified the following number of sites on each list (in parentheses) within the vicinity of the Roosevelt Street facility:

- The National Priorities List (0)
- The CERCLIS List (0)
- Toxic Release Inventory (1)
- RCRIS - Large Quantity (9)
- RCRIS - Small Quantity (5)
- ERNS (0)
- FINDS (25)
- Docket (0)
- Nuclear (0)
- Open Dump (0)

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[1] ERIIS does not specifically identify the date of the most recent update for each of the data bases they search. In general, this information is obtained from the printouts provided, where possible.

a) The National Priorities List (NPL)

The NPL Report, also known as the Superfund list, is an EPA listing of uncontrolled or abandoned hazardous waste sites. The list is primarily based on a score that the site receives from the EPA's Hazardous Ranking System. These sites are targeted for possible long-term remedial action under the Superfund Act. According to the data base search, no NPL sites are located in the vicinity of the site.

b) The Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) List

The CERCLIS list is a compilation of known and suspected uncontrolled or abandoned hazardous waste sites. These sites have been investigated, or are currently under investigation by the EPA, for the release, or threatened release of hazardous substances. Once a site is placed on the CERCLIS Report, it may be subjected to several levels of review and evaluation, and ultimately placed on the National Priorities List. While it might be determined that some CERCLIS sites require no further action, others could pose a real or perceived environmental threat to neighboring properties, affecting property values. According to the data base search, no CERCLIS sites are located within a 1-mile radius of the site.

c) Toxic Release Inventory (TRI) Sites

The Toxic Release Inventory (TRI) contains information on the estimated releases of toxic chemicals into the environment. The TRI Report includes data relating to the amount of chemicals that are stored at a facility, and the estimated quantity that has been emitted into the environment. One facility located within the vicinity of the site was identified in the TRI Report. Paragon Electric Company, Inc. (606 Parkway Blvd., Two Rivers, WI 54241) was identified as releasing the following chemicals and annual quantities to the air: trichloroethylene (16,500 lbs fugitive, 60,380 lbs stack), aluminum fume or dust (250 lbs fugitive), copper (250 lbs fugitive), and N-butyl alcohol (9,200 lbs fugitive, 22,300 lbs stack).

d) Resource Conservation and Recovery Information System (RCRIS) - Large Quantity Generators and TSD Facilities

The Resource Conservation and Recovery Information System (RCRIS) report of large quantity generators and treatment, storage, and disposal (TSD) facilities contains information pertaining to those facilities that are required to register their hazardous waste activity under the Resource Conservation and Recovery Act.

There were nine large quantity generators located within a 1-mile radius of the site. Hamilton Industries (18th Street) was identified as a transporter as well as a large quantity generator. Hamilton waste codes included F003 (spent nonhalogenated solvents, mixtures or still bottoms of xylene, acetone, ethyl acetate, ethyl benzene, ethyl ether, methyl isobutyl ketone, n-butyl alcohol, cyclohexanone, and methanol), F005 (spent nonhalogenated solvents, mixtures or still bottoms of toluene, methyl ethyl ketone, carbon disulfide, isobutanol, pyridine, benzene, 2-ethoxyethanol, and 2-nitropropane), F017, U002 (acetone), U031 (n-butyl alcohol), U159 (methyl ethyl ketone), U220 (toluene), and U239 (xylenes/benzene). Hamilton Industries at Columbus Street was listed as a large quantity generator with waste code D001 (a solid waste that exhibits the characteristic of ignitability, but is not listed as a hazardous waste in Subpart D).

The Eggers Industries Plywood Division East Plant (1819 East River Street, Two Rivers), Eggers Industries Plywood Division West Plant (1702 13th Street, Two Rivers) and EVM Inc. (1009 Madison Street, Two Rivers) were all identified as large quantity generators with only one waste code, D001.

