EPA Region 5 Records Ctr.
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Phase I
Environmental Site Assessment
Plainwell Paper Mill
200 Allegan Street
Plainwell, Michigan

Prepared for:
City of Plainwell
Brownfield Redevelopment Authority
Plainwell, Michigan

PRIVILEGED & CONFIDENTIAL
ATTORNEY/CLIENT PRIVILEGED
DO NOT DUPLICATE

May 2003
Project No. G02579

fTC&h
fishbeck, thompson, carr & huber
engineers • scientists • architects

PHASE I

ENVIRONMENTAL SITE ASSESSMENT

PLAINWELL PAPER MILL

200 ALLEGAN STREET

PLAINWELL, MICHIGAN

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BROWNFIELD REDEVELOPMENT AUTHORITY
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1.0 SUMMARY

Fishbeck, Thompson, Carr & Huber, Inc. (FTC&H) has performed a Phase I Environmental Site Assessment (ESA) on Plainwell Paper Mill, 200 Allegan Street, Plainwell, Michigan (subject property). This Phase I ESA was conducted in conformance with the scope and limitations of the American Society for Testing and Materials (ASTM) Standard Practice E 1527-00 (the Standard). As part of this assessment, the historical use of the subject property was investigated, the current condition of the subject property was examined, and public records regarding the subject property and surrounding properties were reviewed. For your reference, Appendix 16.1 contains a Glossary of Frequently Used Terms.

The stated purpose of this report is to satisfy one of the requirements to qualify for the innocent landowner defense to Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) liability. As requested by Mr. Michael Ortega of Lewis, Reed and Allen, P.C., legal counsel for the City of Plainwell, no additional issues beyond those required in the Standard have been evaluated in this assessment.

This assessment has revealed no evidence of recognized environmental conditions (RECs) in connection with the property, except for the following:

A. The subject property is included on the National Priorities List (NPL) as part of the Superfund site known as Allied Paper, Inc./Portage Creek/Kalamazoo River and could potentially be included in the Record of Decision (ROD). The potential exists for polychlorinated biphenyls (PCBs) to be present at the subject property at concentrations that exceed Part 201 Generic Residential Cleanup Criteria (GRCC).

B. The presence of sludge and fly ash from papermaking operations in the former wastewater lagoons that contain metals at concentrations that exceed Part 201 GRCC.

C. The presence of sediments (gray seam) that contain levels of PCBs above Part 201 GRCC in the Kalamazoo River, floodplain, and river bank.

D. Fill material from an unknown source that contains concrete, brick, metal, and other solid waste materials observed in the river bank and aeration pond banks.

E. Fill material present at the site that consists of cinders, ash, and stained soils which have the potential to cause a material release of hazardous substances to underlying soils and groundwater.

F. The potential for a material release of hazardous substances to soils from waste coal present on the ground surface and in storage piles in the former coal storage area located west of the mill buildings.

G. Near surface soils between the coal storage area and the Kalamazoo River that contain arsenic, mercury, lead, benzo(a)pyrene, phenanthrene, and dibenzo(a,h)anthracene at concentrations that exceed Part 201 GRCC.

H. The potential for a material release of hazardous substances from solid waste piles present between the former coal storage area and the Kalamazoo River.

I. The #6 fuel oil spill remediation area, due to a confirmed release of petroleum products, and the documented presence of contaminants above Part 201 GRCC in soils collected from the excavation base, and the potential for residual contamination in the excavation sidewalls.

J. A release of tetrachloroethene to soils south of the fuel oil pump house at concentrations that exceed Part 201 GRCC.

K. A release of #6 fuel oil within the pump house and the potential for a materials release to underlying soils.

L. The potential for a material release from the former 10,000-gallon kerosene underground storage tank (UST) used in the deinking process.

M. A material release of hazardous substances to soils present within the #6 fuel oil aboveground storage tank (AST) containment and soils adjacent to the railroad spur near the main courtyard.

N. A material release of kerosene to surface soils from an excavated UST in December 1987.

O. The potential for a material release from use of a 17,000-gallon brine UST system.

Data obtained from previous site investigations indicate the subject property is a *facility*, as defined in Section 20101(1)(o) of Part 201 of the Natural Resources and Environmental Protection Act, P.A. 451 of 1994, as amended.

2.0 INTRODUCTION

2.1 PURPOSE

This document presents the findings of a Phase I ESA on the subject property (see Appendix 16.2, Location Map and Site Plan). The purpose of this Phase I ESA is to identify RECs in connection with the subject property. Mr. Ortega, on behalf of the City of Plainwell Brownfield Redevelopment Authority, has requested that FTC&H perform this assessment, which was conducted by Mr. Steven M. Kimm, CPG.

This Phase I ESA was conducted in compliance with the scope and limitations of the Standard. The Standard is intended to permit a user to satisfy one of the requirements to qualify for the innocent landowner defense to environmental cleanup liability under the federal CERCLA or Superfund and under analogous requirements of Michigan law, i.e., "all appropriate inquiry into the previous ownership and uses of the property consistent with good commercial or customary practice." If RECs are identified in the Phase I ESA, additional investigation may be necessary to further characterize site conditions.

2.2 DETAILED SCOPE OF SERVICE

The scope of service for this Phase I ESA was developed from discussions between Mr. Ortega and FTC&H staff. This assessment included a site reconnaissance, review of governmental records and environmental databases, and interviews with personnel knowledgeable of site conditions. The client did not request that any additional issues be addressed in this report.

2.3 SIGNIFICANT ASSUMPTIONS

FTC&H assumes the information reviewed in this assessment (including government records, prior ESAs, and historical sources) is reliable and accurate. We also assume that all interviewees have responded truthfully and to the extent of their knowledge.

2.4 LIMITATIONS AND EXCEPTIONS

The information gathered for this Phase I ESA is limited to information that is publicly available, obtainable within reasonable time and cost constraints, and is practically reviewable. It is also limited to conspicuous visual indicators encountered during the site reconnaissance. The ESA interpretations are made within the context of these limitations.

2.5 SPECIAL TERMS AND CONDITIONS

No special terms and conditions were required in this assessment.

2.6 USER RELIANCE

This Phase I ESA report is provided for the client's exclusive use. The report may also be used by any lender that is loaning funds in connection with the subject property. As requested, we have forwarded a copy of this report to Mr. Ortega. Any use of the report by others, without the written consent of FTC&H, shall be without liability to FTC&H.

3.0 SITE DESCRIPTION

3.1 LOCATION AND LEGAL DESCRIPTION

The subject property is located in the SE ¼ of the NE ¼, Section 30, Town 1 N, Range 11 W, City of Plainwell, Allegan County, Michigan. The property's street address is 200 Allegan Street, Plainwell, Michigan. A legal description and survey are included in Appendix 16.3.

3.2 SITE AND VICINITY GENERAL CHARACTERISTICS

The subject property is located on approximately 34 acres and contains the vacant Plainwell Paper Mill and associated wastewater treatment plant and the vacant Specialty Minerals, Inc., property (see Appendix 16.4, Site Photographs). The subject property is owned by Plainwell Inc., and is bordered as follows:

A. North: Kalamazoo River
B. South: Allegan Street (M-89) and mixed residential/commercial properties
C. East: Mill Race and commercial properties
D. West: Residential properties and City of Plainwell Sewage Treatment Plant

3.3 CURRENT USES OF THE SUBJECT PROPERTY

The subject property is currently vacant. At the time of the site reconnaissance, the papermaking equipment had mostly been dismantled and removed from the paper mill. All process equipment has been removed from the Specialty Minerals, Inc., building with the exception of the large, empty vats and storage tanks.

3.4 DESCRIPTIONS OF STRUCTURES, ROADS, AND OTHER IMPROVEMENTS

There are many buildings and improvements that exist on the subject property: paper mill buildings, wastewater treatment buildings and clarifiers; Specialty Minerals, Inc., buildings, storage buildings, rail spurs, tanks and containment structures, water towers, water wells and pump houses, and paved driveways and parking lots. The improvements were constructed on the subject property beginning in the late 1800s. A description of the buildings present in the City of Plainwell Tax Assessor files is included in Appendix 16.5.

The utilities supplied to the subject property include electricity, public sanitary sewer, potable water, natural gas, and telephone. The buildings are currently not heated, but are equipped with several types of steam and natural-gas heaters. The office areas are air conditioned.

Industrial wastewater was treated in the onsite wastewater treatment plant. Process water was provided through several onsite water wells.

3.5 CURRENT USES OF ADJOINING PROPERTIES

Adjoining properties were viewed from the subject property. The properties located south and east of the subject property consist of a mixture of commercial businesses and residential homes. The City of Plainwell Wastewater Treatment Plant is located immediately west of the wastewater treatment area of the subject property. The Kalamazoo River and floodplain adjoin the mill property to the north.

4.0 USER-PROVIDED INFORMATION

4.1 TITLE RECORDS

Title search information was not obtained from the user.

4.2 ENVIRONMENTAL LIENS OR ACTIVITY AND USE LIMITATIONS

According to Mr. Jeff Arnesen, Senior Vice President and Chief Financial Officer of Plainwell Inc. (Plainwell Paper), there are no federal, state, or local environmental cleanup liens in effect for the subject property. In addition, Mr. Arnesen did not know of any legal restrictions on the property's use or for activities conducted on the property.

4.3 SPECIALIZED KNOWLEDGE

Mr. Arnesen stated on February 21, 2003, that he had no specialized knowledge of any conditions on the subject property that would be interpreted as a REC.

4.4 VALUATION REDUCTION FOR ENVIRONMENTAL ISSUES

Mr. Ortega, legal counsel for the City of Plainwell Brownfield Redevelopment Authority, stated that the price of the subject property was not significantly lower than the expected market value, which already had likely been reduced, due to the presence of an obsolete paper mill and potential capital expenditures to develop the property for future use.

4.5 OWNER, PROPERTY MANAGER, AND OCCUPANT INFORMATION

The following individual was interviewed as part of this assessment. The information obtained from the interview is discussed in Section 7.0.

- Mr. Jeff Arnesen, Plainwell Inc.

Interview documentation is included in Appendix 16.6.

4.6 REASONS FOR PERFORMING PHASE I ESA

This Phase I ESA was completed to satisfy due diligence requirements prior to the purchase of the subject property by the City of Plainwell Brownfield Redevelopment Authority.

5.0 RECORDS REVIEW

5.1 STANDARD ENVIRONMENTAL RECORD SOURCES

5.1.1 AGENCY REVIEW

FTC&H reviewed information concerning sites recorded on state and/or federal databases. A Freedom of Information Act (FOIA) request was submitted to the Kalamazoo District office of the Michigan Department of Environmental Quality (MDEQ) (Remediation and Redevelopment Division, Waste and Hazardous Materials Division, and Geologic and Land Management Division), and the Allegan County Health Department for the following site:

1. Plainwell Paper Company/Simpson Plainwell Paper Company

Information available from these agencies was subsequently reviewed and incorporated into this assessment.

5.1.2 DATABASE REVIEW

The following databases of sites compiled by the federal and state governments were reviewed by Environmental Database Research (EDR) at our request. EDR summarized the results of their review in a report, which is included in Appendix 16.7. Also included in their report is a map noting the locations of the listed sites.

5.1.2.1 FEDERAL

A. The NPL of CERCLA (Superfund) Sites contains properties with the highest priority for cleanup pursuant to the U.S. Environmental Protection Agency (EPA) Hazard Ranking System. This list was reviewed for known sites of contamination located within approximately 1 mile of the subject property. The only site listed was:

   1. Allied Paper Inc./Portage Creek/Kalamazoo River

B. The Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) List includes sites that the EPA has investigated, or is currently investigating, for possible

inclusion on the NPL. This list was checked for sites within a minimum search distance of 0.5 mile from the subject property. The only site listed was:

1. Allied Paper Inc./Portage Creek/Kalamazoo River

C. The CERCLIS List—No Further Remedial Action Planned includes sites formerly on the CERCLIS List where no further remedial actions are planned by the EPA. This list was reviewed for the presence of the subject property and adjacent properties. The subject property and adjacent properties were not recorded.

D. The Resource Conservation and Recovery Act (RCRA) CORRACTS Facilities List is the EPA list of treatment, storage, or disposal facilities subject to corrective action under RCRA. This list was checked for sites within a minimum search distance of 1 mile from the subject site. The following sites were listed:

1. A-1 Disposal Corporation
2. Drug and Laboratory Disposal

E. The RCRA NonCORRACTS TSD Facilities List was checked for sites within a minimum search distance of 0.5 mile from the subject site. No sites were located within the specified search distance.

F. The RCRA Database of Hazardous Waste Generators was reviewed for the subject property and adjacent properties. There were two small-quantity waste generators listed:

1. Lakes Drycleaners and Shirt Service
2. Hop In Food Stores

G. The EPA Emergency Response Notification System List contains sites that have reported releases or spills of CERCLA hazardous substances in quantities greater than the reportable quantity. This list was reviewed for the presence of the subject property. The subject property was not recorded.

5.1.2.2 STATE

A. The Contaminated Sites in Michigan List was checked for known sites of contamination within approximately 1 mile of the subject property. The following sites were listed:

1. A-1 Disposal Corporation
2. Kewaunee Scientific Corporation
3. Bloomfield residential well
4. Neo-Tech

B. The List of Leaking Underground Storage Tank Sites and Locations in Michigan was reviewed for known sites of contamination within approximately 0.5 mile of the subject property. The following sites were listed:

1. Lakes Dry Cleaners & Shirt Service
2. Fire Department building
3. Clark Store #2143
4. Pipp Community Hospital
5. Clark Store #2009
6. Plainwell Auto Repair

C. The Michigan UST Facility and Tank Data Listing was reviewed for the presence of registered USTs on the subject property and on adjacent properties. No tanks were listed at the subject property or on adjacent properties.

D. The MDEQ Reports of Active Solid Waste Facilities and Transfer Stations and the MDEQ Report of Inactive Solid Waste Facilities were checked for known disposal sites within a minimum search distance of 0.5 mile from the subject property. No sites were located within the specified search distance.

5.2 ADDITIONAL RECORD SOURCES

The State of Michigan provides a listing of sites where a Baseline Environment Assessment (BEA) has been performed. A BEA is generally required prior to the sale of a site that contains contamination exceeding GRCC. A BEA has not been completed for the subject property or for the sites adjacent to it.

5.3 PHYSICAL SETTING SOURCES

The current United States Geological Survey (U.S.G.S.) topographic map (see Appendix 16.8, U.S.G.S. Topographic Map).

The U.S. Department of Agriculture, Natural Resources Conservation Service, Soil Survey for Allegan County, Michigan, March 1987.

Michigan Department of Public Health, Water Well Records.

Hydrogeologic Atlas of Michigan, Western Michigan University, 1981.

Geologic and hydrologic sources of the site include several onsite investigations. The sources are listed in Section 13 of this report.

5.3.1 PHYSICAL SETTING ANALYSIS

The Allegan County Soil Survey identifies the site's soil as being Urban land – Oakville complex, 0 to 6 percent slopes. The Urban land is covered by streets, parking lots, buildings, and other structures. Typically, the Oakville soil has a surface layer of dark-brown fine sand about 9 inches thick. The subsoil is yellowish-brown fine sand about 15 inches thick. The substratum to a depth of about 60 inches is brownish-yellow fine sand. In places, it has thin bands of loamy fine sand.

The subject property exists on glacial lake bed deposits that formed between the Kalamazoo and Valpariso Morainic Systems. The overall thickness of the glacial deposits is estimated to be between 100 and 200 feet. Bedrock beneath the glacial overburden is the Mississippian Coldwater Shale.

Boring logs from test borings and water wells installed at the subject property (Appendix 16.11) indicate the following stratigraphy beneath the site: up to 7 feet of fill material described as black sand, gravel, brick, and fill overlying coarse-grained sand, gravel, and boulder alluvium deposits to approximately 43 to 50 feet below the ground surface (bgs). A hard gray clay exists beneath the sand and gravel deposits. Up to 15 feet of fill material and wastewater lagoon waste residuals exist in the former wastewater lagoons on the western end of the property.

The depth to groundwater at the subject property ranged from 7 to 15 feet bgs, depending on surface elevation. The expected direction of groundwater flow would be north, toward the Kalamazoo River. The direction of groundwater flow along the eastern end of the subject property may be to the east, toward the mill race, if the mill race is hydraulically connected to the upper water-bearing units.

5.4 HISTORICAL USE INFORMATION ON THE PROPERTY

The historical use of the subject property was determined from personal interviews, previous published reports, and the following historical record sources: city directories, fire insurance maps, aerial photographs, and assessor files. A summary of papermaking operations at the subject property, prepared by Simpson Plainwell Paper, was also used as a historical record source. Historical research documentation is located in Appendix 16.9.

The subject property has been used for papermaking operations since the early 1880s. There have been various configurations of mill buildings and mill races at the site in response to production output increases/decreases and changes in the types of paper produced. The summary prepared by Simpson Plainwell Paper provides a fairly comprehensive historical account of mill operations. The following is a summary of the development and operations of the subject property.

Historical Ownership and Development of the Mill Property (RMT Phase I ESA 7/96)

- In 1886, the Michigan Paper Company of Plainwell (Michigan Paper Company) was formed by 25 Plainwell businessmen.

- In 1891, the Michigan Paper Company purchased the Lyon Paper Mill in Plainwell. The mill operated immediately to the west of the current mill race. The Lyon Paper Mill was present at this location back to at least 1884.

- In 1905, ground broke to modernize existing facilities and install new equipment. The existing mill was significantly expanded.

- In 1950 through the 1980s, properties located west of the original mill, occupied by 22 houses, were purchased to expand the mill property.

- In 1956, the Michigan Paper Company was dissolved as a separate company and its business merged with that of its parent company (Hamilton Paper Company).

- In 1961, Weyerhaueser purchased the mill.

- In 1970, Phillip Morris purchased the mill.

- In 1985, the Chesapeake Corporation purchased the mill.

- In 1987, Simpson Paper Company purchased the mill. Soon after the purchase, the company was renamed Simpson Plainwell Paper Company.

- In 1990, Simpson Plainwell Paper Company purchased 2.06 acres west of Michigan Street to expand the mill property.

- In 1992, Simpson Plainwell Paper Company purchased the Doxey and Quality Products property, consisting of 1.75 acres located adjacent to the west side of the wastewater treatment building.

- In 1992, an agreement was reached between Pfizer (Specialty Minerals, Inc.) and Simpson Plainwell Paper to construct a precipitated calcium carbonate (PCC) manufacturing plant on the mill property. Simpson Plainwell Paper Company leased the property to Specialty Minerals, Inc., who provided Simpson Plainwell Paper Company and the mills in the area with PCC filler for paper making.

- In 1995, Simpson Plainwell Paper Company purchased 2.8 acres, occupied by two single-story residences, located west of Michigan Street, to expand the mill property.

- In 1996, Plainwell, Inc., purchased the mill from Simpson Plainwell Paper Company.

Historical Mill Property Site Operations (RMT Phase I ESA 7/96)

Significant historical site operations on the mill property include the following:

- From 1884 to 1954, wastewater discharged directly to the Kalamazoo River.

- From 1884 to 1987, coal burned to produce steam.

- From 1910 to 1962, deinking of waste paper. Deinking of PCBs-containing paper may have occurred from approximately 1957 to 1962.

- From 1939 to 1947, an off-machine coating operation occurred at the mill.

- From 1947 to 1954, the mill manufactured newsprint from waste paper.

- In 1954, a primary clarifier was installed to treat wastewater, and a series of onsite lagoons were used to dewater sludge.

- In 1957, hydrosulfite ceased to be used as a bleaching agent and was replaced by hypochlorite.

- In 1967, a secondary clarifier and an aeration basin were added.

- In 1981, a new primary clarifier was added and the old primary clarifier was torn down, mechanical dewatering began, and use of the onsite lagoons ceased. Residuals produced from the mechanical dewatering system were disposed at commercial landfills. Residuals remaining in some of the lagoons were removed in 1981 and taken to the 12th Street Landfill.

- In 1983, a new secondary clarifier was added and the old secondary clarifier was taken out of service. The aeration lagoon is also taken out of service.

- In 1983, the residuals from the rest of the lagoons were consolidated into four of the lagoons, which are presently covered with soil and vegetation. The other lagoons were filled with soil after being cleaned out and are almost entirely located under the mill's present wastewater treatment facilities.

- Mill operations ceased in November 2000.

5.5 HISTORICAL USE INFORMATION ON ADJOINING PROPERTIES

The properties that adjoin the subject property to the south and southwest have been used primarily for residential purposes. The City of Plainwell Municipal Wastewater Treatment Plant is adjacent to the westernmost portion of the subject property. The treatment plant was constructed in 1954 and expanded in 1978.

The properties located to the east, across the mill race, have had the following uses:

1884	Lumber mill, flour mill, and residential properties
1892	Lumber mill, flour mill, and residential properties
1899	Lumber mill, flour mill, water works, electric light station, and residential properties
1904	Same as 1899
1911	City Electric Light Plant, City Water Works, planing mill, flour mill, and commercial businesses
1918	Electric Light and Power Company, City Water Works, flour mill, and commercial businesses
1928	Power plant, City Water Works, flour and feed mill, and commercial businesses

1942	Power plant, water works, auto repair shop, bulk oil company, and commercial businesses
1950	Same as 1942

The industrial properties, formerly present on adjacent properties immediately east of the mill race, have been demolished and are now occupied by city parks and walkways.

6.0 SITE RECONNAISSANCE

Mr. Kimm of FTC&H conducted a site reconnaissance of the mill property on November 18, 2002, and Specialty Minerals, Inc., on February 11, 2003. The site reconnaissance focused on determining if RECs exist on the subject property.

6.1 METHODOLOGY AND LIMITING CONDITIONS

The site reconnaissance included an inspection of interior and exterior building areas and the outside areas of the subject property. Adjacent properties were viewed from the subject property.

The open areas of the subject property were inspected by conducting several intersecting transects. All wastewater treatment buildings, storage buildings, and paper mill buildings were inspected, with the exception of a small site building located adjacent to the former secondary clarifier, which was locked and could not be accessed.

The site reconnaissance was limited by the following:

1. A key site manager was not available during the site walkover.
2. Not all areas of the site buildings had operational lighting and were viewed by flashlight.
3. Snow covered portions of the ground surface.

6.2 GENERAL SITE SETTING AND DESCRIPTION OF SITE IMPROVEMENTS

6.2.1 SITE SETTING

The subject property is adjacent to the Kalamazoo River floodplain and mill race. The paper mill buildings and improvements occupy the majority of the eastern one-half of the site. The wastewater treatment plant and Specialty Minerals, Inc., occupy the center portion of the site. The western portion of the site is undeveloped and contains former wastewater lagoons that have been filled with residual waste material and covered.

6.2.2 TOPOGRAPHY

The topography of the eastern portion of the site is level. The former lagoon areas on the western portion of the site surrounding the wastewater treatment plant are hummocky and the surface depression of the

former aeration basin still exists. There is an embankment along the northern property boundary, which slopes steeply to the Kalamazoo River or associated floodplain.

6.2.3 SITE BUILDINGS

The former paper mill consists of approximately 30 interconnected buildings constructed over many years. The mill structure covers approximately 526,400 square feet and houses offices, paper-making operations, and storage for raw materials and finished product. Floor plans for the mill buildings are provided in Appendix 16.5. A detailed description of the buildings is provided in an industrial appraisal that is also included in Appendix 16.5. Several out-buildings (a guard shack, well houses, a gas cylinder storage building, and a fuel oil pump building) surround the mill. Several rail spurs are present along the southern and western periphery of the mill. Paved driveway and parking surfaces surround the mill.

The wastewater treatment plant consists of several buildings, clarifiers, aerators, and sludge-handling tanks. The abandoned secondary-clarifier building and flume structure are still present at the site. A description of the wastewater treatment buildings is also included in the appraisal (Appendix 16.5).

The Specialty Minerals, Inc., building consists of a metal-framed and sided structure on a concrete slab covering approximately 40,000 square feet. There are several ASTs present inside and outside the structure that were formerly used in the production of precipitated calcium carbonate. The tanks were empty at the time of the site reconnaissance.

The former Quality Products buildings consist of two 3,100-square-foot buildings. Both are constructed on concrete slabs and are metal sided. One building was formerly used for sales and the other for storage.

A Consumers Power electrical substation is located along the north side of the mill.

6.2.4 WATER SUPPLY AND WASTEWATER

Nonpotable water was provided to the site by seven, onsite water wells, including four process wells, two fire waste supply wells, and one well at the treatment plant. Copies of available water well records for the site wells are included in Appendix 16.11. Potable drinking water and sanitary sewage services are provided by the City of Plainwell. Process wastewater was treated onsite and discharged to the Kalamazoo River.

6.2.5 Hazardous Substances and Petroleum Products in Connection with Identified Uses

There were no hazardous substances or petroleum products that were actively being used observed on the interior or exterior of the subject property during the site reconnaissance. Hazardous substances and petroleum products present within the site buildings were observed in staging areas. The collected wastes and residual chemicals were in the process of being characterized and inventoried for offsite shipment and disposal.

6.2.6 Storage Tanks

The following storage tanks were observed on the exterior portions of the site:

- A 200,000-gallon #6 fuel oil AST was present within a containment structure consisting of concrete walls and a soil base. The AST is reported to have been emptied and the interior cleaned.

- A 500-gallon diesel fuel AST was present within a concrete containment adjacent to a well house located between the eastern end of the mill and the Kalamazoo River. The AST appeared to be empty.

- A "Brine Pit" is located along the south side of the 200,000-gallon #6 fuel oil AST containment and pump building. The structure is an UST with an estimated capacity of 17,000 gallons. The construction of the UST system is unknown. There was approximately two feet of residual fluid present in the UST.

- A 10,000-gallon ammonia AST within a covered, concrete containment, reported to be empty.

- Two 50,000-gallon elevated water-storage towers.

- Clay and starch ASTs formerly used in paper production, reported to be empty.

- Several ASTs at the Specialty Minerals, Inc., site formerly used in the production of precipitated calcium carbonate, reported to be empty.

6.2.7 ODORS

A strong fuel oil odor was present in the vicinity of the #6 fuel oil pump house. The odor was, in part, from grossly-contaminated concrete and residual oils within the pump house structure.

6.2.8 POOLS OF LIQUID

Residual wastewater and/or stagnant rainwater was present in the former wastewater clarifiers and aeration structures. Standing water was present in several basements of the wastewater treatment buildings.

6.2.9 HAZARDOUS SUBSTANCE AND PETROLEUM PRODUCT CONTAINERS

Hazardous substance and petroleum product containers were observed at collection areas in the wastewater treatment building and mill. The containers were being collected, contents characterized, and packaged for shipping. According to Ms. Pamela Barker, Godfrey & Kahn, legal counsel for Plainwell Inc., all hazardous substances and petroleum products will be removed from the subject property.

Empty hazardous substance and petroleum product containers were observed in buildings throughout the subject property.

6.2.3 PCB-CONTAINING EQUIPMENT

A Consumers Power electrical substation and a Consumers Power pad-mounted transformer are present on the subject property. It is not known if this equipment contains cooling oils that contain PCBs. Any releases of oils from this equipment would be the responsibility of Consumers Power.

In the document titled, *Simpson Plainwell Paper Company Environmental Compliance Review, Plainwell, Michigan*, June 6, 1997, Environmental Resource Management (ERM), it was stated that according to mill management, all PCB-containing materials were inventoried and disposed in the late 1980s and early 1990s.

6.3 EXTERIOR OBSERVATIONS

6.3.1 PITS, PONDS, AND LAGOONS

There were 14 earthen, unlined wastewater lagoons that were formerly used at the site to dewater wastewater treatment plant underflow and one aeration basin. The aeration basin depression is still present at the site, although it has been partially filled with fill materials. There are former lagoons present on the easternmost portion of the subject property, which have been filled with paper mill waste residuals. The outlines of these former lagoons can still be discerned at the site. The majority of the former lagoons are in the vicinity of the new wastewater treatment plant structures and improvements.

6.3.2 STAINED SOIL

Stained soils were observed at the following locations:

- Inside the #6 fuel oil containment beneath piping and valves.
- Along the railroad track spur immediately east of the #6 fuel oil pump house, by the entrance into the courtyard.

6.3.3 STRESSED VEGETATION

The vegetation could not be inspected for stress, due to the time of the year of the site reconnaissance.

6.3.4 SOLID WASTE

Solid waste was observed at the site including: residual coal, ash/cinders, soil piles, discarded equipment, building demolition materials (concrete, brick, wood), and miscellaneous debris. The waste materials were observed to be present at the following locations:

- Protruding from the embankment along the Kalamazoo River.
- Former coal storage location.
- Former aeration basin.
- Former lagoon areas.
- In piles located immediately west of the mill between the embankment to the Kalamazoo River and former coal storage area. Some of the waste piles were located on an asphalt surface.

6.4 INTERIOR OBSERVATIONS

6.4.1 HEATING AND COOLING

There are several heating and cooling systems present throughout the subject property. There are several large boilers that provided steam and/or hot water to provide heat. The boilers were formerly coal fired, but were converted to use fuel oil. Heat is also provided by natural gas systems and possibly electric heating systems. Portions of the mill are cooled by electric air-conditioning systems.

6.4.2 STAINS AND CORROSION

Several areas of concrete flooring throughout the mill were stained with oils or other substances. The concrete flooring was etched in places, possibly from exposure to acids. The supporting walls located beneath the paper machines are stained with grease and oil that dripped from bearings and motors.

6.4.3 DRAINS AND SUMPS

There are many drains and sumps located throughout the mill and associated structures. According to previous reports, all drains and sumps are currently connected to the company's wastewater treatment plant. Historical information indicates that prior to construction of the onsite wastewater treatment plant, the property drained all its wastewater directly to the Kalamazoo River. It is likely that historical floor drains that discharged wastewater directly to underlying soils were present at the mill. There was no evidence that the mill was discharging any wastewater offsite to the municipal from publicly-owned treatment works.

7.0 INTERVIEWS

7.1 INTERVIEW WITH OWNER

An interview was conducted on February 21, 2003, with Mr. Arnesen, Senior Vice President and Chief Financial Officer for Plainwell Inc., the property owner, regarding the environmental conditions associated with the subject property. Mr. Arnesen has been familiar with the subject property since June 1998. The interview was conducted over the telephone during a conference call. Ms. Barker, Godfrey & Kahn, legal counsel for Plainwell Inc., also participated in the interview.

A copy of the interview questions and answers is located in Appendix 16.6.

7.2 INTERVIEW WITH SITE MANAGER

A site manager was not available to interview. There are no active operations conducted and no persons knowledgeable of site conditions currently employed at the facility

7.3 INTERVIEWS WITH OCCUPANTS

The subject property is currently vacant. The only personnel at the site are contract workers removing mill equipment and contract security guards.

7.4 INTERVIEWS WITH LOCAL GOVERNMENT OFFICIALS

Preliminary contact was made with the City of Plainwell in person and the MDEQ through a FOIA request. Based upon previous assessments conducted at the site, local agencies do not maintain a file on the subject property. Therefore, no interviews were conducted with City of Plainwell Fire Department or the Allegan County Health Department. Because the MDEQ files were reviewed through the FOIA process, interviews were not conducted with personnel from the MDEQ Kalamazoo District Office.

7.5 INTERVIEWS WITH OTHERS

Mr. Doug Cowin, Blasland, Bouck & Lee (BB&L), was interviewed regarding sediment remediation of a storm sewer system at the mill property.

Mr. Paul Bucholtz, MDEQ, was interviewed about the Allied Paper/Kalamazoo River/Portage Creek NPL site and the EPA schedule for investigation and reporting.

8.0 FINDINGS

The subject property is included on the NPL as part of the Superfund site known as Allied Paper, Inc./Portage Creek/Kalamazoo River. The NPL listing includes three miles of Portage Creek from Allied Paper, downstream approximately 35 miles of the Kalamazoo River and its floodplain, from the confluence of Portage Creek to the Allegan Dam, and four "contiguous mill properties," which include the subject property. The EPA is expected to release the Remedial Investigation and Feasibility Analysis (RI/FS) for the Plainwell Dam and Allegan Dam areas of the river sometime in 2003 for public comment. This RI/FS will not include the Plainwell Paper area. According to MDEQ personnel, a ROD for the area that includes the Plainwell Paper area is not expected for several years.

Historical deinking of carbonless copy paper that may have contained PCBs was conducted onsite from 1957 to 1962. Until 1954, wastewater that may have contained PCBs was discharged untreated, directly to the Kalamazoo River, and later treated by the onsite mill wastewater treatment plant prior to discharge into the river. The sludge from the treatment plant underflow was dewatered in a series of lagoons. Previous reports indicate that fly ash from onsite coal burning was added to the sludge. The sludge was periodically removed from the lagoons and transported offsite for disposal. In 1981, the use of the lagoons ceased and the sludge residuals were reportedly consolidated into the four westernmost lagoons. The remainder of the lagoons were filled to allow construction of the current wastewater treatment plant. A limited subsurface investigation of the lagoons was conducted in 1996 to collect samples and analyze for PCBs (Technical Memorandum 15, Mill Investigation, BB&L). The investigation identified residual wastes in many of the former lagoons and PCBs were detected in the waste material residuals. The detected levels of PCBs in the waste residuals are below current Part 201 GRCC. In 1997, an additional subsurface investigation was conducted in the four westernmost lagoons to evaluate the potential for elevated levels of metals that may have been present in the fly ash (Phase I ESA and Phase II ESA Investigations, ERM). Arsenic and mercury were detected in one sample (Lagoon 3A) at concentrations that exceed Part 201 GRCC.

PCBs were detected at a concentration of 240 milligrams per kilogram (mg/kg) in sediment samples collected from a storm water catch basin in 1995. The sediments within the catch basin were removed on December 6, 1995. Sediments within the catch basin were resampled on October 18, 1996, and PCBs were detected at a concentration of 7.2 mg/kg. Correspondence to the MDEQ from BB&L stated that the storm drain system would be recleaned and resampled for PCB analysis. BB&L also stated that the storm water connections to the manhole would be inspected to determine the source of the contaminated sediments. Mr. Cowin of BB&L was contacted and he reported that in 1997, BB&L hired a local environmental contractor who used a vacuum truck to remove sediments from the storm system manhole and piping. Mr. Cowin reported that the storm drain piping was discovered to have been capped upstream

of the manhole. All the sediment was removed from the manhole and piping. A report was prepared by BB&L and submitted to the MDEQ.

The EPA collected soil samples and paper waste residual samples (gray seam) from the Kalamazoo River floodplain and the mill property during their initial investigations. Analysis of these samples for PCBs detected concentrations of up to 79 mg/kg in the floodplain and less than 2 mg/kg on the mill property. In October 2001, the MDEQ contracted Camp Dresser & McKee to conduct additional soil and "gray seam" sampling and PCB analysis within the floodplain. One soil sample was also collected from the Plainwell Paper property, in the vicinity of the Consumers Power electrical substation. The samples collected from the floodplain contained PCBs at concentrations from 14.12 mg/kg to 66.57 mg/kg. The soil sample collected adjacent to the mill contained PCBs at a concentration of 0.113 mg/kg

Previous interviews with mill engineering personnel indicate that hydraulic oils containing PCBs were previously used in the hydraulic elevators inside the mill. It was reported that the PCB oils were removed and the equipment cleaned. However, PCB residual existed. The elevator shafts are constructed of concrete and were oil stained. In 1997, ERM conducted PCB wipe testing of the concrete surfaces in the elevator shafts. ERM concluded that the detected levels of PCBs on the concrete surfaces in the elevator shafts were below action levels and that no further investigation was necessary.

Soil borings conducted throughout the site and observations along the river bank and former aeration pond banks indicate that fill material has historically been placed on the site. Descriptions of the fill material from soil borings indicate that approximately 1 to 6 feet of cinders, ash, and stained soils exist across the site. Concrete, brick, metal, and other solid-waste materials were observed protruding from the riverbank and former aeration pond banks, which suggests that portions of the bank materials are composed of historic fill.

Waste coal is present on the ground surface and in storage piles in the former coal storage area located west of the mill buildings. ERM collected soil samples beneath the waste coal and between the coal storage area and the Kalamazoo River in their 1997 Phase II investigation and analyzed them for metals and polynuclear aromatic hydrocarbons. ERM did not collect any samples of the waste coal for analysis. The data indicates that arsenic, mercury, lead, benzo(a)pyrene, dibenzo(a,h)anthracene, and phenanthrene and are present in soils in the vicinity of the former coal storage area at concentrations that exceed Part 201 GRCC.

There are several solid waste piles present between the former coal storage area and the Kalamazoo River. The piles appear to consist primarily of building demolition debris and contain soil, concrete, brick, wood, metal, cinders, and ash. The sources of the solid-waste materials were not known to Mr. Arnenson.

In May 1999, a release of #6 fuel oil occurred in the oil pump house and to soils outside the oil pump house. According to the reports on file at the MDEQ, 3,000 gallons of free liquids, contaminated soils, and absorbents, as well as 19 cubic yards of solids, were removed from the site for disposal. Soil samples were collected from the base of the excavation. The fuel-oil spill cleanup was reported to the MDEQ by Plainwell Paper. The MDEQ responded stating that additional information was needed and requested that additional sampling be conducted in accordance with the MDEQ guidance document *Verification of Soils Remediation* to evaluate the effectiveness of the interim response actions. It is not known if any additional sampling was conducted. Based on the limited soil analytical data presented in the cleanup report, soils collected from the base of the excavation contained naphthalene, phenanthrene, and xylenes at concentrations exceeding Part 201 GRCC. Soil samples were not collected from the excavation sidewalls for analysis.

Stained soils were reported in the vicinity of the #6 fuel oil AST containment by RMT in 1996 and ERM in 1997. The stained soils were reportedly from the use of a diesel fuel AST, a historic gasoline AST, and from #6 fuel oil off loading from tanker railcars. Analysis of soil samples collected by ERM in 1997 indicates the soils were contaminated with volatile and semivolatile compounds. ERM stated that the contamination appeared to be limited to the upper 6 feet of soils and that groundwater did not appear to be impacted. The contaminated soils identified by ERM in 1997 appear to be in the general vicinity of the 1999 #6 fuel oil release remediation area, with the exception of ERM soil boring SBA-3, which appears to have been located south of the remediation area. The soil sample SBA-3A contained tetrachloroethene at a concentration that exceeds Part 201 GRCC.

Stained soils are located inside the #6 fuel oil containment and adjacent to the rail spur that leads into the main mill courtyard. There is no record of sampling and analytical testing of these stained materials.

Stained soils were observed inside the #6 fuel oil AST containment, beneath the piping from the AST to the pump house. Stained soils beneath piping within the AST containment were also reported by RMT in 1996. There are no published reports regarding soil remediation or investigation activities conducted in the area of stained soils beneath piping within the #6 fuel oil containment.

The concrete floor and equipment within the #6 fuel oil pump house are grossly contaminated with spilled fuel oil. There are open pipe chases and access ways through the concrete floor, which provide a potential migration pathway for the spilled fuel oil to underlying soils.

Previous reports indicate that spills of #6 fuel oil have occurred inside the tunnel formerly used to transport coal to the mill. An investigation by ERM in 1997 reported that up to 1 foot of residual fuel oil

existed in the tunnel. ERM also reported that the tunnel is at a depth below the water table, and that there did not appear to be any cracks or apertures in the concrete tunnel. ERM collected groundwater samples from locations hydraulically downgradient of the tunnel and concluded that the fuel oil present in the tunnel did not cause an impact to the groundwater.

A 10,000-gallon kerosene UST was formerly used at the site in the deinking process. The UST was formerly located north of Building No. 1. ERM reported that the UST was removed in 1985. An addition to the warehouse was constructed over the former UST area in 1996 or 1997. During their Phase II investigation, ERM collected groundwater samples from two locations hydraulically downgradient of the former UST location. ERM concluded that contaminated soils may exist in the vicinity of the former UST. However, groundwater did not appear to be impacted.

A letter from the Michigan Department of Natural Resources (MDNR) to Plainwell Paper, dated January 6, 1988, stated that on December 27, 1987, a kerosene spill occurred from a recently excavated UST. The letter states that a significant volume of its liquid contents leaked and that soil was used as diking material to prevent spillage into the Kalamazoo River. The contaminated soil was to be excavated and properly disposed. The exact location of the kerosene spill is not known. There was no documentation of the soil excavation and disposal in the MDEQ files.

A 300-gallon gasoline UST, formerly used to fuel mill vehicles, was located along the northern edge of the mill buildings and reported to have been removed in 1985. ERM collected soil and groundwater samples from the former gasoline UST location during their Phase II investigation in 1997. ERM concluded that a release of gasoline did not occur from the UST.

A 17,000-gallon UST system used to store a calcium chloride solution (brine) for water softening is present, adjacent to the #6 fuel oil containment and pump house. There are no reported investigations conducted in the vicinity of the UST or piping to assess potential releases of brine to the subsurface environment.

In 1992, a release of used oil to soils occurred at the former Quality Products property. Impacted soils were excavated and verification of soils remediation samples collected and analyzed. The MDNR issued a Type B closure to Quality Products for the release.

9.0 OPINIONS

The ASTM standard states, "Recognized environmental conditions means the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, ground water, or surface water of the property. The term includes hazardous substances or petroleum products even under conditions in compliance with laws. The term is not intended to include de minimis conditions that generally do not present a material risk of harm to public health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. Conditions determined to be de minimis are not recognized environmental conditions." FTC&H presents the following opinions regarding the presence of RECs at the subject property.

The subject property is included on the NPL as part of the Superfund site known as Allied Paper, Inc./Portage Creek/Kalamazoo River due to the historical deinking of carbonless copy paper that may have contained PCBs. A ROD that will detail additional investigation requirements and selected remedial actions for the NPL site is not expected for several years. It is the opinion of FTC&H that the possible inclusion in the ROD represents a REC to the subject property.

Sludge and fly ash from papermaking operations are present in the former wastewater lagoons and are documented to contain elevated levels of metals. These materials are a REC due to the potential for a material release to surrounding soils and groundwater.

In 1997, the sediment that contained PCBs was completely removed from the storm water manhole and piping. The piping was determined to have been plugged a short distance from the manhole. Because the sediment was reported to have been completely removed, there is no further source of sediment to the manhole. Based on the current data, this storm water drain system does not represent a REC.

The presence of sediments (gray seam) that contain levels of PCBs above Part 201 GRCC in the Kalamazoo River, floodplain, and river bank is a REC to the subject property.

The concrete, brick, metal, and other solid waste materials observed in the river bank and aeration pond banks appear to be largely inert materials. The source of the solid waste materials could not be determined in this investigation. The unknown source of the fill materials and the presence of metal cause this material to be a REC.

The fill materials present at the site that consist of cinders, ash, and stained soils are materials that are known, or are likely to contain, hazardous substances. Therefore, they are a REC.

The waste coal present on the ground surface and in storage piles in the former coal storage area located west of the mill buildings is a REC due to the potential for a material release of hazardous substances, including metals and polynuclear aromatic hydrocarbons from the coal to surrounding soils.

Near surface soils between the coal storage area and the Kalamazoo River contain arsenic, mercury, lead, benzo(a)pyrene, phenanthrene, and dibenzo(a,h)anthracene at concentrations that exceed Part 201 GRCC and represent a REC to the subject property.

The source of the solid waste piles present between the former coal storage area and the Kalamazoo River is not known. The presence of undocumented solid waste on, or adjacent to, site soils is a REC.

Plainwell Paper conducted soil remediation activities as an initial response to a May 1999 release of #6 fuel oil to soils outside the oil pump house. The MDEQ requested that the confirmation sampling be conducted in accordance with the MDEQ Guidance Document "Verification of Soil Remediation." It is not known if any additional sampling was conducted. Based on the limited soil analytical data presented in the cleanup report, soils collected from the base of the excavation contained naphthalene, phenanthrene, and xylenes at concentrations exceeding Part 201 GRCC. The #6 fuel oil spill is a REC due to the documented presence of contaminants above Part 201 GRCC in soils collected from the excavation base and the potential for residual contamination in the excavation sidewalls.

The presence of tetrachloroethene in soils south of the fuel oil pump house at a concentration that exceeds Part 201 GRCC is a REC.

Stained soils were observed inside the #6 fuel oil AST containment, beneath the piping from the AST to the pump house. Stained soils beneath the piping within the AST containment were also reported by RMT in 1996. Stained soils were also observed adjacent to the railroad spur near the main courtyard. There are no published reports regarding soil remediation or investigation activities conducted in either of these areas. The presence of stained soils without documentation of sampling and analytical testing is a REC.

A release of #6 fuel oil occurred within the oil pump house. The presence of concrete flooring that is grossly contaminated with spilled fuel oil with potential migration pathways to underlying soils is a REC.

Previous reports indicate that spills of #6 fuel oil have occurred inside the tunnel formerly used to transport coal to the mill. An investigation by ERM in 1997 reported that up to 1 foot of residual fuel oil

existed in the tunnel. ERM also reported that the tunnel is at a depth below the water table, and that there did not appear to be any cracks or apertures in the concrete tunnel. ERM collected groundwater samples from locations hydraulically downgradient of the tunnel and concluded that the #6 fuel oil present in the tunnel did not cause an impact to the groundwater. It is the opinion of FTC&H that there is no material threat of a release from the residual #6 fuel oil present in the tunnel and, therefore, does not represent a REC to the subject property.

The closure of the former 10,000-gallon kerosene UST without environmental sampling and analysis is a REC, due to the potential for a material release of kerosene to underlying soils.

The spill of kerosene to surface soils from an excavated UST on December 27, 1987, and the lack of documentation regarding any remedial actions is a REC.

There have been no subsurface investigations in the vicinity of the 17,000-gallon brine UST system to evaluate if a release of hazardous substances has occurred from its use. The potential exists for a material release from this UST system, therefore, it is a REC to the subject property.

The former use of a 300-gallon gasoline UST to fuel mill vehicles at the subject property is a historical REC. ERM collected soil and groundwater samples from the former gasoline UST location during their Phase II investigation in 1997 and concluded that a release of gasoline did not occur from the UST. The levels of hazardous substances present in the soil and groundwater samples collected in the vicinity of the gasoline UST are below current Part 201 GRCC. It is the opinion of FTC&H that this historical REC is not a REC to the subject property.

The release and subsequent cleanup in 1992 of used oil to soils at the former Quality Products property is a historical REC. The MDNR issued a Type B closure to Quality Products for the release under Michigan Public Act 307. Type B closure criteria were more stringent that the current Part 201 cleanup criteria. Therefore, this historical REC does not represent a REC to the subject property.

10.0 CONCLUSIONS

FTC&H has performed a Phase I ESA in conformance with the scope and limitations of the ASTM Standard at Plainwell Paper, 200 Allegan Street, Plainwell, Michigan, the subject property. Any exceptions to, or deletions from, this practice are described in Section 2.4 of this report. This assessment has revealed no evidence of RECs in connection with the property, except for the following:

A. The subject property is included on the NPL as part of the Superfund site known as Allied Paper, Inc./Portage Creek/Kalamazoo River and could potentially be included in the ROD. The potential exists for PCBs to be present at the subject property at concentrations that exceed Part 201 GRCC.

B. The presence of sludge and fly ash from papermaking operations in the former wastewater lagoons that contain metals at concentrations that exceed Part 201 GRCC.

C. The presence of sediments (gray seam) that contain levels of PCBs above Part 201 GRCC in the Kalamazoo River, floodplain, and river bank.

D. Fill material from an unknown source that contains concrete, brick, metal, and other solid waste materials observed in the river bank and aeration pond banks.

E. Fill material present at the site that consists of cinders, ash, and stained soils, which have the potential to cause a material release of hazardous substances to underlying soils and groundwater.

F. The potential for a material release of hazardous substances to soils from waste coal present on the ground surface and in storage piles in the former coal storage area located west of the mill buildings.

G. Near surface soils between the coal storage area and the Kalamazoo River that contain arsenic, mercury, lead, benzo(a)pyrene, phenanthrene, and dibenzo(a,h)anthracene at concentrations that exceed Part 201 GRCC.

H. The potential for a material release of hazardous substances from solid waste piles present between the former coal storage area and the Kalamazoo River.

I. The #6 fuel oil spill remediation area, due to a confirmed release of petroleum products and the documented presence of contaminants above Part 201 GRCC in soils collected from the excavation base and the potential for residual contamination in the excavation sidewalls.

J. A release of tetrachloroethene to soils south of the fuel oil pump house at concentrations that exceed Part 201 GRCC.

K. A release of #6 fuel oil within the pump house and the potential for a materials release to underlying soils.

L. The potential for a material release from the former 10,000-gallon kerosene UST used in the deinking process.

M. A material release of hazardous substances to soils present within the #6 fuel oil AST containment and soils adjacent to the railroad spur near the main courtyard.

N. A material release of kerosene to surface soils from an excavated UST in December 1987.

O. The potential for a material release from use of a 17,000-gallon brine UST system.

11.0 DEVIATIONS

In the process of conducting this Phase I ESA, the following deviations were made from the ASTM Standard:

A. The State of Michigan does not publish two separate lists that are directly comparable to the NPL and CERCLIS listings. Michigan compiles a List of Contaminated Sites that includes both sites that have been investigated and those requiring investigation. This one list serves the purpose of both the CERCLIS and NPL lists on a state level.

B. A key site manager was not available to interview.

12.0 ADDITIONAL SERVICES

No additional services were requested as part of this Phase I ESA.

13.0 REFERENCES

13.1 LISTINGS

Environmental Data Resources, Inc., Government Records Search, Plainwell Paper, 200 Allegan Street, Plainwell, Michigan, 49080, March 10, 2003.

Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site, Description of the Current Situation, Kalamazoo River Study Group, Blasland, Bouck & Lee (BB&L), July 1992.

Phase I Environmental Site Assessment, Simpson Plainwell Paper Company, Plainwell Mill, Plainwell, Michigan, RMT, Inc., July 1996.

Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site, Remedial Investigation/Feasibility Study, Technical Memorandum 15, Mill Investigation, BB&L, August 1996.

Simpson Plainwell Paper Company, Phase I Environmental Site Assessment and Phase II Investigation, Plainwell, Michigan, Environmental Resources Management – North Central, Inc. (ERM), June 1997.

Simpson Plainwell Paper Company, Environmental Compliance Review, Plainwell, Michigan, ERM, June 1997.

Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site, Former Impoundment Approaches, BB&L, February 2001.

Phase I Environmental Site Assessment of Plainwell Paper Company, 200 Allegan Street, City of Plainwell, Allegan County, Michigan, Fleis & Vandenbrink, April 2001.

Plainwell Paper Gray Seam Investigation, Camp, Dresser & McKee, November 2001.

13.2 HISTORICAL RESOURCES

ASTM Standard E 1527-00, Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process.

U.S. Department of the Interior, Geological Survey Division, Otsego Quadrangle, 7.5-Minute Series (Topographic) dated 1967, photorevised 1973.

U.S.D.A., Soil Conservation Service, *Soil Survey for Kalamazoo County*, Michigan, dated 1986.

Aerials dated 1955, 1960, 1967, 1974, and 1991, Allied Paper, Inc./Portage Creek/Kalamazoo River NPL, U.S. EPA Public Record, Kalamazoo Public Library.

Sanbourn fire insurance maps dated 1884, 1892, 1899, 1904, 1911, 1918, 1928, 1942, and 1950.

13.3 PERSONAL COMMUNICATIONS

Ms. Chris Walters-DuCharme, FOIA Coordinator, MDEQ, Kalamazoo, Michigan.
Ms. Mary Lynn Panse, FOIA Coordinator, MDEQ, Kalamazoo, Michigan.
Ms. Kristen Basaran, FOIA Coordinator, MDEQ, Kalamazoo, Michigan.
Ms. Colleen Frens, FOIA Coordinator, MDEQ, Kalamazoo, Michigan.

14.0 SIGNATURES OF ENVIRONMENTAL PROFESSIONALS

Assessment Conducted By:	Assessment Reviewed By:
Steven M. Kimm, CPG	Ronald C. Waybrant, Ph.D.

15.0 QUALIFICATIONS OF ENVIRONMENTAL PROFESSIONALS

Qualification statements for the environmental professionals responsible for conducting this Phase I ESA follow this page.

Ronald C. Waybrant, Ph.D.

Senior Associate
EMS Department Head

Registration/Certification
40-hour HAZWOPER Training

Education
Ph.D. in Limnology/ Aquatic Chemistry, Purdue University

M.S. Degree in Limnology, Michigan State University

B.S. Degree in Fisheries and Wildlife, Michigan State University

Dr. Waybrant has been the manager of environmental compliance-related activities, at FTC&H for over ten years. Dr. Waybrant directs and conducts numerous types of projects. He is responsible for all compliance consulting, compliance/environmental planning, and environmental audits and assessments. He works with both industrial and municipal clients, and provides assistance to FTC&H staff on environmental regulations related to their projects.

Dr. Waybrant has over ten years of experience as a supervisor in the Environmental Protection Bureau of the Michigan Department of Natural Resources (MDNR), as district supervisor for compliance with solid waste, hazardous waste, and groundwater discharge programs, and as supervisor for toxicity testing and evaluation, PCB compliance, and enforcement and implementation of Michigan's Hazardous Waste Manifest System. He was the voting Michigan delegate to the International Joint Commission's (U.S. and Canada) reference group study of pollution in the Great Lakes from nonpoint sources.

Dr. Waybrant is the department manager of FTC&H's Environmental Services Department, where he supervises, directs, and conducts numerous types of projects related to environmental regulations. Department staff assist clients with environmental permits, spill plans, reporting, air quality, and compliance assessments. Environmental site assessments and due care plans are also conducted.

Dr. Waybrant was responsible for interpretation and implementation of federal and state laws dealing with solid and hazardous waste management in Michigan and has worked with toxic chemical and pollution control issues; environmental and site assessments; and permitting. His work includes upgrading permits, obtaining permits, and managing projects to ensure that the elements for permits are conducted including toxic review, modeling, etc. In addition, he is involved with the development of programs to obtain and track the data necessary for meeting environmental reporting requirements and spill or pollution prevention plans.

Dr. Waybrant consults on a variety of compliance issues such as permit negotiations and applications and development of compliance programs. Representative clients include:

- Bradford White Corporation
- General Electric
- City of Grand Rapids
- Cytec Industries, Inc.
- Lacks Industries
- City of Ionia
- Kalsec Incorporated
- Wolverine Worldwide
- Seneca Foods
- Spectrum Industries
- Reliance Finishing Company
- Michigan Milk Producers Association

As a supervisor in the Environmental Protection Bureau of the MDNR, Dr. Waybrant was involved in numerous solid waste, hazardous waste, groundwater discharge and PCB inspections. This experience enables him to know what and where to look during an inspection and how (if problems are uncovered) to bring the situation into compliance. Dr. Waybrant has been project manager for many site assessments, evaluates most ESA project plans, and reviews the results before final reports are completed.

During six years (1982 to 1988) as a district supervisor for Hazardous Waste Division and Waste Management Division of the MDNR, Dr. Waybrant reviewed numerous remedial, closure and clean-up plans. Dr. Waybrant has written or reviewed closure plans for the following remediation projects:

- Total Petroleum — Hazardous waste land disposal unit closure.
- Motor Wheel
- Electro-Voice, Inc.
- PCA, Inc.

Associated Activities
Michigan State Chamber of Commerce Environmental Committee Member
Vice Chairman, Michigan Coalition for Clean Water
West Michigan Chapter, Air and Waste Management Association - Past Board of Director

Affiliations
Air and Waste Management Association
Michigan Association of Environmental Professionals
Sigma Xi, The Scientific Research Society

Steven M. Kimm, C.P.G.

Site Assessment and Brownfield Services Manager

Registration/Certification

Certified Professional Geologist—American Institute of Professional Geologists

Certified Underground Storage Tank Professional - Michigan

40-hour HAZWOPER Training

8-hour HAZWOPER Supervisory Training

Accredited Asbestos Inspector

ASTM Training, Remediation by Natural Attenuation

ASTM Training, Risk-Based Corrective Action Applied at Petroleum Release Sites

Education

M.S. Degree in Earth Science, Western Michigan University

B.S. Degree in Geology, Western Michigan University

Mr. Kimm has over thirteen years of experience in geology, geophysics, and environmental consulting. He has performed numerous Phase I, II, and III environmental site assessments (ESA), baseline environmental assessments (BEAs), and underground storage tank (UST) closures. Mr. Kimm has assisted many developers and municipalities in the redevelopment of brownfield sites.

Mr. Kimm has extensive experience managing environmental project teams consisting of environmental scientists, design professionals, construction managers, quality assurance specialists, and administrative and financial personnel. He has also designed, performed, and supervised groundwater and soil sampling, monitoring, and remediation programs.

Mr. Kimm has been involved in the following brownfield-related projects:

- City of Kalamazoo
  - Speareflex Site — Project manager for asbestos and PCB abatement for the brownfield site.
  - Lakeside Refining, South Property — Phase I and Phase II geophysical and geotechnical investigations at the former petroleum refinery. Demolition bid specification preparation and demolition oversight.
  - 930 Portage Street — Subsurface investigation, environmental assessment, and site restoration.
  - 701 East Michigan Avenue, Consumers Power, South Site — Subsurface investigation and geotechnical evaluation. Supervised removal of buried building debris and building foundations.
  - Westnedge/North Site — Subsurface investigation and geotechnical evaluation. Phase I and Phase II ESA and BEA.
  - One Way Products – Phase I and II ESA, BEA, and due care plan preparation.
- City of Watervliet, Former Fletcher Paper – Project manager for state-funded brownfield redevelopment project. Responsibilities included: ESA, remedial investigation, demolition bid specification preparation, demolition oversight, soil remediation oversight and sampling, and reporting.
- Crown Vantage Paper, Parchment – Conducted Phase I and Phase II ESAs for the majority of the mill property and wastewater treatment plant.
- Former Industrial Manufacturing Facility, Kalamazoo (confidential ongoing project) – Project manager assisting private client and the State of Michigan with cleanup of a former industrial site. Responsibilities include: closure of twenty UST systems, supervision of removal of 700,000 square feet of concrete building foundation and sub-floor, closure of former wastewater lagoons, remedial investigations, and corrective actions.
- Former Paper Mill (confidential ongoing project) – Assisting development group in property acquisition (Phase I and II ESAs, BEA, and Section 7A Compliance), remedial investigation and corrective actions of a former paper mill.
- Consumers Concrete, Lansing – Project manager assisting in delisting a portion of the Motor Wheel Disposal Superfund site and redeveloping into a concrete processing plant. Conducted Phase I and II ESAs, Category S BEA, and Section 7A Compliance Analysis.

- Kalamazoo Regional Psychiatric Hospital, Northwest Unit (ongoing project) – Project manager assisting the developer evaluate the redevelopment of a former sanitarium/mental institution. Activities include Phase II ESA, asbestos inspection, and structural evaluation.
- City of Benton Harbor, Former Tobias Tank Farm Site — Project manager of state-funded environmental investigation, demolition, and corrective action.
- Borgess Medical Center, Porter/Frank Block, Kalamazoo — Phase I and II investigations, BEA, and Section 7a Compliance Analysis of a brownfield site in downtown Kalamazoo. The site was developed for use as a commercial laundry facility.
- Former Agriculture Research Facility, Kalamazoo — Phase I and II investigations, BEA, and Section 7a Compliance Analysis for a 90-acre former pesticide production and plant genetic research facility. The site was purchased by a developer for future development of residential housing.
- Willard/Walbridge Block, Kalamazoo — Phase I and II investigations, BEA, and Section 7a Compliance Analysis of a brownfield site in downtown Kalamazoo. Successful completion of the project has resulted in development of the property by a commercial bakery.
- ANR Freight, Detroit — LUST site closure. Performed soil and groundwater sampling to determine the lateral and vertical extent of petroleum-contaminated soil and groundwater. Designed and supervised the installation of a hydraulic isolation cap that was used in conjunction with land use restrictions to successfully close the site. Site was sold to a developer for future use.

Mr. Kimm has completed or supervised the completion of numerous Phase I and II ESAs and BEAs. Selected projects include:

- Kalamazoo College, Kalamazoo – Phase I ESA for several properties.
- Kalamazoo Township – Phase I and II ESA and BEA for abandoned rail bed for Rails to Trails project.
- City of Kalamazoo – Phase I ESA for abandoned rail bed for Rails to Trails project.
- Clean Earth Environmental Contracting Services – Phase I and II ESA, Category S BEA including design of engineering controls, and due care plan.
- Western Michigan University, Business, Technology and Research Park, Kalamazoo – Conducted several Phase I ESA for BTR Park tenants.
- Taplin Environmental Contracting Corporation – Phase I and II ESA, due care plan and, UST closure.
- Western Michigan University, Kalamazoo — Lee Baker Farm.
- Bronson Crosstown Center, Kalamazoo
- Consumers Concrete Corporation — Several properties.
- Textile Systems, Inc. — Brownfield site in Kalamazoo.
- Kalamazoo County — Several sites.
- City of Kalamazoo — Numerous brownfield sites.

- Marmon Management — Brownfield site in Kalamazoo.
- Village of Paw Paw — Several sites.
- Edward Rose Properties, Inc. — Kalamazoo brownfield site.
- Sundance Inc. — Fifteen mobile home parks.
- Paw Paw Pallet
- IMC Kalium Chemicals, Hersey

Affiliations
American Institute of Professional Geologists
Michigan Association of Environmental Professionals
National Brownfield Association

16.0 LIST OF APPENDICES

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16.7 Regulatory Records Documentation

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16.11 Water Well Records

APPENDIX 1
GLOSSARY OF FREQUENTLY USED TERMS

Asbestos. Six naturally occurring fibrous minerals found in certain types of rock formations. Of the six, the minerals chrysotile, amosite, and crocidolite have been most commonly used in building products. When mined and processed, Asbestos is typically separated into very thin fibers. Because Asbestos is strong, incombustible, and corrosion-resistant, Asbestos was used in many commercial products beginning early in this century and peaking in the period from World War II into the 1970s. When inhaled in sufficient quantities, Asbestos fibers can cause serious health problems.