Enterprise Plating Works (1207 Monroe Street, Two Rivers) was identified as a large quantity generator with waste codes D002 (a solid waste that exhibits the characteristic of corrosivity, but is not listed as a hazardous waste in Subpart D), F007 (spent cyanide plating bath solutions from electroplating operations), F008 (plating bath residues from the bottom of plating baths from electroplating operations where cyanides are used in the process), F009 (spent stripping and cleaning bath solutions from electroplating operations where cyanides are used in the process), P029 (cuprous cyanide), P106 (sodium cyanide), and P121 (zinc cyanide).

information on specific releases, including the spill location, the substance released, and the responsible party. There were no ERNS sites identified within the 1-mile radius search area.

g) Facility Index Systems (FINDS)

The FINDS report is a computerized inventory of all facilities that are regulated or tracked by the EPA. These facilities are assigned an identification number which serves as a cross-reference for other data bases in the EPA's program system. Each FINDS record indicates the EPA Program Office that is responsible for the tracking of the facility.

There were 25 FINDS facilities, including Hamilton, within a 1-mile radius of the site. These facilities are all located in Two Rivers, and their data bases are presented in the following table:

Facility	Location	Data Base(s)
Hamilton Industries	Roosevelt Avenue	HWDMS/RCRIS, CDS/AIRS
Hamilton Industries	Columbus Street	HWDMS/RCRIS, CDS/AIRS, TRI
Hamilton Industries	1316 18th Street	HWDMS/RCRIS, PCS, CDS/AIRS, TRI
Formite Tube Co. Inc.	1816 10th Street	HWDMS/RCRIS
Crescent Woolen Mills Co.	1016 School Street	HWDMS/RCRIS
EVM Inc.	1009 Madison Street	HWDMS/RCRIS
Two Rivers WWTP	12th and Washington	HWDMS/RCRIS, PCS
Two Rivers Water & Light Dept.	1415 Lake Street	HWDMS/RCRIS, FATES
Enterprise Plating Works	1207 Monroe Street	HWDMS/RCRIS
Eggers Industries Inc. - Plywood	1702 13th Street	HWDMS/RCRIS
Mirro Corp. - Plt 4	14th and Monroe	HWDMS/RCRIS
Mirro Corp. - Plt 1	1509 16th Street	HWDMS/RCRIS
GTE Two Rivers Control Off	1609 Adams Street	HWDMS/RCRIS
Two Rivers Water & Light	1916 Columbus Street	PADS
Classic Modular Systems, Inc.	1911 Columbus Street	HWDMS/RCRIS

Facility	Location	Data Base(s)
Formite Tube Co.	1912 Columbus Street	HWDMS/RCRIS
Postal Service - Two Rivers	1516 18th Street	Docket, FFIS
Eggers Industries Inc. - Plywood	1819 E. River Street	HWDMS/RCRIS
Cool City Cleaners	1908 Washington St.	HWDMS/RCRIS
Petroleum Conservation Inc.	1910 20th Street	HWDMS/RCRIS
Tegen Industries Ltd.	1902 22nd Street	HWDMS/RCRIS
Paragon Electric Company	606 Parkway Blvd.	HWDMS/RCRIS, TRI
Wisconsin Public Service Corp.	800 Columbus Street	HWDMS/RCRIS
Metal Ware Corp.	1700-1710 Monroe Avenue	HWDMS/RCRIS
Two Rivers U.S. Coast Guard Station	13 East Street	HWDMS/RCRIS

The HWDMS (Hazardous Waste Data Management System) maintains information concerning over 5,000 facilities that treat, store, or dispose of hazardous waste. Further, this system stores data associated with the 165,000 handlers who either generate or transport hazardous materials. RCRIS was discussed in Sections d and e. PCS (Permit Compliance System) contains information pertaining to over 76,000 facilities that are permitted to discharge waste into bodies of surface water. Also, this system stores selective summaries of information for facilities with National Pollution Discharge Elimination System (NPDES) permits. AIRS (Aerometric Information Retrieval System) contains detailed information pertaining to over 85,000 sites which submit air emissions reports. Developed under the Clean Air Act, this data base also maintains data on compliance status and enforcement actions. CDS (Compliance Data System) was developed in conjunction with AIRS and contains compliance information including: compliance status, agency actions, and inspections, for the major sources of the five primary air pollutants.