Asbestos-Containing Material (ACM). Any material or product that contains 1% or more than 1% Asbestos.

ASTM. American Society for Testing and Materials.

CERCLA. Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended, 42 USC 9601 *et seq.*

CFR. Code of Federal Regulations.

Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS). The list of sites compiled by EPA that EPA has investigated or is currently investigating for potential Hazardous Substance contamination for possible inclusion on the National Priorities List.

Construction Debris. Concrete, brick, asphalt, and other such building materials discarded in the construction of a building or other improvement to property.

Contaminated Public Wells. Public wells used for drinking water which have been designated by a government entity as contaminated by toxic substances, or as having water unsafe to drink without treatment.

Demolition Debris. Concrete, brick, asphalt, and other such building materials discarded in the demolition of a building or other improvement to property.

Drum. A container (typically, but not necessarily, holding 55 gallons of liquid) which may be used to store Hazardous Substances or Petroleum Products.

Dry Wells. Underground areas where soil has been removed and replaced with pea gravel, coarse sand, or large rocks. Dry wells are used for drainage, to control storm runoff, for the collection of spilled liquids (intentional and unintentional), and for wastewater disposal (often illegal).

Dwelling. Structure or portion thereof used for residential habitation.

Environmental Lien. A charge, security, or encumbrance upon title to a property to secure the payment of a cost, damage, debt, obligation, or duty arising out of response actions, cleanup, or other remediation of Hazardous Substances or Petroleum Products upon a property, including (but not limited to) liens imposed pursuant to CERCLA 42 USC 9607(l) and similar state or local laws.

EPA. U.S. Environmental Protection Agency

EPCRA. Emergency Planning and Community Right-to-Know Act (also known as SARA Title III), 42 USC 11001 *et seq.*

ERNS. Emergency Response Notification System.

ERNS List. EPA's Emergency Response Notification System List of reported CERCLA Hazardous Substance releases or spills in quantities greater than the reportable quantity, as maintained at the National Response Center. Notification requirements for such releases or spills are codified in 40 CFR Parts 302 and 355.

ESA. Environmental Site Assessment.

Federal Register (FR). Publication of the U.S. government published daily (except for federal holidays and weekends) containing all the proposed and final regulations and some other activities of the federal government. When regulations become final, they are included in CFR, as well as published in the Federal Register.

Fire Insurance Maps. Maps produced for private fire insurance companies that indicate uses of properties at specified dates and that encompass the Subject Property. These maps are often available at local libraries, historical societies, private resellers, or from the map companies that produced them.

FOIA. U.S. Freedom of Information Act, 5 USC 552 *et seq.*

Hazardous Substance. A substance defined as a Hazardous Substance pursuant to CERCLA 42 USC 9601(14), as interpreted by EPA regulations and the courts:

> (A) any substance designated pursuant to Section 1321(b)(2)(A) of Title 33; (B) any element, compound, mixture, solution, or substance designated pursuant to Section 9602 of this title; (C) any hazardous waste having the characteristics identified under or listed pursuant to Section 3001 of the Solid Waste Disposal Act (42 USC 6921) (but not including any waste the regulation of which under the Solid Waste Disposal Act [42 USC 6901 *et seq.*] has been suspended by an act of Congress); (D) any toxic pollutant listed under Section 1317(a) of Title 33; (E) any hazardous air pollutant listed under Section 112 of the Clean Air Act (42 USC 7412); and (F) any imminently hazardous chemical substance or mixture with respect to which the Administrator (of EPA) has taken action pursuant to Section 2606 of Title 15. This term does not include petroleum, including crude oil or any fraction thereof which is not otherwise specifically listed or designated as a Hazardous Substance under subparagraphs (A) through (F) of this paragraph, and the term does not include natural gas, natural gas liquids, liquefied natural gas, or synthetic gas usable for fuel (or mixtures of natural gas and such synthetic gas).

Hazardous Waste. Any Hazardous Waste having the characteristics identified under or listed pursuant to Section 3001 of the Solid Waste Disposal Act (42 USC 6921) (but not including any waste the regulation of which under the Solid Waste Disposal Act (42 USC 6901 *et seq.*) has been suspended by Act of Congress). The Solid Waste Disposal Act of 1980 amended RCRA. RCRA defines a Hazardous Waste, in 42 USC 6903, as:

> . . . a solid waste, or combination of solid wastes, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may—(A) cause, or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitation reversible, illness; or (B) pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed.

Landfill. A place, location, tract of land, area, or premises used for the disposal of solid wastes as defined by state solid waste regulations. The term is synonymous with Solid Waste Disposal Site and is also known as a garbage dump, trash dump, or similar term.

Local Street Directories. Directories published by private (or sometimes government) sources that show ownership, occupancy, and/or use of sites by reference to street addresses. Often Local Street Directories are available at libraries or local governments, colleges or universities, or historical societies.

LUST. Leaking Underground Storage Tank.

Material Safety Data Sheet (MSDS). Written or printed material concerning a Hazardous Substance which is prepared by chemical manufacturers, importers, and employers for hazardous chemicals pursuant to OSHA's Hazard Communication Standard, 29 CFR 1910.1200.

MSDS. Material Safety Data Sheet.

National Contingency Plan (NCP). The National Oil and Hazardous Substances Pollution Contingency Plan, found at 40 CFR 300, which is EPA's blueprint on how Hazardous Substances are to be cleaned up pursuant to CERCLA.

National Priorities List (NPL). List compiled by EPA pursuant to CERCLA 42 USC 9605(a)(8)(B) of properties with the highest priority for cleanup pursuant EPA's Hazard Ranking System.

NCP. National Contingency Plan.

NPDES. National Pollution Discharge Elimination System.

NPL. National Priorities List.

Occupants. Those tenants, subtenants, or other persons or entities using the Subject Property or a portion of the Subject Property.

Owner. Generally, the Owner of record of the Subject Property.

Petroleum Exclusion. The exclusion from CERCLA liability provided in 42 USC 9601(14), as interpreted by the courts and EPA:

> The term (Hazardous Substance) does not include petroleum, including crude oil or any fraction thereof which is not otherwise specifically listed or designated as a Hazardous Substance under subparagraphs (A) through (F) of this paragraph, and the term does not include natural gas, natural gas liquids, liquefied natural gas, or synthetic gas usable for fuel (or mixtures of natural gas and such synthetic gas).

Petroleum Products. Those substances included within the meaning of the Petroleum Exclusion to CERCLA, 42 USC 9601(14), as interpreted by the courts and EPA, that is: petroleum, including crude oil or any fraction thereof which is not otherwise specifically listed or designated as a Hazardous Substance under subparagraphs (A) through (F) of 42 USC 9601(14), natural gas, natural gas liquids, liquefied natural gas, or synthetic gas usable for fuel (or mixtures of natural gas and such synthetic gas). (The word fraction refers to certain distillates of crude oil, including gasoline, kerosene, diesel oil, jet fuels, and fuel oil, pursuant to *Standard Definitions of Petroleum Statistics* prepared by the American Petroleum Institute, 4th Edition, 1988.)

Phase I Environmental Site Assessment. The process described in this Standard Practice E.50.02.2.

PCBs. Polychlorinated biphenyls.

Pits, Ponds, or Lagoons. Man-made or natural depressions in a ground surface that are likely to hold liquids or sludge containing Hazardous Substances or Petroleum Products. The likelihood of such liquids or sludge being present is determined by evidence of factors associated with the pit, pond, or lagoon, including, but not limited to, discolored water, distressed vegetation, or the presence of an obvious wastewater discharge.

Property Tax Files. The files kept for property tax purposes by the local jurisdiction where the Subject Property is located and includes records of past ownership, appraisals, maps, sketches, photographs, or other information that is Reasonably Ascertainable and pertaining to the Subject Property. See Section 7.3.4.3. of this Standard Practice E.50.02.2.

PRP. Potentially Responsible Party pursuant to CERCLA 42 USC 9607(a).

RCRA. Resource Conservation and Recovery Act as amended, 42 USC 6901 *et seq.*

RCRA Generators. Those persons or entities that generate Hazardous Wastes, as defined and regulated by RCRA.

RCRA Generators List. List kept by EPA of those persons or entities that generate Hazardous Waste as defined and regulated by RCRA.

RCRA TSDFs. Those facilities on which treatment, storage, and/or disposal of Hazardous Wastes takes place, as defined and regulated by RCRA.

RCRA TSDF List. List kept by EPA of those facilities on which treatment, storage, and/or disposal of Hazardous Wastes takes place, as defined and regulated by RCRA.

Recorded Land Title Records. Records of fee ownership, leases, land contracts, easements, liens, and other encumbrances on or of the Subject Property recorded in the place where land title records are, by law or custom, recorded for the local jurisdiction in which the Subject Property is located. (Often such records are kept by a municipal or county recorder or clerk.) Such records may be obtained from title companies or directly from the local government agency. Information about title to the Subject Property that is recorded in a U.S. district court or any place other than where land title records are, by law or custom, recorded for the local jurisdiction in which the Subject Property is located, are not considered part of Recorded Land Title Records.

Records of Emergency Release Notifications (SARA 304). Section 304 of EPCRA or Title III of SARA requires operators of facilities to notify their Local Emergency Planning Committee (LEPC, as defined in EPCRA) and State Emergency Response Commission (SERC, as defined in EPCRA) of any release beyond the facility's boundary of any reportable quantity of any extremely Hazardous Substance. Often the local fire department is the Local Emergency Planning Committee. Records of such notifications are Records of Emergency Release Notifications (SARA 304).

Report. The written report prepared by the Environmental Professional and constituting part of a Phase I Environmental Site Assessment.

SARA. Superfund Amendments and Reauthorization Act of 1986 (amendment to CERCLA).

Solid Waste Disposal Site. A place, location, tract of land, area, or premises used for the disposal of solid wastes as defined by state solid waste regulations. The term is synonymous with the term "Landfill" and is also known as a garbage dump, trash dump, or similar term.

Solvent. A chemical compound that is capable of dissolving another substance and is itself a Hazardous Substance, used in a number of manufacturing/industrial processes including but not limited to, the manufacture of paints and coatings for industrial and household purposes, equipment cleanup, and surface degreasing in metal fabricating industries.

State Registered USTs. State lists of USTs required to be registered under Subtitle I, Section 9002 of RCRA.

Subject Property. The real property that is the subject of the Environmental Site Assessment described in this Standard Practice. Real property includes buildings and other fixtures and improvements located on the property and affixed to the land.

Sump. A pit, cistern, cesspool, or similar receptacle where liquids drain, collect, or are stored.

TSDF. Treatment, Storage, or Disposal Facility (see definition of RCRA TSDFs).

Underground Storage Tank (UST). Any tank, including underground piping connected to the tank, which is or has been used to contain Hazardous Substances or Petroleum Products and the volume of which is 10% or more beneath the surface of the ground.

USC. U.S. Code.

U.S.G.S. U.S. Geological Survey.

U.S.G.S. 7.5-Minute Topographic Map. The map (if any) available from or produced by the U.S. Geological Survey, titled *U.S.G.S. 7.5 Minute Topographic Map*, and showing the Subject Property.
UST. Underground storage tank.

Wastewater. Water that (A) is or has been used in an industrial or manufacturing process, (B) conveys or has conveyed sewage, or (C) is directly related to manufacturing, processing, or raw materials storage areas at an industrial plant. Wastewater does not include water originating on or passing through or adjacent to a site, such as storm water flows, that (A) has not been used in industrial or manufacturing processes, (B) has not been combined with sewage, or (C) is not directly related to manufacturing, processing, or raw materials storage areas at an industrial plant.

Zoning/Land Use Records. Those records of the local government in which the Subject Property is located indicating the use permitted by the local government in particular zones within its jurisdiction. The records may consist of maps and/or written records. They are often located in the Planning Department of a municipality or county.

DESCRIPTION OF TERMS SPECIFIC TO PHASE I ENVIRONMENTAL INVESTIGATION

Actual Knowledge. The knowledge actually possessed by an individual who is a real person, rather than an entity. Actual knowledge is to be distinguished from constructive knowledge which is knowledge imputed to an individual or entity.

Adjoining Properties. Any real property or properties the border of which is contiguous or partially contiguous with that of the Subject Property, or that would be contiguous or partially contiguous with that of the Subject Property but for a street, road, other public thoroughfare; creek; or other minor waterway separating them.

Aerial Photographs. Photographs taken from an airplane or helicopter of areas encompassing the Subject Property. Aerial Photographs are often available from government agencies or private collections unique to a local area.

Appropriate Inquiry. That inquiry constituting "all appropriate inquiry into the previous ownership and uses of the property consistent with good commercial or customary practice" as defined in CERCLA, 42 USC 9601(35)(B), that will give a party to a commercial Real Estate Transaction the Innocent Landowner Defense to CERCLA liability (42 USC 9601[A] and [B] and 9607[b][3]), assuming compliance with other elements of the defense.

Approximate Minimum Search Distance. The area for which records must be obtained and reviewed. Approximate Minimum Search Distance may include areas outside the Subject Property and shall be *measured from the nearest Subject Property boundary. Approximate Minimum Search Distance is used* in lieu of radius to include irregularly shaped properties.

Building Department Records. Those records of the local government in which the Subject Property is located indicating permission of the local government to construct, alter, or demolish improvements on the Subject Property. Often Building Department Records are located in the Building Department of a municipality or county.

Commercial Real Estate. Any real property except a Dwelling or property with no more than four Dwelling units exclusively for residential use (except that a Dwelling or property with no more than four Dwelling units exclusively for residential use is included in the term Commercial Real Estate when it is being newly constructed for commercial sale). Commercial Real Estate includes but is not limited to undeveloped real property and real property used for industrial, retail, office, agricultural, other commercial, medical or educational purpose; property used for residential purposes that has more than four residential Dwelling units; and property with no more than four Dwelling units for residential use when it has a commercial function, as in the building of such Dwellings for profit.

Commercial Real Estate Transaction. A transfer of title to or possession of real property or receipt of a security interest in real property, except that it does not include transfer of title to or possession of real property or the receipt of a security interest in real property with respect to an individual Dwelling or building containing fewer than four Dwelling units, nor does it include the purchase of a lot or lots to construct a Dwelling for occupancy by a purchaser. A Commercial Real Estate Transaction does

include real property purchased or leased by persons or entities in the business of building or developing Dwelling units.

Due Diligence. The process of inquiring into the environmental characteristics of a parcel of Commercial Real Estate or other conditions, usually in connection with a Commercial Real Estate Transaction. The degree and kind of Due Diligence vary for different properties and differing purposes.

Environmental Audit. The investigative process to determine if the operations of an existing facility are in compliance with applicable environmental laws and regulations.

Environmental Professional. A person possessing sufficient training and experience necessary to conduct a Site Reconnaissance, Interviews, and other activities; and from the information generated by such activities, having the ability to develop conclusions regarding Recognized Environmental Conditions in connection with the property in question. An individual's status as an Environmental Professional may be limited to the type of assessment to be performed or to specific segments of the assessment for which the professional is responsible.

Environmental Site Assessment (ESA). The process by which a person or entity seeks to determine if a particular parcel of real property (including improvements) is subject to Recognized Environmental Conditions. At the option of the User, an Environmental Site Assessment may include more inquiry than that constituting Appropriate Inquiry or, if the User is not concerned about qualifying for the Innocent Landowner Defense, less inquiry than that constituting Appropriate Inquiry. An ESA is both different from and less rigorous than an Environmental Audit.

Fill Dirt. Dirt, soil, sand, or other earth, which is obtained offsite, that is used to fill holes or depressions, create mounds, or otherwise artificially change the grade or elevation of real property. It does not include material that is used in limited quantities for normal landscaping activities.

Hazardous Waste/Contaminated Sites. Sites on which a release has occurred, or is suspected to have occurred, of any Hazardous Substance, Hazardous Waste, or Petroleum Products, and which release or suspected release has been reported to a government entity.

Innocent Landowner Defense. That defense to CERCLA liability provided in 42 USC 9601(35) and 9607(b)(3). One of the requirements to qualify for this defense is that the party make "all appropriate inquiry into the previous ownership and uses of the property consistent with good commercial or customary practice." There are additional requirements to qualify for this defense.

Interviews. Those portions of the Phase I Environmental Site Assessment that address questions to be asked of Owners and Occupants of the Subject Property and questions to be asked of local government officials.

Key Site Manager. The Key Site Manager is the person identified by the Owner (or single Occupant) of a Subject Property as having good knowledge of the uses and physical characteristics of the Subject Property.

Local Government Agencies. Those agencies of municipal or county government having jurisdiction over the Subject Property. Municipal and county government agencies include but are not limited to cities, parishes, townships and similar entities.

LUST Sites. Stat lists of leaking UST sites. Section 9003 (h) of Subtitle I of RCRA gives EPA and states, under cooperative agreements with EPA, the authority to clean up releases from UST systems or require owners and operators to do so.

Major Occupants. Those tenants, subtenants, or other persons or entities each of which uses at least 40% of the leasable area of the Subject Property or any anchor tenant when the Subject Property is a shopping center.

Obvious. That which is plain or evident. A condition or fact which could not be ignored or overlooked by a reasonable observer while Visually and/or Physically Observing the Subject Property.

Other Historical Sources. Any source or sources other than those designated as standard that are credible to a reasonable person and that identify past uses or occupancies of the Subject Property. The term includes records in the files and/or personal knowledge of the Subject Property Owner and/or Occupants.

Physical Setting Sources. Sources that provide information about the geologic, hydrogeologic, hydrologic, or topographic characteristics of a Subject Property.

Practically Reviewable. Information that is Practically Reviewable means that the information is provided by the source in a manner and in a form that, upon examination, yields information relevant to the Subject Property without the need for extraordinary analysis of irrelevant data. The form of the information shall be such that the user can review the records for a limited geographic area. Records that cannot be feasibly retrieved by reference to the location of the Subject Property or a geographic area in which the Subject Property is located are not generally Practically Reviewable. Most databases of public records are Practically Reviewable if they can be obtained from the source agency by the county, city, zip code, or other geographic area of the facilities listed in the record system. Records that are sorted, filed, organized, or maintained by the source agency only chronologically are not generally Practically Reviewable.

Publicly Available. Information that is Publicly Available means that the source of information allows access to the information by anyone upon request.

Reasonably Ascertainable. Information that is (A) Publicly Available, (B) obtainable from its source within reasonable time and cost constraints, and (C) Practically Reviewable.

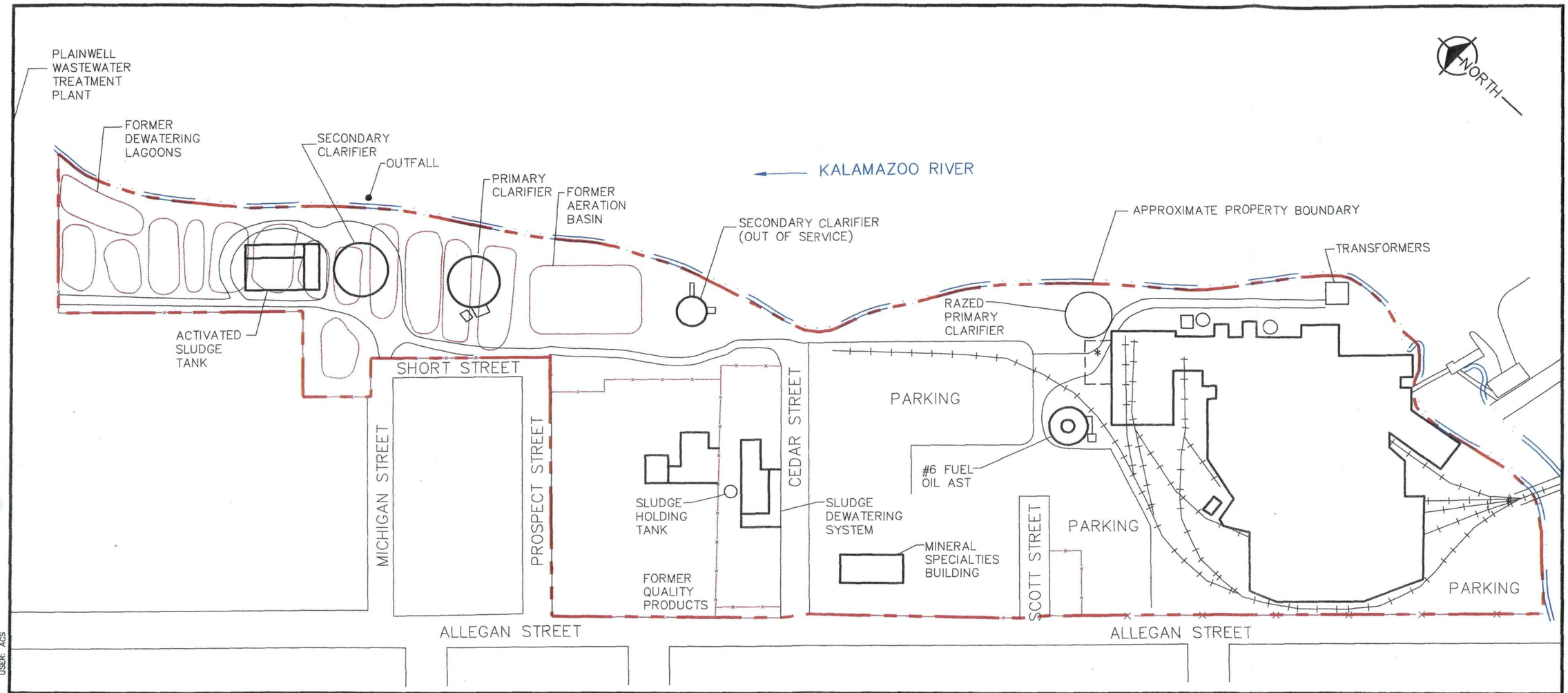
Recognized Environmental Conditions (RECs). The presence or likely presence of any Hazardous Substance or Petroleum Products on a Subject Property under conditions that indicate a release, a past release, or a material threat of a release of any Hazardous Substance or Petroleum Products into structures on the property or into the ground, groundwater, or surface water of the property. The term includes Hazardous Substances or Petroleum Products even under conditions in compliance with laws. The term is not intended to include *de minimis* conditions that generally do not present a material risk of harm to public health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies.

Site Reconnaissance. The part of the Phase I Environmental Site Assessment that addresses what should be done in connection with the Site Visit. The Site Reconnaissance includes, but is not limited to, the Site Visit done in connection with such Phase I Environmental Site Assessment.

Site Visit. The visit to the Subject Property during which observations are made.

Visually and/or Physically Observed. *During a Site Visit, Visually and/or Physically Observed means* observations made by vision while walking through a Subject Property and structures located on it and observations made by the sense of smell, particularly observations of noxious or foul odors.

2



LEGEND

FORMER DEWATERING LAGOONS INTERPRETED FROM AERIAL PHOTOGRAPHS (1955, 1960, 1967, 1974, 1981, 1986, AND 1991)

CURRENT STRUCTURE

APPROXIMATE LOCATION OF WAREHOUSE CONSTRUCTION SITE SAMPLING

NOTES:
1. SAMPLE LOCATIONS ARE APPROXIMATE
2. BASEMAP ADAPTED FROM FIGURE CREATED BY BLASLAND, BOUCK & LEE, INC.
3. DATA REFLECT TOTAL PCB DERIVED FROM THE SUM OF INDIVIDUAL AROCLORS. AROCLOR-SPECIFIC RESULTS AND THEIR QUALIFIERS CAN BE FOUND IN TABLE 3-8.

0 200 400
Scale: 1" = 200'

SITE PLAN

Fishbeck, Thompson, Carr & Huber
Engineers • Scientists • Architects
Kalamazoo, Michigan

Plainwell Paper
Plainwell, Michigan

Phase I Environmental Site Assessment

PROJECT NO. G02579
APPENDIX
16.2

PLOT INFO: N:\01248\C_PLAINWELL.DWG DATE: 4/25/2003 TIME: 11:16:06 AM USER: ACS

3

SDMS US EPA Region V

Imagery Insert Form

Some images in this document may be illegible or unavailable in SDMS.
Please see reason(s) indicated below:

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Includes ___ COLOR or RESOLUTION variations.
Unless otherwise noted, these pages are available in monochrome. The source document page(s) is more legible than the images. The original document is available for viewing at the Superfund Records Center.

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Confidential Business Information (CBI).
This document contains highly sensitive information. Due to confidentiality, materials with such information are not available in SDMS. You may contact the EPA Superfund Records Manager if you wish to view this document.

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Oversized __x__ or ____ Format.
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Specify Type of Document(s) / Comments:

Plainwell City Vicinity Map (Section 3 of report)

Document is available at the EPA Region 5 Records Center.

Specify Type of Document(s) / Comments:

SOLID WASTE STOCKPILES NEAR NORTHWEST CORNER OF MILL

SITE PHOTOGRAPHS

PLOT INFO: N:\0124 PHOTOS.DWG DATE: 5/5/2003 TIME: 4:03:25 PM USER: ACS

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Fishbeck, Thompson, Carr & Huber

Engineers • Scientists • Architects

Kalamazoo, Michigan

Plainwell Paper

Plainwell, Michigan

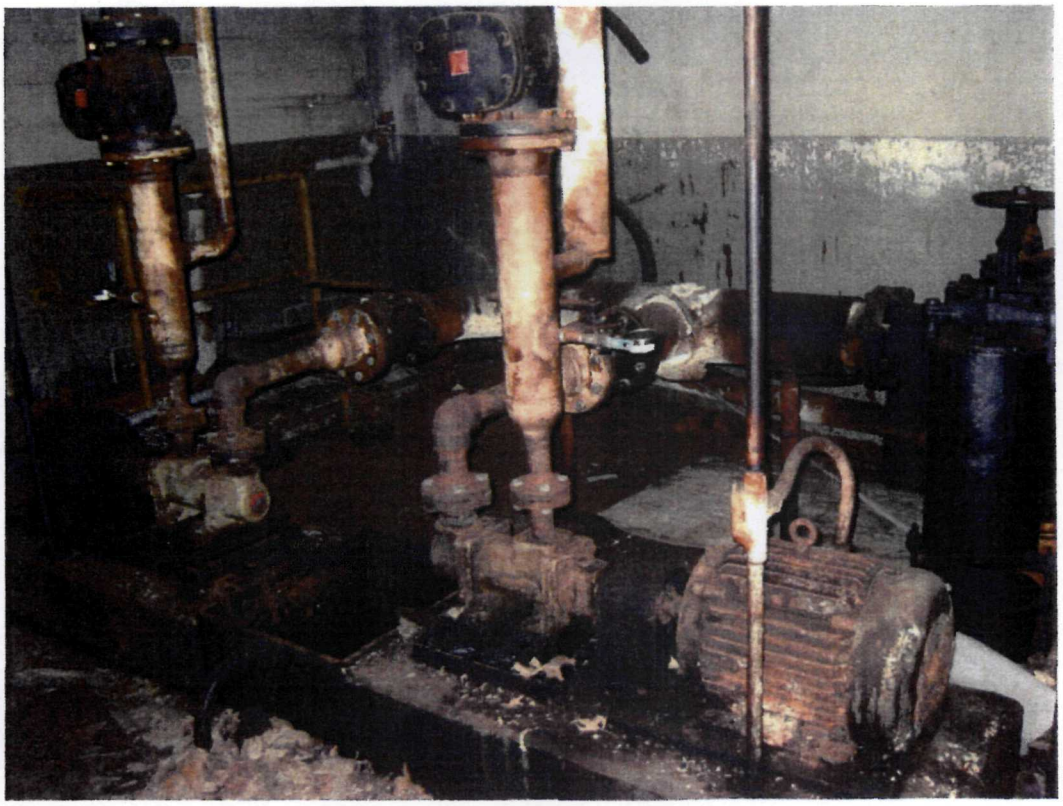
Phase I Environmental Site Assessment

PROJECT NO.
G02579

APPENDIX

16.4

STAINED SOILS ALONG RAILROAD TRACK SOUTH ENTRANCE TO COURTYARD



#6 FUEL OIL STAINED CONCRETE IN PUMP HOUSE

SITE PHOTOGRAPHS

Fishbeck, Thompson, Carr & Huber
Engineers • Scientists • Architects
Kalamazoo, Michigan

Plainwell Paper
Plainwell, Michigan

Phase I Environmental Site Assessment

PROJECT NO.
G02579

APPENDIX
16.4

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R:\02579\PHOTOS\IMG_060
R:\02579\PHOTOS\IMG_0607.JPG

WESTERN PORTION OF SITE. CLOSED LAGOON AREA

WASTE COAL AT SURFACE IN FORMER COAL STORAGE AREA

SITE PHOTOGRAPHS

Fishbeck, Thompson, Carr & Huber
Engineers • Scientists • Architects
Kalamazoo, Michigan

Plainwell Paper
Plainwell, Michigan

Phase I Environmental Site Assessment

PROJECT NO.
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16.4

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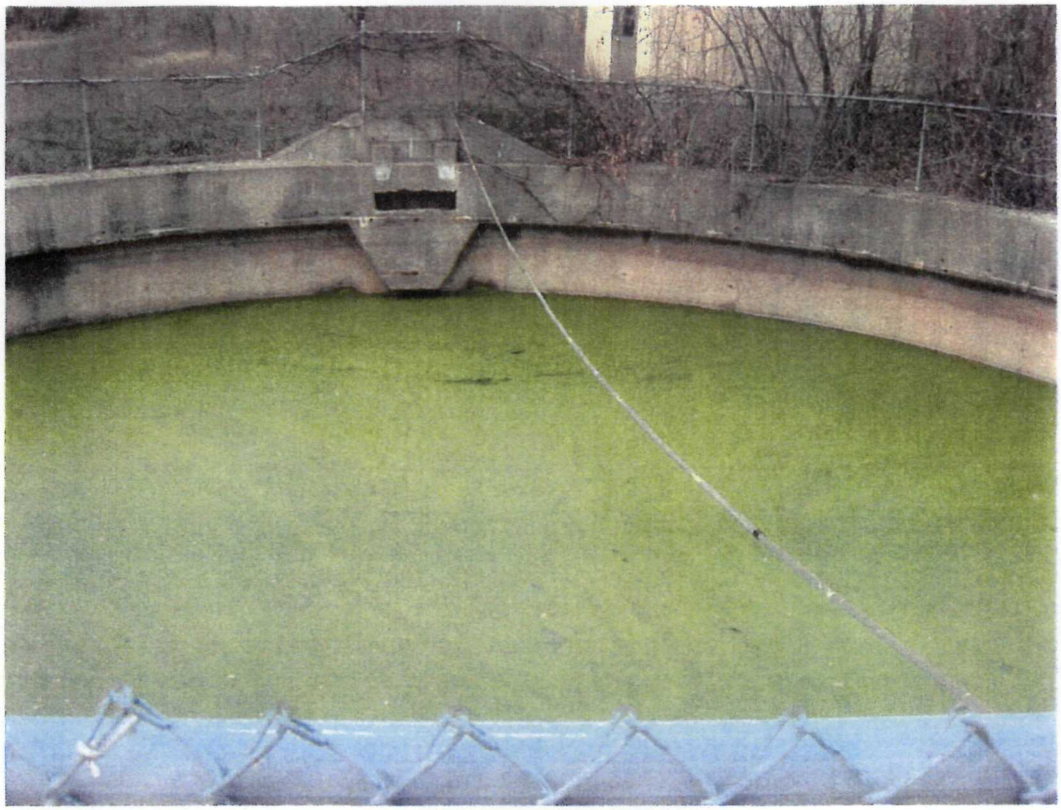

STAGNANT WATER IN OLD SECONDARY CLARIFIER

DIESEL FUEL AST BY WATER WELL PUMP HOUSE NE CORNER OF SITE

SITE PHOTOGRAPHS

Fishbeck, Thompson, Carr & Huber
Engineers • Scientists • Architects
Kalamazoo, Michigan

Plainwell Paper
Plainwell, Michigan

Phase I Environmental Site Assessment

PROJECT NO.
G02579

APPENDIX
16.4

PLOT INFO: N:\01248\cc\PHOTOS.DWG DATE: 5/5/2003 TIME: 4:47:20 PM USER: ACS
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160-043-00

SIMPSON PLAINWELL PAPER COMPANY
200 ALLEGAN STREET
PLAINWELL, MICHIGAN 49080
Revised July 6,1997 by GAH

Building Description

Description of Buildings:

Main level of the plant consists of 211,000 sq. ft.

Building No. 1	Pulp warehouse, Built 1910 Function: pulp, broke, waste paper, and dry chemical storage Construction: Masonary Walls(16")with internal timber infrastructure, three floors plus basement, Ceiling Hts.,B.-8.5',1&2flr.-6.7',3flr.- 14' 13,500 sq. ft/floor, Total floor Area: 54,000 sq.ft.
Building No. 1A	New Pulping facility, Built 1995 Function: Pulping Operations that support Paper Machines Construction: Concrete and Steel, Insulated metal siding One floor , basement and mezzanine. Ceiling Hts. B. - 12',1st.flr.-14', 2nd flr,-14' 7,000 sq. ft./floor and 3,500 sq.ft. mezz., Total Area: 17,500sq.ft.
Train Shed	Train Shed, Built 1988 Function: Unload pulp from rail cars and trucks 2 railcars and 2 trucks Construction: Steel and sheet metal One floor , Ceiling Ht.- 25' Total Area: 11,000sq. ft.
Building No. 2	Cooker Room, Built 1910 Function: Paper Stock Storage Chests , Some stock prep.process equipment Construction: Masonry Walls, Concrete Floors,Wood gabled Roof Two floors, plus basement, Ceiling Hts., B.- 12', 1st- 12', 2nd.- 12' 7,744 sq. ft/floor, Total floor Area: 23,232 Sq. Ft.
Building No. 3	Beater Room, Built 1910. Function: Paper Stock Storage Chests, Stock Preparation Equipment Construction: Masonry Walls, Concrete Floors,Wood gabled Roof One floor, plus basement, Ceiling Hts. , B.- 12.', 1st.flr.-12.5' 14,080 sq. ft/floor, Total floor Area: 28,160 Sq. Ft.
Building No. 3A	Chest Storage Building, Built 1979 Function: Contains 3 Stock Storage Chests Construction : Steel concrete and block One floor, Ceiling Ht. - 25' Total Area: 2200 sq. ft.

Building No. 4	No.4 Boiler Room,Built 1989 Function: Houses No. 4 Boiler Construction: Concrete and Steel, Flat metal Deck Roof One floor, plus basement, Ceiling Hts., B.-10', 1st. flr.-25' 3,300 sq. ft./floor,.Total Area: 6,600 sq.ft.
Building No. 4A	Saveall Room, Built in the 40's Function: Saveall for #18PM ww Storage Chest for #18 PM Construction: Concrete with Metal Roof Joists One floor with basement 1380 sq. ft./ floor Chest occupies most of the basement Ceiling Ht. B. - 12', 1st flr. -14' Total Area: 2760 sq. ft.
Building No. 5,6	Boiler room, built 1900-1930 Function: Contains 3 power boilers with support equipment Construction: Masonary Walls, Concrete flrs. with steel support one floor plus basement, Ceiling Ht., B. - 10',1st flr. - 30' 6,500 sq. ft./floor, Total Area: 13,000sq. ft.
Building No.5B,6A	Old Turbine Room and Courtyard, Built 1930, 1979 Function: Contains Electrical Substation, Swithgear, and motor control Construction: Masonary Walls, Concrete floors with steel support One floor -bldg.6A Ceiling Ht. - 13' One floor plus basement - Bldg. 5A Ceiling Ht., B.- 10' 1st flr.- 14' 1800 sq. ft./ floor Total Area: 5,400 sq. ft.
Building No. 7	Coating Preparation Building, built 1915. Function: Process Equipment and Tanks toproduce coatings used on P.M.'s Construction: Steel and Concrete with masonary walls One floor, plus basement, Ceiling Ht., B. - 10', 1st flr. -12' 7,000 sq. ft/floor, Total Area: 14,000 sq.ft.
Building No. 9,	No. 3 and 4 Machine Room, built 1910. New Raised Roof in 1980 Function: Houses No. 17(3) & No. 18(4) Paper Machines, 2 - bridge cranes 15Twith 70' span &common rails w/235'travel Construction: Maonary walls Concrete floors Steel Roof Trusses one floor,with basement, Ceiling Ht. B. - 12', 1st. flr. - 35' 18,750 sq. ft/floor, Total Area: 37,500 sq.ft.
Building No. 9A	Coater and Supercalendar Room, built 1964 Function: No. 18(4) Coater , No. 6&7 Supercal./ Winders, In process Storage 2- bridge cranes 10T & 15T both with 46'span and common rails w/170' travel 1- bridge crane 20T with 34' span and 75' long Construction: Steel and Concrete. Insulated Metal Siding One floor with Basement , Ceiling Ht. B. - 12', 1st flr. - 18'(50%),25'(50%) 26,000 sq. ft./ floor, Total Area: 52,000 sq. ft.
Building No. 9B	Old Office Area one floor plus basement, 3,575 sq/ft. floor, built 1964. Function: In-Process and Machine Supplies Storage, Construction : Steel and Concrete with insulated metal siding One floor with Basement, Ceiling Hr., B.-12', 1st. flr. -19' 3750 sq. ft. / floor, Total Area: 7500sq. ft.

Building No. 9C	Coating Prep. Dock, built 1964. Function: Chemical storage and dock Construction: Steel and Concrete with insulated metal siding One floor, Ceiling Ht., - 12' Total Area: 3,000 sq. ft
Building No. 9D	Roll Wrap Building, built 1964 Function: Roll Wrap Operation and Storage in baesment Construction: Steel and Concrete one floor plus basement Ceiling Ht. B.- 12', 1st flr. - 20' 2310 sq. ft. / floor, Total Area: 4620 sq.ft.
Building No. 9E	Finishing Goods Warehouse, built 1978 Function: Storage of finished goods Finished Goods shipping 7 trk. docks Construction: Steel and concrete with insulated metal siding One floor plus basement, Ceiling Hts. B. - 12', 1st. flr. - 19' 20,860 sq. ft/floor, Total Area: 42,720 sq.ft.
Building No. 9F	Lathe Room, built 1978 Function: Machining of Supercal. Rolls and enclosed rail Dock. with 20T Bridge Crane Construction: Steel and Concrete with Insulated metal siding One floor, Ceiling Ht. - 19' Total Area: 5,500 sq. ft.
Building No. 10	No. 16(2) Machine Room, Built 1906 Function: No. 16(2) Paper machine Bridge Crane 5T(manual),42' span, 54' travel Construction: Masonary Walls, Concrete floors and steel support one floor plus basement, Ceiling Ht. B. - 12', 1st. flr.- 15' 12,180 sq. ft/floor, Total Area: 24,360 sq. ft.
Building No. 11	No 2 Beater Room, built 1906/60. Function: Storage and Maintenance Bridge Crane 4T(manual), 26' Span, 30' travel Construction: Masonary Walls Concrete floors Gabled and flat roof One floor plus basement, Ceiling Ht. B. -12', 1st flr. -12'& 15' 9,100 sq. ft/floor, Total Area: 18,200 sq. ft.
Building No. 11A	Maintenance room, built 1940. Function: Maintenance operations Bridge Crane 2T(manual), 16' span, 48'travel Bridge Crane 1T(manual), 16' span, 20'travel Construction: masonary walls, Concrete and steel structure one floor plus basement, Ceiling Ht. B. - 12', 1st,. flr. - 12' 4,600 sq. ft/floor, Total Area: 9,200 sq. ft.

Building No. 12	Finishing room, built 1940 Function: Sheeting and Carton Packing operations. 2 cutters, 1 trimmer, 1 sheeter, 2carton lines. 2nd flr. Supply storage and offices. Base. Skid storage Construction: Masonary walls, concrete and steel structure two floor plus basement, Ceiling Ht. B. - 12', 1st.flr. - 14', 2nd. flr.- 24'(80%),14'(20%) 16,280 sq. ft/floor, Total Area: 48,840 sq. ft.
Building No. 15	Old Supercalendar Room, built 1940(est.) Function: In process Storage and embossing operation. B.- Equipment storage Constuction: Masonary walls, Concrete and steel New Conc. floor 1990 One floor with basement Ceiling Ht. B. - 12', 1st. flr. - 20' 4,000 sq.ft. / floor, Total area: 8,000sq. ft.
Building No. 16	Finishing room, built 1906 Function: Trimming and Carton Packing operations , 1 trimmer, 1 carton line Construction: Masonary walls, Wood floors and structure one floor plus basement, Ceiling Ht. B. - 10', 1st. flr. - 12' 3,800 sq. ft. / floor, Total Area: 7,600 sq. ft.
Building No. 17	Main Office, built 1906, Remodeled for new offices on top floor -1975. Function: Offices on top floor, Parts, Miscell. Storage on lower floors Construction: Masonary walls, wood floors and structure three floors plus basement, Ceiling Ht. B.-10', 1&2 flr.- 6.7',3rd. flr. - 14' 8,400 sq. ft/floor, Total Area: 33,600 sq. ft.
Building No. 19,20	Store room Crib, built 1906, Top floor remoeled in 1975, Function: Parts storage R&D offices and lab. on top floor Construction: Masonary walls Concrete and wood mixture Two floors plus basement, CeilingHts. B. 10', 1st. flr.- 12',2nd flr.- 14' 4,700 sq. ft/floor, Total Area: 14,100sq. ft.
Building No.23	Roll Storage Building built 1953 Function: Roll Sorage in basement , In process storage on 1st floor Construction: masonary walls , Concrete and steel construction One floor plus basement, Ceiling Ht. B. - 12', 1st flr. -14' 9,700 sq. ft./ floor, Total Area: 19,400sq. ft.
Building No. 25	Wet Well Building built 1989 Function: Final pump out of waste water from mill to waste treatment plant Constrction: Masonary walls One floor Ceiling Ht. 10' Total Area: 1200 sq. ft.
Building No. 26&27	Measurex Room Built 1906 Function: Control room and motor controls Construction: Same as building 9 & 10 One floor , Ceiling Ht. 9' Total Area: 1000 sq.ft.

Building No. 28	No.12 Chest building, built 1960(est.) Function: Paper Stock Storage Construction: masonary walls , Concrete floors One floor plus basement, Ceiling Ht. B. - 12', 1st. flr. -10' 900 sq.ft./flr. Total Area: 1,800 sq. ft.
Building WWT	Dewatering and Aeration Buidings, Built 1980 & 1983 Function : Sludge dewatering Labs and offices Construction : Steel and /concrete Brick and metal siding Two floors Ceiling Ht. 1st. - 10', 2nd. - 14', One floor Ceiling Ht. 12' Total Area: 11,400 sq. ft.

Area and Neighborhood Description

Area Data

The Subject Property is located in the City of Plainwell ("Plainwell"), Allegan County, Michigan. Plainwell is located between Kalamazoo and Grand Rapids along U.S. 131. Plainwell is located 10 miles north of Kalamazoo and 30 miles south of Grand Rapids. Chicago is 140 miles to the west and Detroit is 140 miles to the east. The City of Allegan is the county seat and is located 10 miles northwest of Plainwell.

The population of Plainwell increased consistently between 1960 and 1995, growing from 3,125 to 4,270 persons, a 36.6% increase. In addition, the population of Allegan County has increased consistently from 57,729 in 1960 to 96,600 in 1995, a 67.3% increase. The majority of the population growth in the County has been in the west, near Lake Michigan, and in the north, near Grand Rapids.

Major employers in the Plainwell area include Murco, Inc. with 900 employees, Simpson Plainwell Paper Mill with 400 employees, Pipp Community Hospital with 260 employees, and Life Care Center with 110 employees. The unemployment rate in Allegan County has remained low over the past several years. The rate has decreased from 5.5% in 1993 to 3.0% as of November 1996, while the number of persons employed has increased from 47,700 in 1993 to 50,900 as of November 1996.

Transportation in the area is well served by roadways and rail. Plainwell is located along U.S. 131, which is a four-lane, limited-access highway between Schoolcraft, which is just south of Kalamazoo, and Cadillac, Michigan to the north. Plainwell has an interchange at State Route 89 (Allegan Street). Interstate highway 94 is located 10 miles to the south and Interstate Highway 96 is located 30 miles to the north. Rail access is provided by Penn Central Railroad which has two lines through Plainwell, one traveling north-south, and the other traveling east-west. In addition, bus service is provided by Indiana Trails. Furthermore, there is the Ostego-Plainwell local airport for light aircraft, and both Kalamazoo and Grand Rapids have airports serviced by commercial airlines.

Neighborhood Data

The Subject Property's neighborhood is comprised of a broad mixture of land uses including, commercial, residential, and industrial. The neighborhood boundaries can be generalized as the Kalamazoo River to the north, Main Street to the east, at State Route 89 (Allegan Street) to the south, and U.S. 131 to the west. These neighborhood boundaries encompass a small land area which is mainly comprised of the Subject Property.

Many of the land uses in the neighborhood are from the early 1900's when the paper mill began operations. The City of Plainwell grew around the mill which was the main employer in the area for many years. Downtown Plainwell borders the mill to the east and several residential neighborhoods surround the mill. The mill and one other building comprise the only industrial land uses in the neighborhood. Single-family residential homes border the mill along Allegan Street and on the other side of the Kalamazoo River. Commercial land uses border the property further west along Allegan Street and to the east in Downtown Plainwell. The only other land use in the neighborhood is an industrial building, occupied by Mineral Technologies, which is on Allegan Street on land leased from the Subject Property. Mineral Technologies leases the land for $1.00 per year based upon a business arrangement. The lease is reported to be a long-term lease.

Access through the neighborhood is provided by State Route 89 (Allegan Street). This is a state highway which connects to the west to the City of Allegan and further on to Holland, and to the east to Battle Creek. Allegan Street is a two-lane roadway in front of the Subject Property with a central turn lane. Further to the west, before reaching U.S. 131, Allegan Street becomes a four-lane thoroughfare with a central turn lane. U.S. 131 is a four-lane freeway which leads south to Kalamazoo and north to Grand Rapids. In addition, there is a rail spur which connects with the Penn Central Railroad.

Property Description

Site Data

The Subject Property contains approximately 34 acres. The site has an irregular shape. The main portion of the site in which the paper mill is situated contains 20 acres. An additional 7.49 acres is for the waste treatment facility and there are 6.51 acres zoned commercial. The site is level and at street-grade. The site has frontage along Allegan Street; however, we were not given a site survey, and are not sure of the exact measurements of the site. All utilities are available to the site. A portion of the site is located in flood zone A which is an area of 100-year flooding (community panel number 260008B dated July 18, 1985). The portion of the site located in the flood zone is the land bordering the Kalamazoo River and Mill Race Creek. The amount of land, or percentage of the property which is located in the flood zone, is difficult to estimate due to the poor quality of the flood maps. We are not aware of any easements or encroachments which negatively affect the value of the site. Plat maps and site plans are presented in Exhibit H.

The commercially zoned portion of the site is divided into two separate non-contiguous sites. These sites contain 211,250 and 72,230 square feet, respectively. The larger parcel is identified as 542 - 600 Allegan Street, and has 364 feet of front footage along Allegan Street. The smaller parcel is identified as 422 Allegan Street and has 165 feet of frontage along Allegan Street.

Site improvements include a combination of asphalt, concrete, and gravel parking and driveway areas. There is a rail spur on the site which connects with the Penn Central Railroad. There are concrete walkways and curbs, and a wooden walkway and bridge extend from the offices over Mill Race Creek to a separate parking lot along Main Street. There are two water towers, one of which is a fire tower containing 75,000 gallons of water, and there is a fuel oil storage tank. There are four water wells for production, three of which supply between 400 and 500 gallons per minute, and the fourth supplies 1,500 gallons per minute. The property has a complete waste treatment facility which includes the following site improvements: a primary clarifier, secondary clarifier, and an aeration pond. The waste treatment facility has a daily capacity of 3,500,000 gallons.

Improvement Data

The following description regarding the Subject Property's construction details is based upon a physical inspection of the property and discussions with the owners. The Subject Property is a paper mill building containing a total of 528,392 square feet of gross building area ("GBA"). The paper mill contains 36 total buildings of which 34 are attached and comprise the paper mill. The other two buildings are a sewage treatment facility and an aeration building, and contain 11,400 square feet of offices, lab space, and garage/storage area. The oldest remaining building is number five which is the boiler room and was built between 1900 and 1930. The building was built in many stages between 1900 and 1995. The paper mill building contains a total of 516,992 square feet of which 207,634 square feet is basement space, 220,534 square feet is main floor space, and 88,824 square feet is located on the second and third floors. The total office space is estimated to be 37,000 square feet, or 7.0% of the gross building area. This is typical for a mill operation.

A description of each building with details regarding the age, size, use, and the construction of the building is presented in Exhibit I.

In addition, there are two metal sided buildings located on the commercially zoned site referred to as 422 Allegan Street. These buildings are low cost, metal-sided buildings with few interior partitions. The buildings contain a total gross building area of 3,000 and 4,500 square feet respectively. The paper mill operating is currently using these buildings as storage space. These buildings have limited functional utility, and the highest and best use of the commercial land would be to demolish these buildings.

Although the building improvements are considered to be functional for use as a paper mill operation, they do suffer from functional obsolescence. This obsolescence is mainly caused by design changes in paper mills since the Subject Property was built. Most modern paper mill buildings are one-story buildings with partial basements. Modern buildings are built with steel frames and masonry and/or insulated pre-fabricated steel walls. The Subject Property has a similar construction standard for many of its most recent additions to the paper mill building and also for the waste treatment facility. The operation areas of the Subject Property's basement are functional for a paper mill; but the storage areas in the basement are considered to have a functional obsolescence. The storage areas are accessed by elevators which makes the space less functional than first floor space. Approximately 50% of the basement space is used for operations and 50% is used for storage. This is accounted for in the valuation approaches. The functional obsolescence negatively affects the value of the Subject Property. Buyers will base their purchase price on the amount of square footage which is functionally viable and will pay less per square foot for any additional space.

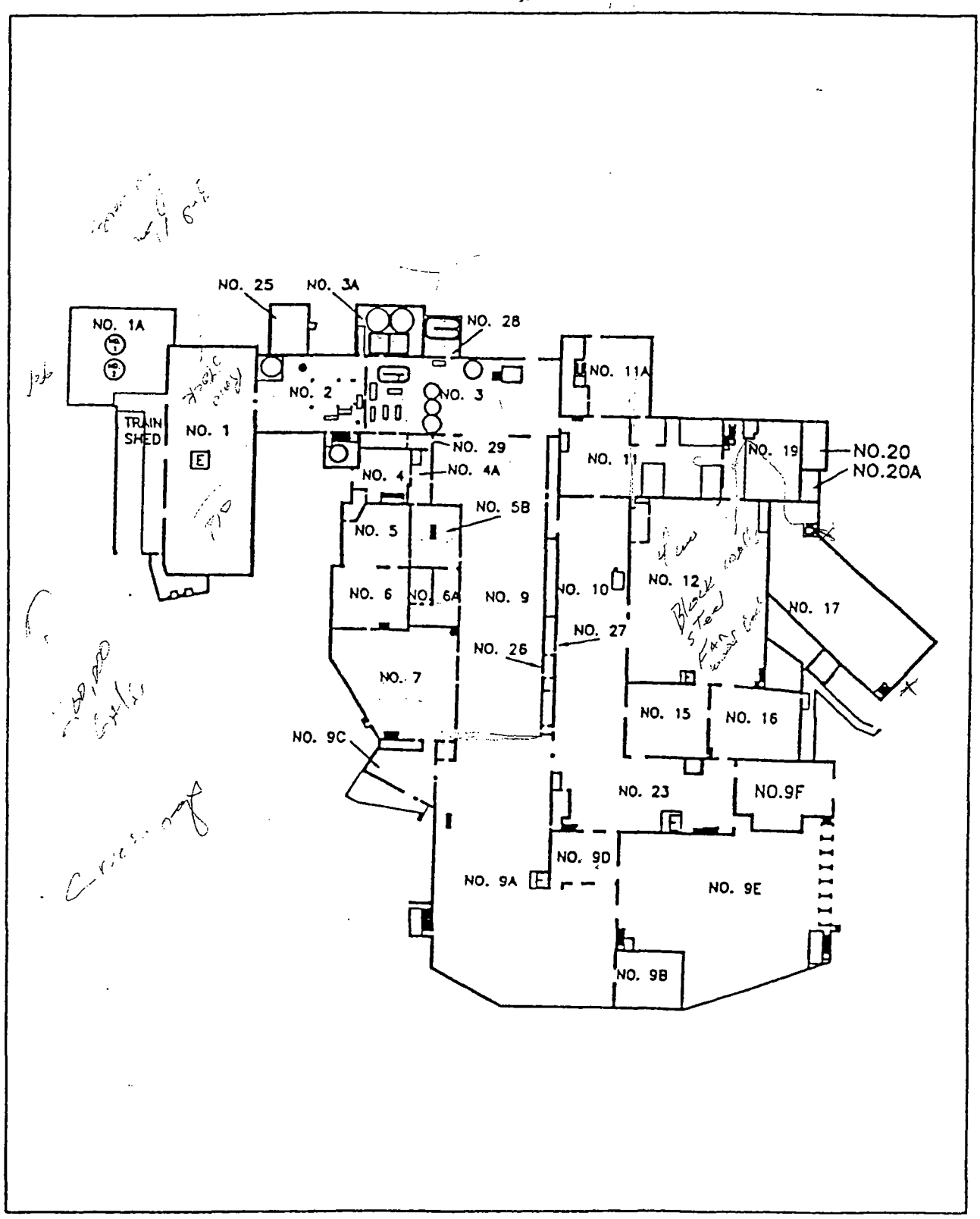
Personal Property

There is no personal property included in this appraisal.

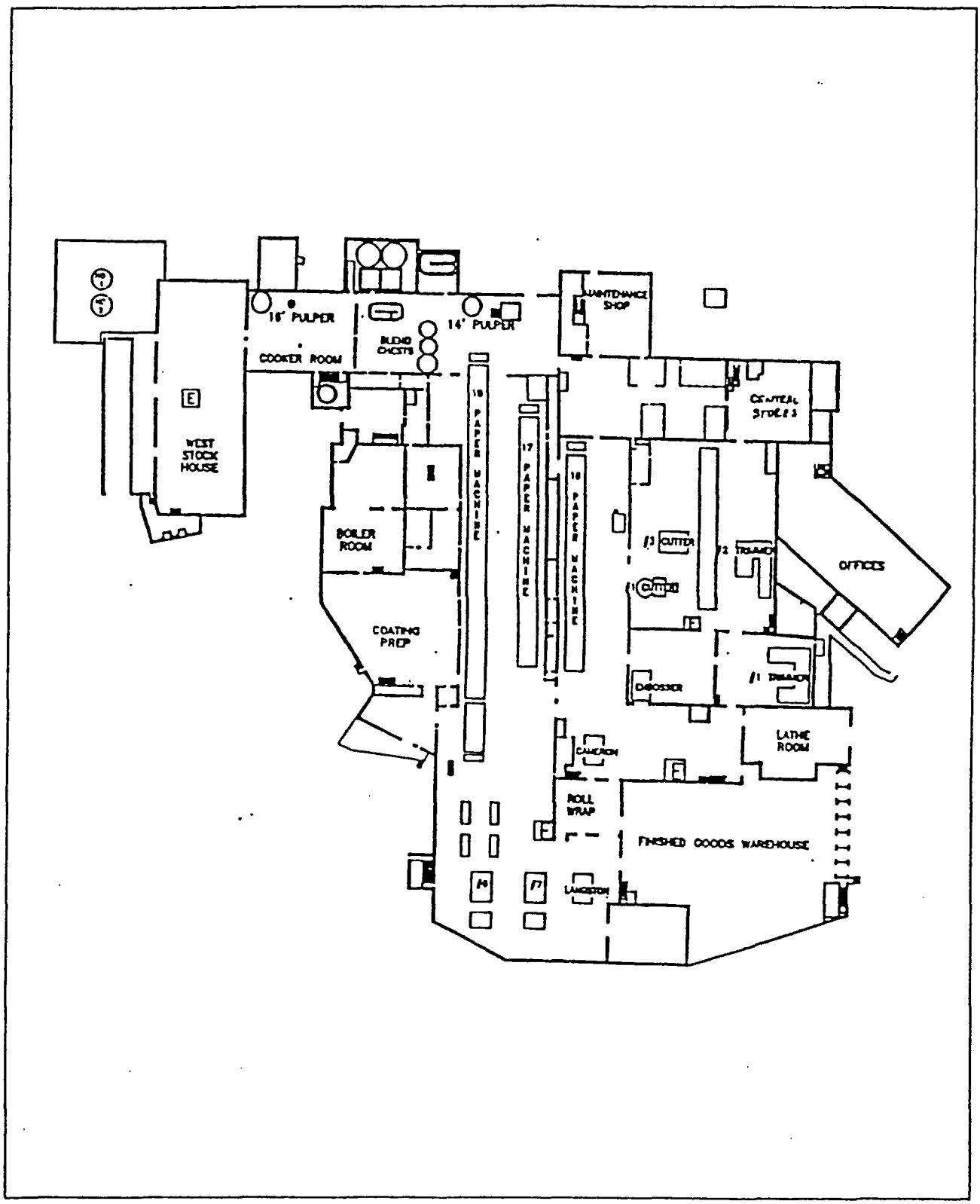
Real Property Taxes

The Subject Property is assessed by the City of Plainwell, Plainwell School District, and Allegan County. The most recent assessment data for the Subject Property is for the tax year 1997, and the most recent millage rate information is for the tax year 1996. Real estate assessments in Michigan are based upon 50% of the assessor's estimate of True Cash Value. Millage rates are based upon an amount per $1,000 of assessed value.

A summary of the Subject Property's estimated real estate taxes for 1997 is presented in the following table.