TRI was discussed in Section c. FATES (FIFRA and TSCA Tracking System) contains information regarding Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and Toxic Substances Control Act (TSCA) legislation. This data base also contains selected data concerning pesticide producers. Docket is a national

system containing all pertinent information regarding a civil or administrative enforcement action taken by the EPA, or state agency, against violators of environmental laws or statutes. FFIS (Federal Facility Information System) is an index of selected federally-owned facilities. It is a monitoring and tracking tool for the Office of Federal Facilities Enforcement. Its main purpose is to monitor pollution abatement programs for federal facilities worldwide. PADS (PCB Activity Database System) was designed to store information concerning facilities which handle or transport polychlorinated biphenyls (PCBs). Approximately 4,000 facilities have reported their PCB waste handling activity to the Office of Toxic Substances.

h) Civil Enforcement Docket

The Civil Enforcement Docket (Docket) is the USEPA's system for tracking civil judicial cases filed on the agency's behalf by the Department of Justice. Docket contains information on filed civil cases dating from 1972 to the present. There were no facilities identified in the Docket data base within a 1-mile radius of the site.

i) Nuclear Facilities

The Nuclear Facilities list identifies active nuclear power plants. There were no nuclear facilities identified within the 1-mile search radius.

j) Open Dump

The Open Dump report is a listing of those facilities that have accepted solid waste, but do not meet the EPA's requirements of a solid waste disposal facility. Further, these facilities do not accept hazardous or industrial waste. There were no open dumps identified within the 1-mile search radius.

2. State Data Bases

The search of state data bases reviewed the following lists and identified the following number of sites on each list (in parentheses) within the vicinity of the site:

- Wisconsin Leaking Underground Storage Tanks (1)
- Wisconsin Underground Storage Tanks (980)
- Wisconsin Landfills (0)

a) Wisconsin Leaking Underground Storage Tanks

The data base reviewed consisted of a list of active Wisconsin leaking underground storage tank sites. One facility in Two Rivers was identified as having a leaking underground storage tank within a 1-mile radius of the site (Paragon Electric, 606 Parkway Blvd.).

b) Wisconsin Underground Storage Tanks

There are 980 underground storage tanks located within Manitowoc and Two Rivers (zip codes 54220 and 54241). Hamilton Industries was listed as having the following underground storage tanks:

Location	Capacity (gal)	Registration No.
Roosevelt	560	361800119
	2000	361800120
	560	361800031
	4000	361800032
	2000	361800033
	200	361800034
Columbus	4000	361800106
	2000	361800234
18th Street	200	361800107

c) Wisconsin Permitted Landfills

There were no permitted landfills identified within a 1-mile radius of the facility.

3. Sanborn Fire Insurance Maps

Sanborn Fire Insurance Maps often contain considerable historical information relating to the use(s) of individual structures, locations of fuel and chemical storage tanks, and storage of other potentially toxic or hazardous substances for a given site. Sanborn maps for the years 1913, 1922, 1929, and 1944 were reviewed.

4. Aerial Photographs

One aerial photograph of the facility provided by Hamilton was reviewed. The photograph was taken in the early 1970's and shows a trailer of drums located outside of the facility. No evidence of spills was observed. Three aerial photographs were obtained by ENVIRON. The years of these photos were 1972, 1973, and 1990. Nothing suggesting spills or discharges was observed in any of these photographs.