BUILDING PLANS



BUILDING PLANS

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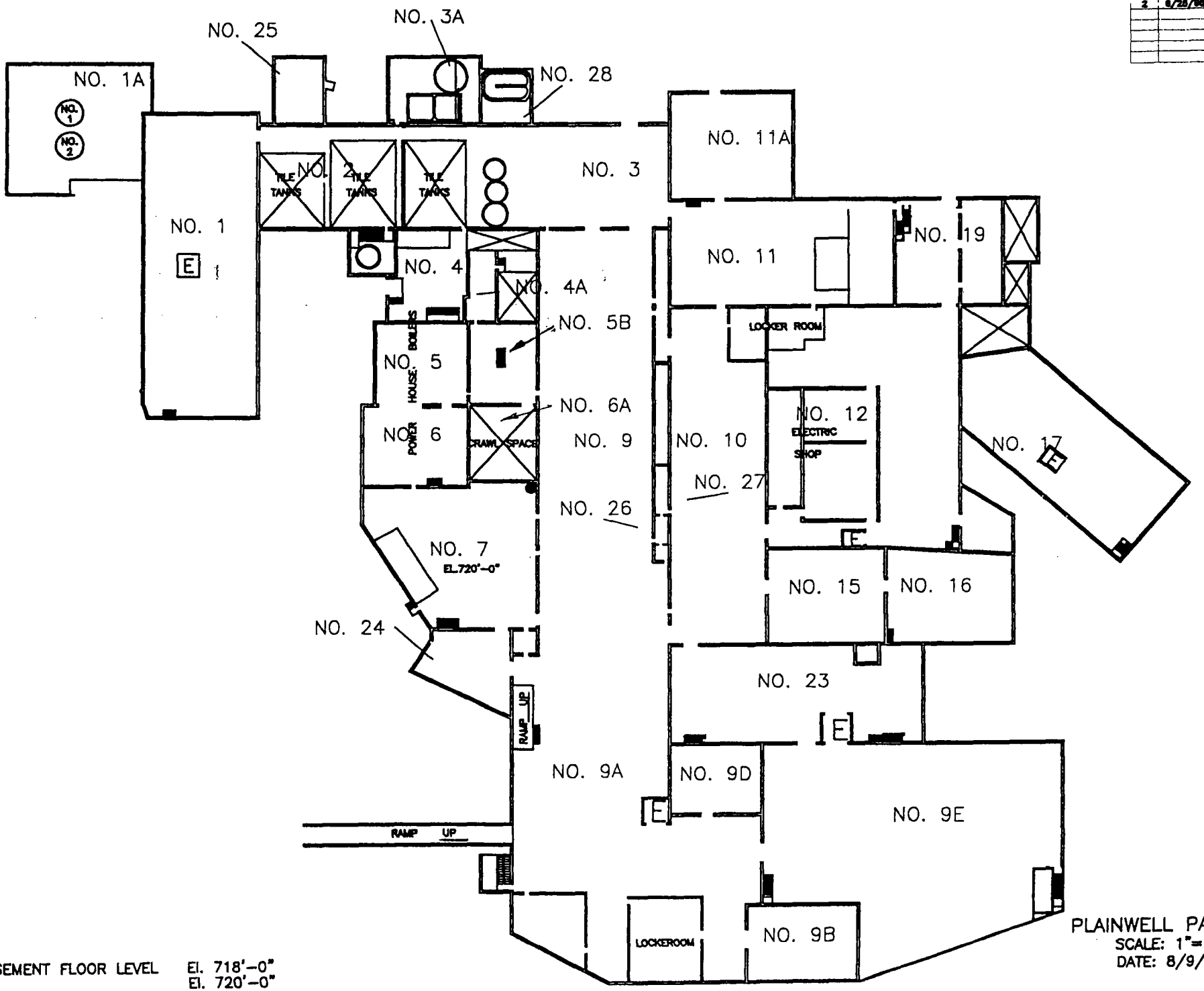
2	8/28/98	NJH	ADD



BASEMENT FLOOR LEVEL El. 718'-0"
El. 720'-0"

PLAINWELL PAPER C
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DATE: 8/9/01

REV	DATE	BY
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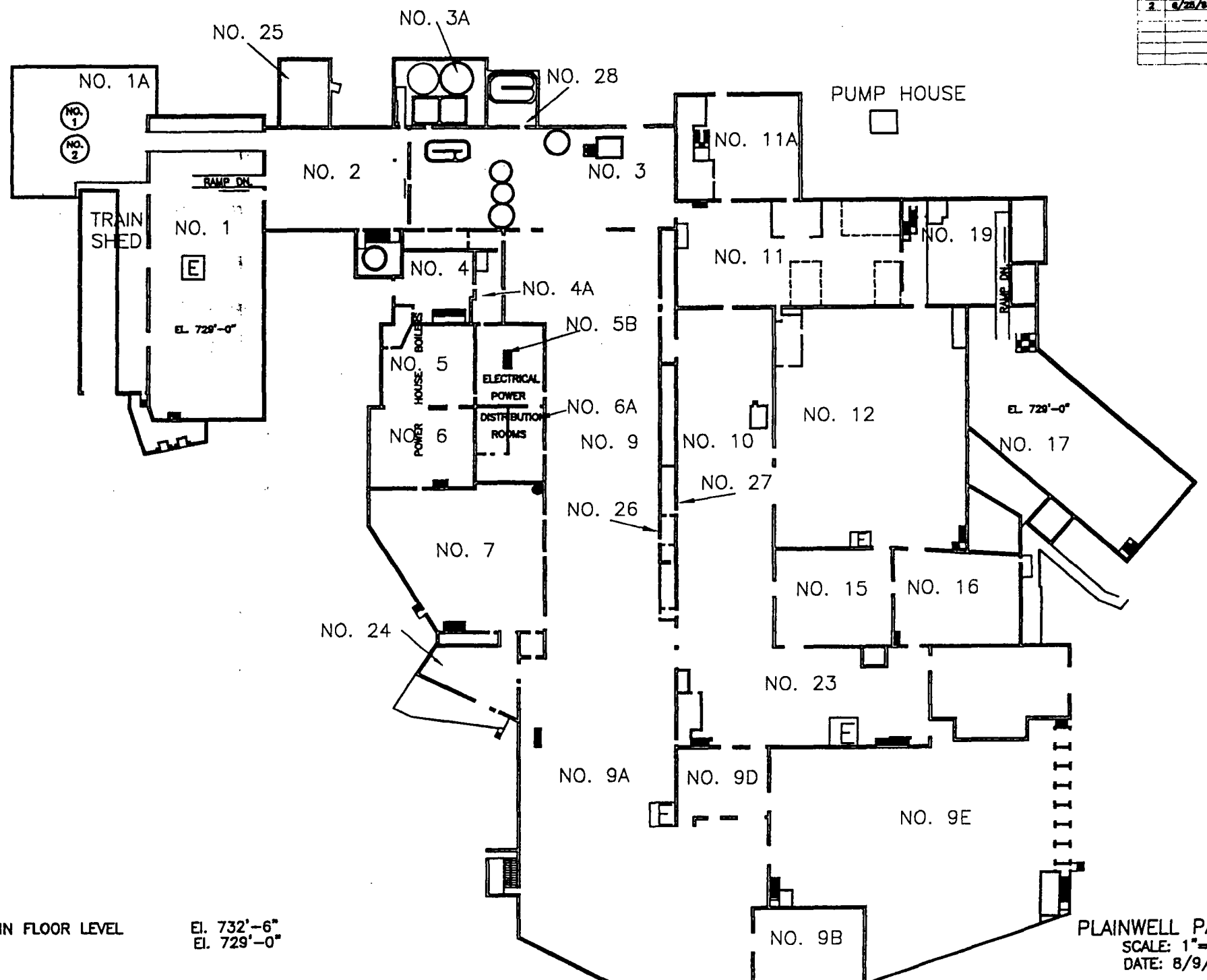
2	6/25/95	NJH



MAIN FLOOR LEVEL

El. 732'-6"
El. 729'-0"

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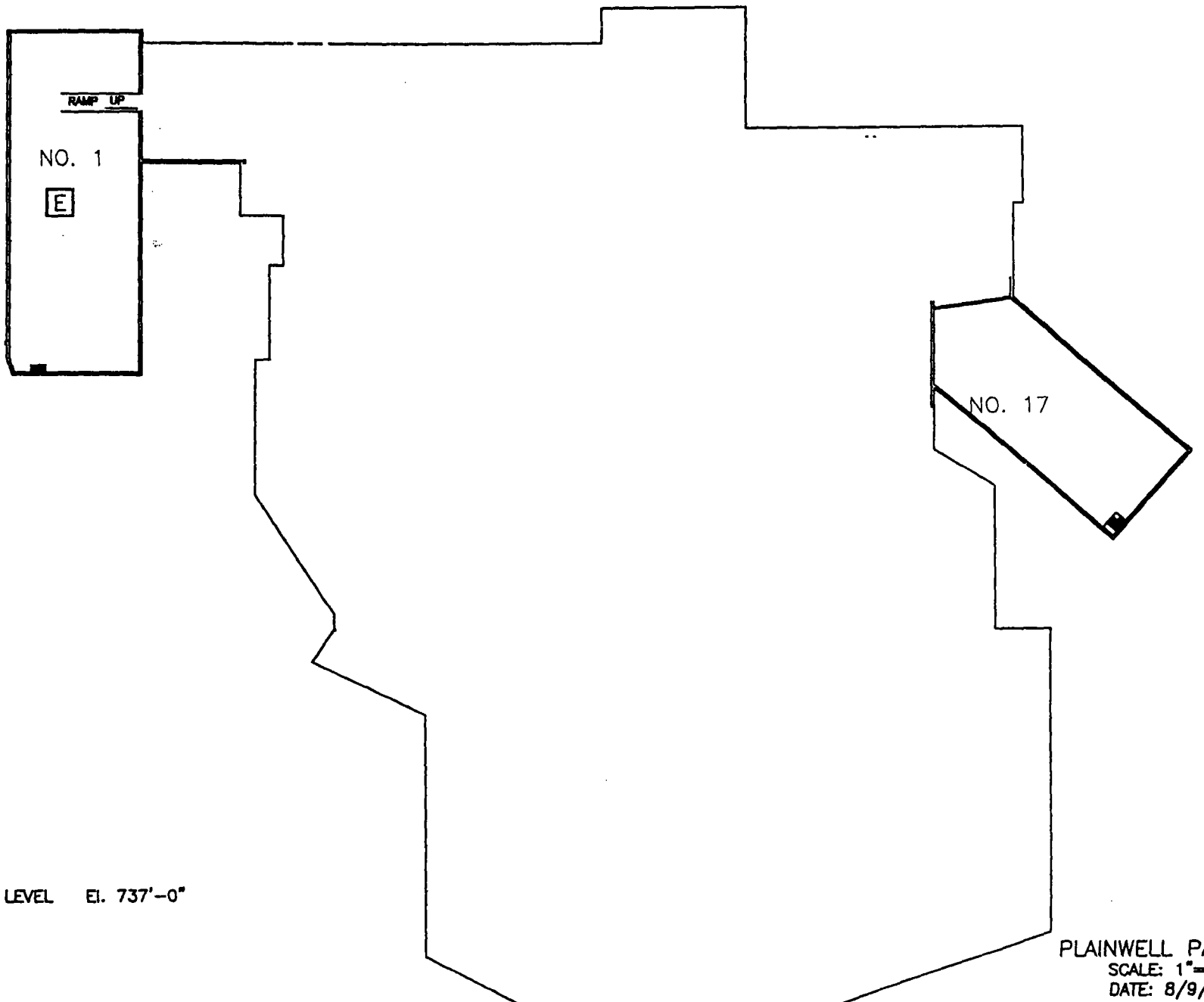
SCALE: 1"= 80'
DATE: 8/9/01

2	6/28/96	NJH	A



INTERMEDIATE FLOOR LEVEL El. 737'-0"

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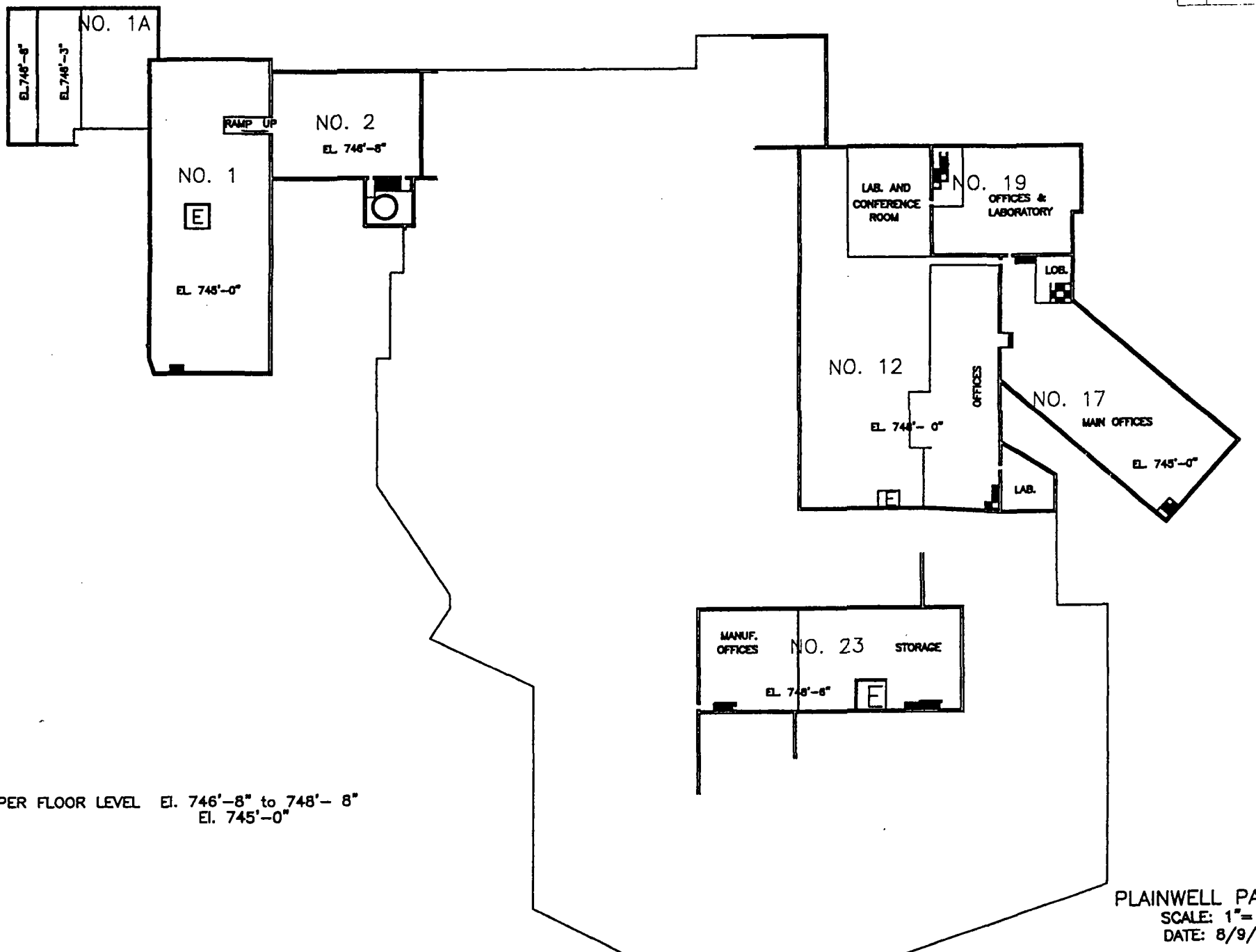
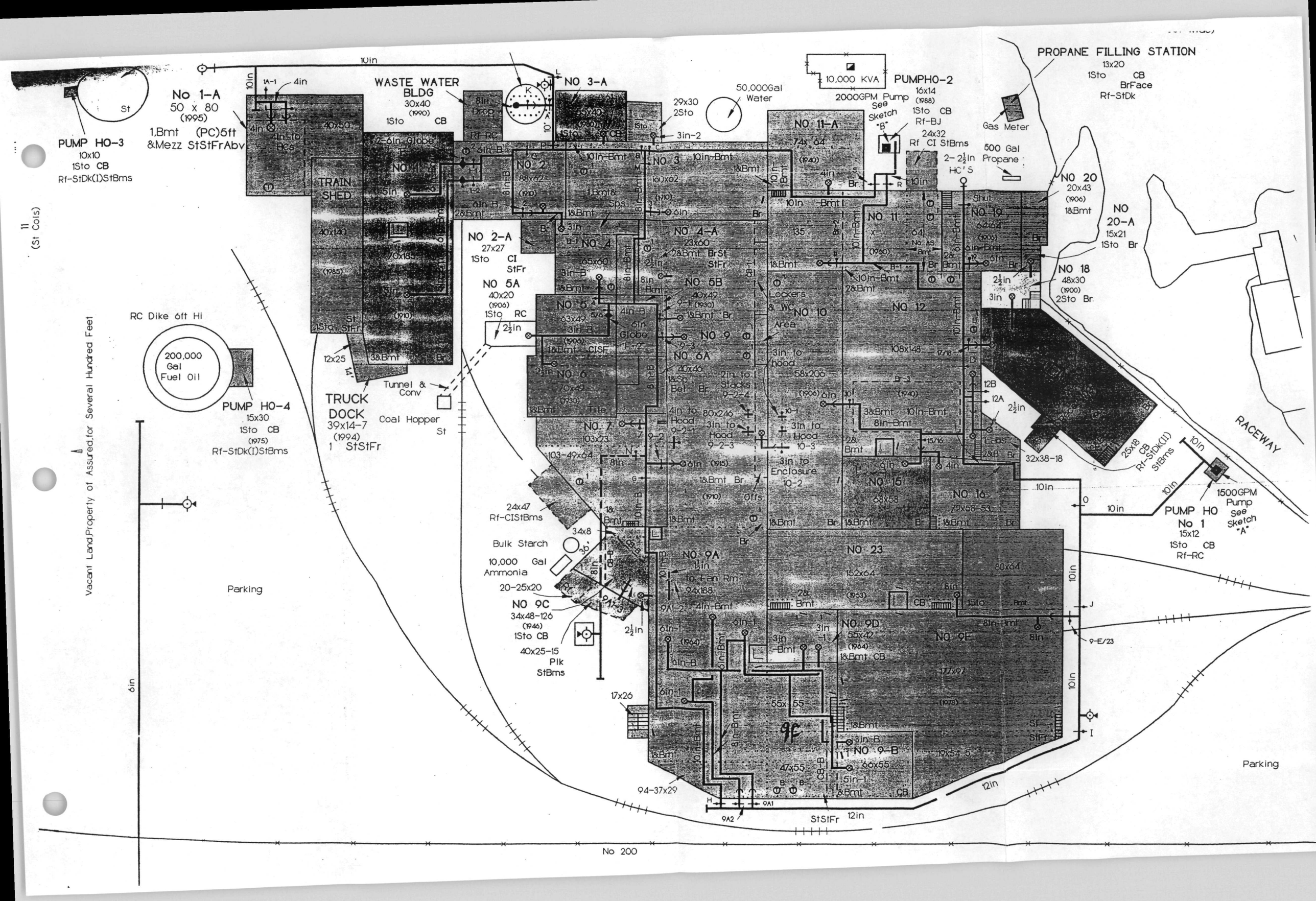
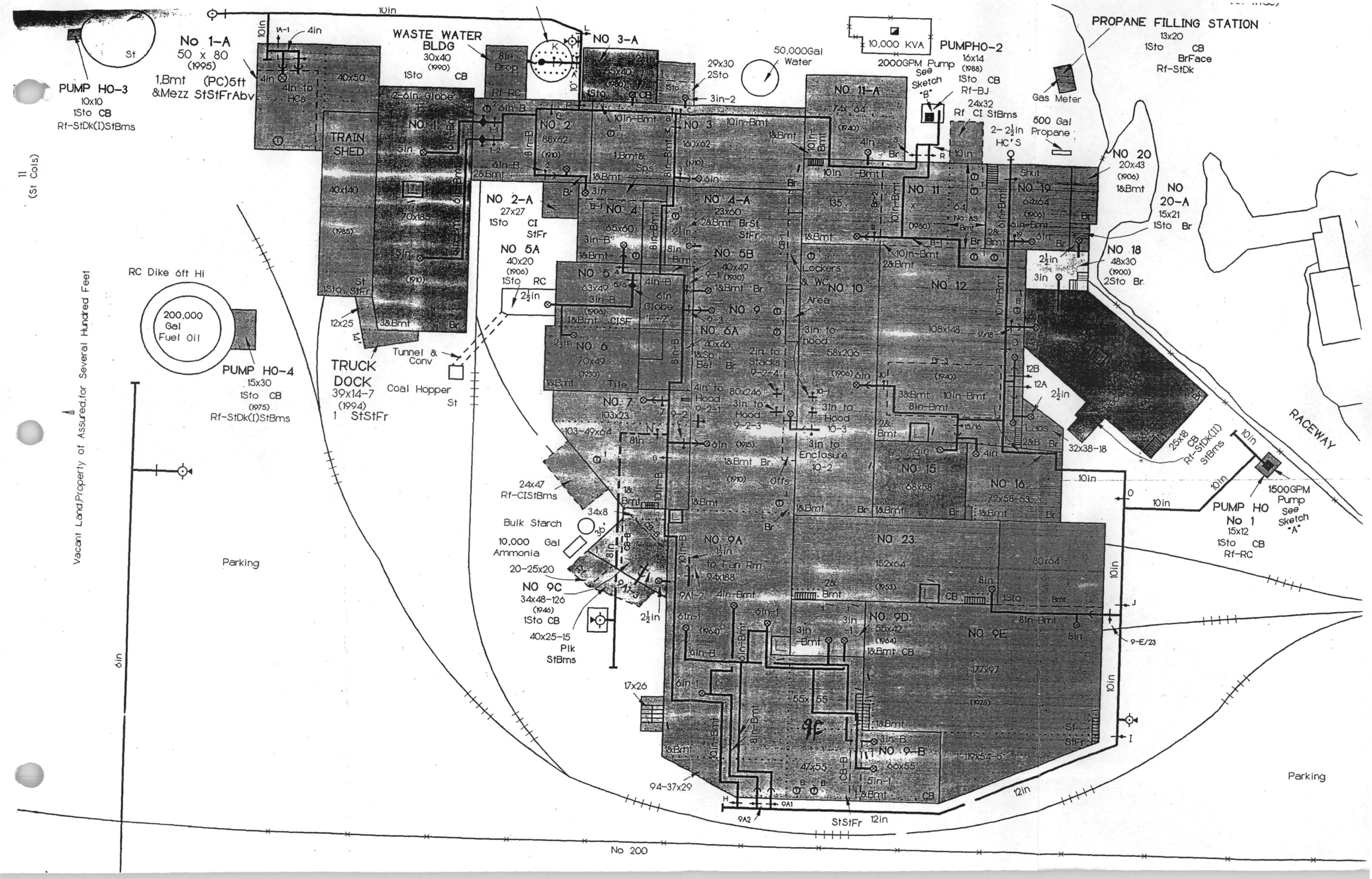


UPPER FLOOR LEVEL El. 746'-8" to 748'- 8"
El. 745'-0"

PLAINWELL PAPER C(
SCALE: 1"= 80'
DATE: 8/9/01


PUMP HO-3
10x10
1Sto CB
Rf-StDk(I)StBms
No 1-A
50 x 80
(1995)
1,Bmt (PC)5ft
&Mezz StStFrAbv
WASTE WATER
BLDG
30x40
(1990)
1Sto CB
TRAIN
SHED
40x140
(1985)
NO 1
NO 2
88x62
(1910)
NO 2-A
27x27
1Sto CI
StFr
NO 3-A
NO 3
NO 4
NO 4-A
23x60
2&Bmt BrSt
StFr
NO 5A
40x20
(1906)
1Sto RC
NO 5
NO 5B
40x49
NO 6
NO 6A
20x46
NO 7
103x23
103-49x64
NO 9
NO 9A
NO 9C
34x48-126
(1946)
1Sto CB
NO 9D
55x42
(1964)
NO 9E
NO 9F
NO 9-B
66x55
NO 10
108x148
NO 11
NO 11-A
74x64
(1940)
NO 12
NO 15
68x58
NO 16
72x58-53
NO 18
48x30
(1900)
2Sto Br
NO 19
64x64
(1906)
NO 20
20x43
(1906)
1&Bmt
NO 20-A
15x21
1Sto Br
NO 23
152x64
(1953)
80x64
PUMPHO-2
16x14
(1988)
1Sto CB
Rf-BJ
24x32
Rf CI StBms
2-2½in
HC'S
2000GPM Pump
See Sketch "B"
10,000 KVA
50,000Gal
Water
29x30
2Sto
PROPANE FILLING STATION
13x20
1Sto CB
BrFace
Rf-StDk
Gas Meter
500 Gal
Propane
PUMP HO
No 1
15x12
1Sto CB
Rf-RC
1500GPM
Pump
See Sketch "A"
RACEWAY
25x18
CB
Rf-StDk(II)
StBms
32x38-18
Labs
RC Dike 6ft Hi
200,000
Gal
Fuel Oil
PUMP HO-4
15x30
1Sto CB
(1975)
Rf-StDk(I)StBms
TRUCK
DOCK
39x14-7
(1994)
1 StStFr
Tunnel &
Conv
Coal Hopper
St
24x47
Rf-CIStBms
34x8
Bulk Starch
10,000 Gal
Ammonia
20-25x20
40x25-15
Plk
StBms
17x26
94-37x29
Vacant Land,Property of Assured,for Several Hundred Feet
Parking
Parking
No 200
StStFr
12in
10in
6in


PUMP HO-3
10x10
1Sto CB
Rf-StDk(I)StBms
No 1-A
50 x 80
(1995)
1,Bmt (PC)5ft
&Mezz StStFrAbv
WASTE WATER
BLDG
30x40
(1990)
1Sto CB
NO 3-A
50,000Gal
Water
10,000 KVA
PUMPHO-2
16x14
(1988)
1Sto CB
Rf-BJ
2000GPM Pump
See
Sketch
"B"
PROPANE FILLING STATION
13x20
1Sto CB
BrFace
Rf-StDk
Gas Meter
500 Gal
Propane
TRAIN
SHED
40x140
(1985)
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NO 2
88x62
(1910)
NO 3
160x62
(1970)
NO 11-A
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(1940)
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NO 19
64x64
(1906)
NO 20
20x43
(1906)
1&Bmt
NO
20-A
15x21
1Sto Br
NO 18
48x30
(1900)
2Sto Br
NO 2-A
27x27
1Sto CI
StFr
NO 5A
40x20
(1906)
1Sto RC
NO 4
65x60
NO 4-A
23x60
2&Bmt BrSt
StFr
NO 5
63x49
(1906)
1&Bmt CISF
NO 5B
40x49
(1930)
NO 10
Lockers
& WC
Area
NO 12
108x148
(1940)
NO 9
NO 6A
40x46
NO 6
70x49
(1930)
Tile
NO 7
103x23
103-49x64
NO 15
68x58
NO 16
72x58-53
Offs
NO 9A
NO 23
152x64
(1953)
80x64
NO 9C
34x48-126
(1946)
1Sto CB
NO 9D
55x42
(1964)
NO 9E
177x97
(1978)
NO 9-B
66x55
119x54-5
9F
RC Dike 6ft Hi
200,000
Gal
Fuel Oil
PUMP HO-4
15x30
1Sto CB
(1975)
Rf-StDk(I)StBms
TRUCK
DOCK
39x14-7
(1994)
1 StStFr
Tunnel &
Conv
Coal Hopper
St
Bulk Starch
10,000 Gal
Ammonia
20-25x20
40x25-15
Plk
StBms
24x47
Rf-CIStBms
34x8
17x26
94-37x29
Parking
Parking
Vacant Land,Property of Assured,for Several Hundred Feet
No 200
RACEWAY
PUMP HO
No 1
15x12
1Sto CB
Rf-RC
1500GPM
Pump
See
Sketch
"A"
25x18
CB
Rf-StDk(II)
StBms
32x38-18
Labs
12A
12B
StStFr
12in
10in
6in
9-E/23

Plainwell Paper Phase I Environmental Site Assessment
Telephone Interview with Mr. Jeff Arnesen
2/21/03

1. -Title and position

Senior Vice President, Chief Financial Officer and Sole Director of Plainwell Inc.

-Nature on involvement and length of time associated with the subject property

Was resident corporate controller at the mill from June 1998 to May 1999. Transferred to Minnessota in May 1999 as Senior Vice President – Finance with responsibilities for general corporate oversight of the mill. From September 2001 to present is the sole responsible party for the mill property.

-Basis of knowledge of daily mill operations and environmental investigations (ie. direct involvement, general management, decision maker, etc..)

Direct involvement for 1 year as controller, over 3 years additional in general management role.

2. FTC&H has copies of, or has reviewed, the following documents relating to environmental investigations or compliance at the subject property:

   a. *Allied Papers, Inc./Portage Creek/Kalamazoo River Superfund Site, Description of the Current Situation, Kalamazoo River Study Group*, Blasland & Bouck Engineers, July 1992

   b. *Allied Papers, Inc./Portage Creek/Kalamazoo River Superfund Site, Remedial Investigation/Feasibility Study, Technical memorandum 15, Mill Investigaiton*, Blasland, Bouck & Lee, August 1996

   c. *Executive Summary, Remedial Ivestigation/Feasibility Study and Supplement Reports (Draft), Allied Papers, Inc./Portage Creek/Kalamazoo River Superfund Site, Description of the Current Situation,* Kalamazoo River Study Group, October 2000

   d. *Phase I Environmental Site Assessment, Simpson Plainwell Paper Company Paper Mill, Plainwell, Michigan,* RMT,Inc., July 1996

   e. Letter report to Mary Schafer, MDEQ-ERD, Superfund Section regarding PCB contaminated sediment removal, Blasland, Bouck & Lee, December 3, 1996

   f. Simpson Plainwell Paper Company, Phase I Environmental Site Assessment and Phase II Investigation, Plainwell, Michigan, ERM, June 6, 1997

   g. Simpson Plainwell Paper Company, Environmental Compliance Review, Plainwell, Michigan, ERM, June 6, 1997

   h. Phase I Environmental Site Assessment of Plainwell Paper Company, 200 Allegan Street, City of Plainwell, Allegan County, Michigan (Draft), Fleis & Vandenbrink, April 2001

   i. Letter report to Brian von Gunten, MDEQ-ERD, Superfund Section regarding Plainwell Paper Gray Seam Investigation, Camp Dresser & McKee, November 8, 2001

Do you have knowledge, or possession, of any other reports or documents describing environmental or hydrogeological investigations, environmental remedial actions, or environmental compliance inspections conducted at the subject property?

Mr. Arnesen was not aware of any additional Plainwell Inc. documents. There may be additional documents from previous owners that are not available for public release.

3. Have any Federal, State or Local environmental cleanup liens been recorded against the property?

   No, not on the deed.

4. Have any Use Restrictions been placed onto the deed(s) for the property?

   No.

5. Any Specialized Knowledge or experience of any condition at the subject property that would be interpreted as a Recognized Environmental Condition, as defined in the ASTM Standard for Phase I ESAs?

   No.

6. Will all known hazardous substances, petroleum products and wastes from mill activities, including AST and UST system contents, be removed prior to property transfer?

   All containers will be removed. I think the #6 fuel oil AST was cleaned out. (Mr. Arnesen gave permission for FTC&H to check with Taplin Environmental Services regarding the cleanout of the #6 fuel oil AST. Taplin stated that EQ Industrial Services cleaned the inside of the AST, but did not clean out the piping or the spilled fuel in the former coal tunnel.)

7. Are there any residual sludges or wastes in the wastewater treatment clarifiers/pits/lagoon structures?

   The wastewater treatment structures were not cleaned out, there may be residual sludges in the structures.

8. There are several piles of solid waste and soil located west of the northwest corner of the mill, between the former coal storage area and the Kalamazoo River (see attached photo IMG_0607.jpg). Do you have any knowledge of where this material came from and if any sampling and analytical testing has been conducted?

   No knowledge.

9. Previous environmental inspections indicate the presence of several feet of #6 fuel oil in the tunnel that was formerly used to transfer coal to the boilers. Has this material been removed or is it still present?

   It probably has not been removed.

10. A #6 fuel oil spill cleanup was conducted between the AST containment and RR tracks in June 99 and reported to the MDEQ. The MDEQ requested that additional sampling be conducted in accordance with the MDEQ guidance document "Verification of Soils Remediation". Was the additional sampling ever conducted?

Mr. Arnesen instructed FTC&H to call Taplin and ask them. Taplin stated that no additional sampling was conducted, and further stated that the excavation depth was less than one foot. The impacted surface soils were scraped not excavated, therefore sidewall sampling was not necessary.

11. PCB contaminated sediment was detected in a storm sewer manhole catchment in 1995, with cleanup on 12/6/95. The sediment was resampled in 10/18/96 with 7.2 mg/kg PCBs detected. The letter to the MDEQ stated that the drain will be recleaned and retested. Do you have any knowledge if the cleaning and resampling was conducted?

    A camera was run up the sewer line to investigate and the line was discovered to have been plugged with concrete. All residual sediment within the line was removed with a vacuum truck and disposed.

12. Previous environmental assessments indicated that stained soils exist in the #6 fuel oil AST containment, under fuel oil piping and in the vicinity of the diesel fuel AST. Have any soil remediation activities been conducted within the #6 fuel oil containment.

    Not that I am aware of.

13. What is the 17,000-gallon brine UST system (tank and piping) constructed of? Is there subsurface piping that conveys brine to the mill, if so what is its location. Has any soil or groundwater sampling for chloride or other brine constituents been conducted in the vicinity of this tank?

    No knowledge, not our intent to sample.

14. Any current, pending or threatened litigation or legal action regarding environmental issues against the property?

    Just Superfund, USEPA and MDEQ.

15. Stained soil exists east of RR tracks near courtyard entrance (see attached photo IMG_0605.jpg). Has any soil sampling and analytical testing been conducted in this area?

    Not that I am aware of.

16. An undated inventory of asbestos containing materials in the mill does not contain any reference to the boilers or supply/exhaust breeching. Suspect ACM was identified during the site inspection (see photos IMB_0609 and 0610). Previous reports reference 1990 and 1996 asbestos surveys by Great Lakes Insulation. Are those surveys available for FTC&H review?

    Those surveys were conducted by the previous owner, I am not sure if they can be released.

The EDR Radius Map™ Report

Plainwell Paper
200 Allegan Street
Plainwell, MI 49080

Inquiry Number: 897487.1s

March 10, 2003

Environmental Data Resources, Inc.