VI. OFF-SITE WASTE MANAGEMENT, HAMILTON INDUSTRIES

Based on provided documents, ENVIRON has identified off-site waste management and disposal locations used currently and historically by Hamilton at its three facilities in Two Rivers. Table 2 summarizes the known disposal facilities used by Hamilton for its disposal of hazardous wastes. Also shown on Table 2 are findings from CERCLIS data base searches conducted by ENVIRON. It must be noted that this list may be incomplete given historic record keeping practices. The facility has apparently used a large number of waste disposal firms for off-site waste handling and disposal, including several that are listed on the National Priorities List (NPL) of sites requiring cleanup under the Comprehensive Environmental Restoration Liability Act (CERCLA) and several that are listed on CERCLIS as being considered under CERCLA (Superfund). These sites are discussed below.

Hamilton disposed of wastes at American Chemical Services (ACS), a Superfund landfill site in Griffith, Indiana. EPA identified Hamilton as one of 401 Potentially Responsible Parties (PRPs) for the site with liability for cleanup costs. Hamilton appears to have disposed lacquer thinner to the landfill over an 11 year period between 1955 and 1966. According to their counsel, Hamilton's liability for cleanup costs at ACS are limited to $25,000 under an indemnity agreement signed with a former owner of Hamilton Industries, Baxter Healthcare Corporation. Hamilton has reportedly received no letters or information requests on this site since entering into the indemnity agreement with Baxter.

Hamilton reportedly received a CERCLA 104(e) information request from EPA during the late 1980's regarding disposal at Lemberger Landfill, a Superfund site in Whitelaw, Wisconsin. This indicates that Hamilton was being evaluated for possible inclusion as a PRP for the site. Reportedly, Hamilton responded to the information request by stating that they had never disposed of waste to this landfill. However, as discussed in Section V for the Roosevelt Plant, the facility has disposed of non-hazardous asbestos sludge at

TABLE 2
Hamilton Industries
Off-Site Disposal Facilities

Facility	FINDS/CERCLIS Data Bases
Acme Barrel Company 2300 W. 13th Street Chicago, IL 60605	RCRIS CERCLIS (nfa) CDSAIRS
Alchemtron Inc. 7415 Bessemer Ave. Cleveland, OH 44177	RCRIS CERCLIS (nfa) Docket CDSAIRS
American Chemical Service, Inc. 420 S. Colfax Ave. Griffith, IN 46319	CICIS FATES RCRIS CERCLIS (NF1, 84) Docket TRIS CDSAIRS
Avganics Inc. 114 N. Main St. Cottage Grove, WI 53527	RCRIS CERCLIS (nfa) CDSAIRS PADS
City of Two Rivers Landfill Riverview Drive Two Rivers, WI 54241	CERCLIS (nfa)
ESI Rogers Oil Co. 337 Portland Road Waterloo, WI 53594	RCRIS
ESL Inc. Landfill P.O. Box 109 Elwood, IL 60421	RCRIS CERCLIS (nfa) Docket PADS
EWR 2390 S. Broadway Coal City, IL 60416 ILD087157251	RCRIS FATES CERCLIS (nfa) Docket CDSAIRS
Green Lake Landfill Willard Road Berlin, WI 54923	RCRIS
Hechimovich Landfill 707 Valley Street Horicon, WI 53032	RCRIS CERCLIS (NF1, 89)

TABLE 2
Hamilton Industries
Off-Site Disposal Facilities

Facility	FINDS/CERCLIS Data Bases
Lemberger Landfill Route 1 Hempton Lake Road Whitelaw, WI 54247	Superfund Site Mayline Co. identified as a PRP - 39 total PRP's Costs estimated at 20 mil
Muchin Inc., Div. of Sadoff & Rudov 1600 South 26th Street Manitowoc, WI 54220	RCRIS CDSAIRS FTTSNCDB
PPM Inc. 1628 W. 9th Street Kansas City, MO 64101 MOD069277549	RCRIS PADS TRIS FTTSNCDB
Radandt Gravel Pit Shoto, WI	No information
Ridgeview Landfill Hempton Drive Whitelaw, WI 54247	No information
Safety-Kleen 2100 Badger Road Kaukauna, WI 54130 WID981187297	RCRIS
Safety-Kleen 633 East 138th Street Dolton, IL 60419 ILD980613913	RCRIS CDSAIRS CERCLIS (nfa)
Sheboygan Paint Company 1439 North 25th Street Sheboygan, WI 53082 WID006103766	RCRIS TRIS CDSAIRS
Treatment One 5743 Cheswood St. Houston, TX 77087 TXD055135388	RCRIS CERCLIS (SI1, 84) Docket