The Source For Environmental Risk Management Data

3530 Post Road
Southport, Connecticut 06890

Nationwide Customer Service

Telephone: 1-800-352-0050
Fax: 1-800-231-6802
Internet: www.edrnet.com

FORM-BJR

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GEOCHECK ADDENDUM

GeoCheck - Not Requested

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc. (EDR). The report meets the government records search requirements of ASTM Standard Practice for Environmental Site Assessments, E 1527-00. Search distances are per ASTM standard or custom distances requested by the user.

TARGET PROPERTY INFORMATION

ADDRESS

200 ALLEGAN STREET
PLAINWELL, MI 49080

COORDINATES

Latitude (North):	42.444000 - 42' 26' 38.4"
Longitude (West):	85.644900 - 85' 38' 41.6"
Universal Tranverse Mercator:	Zone 16
UTM X (Meters):	611446.7
UTM Y (Meters):	4699750.0

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property:	2442085-D6 OTSEGO, MI
Source:	USGS 7.5 min quad index

TARGET PROPERTY SEARCH RESULTS

The target property was identified in the following government records. For more information on this property see page 5 of the attached EDR Radius Map report:

Site	Database(s)	EPA ID
PLAINWELL INC PLAINWELL PAPER COMPANY PLAINWELL, MI 49080	FINDS	110009911523
PFIZER SPECIALTY MINERALS INC 200 ALLEGAN ST PLAINWELL, MI 49080	FINDS	110012599893
PLAINWELL PAPER CO 200 ALLEGAN ST PLAINWELL, MI 49080	RCRIS-SQG FINDS UST AST	MID053666228
ALLIED PAPER, INC./PORTAGE CREEK/KALAMAZOO RIVER 511 EAST PATERSON STREET BOX 2798 KALAMAZOO, MI 49003	CERCLIS RCRIS-SQG FINDS NPL ROD	MID006007306
PLAINWELL PAPER CO., INC. 200 ALLEGAN STREET PLAINWELL, MI 49080	MLTS	N/A

EXECUTIVE SUMMARY

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the ASTM E 1527-00 search radius around the target property for the following databases:

FEDERAL ASTM STANDARD

Proposed NPL..... Proposed National Priority List Sites
RCRIS-TSD..... Resource Conservation and Recovery Information System
RCRIS-LQG..... Resource Conservation and Recovery Information System
ERNS..... Emergency Response Notification System

STATE ASTM STANDARD

SWF/LF..... Solid Waste Facilities Database
HIST LF..... Inactive Solid Waste Facilities
INDIAN UST..... Underground Storage Tanks on Indian Land

FEDERAL ASTM SUPPLEMENTAL

CONSENT..... Superfund (CERCLA) Consent Decrees
Delisted NPL..... National Priority List Deletions
HMIRS..... Hazardous Materials Information Reporting System
MINES..... Mines Master Index File
NPL Liens..... Federal Superfund Liens
PADS..... PCB Activity Database System
RAATS..... RCRA Administrative Action Tracking System
TRIS..... Toxic Chemical Release Inventory System
TSCA..... Toxic Substances Control Act
SSTS..... Section 7 Tracking Systems
FTTS..... FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

EDR PROPRIETARY HISTORICAL DATABASES

Coal Gas..... Former Manufactured Gas (Coal Gas) Sites

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. EDR's definition of a site with an elevation equal to the target property includes a tolerance of +/- 10 feet. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property (by more than 10 feet). Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

EXECUTIVE SUMMARY

FEDERAL ASTM STANDARD

CERCLIS-NFRAP: As of February 1995. CERCLIS sites designated "No Further Remedial Action Planned" (NFRAP) have been removed from CERCLIS. NFRAP sites may be sites where, following an initial investigation, no contamination was found, contamination was removed quickly without the need for the site to be placed on the NPL, or the contamination was not serious enough to require Federal Superfund Action or NPL consideration. EPA has removed approximately 25,000 NFRAP sites to lift the unintended barriers to the redevelopment of these properties and has archived them as historical records so EPA does not needlessly repeat the investigations in the future. This policy change is part of the EPA's Brownfields Redevelopment Program to help cities, states, private investors and affected citizens to promote economic redevelopment of unproductive urban sites.

A review of the CERC-NFRAP list, as provided by EDR, and dated 12/13/2002 has revealed that there is 1 CERC-NFRAP site within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
DRUG & LAB DSPL INC	102 S MAIN ST	1/8 - 1/4 ESE	C14	16

CORRACTS: CORRACTS is a list of handlers with RCRA Corrective Action Activity. This report shows which nationally-defined corrective action core events have occurred for every handler that has had corrective action activity.

A review of the CORRACTS list, as provided by EDR, and dated 01/15/2003 has revealed that there are 2 CORRACTS sites within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
A-1 DISPOSAL CORP	*400 BROAD ST*	*1/2 - 1 E*	*E22*	*32*
DRUG AND LABORATORY DISPOSAL I	*331 BROAD ST*	*1/2 - 1 E*	*E24*	*36*

RCRIS: The Resource Conservation and Recovery Act database includes selected information on sites that generate, store, treat, or dispose of hazardous waste as defined by the Act. The source of this database is the U.S. EPA.

A review of the RCRIS-SQG list, as provided by EDR, and dated 09/09/2002 has revealed that there are 2 RCRIS-SQG sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
LAKES DRYCLNRS AND SHIRT SVC	*133 N MAIN ST*	*1/8 - 1/4 ESE*	*B10*	*14*
HOP IN FOOD STORES	*204 S MAIN*	*1/8 - 1/4 SE*	*D18*	*25*

STATE ASTM STANDARD

SHWS: The State Hazardous Waste Sites records are the states' equivalent to CERCLIS. These sites may or may not already be listed on the federal CERCLIS list. Priority sites planned for cleanup using state funds (state equivalent of Superfund) are identified along with sites where cleanup will be paid for by potentially responsible parties. The data come from the Department of Environmental Quality's' Contaminated Sites List on Diskette With Address.

A review of the SHWS list, as provided by EDR, has revealed that there are 4 SHWS sites within approximately 1 mile of the target property.

EXECUTIVE SUMMARY

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
A 1 DISPOSAL CORP PLAINWELL	400 BROAD STREET	1/2 - 1 E	E23	36
KEWAUNEE SCIENTIFIC EQUIP	***100-322 ACORN***	***1/2 - 1 E***	***25***	***43***
BLOOMFIELD RES WELL	1052 BLOOMFIELD	1/2 - 1 S	26	44
NEO-TECH (IST)	***939 INDUSTRIAL PARKWAY***	***1/2 - 1 ENE***	***27***	***44***

LUST: The Leaking Underground Storage Tank Incident Reports contain an inventory of reported leaking underground storage tank incidents. The data come from the Department of Environmental Quality's Leaking Underground Storage Tank (LUST) Database.

A review of the LUST list, as provided by EDR, and dated 12/01/2002 has revealed that there are 6 LUST sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
LAKES DRY CLEANERS & SHIRT SER	133 N MAIN ST	1/8 - 1/4 ESE	B11	15
FIRE DEPT BUILDING	***115 W BRIDGE ST***	***1/8 - 1/4 ESE***	***C13***	***16***
CLARK STORE #2143	***204 S MAIN ST***	***1/8 - 1/4 SE***	***D17***	***19***
PIPP COMMUNITY HOSPITAL	***411 NAOMI ST***	***1/4 - 1/2 WNW***	***19***	***25***
CLARK STORE #2009	***665 ALLEGAN ST***	***1/4 - 1/2 WNW***	***20***	***27***
PLAINWELL AUTO REPAIR	***760 N MAIN ST***	***1/4 - 1/2 NNE***	***21***	***30***

UST: The Underground Storage Tank database contains registered USTs. USTs are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA). The data come from the Department of Environmental Quality's Michigan UST database.

A review of the UST list, as provided by EDR, and dated 01/02/2003 has revealed that there are 9 UST sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
JIM KOESTNER INC	218 N MAIN ST	1/8 - 1/4 E	6	11
PLAINWELL AUTO SUPPLY CO	155 N MAIN ST	1/8 - 1/4 ESE	B7	12
ATRESTLEBRIDGE PROPERTIES INC	152 N MAIN ST	1/8 - 1/4 ESE	B8	12
CITY HALL	141 N MAIN ST	1/8 - 1/4 ESE	B9	14
LAKES DRY CLEANERS & SHIRT SER	133 N MAIN ST	1/8 - 1/4 ESE	B12	15
FIRE DEPT BUILDING	***115 W BRIDGE ST***	***1/8 - 1/4 ESE***	***C13***	***16***
SUN THEATER PARKING LOT	141 S MAIN ST	1/8 - 1/4 SE	15	17
GLESS SERVICE	203 S MAIN ST	1/8 - 1/4 SE	D16	17
CLARK STORE #2143	***204 S MAIN ST***	***1/8 - 1/4 SE***	***D17***	***19***

BEA: Baseline Environmental Assessment.

A review of the BEA list, as provided by EDR, and dated 09/18/2002 has revealed that there is 1 BEA site within approximately 0.5 miles of the target property.

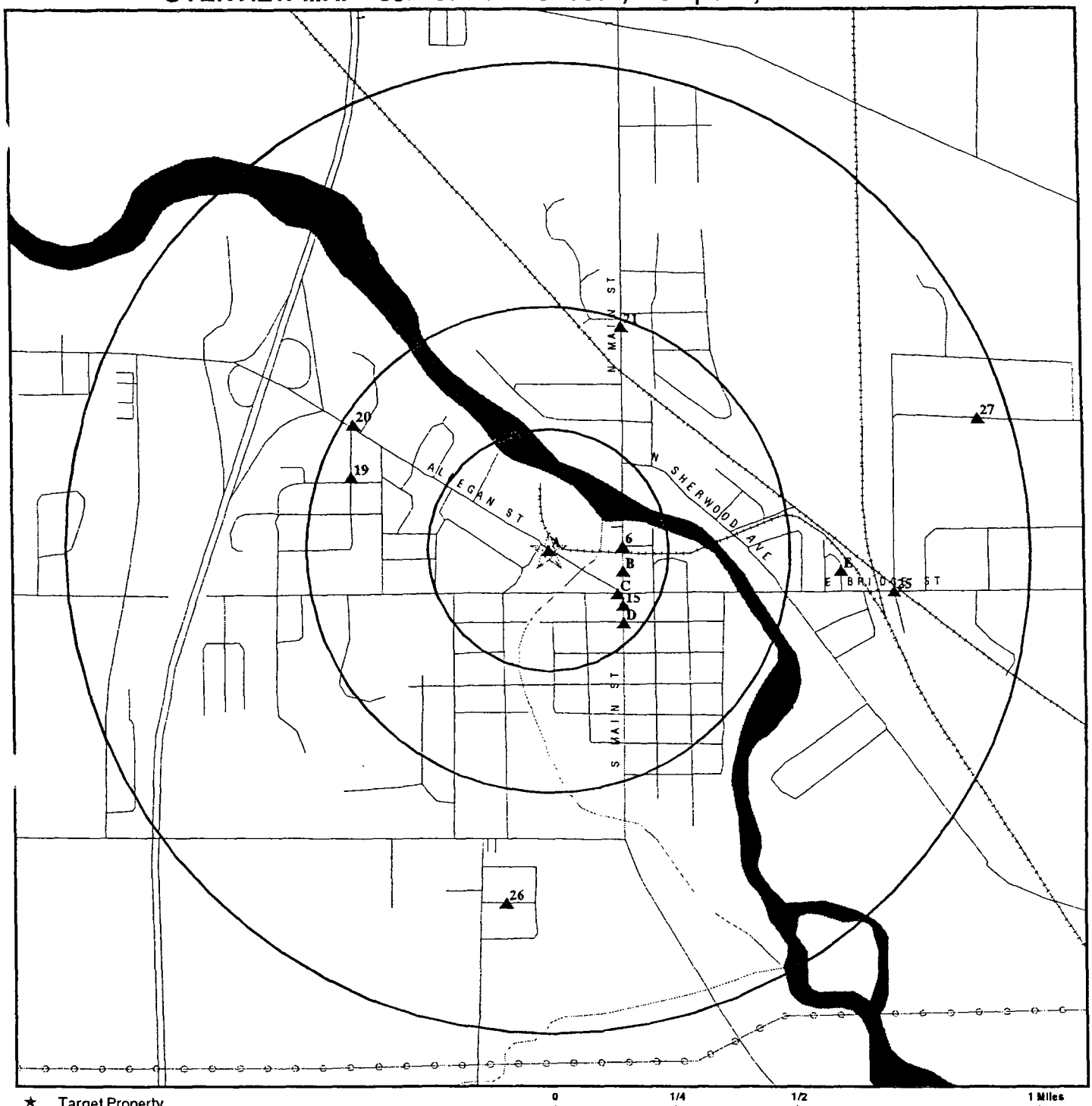
Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
PIPP COMMUNITY HOSPITAL	***411 NAOMI ST***	***1/4 - 1/2 WNW***	***19***	***25***

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped:

Site Name	Database(s)
GUN PLAIN TOWNSHIP LANDFILL	SHWS
ACORN ST INDUSTRIAL PARK	SHWS
CHURCH & ALLEGAN	SHWS
HUGHES ENGRAVING	SHWS
JERSEY STREET PLAINWELL	SHWS
SECTION 25 GUN PLAIN TOWNSHIP	SHWS
CONRAIL-PLAINWELL	SHWS
SUNRISE LF	SHWS
PLAINWELL MUN WELL #2	CERC-NFRAP
PLAINWELL INC	RCRIS-SQG, FINDS
MIDOT MAINT DIV PLAINWELL	RCRIS-SQG, FINDS
PLAINWELL WWTP	FINDS

OVERVIEW MAP - 897487.1s - Fishbeck,Thompson,Carr & Huber



★ Target Property

▲ Sites at elevations higher than or equal to the target property

◆ Sites at elevations lower than the target property

♟ Coal Gasification Sites

National Priority List Sites

Landfill Sites

Power transmission lines

Oil & Gas pipelines

TARGET PROPERTY:	Plainwell Paper	CUSTOMER:	Fishbeck,Thompson,Carr & Huber
ADDRESS:	200 Allegan Street	CONTACT:	Allison Brown
CITY/STATE/ZIP:	Plainwell MI 49080	INQUIRY #:	897487.1s
LAT/LONG:	42.4440 / 85.6449	DATE:	March 10, 2003 2:42 pm

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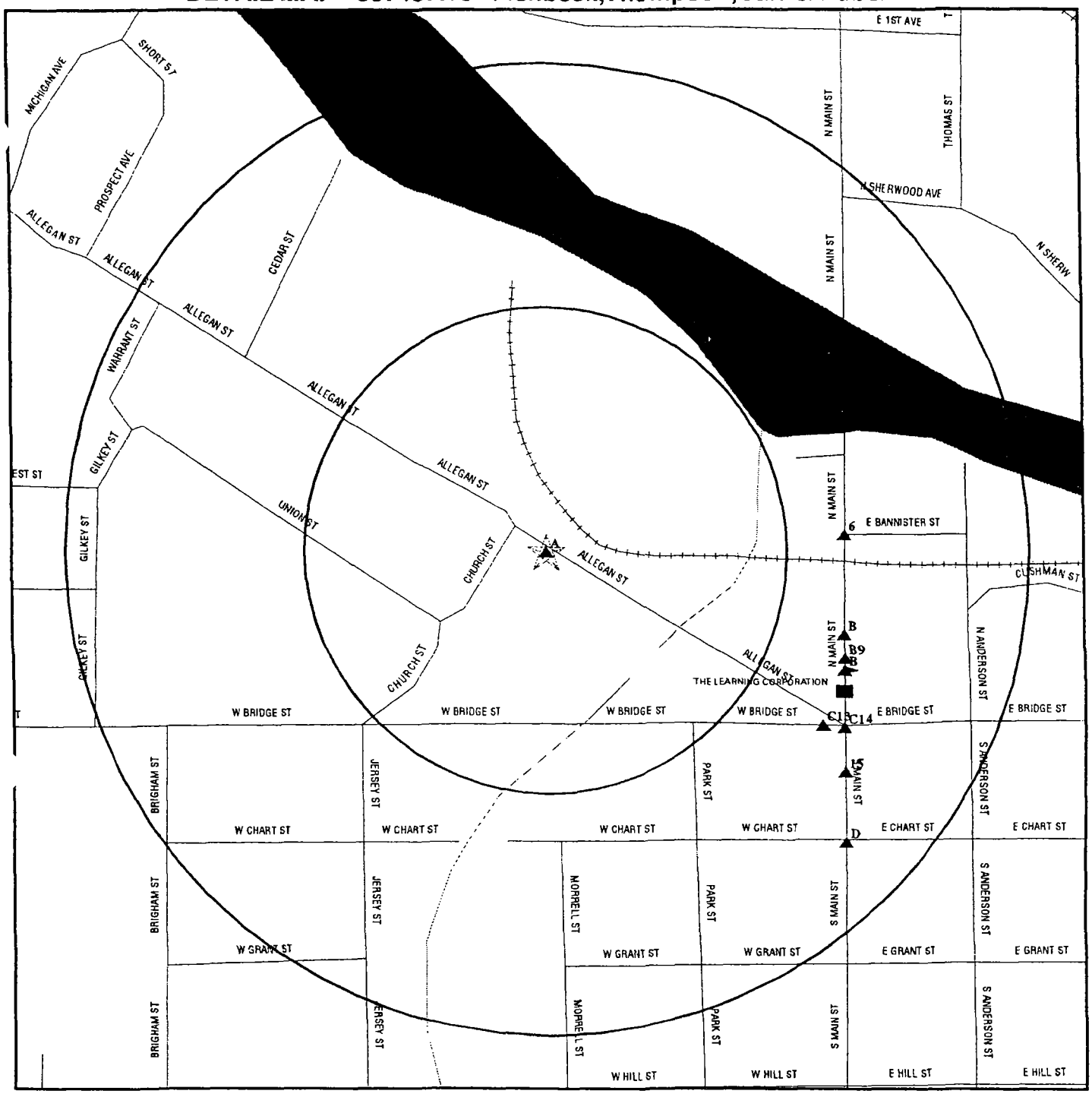
DETAIL MAP - 897487.1s - Fishbeck,Thompson,Carr & Huber



★ Target Property

▲ Sites at elevations higher than or equal to the target property

◆ Sites at elevations lower than the target property

Coal Gasification Sites

Sensitive Receptors

National Priority List Sites

Landfill Sites

Power transmission lines

Oil & Gas pipelines

TARGET PROPERTY:	Plainwell Paper	CUSTOMER:	Fishbeck,Thompson,Carr & Huber
ADDRESS:	200 Allegan Street	CONTACT:	Allison Brown
CITY/STATE/ZIP:	Plainwell MI 49080	INQUIRY #:	897487.1s
LAT/LONG:	42.4440 / 85.6449	DATE:	March 10, 2003 2:42 pm

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MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
FEDERAL ASTM STANDARD								
NPL	X	1.000	0	0	0	0	NR	0
Proposed NPL		1.000	0	0	0	0	NR	0
CERCLIS	X	0.500	0	0	0	NR	NR	0
CERC-NFRAP		0.250	0	1	NR	NR	NR	1
CORRACTS		1.000	0	0	0	2	NR	2
RCRIS-TSD		0.500	0	0	0	NR	NR	0
RCRIS Lg. Quan. Gen.		0.250	0	0	NR	NR	NR	0
RCRIS Sm. Quan. Gen.	X	0.250	0	2	NR	NR	NR	2
ERNS		TP	NR	NR	NR	NR	NR	0
STATE ASTM STANDARD								
State Haz. Waste		1.000	0	0	0	4	NR	4
State Landfill		0.500	0	0	0	NR	NR	0
LUST		0.500	0	3	3	NR	NR	6
UST	X	0.250	0	9	NR	NR	NR	9
BEA		0.500	0	0	1	NR	NR	1
HIST LF		0.500	0	0	0	NR	NR	0
INDIAN UST		0.250	0	0	NR	NR	NR	0
FEDERAL ASTM SUPPLEMENTAL								
CONSENT		1.000	0	0	0	0	NR	0
ROD	X	1.000	0	0	0	0	NR	0
Delisted NPL		1.000	0	0	0	0	NR	0
FINDS	X	TP	NR	NR	NR	NR	NR	0
HMIRS		TP	NR	NR	NR	NR	NR	0
MLTS	X	TP	NR	NR	NR	NR	NR	0
MINES		0.250	0	0	NR	NR	NR	0
NPL Liens		TP	NR	NR	NR	NR	NR	0
PADS		TP	NR	NR	NR	NR	NR	0
RAATS		TP	NR	NR	NR	NR	NR	0
TRIS		TP	NR	NR	NR	NR	NR	0
TSCA		TP	NR	NR	NR	NR	NR	0
SSTS		TP	NR	NR	NR	NR	NR	0
FTTS		TP	NR	NR	NR	NR	NR	0
STATE OR LOCAL ASTM SUPPLEMENTAL								
AST	X	TP	NR	NR	NR	NR	NR	0
EDR PROPRIETARY HISTORICAL DATABASES								
Coal Gas		1.000	0	0	0	0	NR	0

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

Coal Gas Site Search: No site was found in a search of Real Property Scan's ENVIROHAZ database.

A1 Target Property **PLAINWELL INC**
PLAINWELL PAPER COMPANY
PLAINWELL, MI 49080

FINDS **1005674375**
110009911523

Site 1 of 5 in cluster A

FINDS:
Other Pertinent Environmental Activity Identified at Site:
Facility Registry System (FRS)
Permit Compliance System (PCS)

A2 Target Property **PFIZER SPECIALTY MINERALS INC**
200 ALLEGAN ST
PLAINWELL, MI 49080

FINDS **1006320667**
110012599893

Site 2 of 5 in cluster A

FINDS:
Other Pertinent Environmental Activity Identified at Site:
AIRS Facility System (AIRS/AFS)
Facility Registry System (FRS)

A3 Target Property **PLAINWELL PAPER CO**
200 ALLEGAN ST
PLAINWELL, MI 49080

RCRIS-SQG **1000258711**
FINDS **MID053666228**
UST
AST

Site 3 of 5 in cluster A

RCRIS:
Owner: NAME NOT REPORTED
(312) 555-1212
EPA ID: MID053666228

Contact: CARL GREN
(616) 685-5851

Classification: Small Quantity Generator
Used Oil Recyc: No
TSDF Activities: Not reported

Violation Status: No violations found

NY MANIFEST
Additional detail is available in NY MANIFEST. Please contact your EDR Account Executive for more information.

FINDS:
Other Pertinent Environmental Activity Identified at Site:
AIRS Facility System (AIRS/AFS)
Facility Registry System (FRS)
National Emissions Trends (NET)
Permit Compliance System (PCS)
Resource Conservation and Recovery Act Information system (RCRAINFO)
Toxic Chemical Release Inventory System (TRIS)

UST:
Facility ID: 00018405
Tank ID: 1
Owner: Plainwell Paper Co Inc
Owner Address: 200 Allegan St

PLAINWELL PAPER CO (Continued) **1000258711**

Plainwell, MI 49080
Owner Phone: (616) 685-5851
Product: Gasoline
Capacity: 300
Tank Status: Removed from Ground
Constr Material: Asphalt Coated or Bare Steel
Piping Material: Bare Steel
Piping Type: Not reported
Contact: GEORGE W. LAWTON
Contact Phone: (616) 685-5851
Impressed Device: No
Install Date: 05/07/56
Release Detection:
Tank: Not reported
Pipe: Not reported

AST:
Facility ID: 92003336
Tank ID: 1
Tank Status: Removed fr
Content: LPG
Capacity: 1000
Owner: Amerigas
Owner Address: 750 W Elm St
Wayland, MI 49348
Owner Country: USA
District: Kalamazoo District Office
Install Date: 01/01/1953
Facility Phone: (616) 792-6378
Contact: Not reported

Facility ID: 92003336
Tank ID: 2
Tank Status: Removed fr
Content: Propane
Capacity: 1000
Owner: Amerigas
Owner Address: 750 W Elm St
Wayland, MI 49348
Owner Country: USA
District: Kalamazoo District Office
Install Date: 01/02/1992
Facility Phone: (616) 792-6378
Contact: Not reported

A4 Target Property **ALLIED PAPER, INC./PORTAGE CREEK/KALAMAZOO RIVER**
511 EAST PATERSON STREET BOX 2798
KALAMAZOO, MI 49003

CERCLIS 1000248884
RCRIS-SQG MID006007306
FINDS
NPL
ROD

Site 4 of 5 in cluster A

CERCLIS Classification Data:
Site Incident Category: Not reported
Federal Facility: Not a Federal Facility
Non NPL Status: Not reported
Ownership Status: Other
NPL Status: Currently on the Final NPL
Site Description: The King Highway Landfill-Operable Unit 3 (KHL-OU3) and the Georgia-Pacific former lagoons 1, 2, 3, 4, and 5 (five former lagoons) of the Allied Paper, Inc./ Portage Creek/Kalamazoo River Superfund site are located in Kalamazoo, Michigan. The KHL, the King Street Storm Sewer (KSSS) floodplain, and the adjacent Kalamazoo River are

ALLIED PAPER, INC./PORTAGE CREEK/KALAMAZOO RIVER (Continued) **1000248884**

included in the KHL-OU3. The land immediately adjacent to the south and southwest sides of the KHL-OU3 is classified for industrial or secondary commercial use. The KHL covers 23.2 acres and consists of four Cells. The total volume of residuals in the KHL is estimated at 282,000 cubic yards. The floodplains, wetlands, and river corridor of the Kalamazoo River and Portage Creek provide habitat for numerous imp ortant fish and aquatic species, semi-aquatic species, and terrestrial species. The Kalamazoo River is a critical natural resource for southwest Michigan providing recreational opportunities such as fishing, hunting, trapping, bird watching, boating , hiking, biking and swimming. Carbonless copy paper manufactured between 1957 and 1971 contained Aroclor 1242 as an ink carrier or solvent. The KHL was originally a series of lagoons used by the Kalamazoo Paper Company to dewater the underflow of the paper mill's primary clarifier located on the north side of the river. The soils, sediments, water column, and biota at the site are contaminated with polychlorinated biphenyls (PCBs), a hazardous substance and probable human carcinogen. The K HL-OU3 and the five former lagoons are both locations which contain PCBs and are considered to be a current ongoing source of PCBs to the Kalamazoo River. The PCBs continue to migrate from the KHL-OU3 and the five former lagoons into the environment and off-site due to erosion caused by river flow and surface water run-off. This contributes to the ongoing contamination of the soils, sediments, water column, and biota of the site (i.e. the Kalamazoo River) and Lake Michigan. The Michigan
Department of Community Health has issued a species specific no consumption fish advisory annually since 1977 for the Kalamazoo River portion of this site due to the PCB contamination. In August 1990, the site was officially placed on the National Priorities List (NPL). There are four Potentially Responsible Parties (PRPs) for the PCB contamination of this site. They are HM Holdings, Inc./Allied Paper, Inc., Georgia-Pacific Corporation, Simpson Plainwell Paper Company, and James River Corpo ration. A Record of Decision was issued in February 1998 that addressed the four Cells of the KHL, PCB-contaminated sediments, soils, and residuals located on the berms, in the KSSS floodplain, in the Kalamazoo River directly adjacent to the KHL, an d in the five former lagoons at Georgia-Pacific Corporation.

CERCLIS Assessment History:

Assessment:	DISCOVERY	Completed:	04/01/1979
Assessment:	PRELIMINARY ASSESSMENT	Completed:	11/08/1985
Assessment:	PROPOSAL TO NPL	Completed:	05/05/1989
Assessment:	SITE INSPECTION	Completed:	05/05/1989
Assessment:	REMOVAL ASSESSMENT	Completed:	07/20/1989
Assessment:	FINAL LISTING ON NPL	Completed:	08/30/1990
Assessment:	ADMIN ORDER ON CONSENT	Completed:	11/01/1990
Assessment:	STATE ORDER	Completed:	12/28/1990
Assessment:	PRP REMOVAL	Completed:	07/17/1991
Assessment:	REMOVAL ASSESSMENT	Completed:	05/11/1992
Assessment:	HUMAN HEALTH RISK ASSESSMENT	Completed:	08/05/1994
Assessment:	NPL RP SEARCH	Completed:	09/29/1995
Assessment:	ADMIN ORDER ON CONSENT	Completed:	01/23/1998
Assessment:	PRP RI/FS	Completed:	02/10/1998
Assessment:	RECORD OF DECISION	Completed:	02/10/1998
Assessment:	REMOVAL	Completed:	10/22/1999
Assessment:	PRP REMOVAL	Completed:	10/22/1999

ALLIED PAPER, INC./PORTAGE CREEK/KALAMAZOO RIVER (Continued) **1000248884**

Assessment:	PRP RI/FS	Completed:	09/28/2001
Assessment:	RECORD OF DECISION	Completed:	09/28/2001
Assessment:	PRP RD	Completed:	09/27/2002

CERCLIS Site Status:
Not reported

CERCLIS Alias Name(s):
ALLIED PAPER
PORTAGE CREEK
ALLIED CORP KALAMAZOO PLT
ALLIED PAPER/PORTAGE CREEK/KALAMAZOO RIV
ALLIED PAPER/PORTAGE CREEK/KALAMAZOO RIV
ALLIED PAPER/PORTAGE CK/KALAMAZOO RIVER
ALLIED PAPER, INC./PORTAGE CREEK/KALAMAZOO RIVER
ALLIED PAPER, INC./PORTAGE CREEK/KALAMAZOO RIVER

NPL:

EPA ID:	MID006007306
Region:	05
Federal:	General
Final Date:	08/30/1990

NPL Contaminant:

NPL Status:	Final
Substance Id:	C630
Case Num:	11097-69-1
Substance :	AROCLOR 1254
Pathway :	The Ground water migration route , or pathway.
GW Scoring :	Toxicity
SW Scoring :	Not reported
Air Scoring:	Not reported
Soil Scoring:	Not reported
DC Scoring:	Not reported
FE Scoring:	Not reported

NPL Status:	Final
Substance Id:	C634
Case Num:	53469-21-9
Substance :	AROCLOR 1242
Pathway :	The Ground water migration route , or pathway.
GW Scoring :	Observed Release & Toxicity
SW Scoring :	Not reported
Air Scoring:	Not reported
Soil Scoring:	Not reported
DC Scoring:	Not reported
FE Scoring:	Not reported

NPL Status:	Final
Substance Id:	C630
Case Num:	11097-69-1
Substance :	AROCLOR 1254
Pathway :	SW
GW Scoring :	Not reported
SW Scoring :	Observed Release & Toxicity
Air Scoring:	Not reported
Soil Scoring:	Not reported
DC Scoring:	Not reported
FE Scoring:	Not reported

NPL Status:	Final
Substance Id:	C634

ALLIED PAPER, INC./PORTAGE CREEK/KALAMAZOO RIVER (Continued) **1000248884**

Case Num:	53469-21-9
Substance :	AROCLOR 1242
Pathway :	SW
GW Scoring :	Not reported
SW Scoring :	Observed Release & Toxicity
Air Scoring:	Not reported
Soil Scoring:	Not reported
DC Scoring:	Not reported
FE Scoring:	Not reported

NPL Site:

CERCLIS Id:	MID006007306
Site City:	Kalamazoo
Site State:	MI
NPL Status:	Final
Status Date:	08/30/90
Federal Site:	Not reported
HRS Score:	36.41
GW Score:	61.54
SW Score:	13.43
Air Score:	0.00
Soil Score:	0.00
DC Score:	0.00
FE Score:	0.00

NPL Char:

NPL Status:	Final
Category Description:	DEPTH TO AQUIFER
Category Value:	17
NPL Status:	Final
Category Description:	DISTANCE TO THE NEAREST POPULATION
Category Value:	500
NPL Status:	Final
Category Description:	OBSERVED RELEASE-Ground Water
Category Value:	Not reported
NPL Status:	Final
Category Description:	OBSERVED RELEASE-Surface Water
Category Value:	Not reported
NPL Status:	Final
Category Description:	PERMIT-NPDES
Category Value:	Not reported
NPL Status:	Final
Category Description:	PHYSICAL STATE-Liquid
Category Value:	Not reported
NPL Status:	Final
Category Description:	PHYSICAL STATE-Solid
Category Value:	Not reported
NPL Status:	Final
Category Description:	SITE ACTIVITY WASTE SOURCE-Industry Recyclers
Category Value:	Not reported
NPL Status:	Final
Category Description:	SITE ACTIVITY WASTE SOURCE-Manufacturing
Category Value:	Not reported

ALLIED PAPER, INC./PORTAGE CREEK/KALAMAZOO RIVER (Continued) **1000248884**

NPL Status: Final
Category Description: SITE ACTIVITY WASTE SOURCE-Manufacturing Other/Industrial
Category Value: Not reported

NPL Status: Final
Category Description: SITE ACTIVITY WASTE SOURCE-Manufacturing Paper
Category Value: Not reported

NPL Status: Final
Category Description: SURFACE WATER ADJACENT TO SITE-Lake
Category Value: Not reported

NPL Status: Final
Category Description: SURFACE WATER ADJACENT TO SITE-Pond
Category Value: Not reported

NPL Status: Final
Category Description: SURFACE WATER ADJACENT TO SITE-River
Category Value: Not reported

NPL Status: Final
Category Description: SURFACE WATER ADJACENT TO SITE-Stream
Category Value: Not reported

NPL Status: Final
Category Description: SURFACE WATER ADJACENT TO SITE-Wetland
Category Value: Not reported

ROD:
Full-text of USEPA Record of Decision(s) is available from EDR.

RCRIS:
Owner: GENERAL CHEMICAL CORP
(312) 555-1212
EPA ID: MID006007306

Contact: BERNARD VALENCE
(616) 381-8241

Classification: Small Quantity Generator
Used Oil Recyc: No
TSDF Activities: Not reported

Violation Status: No violations found

FINDS:
Other Pertinent Environmental Activity Identified at Site:
Comperhensive Environmental Response, Compensation and Liability Information System (CERCLIS)
Facility Registry System (FRS)

A5 Target Property **PLAINWELL PAPER CO., INC.** **MLTS 1001209975**
200 ALLEGAN STREET **N/A**
PLAINWELL, MI 49080

Site 5 of 5 in cluster A

MLTS:

License Number:	21-18956-02	First License Date:	12/03/1985
License Date:	12/03/1985	Institution Code:	18956
License Expires:	12/31/1990	Primary Program:	Measuring Systems Fixed Gauges
License Use:	Not reported		
Department:	Not reported	Building:	Not reported
Contact Name:	KHAJA NAIMUDDIN, ENV. ENGR.	Contact Phone:	616-685-5851

PLAINWELL PAPER CO., INC. (Continued) **1001209975**

States Allowing Use: Not reported
Store Material: No
Redistribution: No
Incineration: No
Burial: No
Last Inspection: 05/1987
Inspector Name: Not reported
Next Inspection: 99/9999

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6 East 1/8-1/4 816 ft. Higher

JIM KOESTNER INC
218 N MAIN ST
PLAINWELL, MI 49080

UST **U000715604**
N/A

UST:
Facility ID: 00036019
Tank ID: 1
Owner: Jim Koestner Inc
Owner Address: 218 N Main St
Plainwell, MI 49080
Owner Phone: (616) 685-6854
Product: UNKNOWN
Capacity: 360
Tank Status: Closed in Ground
Constr Material: Unknown
Piping Material: Unknown
Piping Type: Not reported
Contact: JOHN W KOESTNER
Contact Phone: (616) 685-6854
Impressed Device: No
Install Date: 01/01/00
Release Detection:
Tank: Not reported
Pipe: Not reported

Facility ID: 00036019
Tank ID: 2
Owner: Jim Koestner Inc
Owner Address: 218 N Main St
Plainwell, MI 49080
Owner Phone: (616) 685-6854
Product: UNKNOWN
Capacity: 300
Tank Status: Closed in Ground
Constr Material: Unknown
Piping Material: Unknown
Piping Type: Not reported
Contact: JOHN W KOESTNER
Contact Phone: (616) 685-6854
Impressed Device: No
Install Date: 01/01/00
Release Detection:
Tank: Not reported
Pipe: Not reported

B7 ESE 1/8-1/4 844 ft. Higher — **PLAINWELL AUTO SUPPLY CO**, **155 N MAIN ST**, **PLAINWELL, MI 49080** — **UST** — **U001148177**, **N/A**

Site 1 of 6 in cluster B

UST:

Facility ID:	00036786
Tank ID:	1
Owner:	Plainwell Auto Supply Co
Owner Address:	155 N Main St Plainwell, MI 49080
Owner Phone:	(616) 685-5817
Product:	UNK
Capacity:	1000
Tank Status:	Removed from Ground
Constr Material:	Asphalt Coated or Bare Steel
Piping Material:	Unknown
Piping Type:	Not reported
Contact:	MR BRUCE BARROWS
Contact Phone:	(616) 685-5817
Impressed Device:	No
Install Date:	01/01/00
Release Detection:	
Tank:	Not reported
Pipe:	Not reported

B8 ESE 1/8-1/4 847 ft. Higher — **ATRESTLEBRIDGE PROPERTIES INC**, **152 N MAIN ST**, **PLAINWELL, MI 49080** — **UST** — **U003102469**, **N/A**

Site 2 of 6 in cluster B

UST:

Facility ID:	00004075
Tank ID:	1
Owner:	Atrestlebridge Prop Inc
Owner Address:	211 E BANNISTER ST PLAINWELL, MI 49080
Owner Phone:	(616) 685-6220
Product:	Gasoline
Capacity:	4000
Tank Status:	Removed from Ground
Constr Material:	Asphalt Coated or Bare Steel
Piping Material:	Bare Steel,Unknown
Piping Type:	Not reported
Contact:	MARTIN HILL
Contact Phone:	(616) 685-6220
Impressed Device:	No
Install Date:	04/28/56
Release Detection:	
Tank:	Not reported
Pipe:	Not reported

Facility ID:	00004075
Tank ID:	2
Owner:	Atrestlebridge Prop Inc
Owner Address:	211 E BANNISTER ST PLAINWELL, MI 49080
Owner Phone:	(616) 685-6220
Product:	Gasoline

ATRESTLEBRIDGE PROPERTIES INC (Continued) **U003102469**

Capacity: 4000
Tank Status: Removed from Ground
Constr Material: Asphalt Coated or Bare Steel
Piping Material: Bare Steel,Unknown
Piping Type: Not reported
Contact: MARTIN HILL
Contact Phone: (616) 685-6220
Impressed Device: No
Install Date: 04/28/56
Release Detection:
Tank: Not reported
Pipe: Not reported

Facility ID: 00004075
Tank ID: 3
Owner: Atrestlebridge Prop Inc
Owner Address: 211 E BANNISTER ST
PLAINWELL, MI 49080
Owner Phone: (616) 685-6220
Product: Gasoline
Capacity: 4000
Tank Status: Removed from Ground
Constr Material: Asphalt Coated or Bare Steel
Piping Material: Bare Steel,Unknown
Piping Type: Not reported
Contact: MARTIN HILL
Contact Phone: (616) 685-6220
Impressed Device: No
Install Date: 04/28/61
Release Detection:
Tank: Not reported
Pipe: Not reported

Facility ID: 00004075
Tank ID: 4
Owner: Atrestlebridge Prop Inc
Owner Address: 211 E BANNISTER ST
PLAINWELL, MI 49080
Owner Phone: (616) 685-6220
Product: Used Oil
Capacity: 500
Tank Status: Removed from Ground
Constr Material: Asphalt Coated or Bare Steel
Piping Material: Bare Steel,Unknown
Piping Type: Not reported
Contact: MARTIN HILL
Contact Phone: (616) 685-6220
Impressed Device: No
Install Date: 04/28/66
Release Detection:
Tank: Not reported
Pipe: Not reported

Facility ID: 00004075
Tank ID: 5
Owner: Atrestlebridge Prop Inc
Owner Address: 211 E BANNISTER ST

ATRESTLEBRIDGE PROPERTIES INC (Continued) **U003102469**

PLAINWELL, MI 49080
Owner Phone: (616) 685-6220
Product: Not reported
Capacity: 500
Tank Status: Removed from Ground
Constr Material: Asphalt Coated or Bare Steel
Piping Material: Bare Steel,Unknown
Piping Type: Not reported
Contact: MARTIN HILL
Contact Phone: (616) 685-6220
Impressed Device: No
Install Date: 04/29/71
Release Detection:
Tank: Not reported
Pipe: Not reported

B9 **CITY HALL** **UST** **U000249121**
ESE **141 N MAIN ST** **N/A**
1/8-1/4 **PLAINWELL, MI 49080**
864 ft.
Higher **Site 3 of 6 in cluster B**

UST:
Facility ID: 00007225
Tank ID: 1
Owner: City Of Plainwell
Owner Address: 141 N Main St
Plainwell, MI 49080
Owner Phone: (616) 685-9363
Product: Gasoline
Capacity: 500
Tank Status: Removed from Ground
Constr Material: Asphalt Coated or Bare Steel
Piping Material: Galvanized Steel
Piping Type: Not reported
Contact: RICHARD RUNNELS
Contact Phone: (616) 685-6821
Impressed Device: No
Install Date: 03/06/71
Release Detection:
Tank: Not reported
Pipe: Not reported

B10 **LAKES DRYCLNRS AND SHIRT SVC** **RCRIS-SQG** **1004723333**
ESE **133 N MAIN ST** **FINDS** **MID985608694**
1/8-1/4 **PLAINWELL, MI 49080**
875 ft.
Higher **Site 4 of 6 in cluster B**

LAKES DRYCLNRS AND SHIRT SVC (Continued) **1004723333**

RCRIS:
Owner: LAKE KARL E
EPA ID: MID985608694

Contact: KARL LAKE
(616) 685-9960

Classification: Conditionally Exempt Small Quantity Generator
Used Oil Recyc: No
TSDF Activities: Not reported

Violation Status: No violations found

FINDS:
Other Pertinent Environmental Activity Identified at Site:
Facility Registry System (FRS)
Resource Conservation and Recovery Act Information system (RCRAINFO)

B11 **LAKES DRY CLEANERS & SHIRT SERVI** **LUST** **S102852006**
ESE **133 N MAIN ST** **N/A**
1/8-1/4 **PLAINWELL, MI 49080**
877 ft.
Higher **Site 5 of 6 in cluster B**

LUST:
Facility ID: 00002839
Release Number: C-0381-92
Release Date: 08/07/92
Facility Status: Closed
District: Kalamazoo District Office
Closed Date: Apr 29 1992

B12 **LAKES DRY CLEANERS & SHIRT SERVI** **UST** **U003211234**
ESE **133 N MAIN ST** **N/A**
1/8-1/4 **PLAINWELL, MI 49080**
877 ft.
Higher **Site 6 of 6 in cluster B**

UST:
Facility ID: 00002839
Tank ID: 1
Owner: Karl E. Lake
Owner Address: 619 W Michigan Ave
Kalamazoo, MI 49007
Owner Phone: (616) 344-9467
Product: PETROLEUM
Capacity: 300
Tank Status: Removed from Ground
Constr Material: Unknown
Piping Material: Unknown
Piping Type: Not reported
Contact: KARL E. LAKE
Contact Phone: (616) 685-9960
Impressed Device No
Install Date: 01/01/00
Release Detection:
Tank: Not reported
Pipe: Not reported

C13 ESE 1/8-1/4 889 ft. Higher — **FIRE DEPT BUILDING, 115 W BRIDGE ST, PLAINWELL, MI 49080** — **LUST** **U002300561**, **UST** **N/A**

Site 1 of 2 in cluster C

LUST:
- Facility ID: 00007224
- Release Number: C-0719-95
- Release Date: 06/13/95
- Facility Status: Closed
- District: Kalamazoo District Office
- Closed Date: Mar 22 1996

UST:
- Facility ID: 00007224
- Tank ID: 1
- Owner: City Of Plainwell
- Owner Address: 141 N Main St, Plainwell, MI 49080
- Owner Phone: (616) 685-9363
- Product: Gasoline
- Capacity: 300
- Tank Status: Removed from Ground
- Constr Material: Asphalt Coated or Bare Steel
- Piping Material: Bare Steel,Galvanized Steel
- Piping Type: Not reported
- Contact: MR THOMAS SEYMOUR PE
- Contact Phone: (616) 685-9363
- Impressed Device: No
- Install Date: 03/06/71
- Release Detection:
  - Tank: Not reported
  - Pipe: Not reported

- Facility ID: 00007224
- Tank ID: 2
- Owner: City Of Plainwell
- Owner Address: 141 N Main St, Plainwell, MI 49080
- Owner Phone: (616) 685-9363
- Product: Gasoline
- Capacity: 550
- Tank Status: Removed from Ground
- Constr Material: Asphalt Coated or Bare Steel
- Piping Material: Unknown
- Piping Type: Not reported
- Contact: MR THOMAS SEYMOUR PE
- Contact Phone: (616) 685-9363
- Impressed Device: No
- Install Date: 01/01/00
- Release Detection:
  - Tank: Not reported
  - Pipe: Not reported

C14 ESE 1/8-1/4 943 ft. Higher — **DRUG & LAB DSPL INC, 102 S MAIN ST, PLAINWELL, MI 49080** — **CERC-NFRAP** **1003871377**, **MID980989230**

Site 2 of 2 in cluster C

DRUG & LAB DSPL INC (Continued) **1003871377**

CERCLIS-NFRAP Classification Data:
Site Incident Category: Not reported
Non NPL Code: NFRAP
Ownership Status: Other
Federal Facility: Not a Federal Facility
NPL Status: Not on the NPL
CERCLIS-NFRAP Assessment History:
Assessment: DISCOVERY Completed: 06/01/1984
Assessment: PRELIMINARY ASSESSMENT Completed: 06/30/1987
Assessment: ARCHIVE SITE Completed: 06/30/1987

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15 SE 1/8-1/4 1011 ft. Higher **SUN THEATER PARKING LOT** **UST** **U002300566**
141 S MAIN ST **N/A**
PLAINWELL, MI 49080

UST:
Facility ID: 00038052
Tank ID: 1
Owner: City Of Plainwell
Owner Address: 141 N Main St
Plainwell, MI 49080
Owner Phone: (616) 685-9363
Product: Gasoline
Capacity: 550
Tank Status: Closed in Ground
Constr Material: Asphalt Coated or Bare Steel
Piping Material: Unknown
Piping Type: Not reported
Contact: MR THOMAS SEYMOUR
Contact Phone: (616) 685-9363
Impressed Device: No
Install Date: 01/01/00
Release Detection:
Tank: Not reported
Pipe: Not reported

D16 SE 1/8-1/4 1136 ft. Higher **GLESS SERVICE** **UST** **U000249150**
203 S MAIN ST **N/A**
PLAINWELL, MI 49080

Site 1 of 3 in cluster D

UST:
Facility ID: 00008110
Tank ID: 1
Owner: Ridderman & Sons Oil Co
Owner Address: 580 10th St
Plainwell, MI 49080
Owner Phone: (616) 685-5825
Product: Gasoline
Capacity: 4000
Tank Status: Currently in Use
Constr Material: Asphalt Coated or Bare Steel,Lined Interier
Piping Material: Galvanized Steel,SPY POLYRTYHLRN
Piping Type: Suction: No Valve At Tank
Contact: ROBERT RIDDERMAN
Contact Phone: (616) 685-5825
Impressed Device: No

GLESS SERVICE (Continued) **U000249150**

Install Date: 03/20/69
Release Detection:
Tank: Automatic Tank Gauging
Pipe: Not reported

Facility ID: 00008110
Tank ID: 2
Owner: Ridderman & Sons Oil Co
Owner Address: 580 10th St
Plainwell, MI 49080
Owner Phone: (616) 685-5825
Product: Diesel
Capacity: 1000
Tank Status: Currently in Use
Constr Material: Asphalt Coated or Bare Steel,Lined Interier
Piping Material: Galvanized Steel,SPY POLYRYHYLEN
Piping Type: Suction: No Valve At Tank
Contact: ROBERT RIDDERMAN
Contact Phone: (616) 685-5825
Impressed Device: No
Install Date: 03/20/69
Release Detection:
Tank: Automatic Tank Gauging
Pipe: Not reported

Facility ID: 00008110
Tank ID: 3
Owner: Ridderman & Sons Oil Co
Owner Address: 580 10th St
Plainwell, MI 49080
Owner Phone: (616) 685-5825
Product: Diesel
Capacity: 550
Tank Status: Currently in Use
Constr Material: Asphalt Coated or Bare Steel,Lined Interier
Piping Material: APT POLYETHYLEN,Galvanized Steel
Piping Type: Suction: No Valve At Tank
Contact: ROBERT RIDDERMAN
Contact Phone: (616) 685-5825
Impressed Device: No
Install Date: 03/20/69
Release Detection:
Tank: Automatic Tank Gauging
Pipe: Not reported

Facility ID: 00008110
Tank ID: 4
Owner: Ridderman & Sons Oil Co
Owner Address: 580 10th St
Plainwell, MI 49080
Owner Phone: (616) 685-5825
Product: Kerosene
Capacity: 550
Tank Status: Currently in Use
Constr Material: Asphalt Coated or Bare Steel,Lined Interier
Piping Material: APT POLYETHYLEN,Galvanized Steel
Piping Type: Suction: No Valve At Tank

GLESS SERVICE (Continued) **U000249150**

Contact: ROBERT RIDDERMAN
Contact Phone: (616) 685-5825
Impressed Device: No
Install Date: 03/20/69
Release Detection:
Tank: Automatic Tank Gauging
Pipe: Not reported

Facility ID: 00008110
Tank ID: 5
Owner: Ridderman & Sons Oil Co
Owner Address: 580 10th St
Plainwell, MI 49080
Owner Phone: (616) 685-5825
Product: Gasoline
Capacity: 3000
Tank Status: Currently in Use
Constr Material: Asphalt Coated or Bare Steel,Lined Interier
Piping Material: APT POLYETHYHLEN,Galvanized Steel
Piping Type: Suction: No Valve At Tank
Contact: ROBERT RIDDERMAN
Contact Phone: (616) 685-5825
Impressed Device: No
Install Date: 03/20/82
Release Detection:
Tank: Automatic Tank Gauging
Pipe: Not reported

Facility ID: 00008110
Tank ID: 6
Owner: Ridderman & Sons Oil Co
Owner Address: 580 10th St
Plainwell, MI 49080
Owner Phone: (616) 685-5825
Product: Gasoline
Capacity: 5390
Tank Status: Currently in Use
Constr Material: Asphalt Coated or Bare Steel,Lined Interier
Piping Material: APT POLYETHYLEN,Galvanized Steel
Piping Type: Suction: No Valve At Tank
Contact: ROBERT RIDDERMAN
Contact Phone: (616) 685-5825
Impressed Device: No
Install Date: 03/21/83
Release Detection:
Tank: Automatic Tank Gauging
Pipe: Not reported

D17 **CLARK STORE #2143** **LUST U001148645**
SE **204 S MAIN ST** **UST N/A**
1/8-1/4 **PLAINWELL, MI 49080**
1140 ft.
Higher **Site 2 of 3 in cluster D**

LUST:
Facility ID: 00015971
Release Number: C-1190-92
Release Date: 07/22/92
Facility Status: Open

CLARK STORE #2143 (Continued) **U001148645**

District: Kalamazoo District Office
Closed Date: Not reported

Facility ID: 00015971
Release Number: C-0301-93
Release Date: 02/16/93
Facility Status: Open
District: Kalamazoo District Office
Closed Date: Not reported

Facility ID: 00015971
Release Number: C-2123-92
Release Date: 12/02/92
Facility Status: Open
District: Kalamazoo District Office
Closed Date: Not reported

Facility ID: 00015971
Release Number: C-4233-85
Release Date: 08/03/88
Facility Status: Open
District: Kalamazoo District Office
Closed Date: Not reported

UST:
Facility ID: 00015971
Tank ID: 1
Owner: Clark Retail Enterprises, Inc.
Owner Address: 3003 BUTTERFIELD RD.
Oak Brook, IL 60523
Owner Phone: 630 366-3000
Product: Gasoline
Capacity: 10000
Tank Status: Removed from Ground
Constr Material: Asphalt Coated or Bare Steel,Fiberglass Reinforced plastic
Piping Material: Galvanized Steel
Piping Type: Not reported
Contact: ANDREA M HARTMAN
Contact Phone: (313) 291-7427
Impressed Device No
Install Date: 08/17/79
Release Detection:
Tank: Not reported
Pipe: Not reported

Facility ID: 00015971
Tank ID: 10
Owner: Clark Retail Enterprises, Inc.
Owner Address: 3003 BUTTERFIELD RD.
Oak Brook, IL 60523
Owner Phone: 630 366-3000
Product: Gasoline
Capacity: 8000
Tank Status: Currently in Use
Constr Material: Composite(Steel w/Fiberglass)
Piping Material: Double Walled,Fiberglass reinforced plastic
Piping Type: Pressure
Contact: ANDREA M HARTMAN

CLARK STORE #2143 (Continued) **U001148645**

Contact Phone: (313) 291-7427
Impressed Device: No
Install Date: 03/01/93
Release Detection:
Tank: Automatic Tank Gauging
Pipe: Automatic Line Leak Detectors,Interstitial Monitoring Double Walled Piping,Line Tightness Testing

Facility ID: 00015971
Tank ID: 11
Owner: Clark Retail Enterprises, Inc.
Owner Address: 3003 BUTTERFIELD RD.
Oak Brook, IL 60523
Owner Phone: 630 366-3000
Product: Gasoline
Capacity: 8000
Tank Status: Currently in Use
Constr Material: Composite(Steel w/Fiberglass)
Piping Material: Double Walled,Fiberglass reinforced plastic
Piping Type: Pressure
Contact: ANDREA M HARTMAN
Contact Phone: (313) 291-7427
Impressed Device: No
Install Date: 03/01/93
Release Detection:
Tank: Automatic Tank Gauging
Pipe: Automatic Line Leak Detectors,Interstitial Monitoring Double Walled Piping,Line Tightness Testing

Facility ID: 00015971
Tank ID: 12
Owner: Clark Retail Enterprises, Inc.
Owner Address: 3003 BUTTERFIELD RD.
Oak Brook, IL 60523
Owner Phone: 630 366-3000
Product: Gasoline
Capacity: 2500
Tank Status: Removed from Ground
Constr Material: Asphalt Coated or Bare Steel
Piping Material: Unknown
Piping Type: Not reported
Contact: ANDREA M HARTMAN
Contact Phone: (313) 291-7427
Impressed Device: No
Install Date: 01/01/00
Release Detection:
Tank: Not reported
Pipe: Not reported

Facility ID: 00015971
Tank ID: 13
Owner: Clark Retail Enterprises, Inc.
Owner Address: 3003 BUTTERFIELD RD.
Oak Brook, IL 60523
Owner Phone: 630 366-3000
Product: Gasoline
Capacity: 2500

CLARK STORE #2143 (Continued) **U001148645**

Tank Status: Removed from Ground
Constr Material: Asphalt Coated or Bare Steel
Piping Material: Unknown
Piping Type: Not reported
Contact: ANDREA M HARTMAN
Contact Phone: (313) 291-7427
Impressed Device: No
Install Date: 01/01/00
Release Detection:
Tank: Not reported
Pipe: Not reported

Facility ID: 00015971
Tank ID: 14
Owner: Clark Retail Enterprises, Inc.
Owner Address: 3003 BUTTERFIELD RD.
Oak Brook, IL 60523
Owner Phone: 630 366-3000
Product: Diesel
Capacity: 1000
Tank Status: Removed from Ground
Constr Material: Asphalt Coated or Bare Steel
Piping Material: Unknown
Piping Type: Not reported
Contact: ANDREA M HARTMAN
Contact Phone: (313) 291-7427
Impressed Device: No
Install Date: 01/01/00
Release Detection:
Tank: Not reported
Pipe: Not reported

Facility ID: 00015971
Tank ID: 2
Owner: Clark Retail Enterprises, Inc.
Owner Address: 3003 BUTTERFIELD RD.
Oak Brook, IL 60523
Owner Phone: 630 366-3000
Product: Gasoline
Capacity: 4000
Tank Status: Removed from Ground
Constr Material: Asphalt Coated or Bare Steel
Piping Material: Galvanized Steel
Piping Type: Not reported
Contact: ANDREA M HARTMAN
Contact Phone: (313) 291-7427
Impressed Device: No
Install Date: 08/16/69
Release Detection:
Tank: Not reported
Pipe: Not reported

Facility ID: 00015971
Tank ID: 3
Owner: Clark Retail Enterprises, Inc.
Owner Address: 3003 BUTTERFIELD RD.
Oak Brook, IL 60523

CLARK STORE #2143 (Continued) **U001148645**

Owner Phone: 630 366-3000
Product: Gasoline
Capacity: 4000
Tank Status: Removed from Ground
Constr Material: Asphalt Coated or Bare Steel
Piping Material: Galvanized Steel
Piping Type: Not reported
Contact: ANDREA M HARTMAN
Contact Phone: (313) 291-7427
Impressed Device: No
Install Date: 08/16/69
Release Detection:
Tank: Not reported
Pipe: Not reported

Facility ID: 00015971
Tank ID: 4
Owner: Clark Retail Enterprises, Inc.
Owner Address: 3003 BUTTERFIELD RD.
Oak Brook, IL 60523
Owner Phone: 630 366-3000
Product: Gasoline
Capacity: 10000
Tank Status: Removed from Ground
Constr Material: Asphalt Coated or Bare Steel
Piping Material: Galvanized Steel
Piping Type: Not reported
Contact: ANDREA M HARTMAN
Contact Phone: (313) 291-7427
Impressed Device: No
Install Date: 08/17/86
Release Detection:
Tank: Not reported
Pipe: Not reported

Facility ID: 00015971
Tank ID: 5
Owner: Clark Retail Enterprises, Inc.
Owner Address: 3003 BUTTERFIELD RD.
Oak Brook, IL 60523
Owner Phone: 630 366-3000
Product: Gasoline
Capacity: 8000
Tank Status: Removed from Ground
Constr Material: Asphalt Coated or Bare Steel
Piping Material: Galvanized Steel
Piping Type: Not reported
Contact: ANDREA M HARTMAN
Contact Phone: (313) 291-7427
Impressed Device: No
Install Date: 08/17/86
Release Detection:
Tank: Not reported
Pipe: Not reported

Facility ID: 00015971
Tank ID: 6

CLARK STORE #2143 (Continued) **U001148645**

Owner: Clark Retail Enterprises, Inc.
Owner Address: 3003 BUTTERFIELD RD.
Oak Brook, IL 60523
Owner Phone: 630 366-3000
Product: Kerosene
Capacity: 4000
Tank Status: Removed from Ground
Constr Material: Asphalt Coated or Bare Steel
Piping Material: Galvanized Steel
Piping Type: Not reported
Contact: ANDREA M HARTMAN
Contact Phone: (313) 291-7427
Impressed Device: No
Install Date: 08/17/86
Release Detection:
Tank: Not reported
Pipe: Not reported

Facility ID: 00015971
Tank ID: 7
Owner: Clark Retail Enterprises, Inc.
Owner Address: 3003 BUTTERFIELD RD.
Oak Brook, IL 60523
Owner Phone: 630 366-3000
Product: Gasoline
Capacity: 12000
Tank Status: Currently in Use
Constr Material: Cathodically Protected Steel,STI-3
Piping Material: Double Walled,Fiberglass reinforced plastic
Piping Type: Pressure
Contact: ANDREA M HARTMAN
Contact Phone: (313) 291-7427
Impressed Device: No
Install Date: 09/01/88
Release Detection:
Tank: Automatic Tank Gauging
Pipe: Automatic Line Leak Detectors,Line Tightness Testing

Facility ID: 00015971
Tank ID: 8
Owner: Clark Retail Enterprises, Inc.
Owner Address: 3003 BUTTERFIELD RD.
Oak Brook, IL 60523
Owner Phone: 630 366-3000
Product: Used Oil
Capacity: 750
Tank Status: Removed from Ground
Constr Material: Asphalt Coated or Bare Steel
Piping Material: Bare Steel
Piping Type: Not reported
Contact: ANDREA M HARTMAN
Contact Phone: (313) 291-7427
Impressed Device: No
Install Date: 01/01/00
Release Detection:
Tank: Not reported
Pipe: Not reported

CLARK STORE #2143 (Continued) **U001148645**

Facility ID: 00015971
Tank ID: 9
Owner: Clark Retail Enterprises, Inc.
Owner Address: 3003 BUTTERFIELD RD.
Oak Brook, IL 60523
Owner Phone: 630 366-3000
Product: Gasoline
Capacity: 750
Tank Status: Removed from Ground
Constr Material: Asphalt Coated or Bare Steel
Piping Material: Bare Steel
Piping Type: Not reported
Contact: ANDREA M HARTMAN
Contact Phone: (313) 291-7427
Impressed Device: No
Install Date: 01/01/00
Release Detection:
Tank: Not reported
Pipe: Not reported

D18
SE
1/8-1/4
1140 ft.
Higher

HOP IN FOOD STORES — **RCRIS-SQG** **1000529645**
204 S MAIN — **FINDS** **MID985621143**
PLAINWELL, MI 49080

Site 3 of 3 in cluster D

RCRIS:
Owner: SILCORP LTD
(313) 663-9320
EPA ID: MID985621143
Contact: FRANK KAZALEH
(313) 663-9320
Classification: Small Quantity Generator
Used Oil Recyc: No
TSDF Activities: Not reported
Violation Status: No violations found

FINDS:
Other Pertinent Environmental Activity Identified at Site:
Facility Registry System (FRS)
Resource Conservation and Recovery Act Information system (RCRAINFO)

19
WNW
1/4-1/2
2291 ft.
Higher

PIPP COMMUNITY HOSPITAL — **LUST** **U000249214**
411 NAOMI ST — **UST** **N/A**
PLAINWELL, MI 49080 — **BEA**

LUST:
Facility ID: 00008469
Release Number: C-0791-96
Release Date: 11/28/95
Facility Status: Closed
District: Kalamazoo District Office
Closed Date: Apr 13 1998