Try Chem Corp. 1333 W. Pierce St. Milwaukee, WI 53204	RCRIS CERCLIS (SI1, 90) Docket CDSAIRS
Two Rivers Landfill - Schultz E State Hwy. 42 Two Rivers, WI 54241	CERCLIS (nfa)

TABLE 2
Hamilton Industries
Off-Site Disposal Facilities

Facility	FINDS/CERCLIS Data Bases
Two Rivers Public Works Treatment Plant 1415 Lake Street Two Rivers, WI 54241	PCS RCRIS
Waste Management of WI W124 N9451 Boundary Road Menomonee Falls, WI 53051	RCRIS PCS CERCLIS (NF1)

Notes:

nfa - no further action
SI - Site inspection
NF - Final National Priority Site

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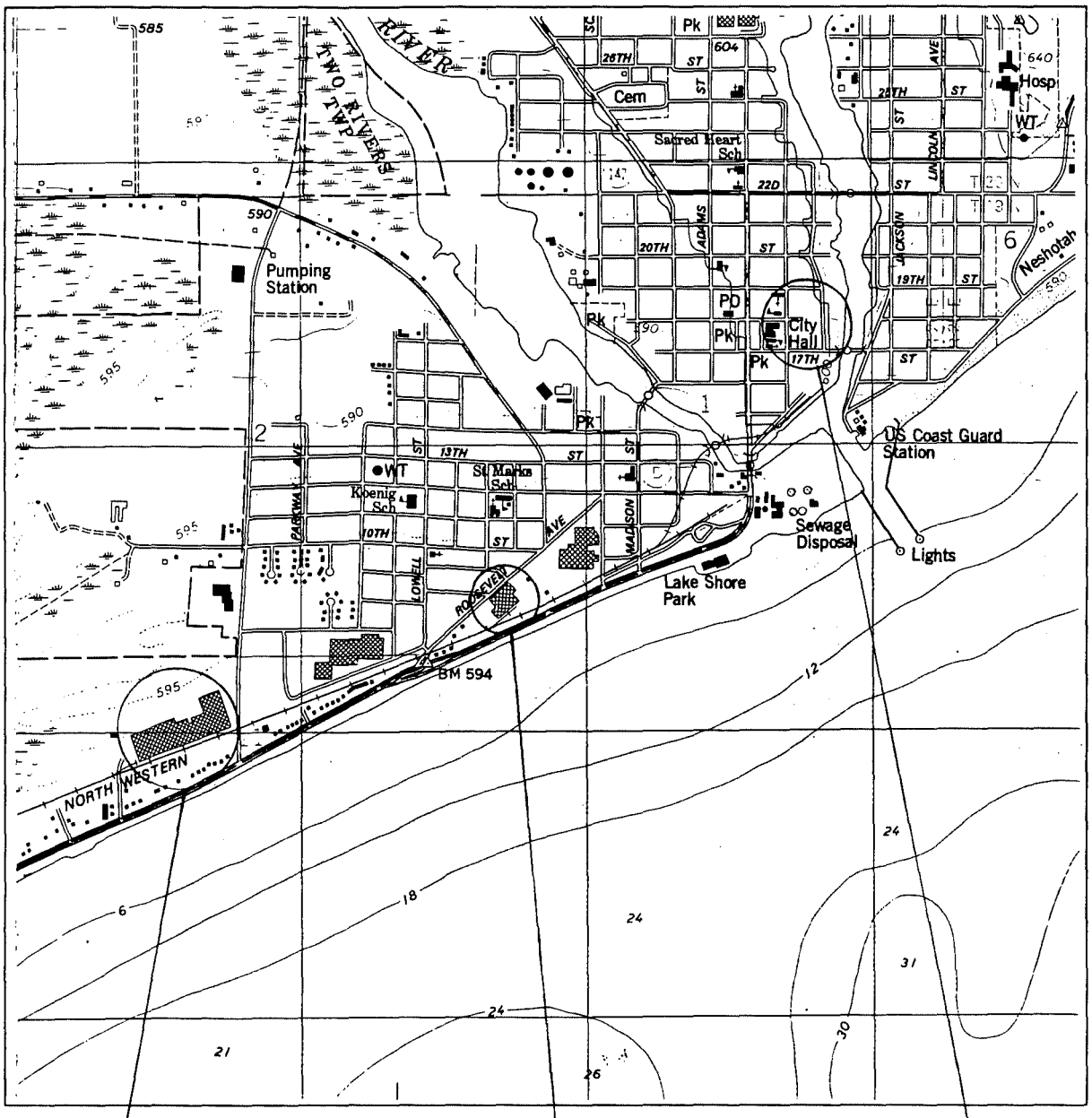
Lemberger, although there is some uncertainty as to whether the Roosevelt wastes were disposed at Lemberger or the adjacent Ridgeview landfill. Mayline Company, Hamilton's previous parent company, was identified as one of 39 PRP's for the Lemberger site. Estimated cleanup costs for this site are 20 million dollars.

Two other disposal facilities previously used by Hamilton are also Superfund sites: Hechimovich Landfill in Horican, Wisconsin, and the Lauer 1 Sanitary Landfill operated by Waste Management of Wisconsin, in Menomonee Falls. Hamilton is not currently listed as a PRP at either of these sites. However, these sites are still in the RI/FS stage and PRPs have not yet been identified.

Other disposal facilities used by Hamilton that are on the CERCLIS list include the City of Two Rivers Landfill in Two Rivers; Wisconsin, Safety-Kleen in Dolton, Illinois; EWR in Coat City, Illinois; Acme Barrel Company in Chicago, Illinois; and ESL Inc. Landfill in Elwood, Illinois. All of these facilities are listed as requiring no further action. While past or current waste disposal at any of these sites may present a potential concern for liabilities, sites having the "no further action" notation may present lesser concerns. The Treatment One facility in Houston, Texas, was also used by Hamilton for off-site disposal, and is listed on the CERCLIS list as having had a site inspection in 1984. No additional action is listed as having been conducted for this site.

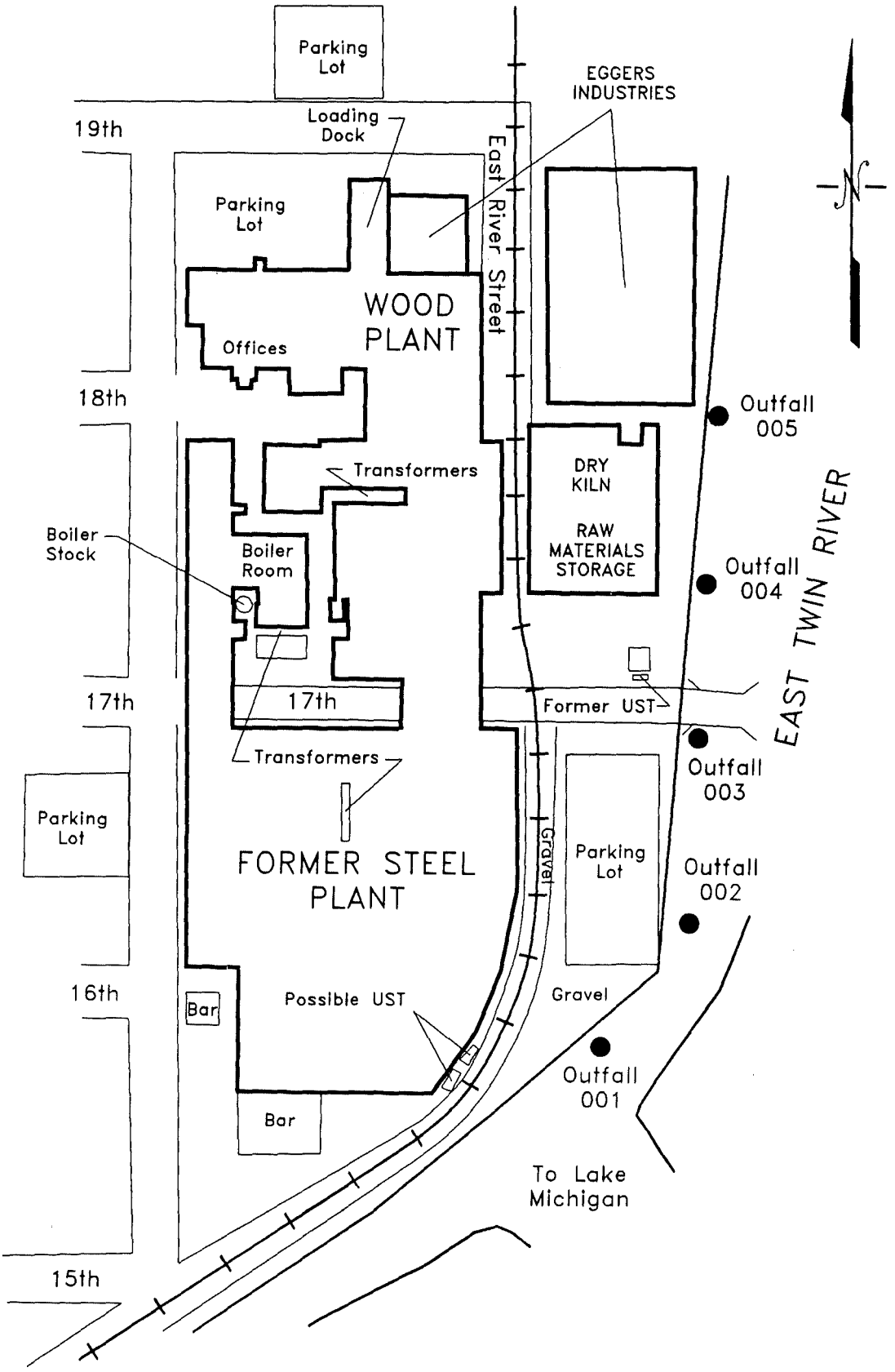
Ridgeview Landfill in Whitelaw Wisconsin is currently used by Hamilton for the disposal of nonhazardous waste and is operated by Waste Management of Wisconsin. This facility does not appear to be listed on CERCLIS. However, the landfill lies adjacent to the Lemberger Landfill, which consists of two sections, both of which are on the NPL list. Ground water contamination is known to exist at both of these sites. Also, the WDNR believes there may be a ground water contamination problem at the closed portion of the Ridgeview Landfill, which is located 100 feet away from the operating portion of the landfill.

3005A:PAA0336A.W51



Source: USGS Topographic Series, Two Rivers, WIS. Quad. 1978.

ENVIRON Counsel in Health and Environmental Science	SITE LOCATION MAP FOR HAMILTON INDUSTRIES TWO RIVERS, WISCONSIN	Figure 1	
DRAFTED BY: JT	DATE: 12/18/92		3005AS01



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ENVIRON
Counsel in Health and Environmental Science

SITE PLAN, HAMILTON INDUSTRIES, MAIN PLANT, TWO RIVERS, WISCONSIN

Figure 2