PIPP COMMUNITY HOSPITAL (Continued) **U000249214**

BEA:
Petition Disclosure: 1
BEA Number: 28
District: Kalamazoo
Date Received: 05/16/1996
Submitter Name: Borgess Health Alliance, Inc.
Petition Determination: Denied
Category: Same Hazardous Substance(s)
Determination 20107A: No Request
Reviewer: clarkds
Division Assigned: Storage Tank Division

UST:
Facility ID: 00008469
Tank ID: 1
Owner: Borgess Health Alliance Inc
Owner Address: 1521 Gull Rd
Kalamazoo, MI 49048
Owner Phone: (616) 226-7113
Product: #2 FUEL OIL
Capacity: 10000
Tank Status: Removed from Ground
Constr Material: Asphalt Coated or Bare Steel
Piping Material: COATED STEEL
Piping Type: Not reported
Contact: MS DAWN ROGERS
Contact Phone: (616) 685-6811
Impressed Device: No
Install Date: 04/02/78
Release Detection:
Tank: Not reported
Pipe: Not reported

Facility ID: 00008469
Tank ID: 2
Owner: Borgess Health Alliance Inc
Owner Address: 1521 Gull Rd
Kalamazoo, MI 49048
Owner Phone: (616) 226-7113
Product: Diesel
Capacity: 1000
Tank Status: Removed from Ground
Constr Material: Asphalt Coated or Bare Steel,Cathodically Protected Steel
Piping Material: COPPER
Piping Type: Not reported
Contact: MS DAWN ROGERS
Contact Phone: (616) 685-6811
Impressed Device: No
Install Date: 04/02/85
Release Detection:
Tank: Not reported
Pipe: Not reported

Facility ID: 00008469
Tank ID: 3
Owner: Borgess Health Alliance Inc
Owner Address: 1521 Gull Rd

PIPP COMMUNITY HOSPITAL (Continued) **U000249214**

Kalamazoo, MI 49048
Owner Phone: (616) 226-7113
Product: Gasoline
Capacity: 0
Tank Status: Closed in Ground
Constr Material: Asphalt Coated or Bare Steel
Piping Material: RMVD PLUGGED
Piping Type: Not reported
Contact: MS DAWN ROGERS
Contact Phone: (616) 685-6811
Impressed Device: No
Install Date: 01/01/00
Release Detection:
Tank: Not reported
Pipe: Not reported

Facility ID: 00008469
Tank ID: 4
Owner: Borgess Health Alliance Inc
Owner Address: 1521 Gull Rd
Kalamazoo, MI 49048
Owner Phone: (616) 226-7113
Product: Diesel,Heating Oil
Capacity: 5000
Tank Status: Currently in Use
Constr Material: Composite(Steel w/Fiberglass)
Piping Material: Double Walled,Fiberglass reinforced plastic,Secondary Containment
Piping Type: Suction: No Valve At Tank
Contact: MS DAWN ROGERS
Contact Phone: (616) 685-6811
Impressed Device: No
Install Date: 06/10/91
Release Detection:
Tank: Automatic Tank Gauging,Inter Monitoring Double Walled Tank,Inter Monitoring/Second Containment,Inventory Control,Manual Tank Gauging,Tank Tightness Testing
Pipe: Interstitial Monitoring Double Walled Piping,Interstitial Monitoring/Second Containment

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20 WNW 1/4-1/2 2525 ft. Higher

CLARK STORE #2009
665 ALLEGAN ST
PLAINWELL, MI 49080

LUST U002300582
UST N/A

LUST:
Facility ID: 00012250
Release Number: C-1237-94
Release Date: 11/10/94
Facility Status: Open
District: Kalamazoo District Office
Closed Date: Not reported

UST:
Facility ID: 00012250
Tank ID: 1
Owner: Clark Retail Enterprises, Inc.
Owner Address: 3003 BUTTERFIELD RD.
Oak Brook, IL 60523

CLARK STORE #2009 (Continued) **U002300582**

Owner Phone: 630 366-3000
Product: Gasoline
Capacity: 6000
Tank Status: Removed from Ground
Constr Material: Asphalt Coated or Bare Steel
Piping Material: Fiberglass reinforced plastic
Piping Type: Pressure
Contact: KEN RUONA
Contact Phone: (313) 291-7427
Impressed Device: No
Install Date: 05/02/64
Release Detection:
Tank: Not reported
Pipe: Not reported

Facility ID: 00012250
Tank ID: 2
Owner: Clark Retail Enterprises, Inc.
Owner Address: 3003 BUTTERFIELD RD.
Oak Brook, IL 60523
Owner Phone: 630 366-3000
Product: Gasoline
Capacity: 6000
Tank Status: Removed from Ground
Constr Material: Asphalt Coated or Bare Steel
Piping Material: Fiberglass reinforced plastic
Piping Type: Pressure
Contact: KEN RUONA
Contact Phone: (313) 291-7427
Impressed Device: No
Install Date: 05/02/64
Release Detection:
Tank: Not reported
Pipe: Not reported

Facility ID: 00012250
Tank ID: 3
Owner: Clark Retail Enterprises, Inc.
Owner Address: 3003 BUTTERFIELD RD.
Oak Brook, IL 60523
Owner Phone: 630 366-3000
Product: Gasoline
Capacity: 6000
Tank Status: Removed from Ground
Constr Material: Asphalt Coated or Bare Steel
Piping Material: Fiberglass reinforced plastic
Piping Type: Pressure
Contact: KEN RUONA
Contact Phone: (313) 291-7427
Impressed Device: No
Install Date: 05/02/64
Release Detection:
Tank: Not reported
Pipe: Not reported

Facility ID: 00012250
Tank ID: 4

CLARK STORE #2009 (Continued) **U002300582**

Owner: Clark Retail Enterprises, Inc.
Owner Address: 3003 BUTTERFIELD RD.
Oak Brook, IL 60523
Owner Phone: 630 366-3000
Product: Gasoline
Capacity: 6000
Tank Status: Removed from Ground
Constr Material: Asphalt Coated or Bare Steel
Piping Material: Fiberglass reinforced plastic
Piping Type: Pressure
Contact: KEN RUONA
Contact Phone: (313) 291-7427
Impressed Device: No
Install Date: 05/02/64
Release Detection:
Tank: Not reported
Pipe: Not reported

Facility ID: 00012250
Tank ID: 5
Owner: Clark Retail Enterprises, Inc.
Owner Address: 3003 BUTTERFIELD RD.
Oak Brook, IL 60523
Owner Phone: 630 366-3000
Product: Used Oil
Capacity: 550
Tank Status: Removed from Ground
Constr Material: Asphalt Coated or Bare Steel
Piping Material: Fiberglass reinforced plastic
Piping Type: Not reported
Contact: KEN RUONA
Contact Phone: (313) 291-7427
Impressed Device: No
Install Date: 01/01/00
Release Detection:
Tank: Not reported
Pipe: Not reported

Facility ID: 00012250
Tank ID: 6
Owner: Clark Retail Enterprises, Inc.
Owner Address: 3003 BUTTERFIELD RD.
Oak Brook, IL 60523
Owner Phone: 630 366-3000
Product: Gasoline
Capacity: 12000
Tank Status: Currently in Use
Constr Material: Double Walled,Fiberglass Reinforced plastic
Piping Material: Double Walled,Fiberglass reinforced plastic
Piping Type: Pressure
Contact: KEN RUONA
Contact Phone: (313) 291-7427
Impressed Device: No
Install Date: 03/27/98
Release Detection:
Tank: Automatic Tank Gauging,Inter Monitoring Double Walled Tank
Pipe: Automatic Line Leak Detectors

CLARK STORE #2009 (Continued) **U002300582**

Facility ID: 00012250
Tank ID: 7
Owner: Clark Retail Enterprises, Inc.
Owner Address: 3003 BUTTERFIELD RD.
Oak Brook, IL 60523
Owner Phone: 630 366-3000
Product: Gasoline
Capacity: 12000
Tank Status: Currently in Use
Constr Material: Double Walled,Fiberglass Reinforced plastic
Piping Material: Double Walled,Fiberglass reinforced plastic
Piping Type: Pressure
Contact: KEN RUONA
Contact Phone: (313) 291-7427
Impressed Device: No
Install Date: 03/27/98
Release Detection:
Tank: Inter Monitoring Double Walled Tank
Pipe: Automatic Line Leak Detectors

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21 NNE 1/4-1/2 2566 ft. Higher

PLAINWELL AUTO REPAIR
760 N MAIN ST
PLAINWELL, MI 49080

LUST **U002300584**
UST **N/A**

LUST:
Facility ID: 00004505
Release Number: C-0769-95
Release Date: 06/21/95
Facility Status: Closed
District: Kalamazoo District Office
Closed Date: Jul 14 1997

UST:
Facility ID: 00004505
Tank ID: 1
Owner: Rethard William
Owner Address: 6497 Woodlea Dr
Kalamazoo, MI 49048
Owner Phone: (616) 685-9613
Product: Gasoline,WATER
Capacity: 4000
Tank Status: Removed from Ground
Constr Material: Asphalt Coated or Bare Steel
Piping Material: Unknown
Piping Type: Not reported
Contact: RICHARD KEITH
Contact Phone: (616) 685-2224
Impressed Device: No
Install Date: 04/23/56
Release Detection:
Tank: Not reported
Pipe: Not reported

Facility ID: 00004505
Tank ID: 2
Owner: Rethard William

PLAINWELL AUTO REPAIR (Continued) **U002300584**

Owner Address: 6497 Woodlea Dr
Kalamazoo, MI 49048
Owner Phone: (616) 685-9613
Product: Gasoline
Capacity: 3000
Tank Status: Removed from Ground
Constr Material: Asphalt Coated or Bare Steel
Piping Material: Unknown
Piping Type: Not reported
Contact: RICHARD KEITH
Contact Phone: (616) 685-2224
Impressed Device: No
Install Date: 04/23/56
Release Detection:
Tank: Not reported
Pipe: Not reported

Facility ID: 00004505
Tank ID: 3
Owner: Rethard William
Owner Address: 6497 Woodlea Dr
Kalamazoo, MI 49048
Owner Phone: (616) 685-9613
Product: Gasoline,WATER,]
Capacity: 3000
Tank Status: Removed from Ground
Constr Material: Asphalt Coated or Bare Steel
Piping Material: Unknown
Piping Type: Not reported
Contact: RICHARD KEITH
Contact Phone: (616) 685-2224
Impressed Device: No
Install Date: 04/23/56
Release Detection:
Tank: Not reported
Pipe: Not reported

Facility ID: 00004505
Tank ID: 4
Owner: Rethard William
Owner Address: 6497 Woodlea Dr
Kalamazoo, MI 49048
Owner Phone: (616) 685-9613
Product: FUEL OIL
Capacity: 550
Tank Status: Removed from Ground
Constr Material: Asphalt Coated or Bare Steel
Piping Material: Unknown
Piping Type: Not reported
Contact: RICHARD KEITH
Contact Phone: (616) 685-2224
Impressed Device: No
Install Date: 04/23/56
Release Detection:
Tank: Not reported
Pipe: Not reported

PLAINWELL AUTO REPAIR (Continued) **U002300584**

Facility ID: 00004505
Tank ID: 5
Owner: Rethard William
Owner Address: 6497 Woodlea Dr
Kalamazoo, MI 49048
Owner Phone: (616) 685-9613
Product: Used Oil
Capacity: 500
Tank Status: Removed from Ground
Constr Material: Asphalt Coated or Bare Steel
Piping Material: Bare Steel,Unknown
Piping Type: Gravity Fed?
Contact: RICHARD KEITH
Contact Phone: (616) 685-2224
Impressed Device No
Install Date: 04/23/56
Release Detection:
Tank: Not reported
Pipe: Not reported

E22 East 1/2-1 3201 ft. Higher

A-1 DISPOSAL CORP
400 BROAD ST
PLAINWELL, MI 49080

Site 1 of 3 in cluster E

RCRIS-SQG 1000110867
FINDS MID059695452
RCRIS-TSD
UST
RAATS
CORRACTS
CERC-NFRAP

CERCLIS-NFRAP Classification Data:
Site Incident Category: Not reported
Non NPL Code: NFRAP
Ownership Status: Other
Federal Facility: Not a Federal Facility
NPL Status: Not on the NPL

CERCLIS-NFRAP Assessment History:

Assessment:	DISCOVERY	Completed:	04/01/1979
Assessment:	HRS PACKAGE	Completed:	08/01/1982
Assessment:	PRELIMINARY ASSESSMENT	Completed:	03/18/1985
Assessment:	SITE INSPECTION	Completed:	07/01/1987
Assessment:	ARCHIVE SITE	Completed:	10/10/1991

CERCLIS-NFRAP Alias Name(s):
COMMERICAL PUMPING & INCIN
A-1 DSPL LDFL
A-1 DSPL LDFL

CORRACTS Data:

EPA Id: MID059695452
Region: 5
State: MI
Area Name: ENTIRE FACILITY
Original Scheduled Date: Not reported
New Scheduled Date: 09/25/1985
Actual Date: Not reported
Corrective Action: CA100DC - RFI Imposition , Focused data collection required for stabilization evaluation

EPA Id: MID059695452
Region: 5
State: MI

A-1 DISPOSAL CORP (Continued) **1000110867**

Area Name: ENTIRE FACILITY
Original Scheduled Date: Not reported
New Scheduled Date: 09/30/1993
Actual Date: Not reported
Corrective Action: CA075HI - CA Prioritization, Facility or areawas assigned a high corrective action priority

RCRIS Corrective Action Summary:
Event: CA Prioritization, Facility or area was assigned a high corrective action priority.
Event Date: 09/30/1993

Event: RFI Imposition, Focused data collection required for stabilization evaluation.
Event Date: 09/25/1985

RCRIS:
Owner: RICHARD D SHUMAKER
(616) 685-9801
EPA ID: MID059695452

Contact: BL ROSENBERG
(616) 685-9801

Rank Status: 1
Rank Date: 09/30/1993
Classification: N, TSDF
Used Oil Recyc: No
TSDF Activities: Not reported

Violation Status: Violations exist

Regulation Violated: Not reported
Area of Violation: GENERATOR-ALL REQUIREMENTS (OVERSIGHT)
Date Violation Determined: 09/29/1989
Actual Date Achieved Compliance: 09/29/1989

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 09/29/1989
Penalty Type: Not reported

Regulation Violated: Not reported
Area of Violation: GENERATOR-ALL REQUIREMENTS (OVERSIGHT)
Date Violation Determined: 06/14/1988
Actual Date Achieved Compliance: 09/23/1988

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 06/21/1988
Penalty Type: Not reported

Regulation Violated: Not reported
Area of Violation: GENERATOR-ALL REQUIREMENTS (OVERSIGHT)
Date Violation Determined: 05/11/1987
Actual Date Achieved Compliance: 07/01/1987

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 05/26/1987
Penalty Type: Not reported

Regulation Violated: Not reported
Area of Violation: GENERATOR-ALL REQUIREMENTS (OVERSIGHT)
Date Violation Determined: 01/12/1987
Actual Date Achieved Compliance: 05/11/1987

A-1 DISPOSAL CORP (Continued) **1000110867**

Enforcement Action:	WRITTEN INFORMAL
Enforcement Action Date:	01/21/1987
Penalty Type:	Not reported
Regulation Violated:	Not reported
Area of Violation:	GENERATOR-ALL REQUIREMENTS (OVERSIGHT)
Date Violation Determined:	07/02/1986
Actual Date Achieved Compliance:	01/02/1987
Enforcement Action:	WRITTEN INFORMAL
Enforcement Action Date:	07/17/1986
Penalty Type:	Not reported
Regulation Violated:	Not reported
Area of Violation:	GENERATOR-ALL REQUIREMENTS (OVERSIGHT)
Date Violation Determined:	03/04/1986
Actual Date Achieved Compliance:	01/12/1987
Enforcement Action:	WRITTEN INFORMAL
Enforcement Action Date:	03/10/1986
Penalty Type:	Not reported
Enforcement Action:	WRITTEN INFORMAL
Enforcement Action Date:	07/17/1986
Penalty Type:	Not reported
Regulation Violated:	Not reported
Area of Violation:	GENERATOR-ALL REQUIREMENTS (OVERSIGHT)
Date Violation Determined:	12/10/1985
Actual Date Achieved Compliance:	01/02/1987
Enforcement Action:	WRITTEN INFORMAL
Enforcement Action Date:	01/06/1986
Penalty Type:	Not reported
Regulation Violated:	Not reported
Area of Violation:	GENERATOR-ALL REQUIREMENTS (OVERSIGHT)
Date Violation Determined:	03/13/1985
Actual Date Achieved Compliance:	01/02/1987
Enforcement Action:	WRITTEN INFORMAL
Enforcement Action Date:	01/06/1986
Penalty Type:	Not reported
Regulation Violated:	Not reported
Area of Violation:	GENERATOR-ALL REQUIREMENTS (OVERSIGHT)
Date Violation Determined:	02/15/1985
Actual Date Achieved Compliance:	01/02/1987
Enforcement Action:	WRITTEN INFORMAL
Enforcement Action Date:	01/06/1986
Penalty Type:	Not reported
Regulation Violated:	Not reported
Area of Violation:	GENERATOR-ALL REQUIREMENTS (OVERSIGHT)
Date Violation Determined:	01/31/1985
Actual Date Achieved Compliance:	12/10/1985
Enforcement Action:	WRITTEN INFORMAL
Enforcement Action Date:	03/18/1985
Penalty Type:	Final Monetary Penalty
Enforcement Action:	INITIAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date:	05/30/1985

A-1 DISPOSAL CORP (Continued) **1000110867**

Penalty Type: Final Monetary Penalty

Enforcement Action: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date: 12/10/1985
Penalty Type: Final Monetary Penalty

Regulation Violated: Not reported
Area of Violation: GENERATOR-ALL REQUIREMENTS (OVERSIGHT)
Date Violation Determined: 01/31/1985
Actual Date Achieved Compliance: 12/10/1985

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 03/18/1985
Penalty Type: Final Monetary Penalty

Enforcement Action: INITIAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date: 05/30/1985
Penalty Type: Final Monetary Penalty

Enforcement Action: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date: 12/10/1985
Penalty Type: Final Monetary Penalty

There are 11 violation record(s) reported at this site:

Evaluation	Area of Violation	Date of Compliance
Compliance Evaluation Inspection	GENERATOR-ALL REQUIREMENTS (OVERSIGHT)	19890929
Compliance Evaluation Inspection	GENERATOR-ALL REQUIREMENTS (OVERSIGHT)	19880923
Compliance Evaluation Inspection	GENERATOR-ALL REQUIREMENTS (OVERSIGHT)	19870701
Compliance Evaluation Inspection	GENERATOR-ALL REQUIREMENTS (OVERSIGHT)	19870511
Compliance Evaluation Inspection	GENERATOR-ALL REQUIREMENTS (OVERSIGHT)	19870102
Compliance Evaluation Inspection	GENERATOR-ALL REQUIREMENTS (OVERSIGHT)	19870112
Compliance Evaluation Inspection	GENERATOR-ALL REQUIREMENTS (OVERSIGHT)	19870102
Compliance Evaluation Inspection	GENERATOR-ALL REQUIREMENTS (OVERSIGHT)	19870102
Compliance Evaluation Inspection	GENERATOR-ALL REQUIREMENTS (OVERSIGHT)	19870102
Compliance Evaluation Inspection	GENERATOR-ALL REQUIREMENTS (OVERSIGHT)	19851210
	GENERATOR-ALL REQUIREMENTS (OVERSIGHT)	19851210

NY MANIFEST
Additional detail is available in NY MANIFEST. Please contact your EDR Account Executive for more information.

FINDS:
Other Pertinent Environmental Activity Identified at Site:
AIRS Facility System (AIRS/AFS)
Facility Registry System (FRS)
Resource Conservation and Recovery Act Information system (RCRAINFO)

UST:
Facility ID: 00035809
Tank ID: 1
Owner: MDNR - Office Of Property Management
Owner Address: PO Box 30448
Lansing, MI 48909
Owner Phone: (517) 335-3262
Product: Heating Oil
Capacity: 6000
Tank Status: Removed from Ground
Constr Material: Asphalt Coated or Bare Steel
Piping Material: Bare Steel
Piping Type: Not reported
Contact: JEFF SPRUIT

A-1 DISPOSAL CORP (Continued) **1000110867**

Contact Phone: (616) 685-9886
Impressed Device No
Install Date: 01/01/00
Release Detection:
Tank: Not reported
Pipe: Not reported

Facility ID: 00035809
Tank ID: 2
Owner: MDNR - Office Of Property Management
Owner Address: PO Box 30448
Lansing, MI 48909
Owner Phone: (517) 335-3262
Product: Heating Oil
Capacity: 6000
Tank Status: Removed from Ground
Constr Material: Asphalt Coated or Bare Steel
Piping Material: Bare Steel
Piping Type: Not reported
Contact: JEFF SPRUIT
Contact Phone: (616) 685-9886
Impressed Device No
Install Date: 01/01/00
Release Detection:
Tank: Not reported
Pipe: Not reported

E23
East
1/2-1
3201 ft.
Higher

A 1 DISPOSAL CORP PLAINWELL **SHWS** **S105143807**
400 BROAD STREET **N/A**
PLAINWELL, MI 49080

Site 2 of 3 in cluster E

SHWS:
Facility ID: 03000002
Facility Status: Active
Source: Haz Waste Facility
Pollutant(s): Lead Arsenic Cadmium, Hg 1,1,1 TCA PCE, null
SAM Score: 41
SAM Score Date: 1991-01-16 00:00:00.
Township: 01N
Range: 11W
Section: 29
Quarter: N
Quarter/Quarter: N

E24
East
1/2-1
3205 ft.
Higher

DRUG AND LABORATORY DISPOSAL INC **PADS** **1000231423**
331 BROAD ST **FINDS** **MID092947928**
PLAINWELL, MI 49080 **RCRIS-LQG**
RCRIS-TSD
Site 3 of 3 in cluster E **CORRACTS**
CERC-NFRAP

DRUG AND LABORATORY DISPOSAL INC (Continued) **1000231423**

CERCLIS-NFRAP Classification Data:

Site Incident Category:	Not reported	Federal Facility:	Not a Federal Facility
Non NPL Code:	NFRAP		
Ownership Status:	Unknown	NPL Status:	Not on the NPL

CERCLIS-NFRAP Assessment History:

Assessment:	DISCOVERY	Completed:	01/15/1988
Assessment:	ARCHIVE SITE	Completed:	01/06/1989
Assessment:	PRELIMINARY ASSESSMENT	Completed:	01/06/1989

CORRACTS Data:

EPA Id:	MID092947928
Region:	5
State:	MI
Area Name:	ENTIRE FACILITY
Original Scheduled Date:	Not reported
New Scheduled Date:	02/05/1986
Actual Date:	Not reported
Corrective Action:	CA100DC - RFI Imposition , Focused data collection required for stabilization evaluation

EPA Id:	MID092947928
Region:	5
State:	MI
Area Name:	ENTIRE FACILITY
Original Scheduled Date:	Not reported
New Scheduled Date:	08/11/1999
Actual Date:	Not reported
Corrective Action:	CA100DC - RFI Imposition , Focused data collection required for stabilization evaluation

EPA Id:	MID092947928
Region:	5
State:	MI
Area Name:	GROUNDWATER
Original Scheduled Date:	Not reported
New Scheduled Date:	08/11/1999
Actual Date:	Not reported
Corrective Action:	CA100DC - RFI Imposition , Focused data collection required for stabilization evaluation

EPA Id:	MID092947928
Region:	5
State:	MI
Area Name:	GROUNDWATER
Original Scheduled Date:	Not reported
New Scheduled Date:	02/05/1986
Actual Date:	Not reported
Corrective Action:	CA100DC - RFI Imposition , Focused data collection required for stabilization evaluation

EPA Id:	MID092947928
Region:	5
State:	MI
Area Name:	GROUNDWATER
Original Scheduled Date:	Not reported
New Scheduled Date:	03/27/1996

DRUG AND LABORATORY DISPOSAL INC (Continued) **1000231423**

Actual Date: Not reported
Corrective Action: CA600GW - Stabilization Measures Implemented , Groundwater extraction and treatment

The CORRACTS database contains 5 additional records for this site.
Please contact your EDR Account Executive for more information.

RCRIS Corrective Action Summary:

Event: RFI Imposition, Focused data collection required for stabilization evaluation.
Event Date: 08/11/1999

Event: Stabilization Measures Implemented, Groundwater extraction and treatment (e.g., to achieve groundwater containment, to achieve MCL).
Event Date: 03/27/1996

Event: Current Human Exposures under Control, Yes, Current Human Exposures Under Control has been verified. Based on a review of information contained in the EI determination, current human exposures are expected to be under control at the facility under current and reasonably expected conditions. This determination will be re-evaluated when the Agency/State becomes aware of significant changes at the facility.
Event Date: 03/27/1996

Event: Stabilization Construction Completed
Event Date: 03/27/1996

Event: Igration of Contaminated Groundwater under Control, Yes, Migration of Contaminated Groundwater Under Control has been verified. Based on a review of information contained in the EI determination, it has been determined that migration of contaminated groundwater is under control at the facility. Specifically, this determination indicates that the migration of contaminated groundwater is under control, and that monitoring will be conducted to confirm that contaminated groundwater remains within the existing area of contaminated groundwater. This determination will be re-evaluated when the Agency becomes aware of significant changes at the facility.
Event Date: 03/27/1996

Event: CA Prioritization, Facility or area was assigned a medium corrective action priority.
Event Date: 12/29/1992

Event: RFI Imposition, Focused data collection required for stabilization evaluation.
Event Date: 02/05/1986

Event: RFI Approved
Event Date: 02/05/1986

DRUG AND LABORATORY DISPOSAL INC (Continued) **1000231423**

RCRIS:
Owner: NAME NOT REPORTED
(312) 555-1212
EPA ID: MID092947928
Contact: WARD WALTER
(616) 685-9824
Rank Status: 2
Rank Date: 12/31/1992
Classification: Handler transports wastes for hire, N, Handler transports wastes, but commercial status is unknown, Large Quantity Generator, TSDF
Used Oil Recyc: No
TSDF Activities: Not reported

BIENNIAL REPORTS:
Last Biennial Reporting Year: 1999

Waste	Quantity (Lbs)	Waste	Quantity (Lbs)
D001	1343457.00	D002	66600.00
D003	100.00	D004	1415708.00
D005	1165035.00	D006	1438494.00
D007	1503084.00	D008	1469609.00
D009	1270084.00	D010	152628.00
D011	938158.00	D017	50.00
D018	1352180.00	D019	853180.00
D020	153720.00	D021	5000.00
D022	852780.00	D035	1287221.00
D038	800330.00	F001	1277188.00
F002	1410058.00	F003	1356687.00
F004	1400.00	F005	1384667.00
LABP	16101.00	U037	1000.00
U044	500.00	U073	100.00
U080	500.00	U112	500.00
U117	1400.00	U154	39780.00
U211	600.00	U213	1000.00
U220	1000.00	U239	500.00

Violation Status: Violations exist

Regulation Violated: Not reported
Area of Violation: Transporter-manifest/record keeping requirements
Date Violation Determined: 12/14/1998
Actual Date Achieved Compliance: 02/01/1999

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 12/14/1998
Penalty Type: Not reported

Regulation Violated: Not reported
Area of Violation: GENERATOR-LAND BAN REQUIREMENTS
Date Violation Determined: 03/25/1998
Actual Date Achieved Compliance: 03/30/1998

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 03/16/1998
Penalty Type: Not reported

Regulation Violated: Not reported
Area of Violation: TSD-CONTAINERS REQUIREMENTS
Date Violation Determined: 03/18/1996
Actual Date Achieved Compliance: 04/05/1996

DRUG AND LABORATORY DISPOSAL INC (Continued) **1000231423**

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 03/18/1996
Penalty Type: Not reported

Regulation Violated: Not reported
Area of Violation: TSD-PREPAREDNESS/PREVENTION REQUIREMENTS
Date Violation Determined: 03/18/1996
Actual Date Achieved Compliance: 04/05/1996

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 03/18/1996
Penalty Type: Not reported

Regulation Violated: Not reported
Area of Violation: TSD-FINANCIAL RESPONSIBILITY REQUIREMENTS
Date Violation Determined: 05/25/1994
Actual Date Achieved Compliance: 07/11/1994

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 05/25/1994
Penalty Type: Not reported

Regulation Violated: Not reported
Area of Violation: TSD-OTHER REQUIREMENTS
Date Violation Determined: 12/14/1993
Actual Date Achieved Compliance: 01/06/1994

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 12/16/1993
Penalty Type: Not reported

Regulation Violated: Not reported
Area of Violation: TSD-OTHER REQUIREMENTS
Date Violation Determined: 10/12/1992
Actual Date Achieved Compliance: 12/29/1992

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 10/12/1992
Penalty Type: Not reported

Regulation Violated: Not reported
Area of Violation: GENERATOR-LAND BAN REQUIREMENTS
Date Violation Determined: 06/30/1992
Actual Date Achieved Compliance: 08/06/1992

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 06/30/1992
Penalty Type: Not reported

Regulation Violated: Not reported
Area of Violation: TSD-OTHER REQUIREMENTS
Date Violation Determined: 03/17/1992
Actual Date Achieved Compliance: 04/14/1992

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 03/17/1992
Penalty Type: Not reported

Regulation Violated: Not reported
Area of Violation: TSD-OTHER REQUIREMENTS
Date Violation Determined: 01/07/1992
Actual Date Achieved Compliance: 04/14/1992

Enforcement Action: WRITTEN INFORMAL

DRUG AND LABORATORY DISPOSAL INC (Continued) **1000231423**

Enforcement Action Date: 01/07/1992
Penalty Type: Not reported

Regulation Violated: Not reported
Area of Violation: TSD-LAND BAN REQUIREMENTS
Date Violation Determined: 01/07/1992
Actual Date Achieved Compliance: 04/14/1992

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 01/07/1992
Penalty Type: Not reported

Regulation Violated: Not reported
Area of Violation: TSD-FINANCIAL RESPONSIBILITY REQUIREMENTS
Date Violation Determined: 09/27/1991
Actual Date Achieved Compliance: 04/14/1992

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 09/30/1991
Penalty Type: Not reported

Regulation Violated: Not reported
Area of Violation: TSD-OTHER REQUIREMENTS
Date Violation Determined: 09/25/1991
Actual Date Achieved Compliance: 04/14/1992

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 10/02/1991
Penalty Type: Not reported

Regulation Violated: Not reported
Area of Violation: TSD-OTHER REQUIREMENTS (OVERSIGHT)
Date Violation Determined: 05/01/1991
Actual Date Achieved Compliance: 06/05/1991

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 05/07/1991
Penalty Type: Not reported

Regulation Violated: Not reported
Area of Violation: TSD-GOUNDWATER MONITORING REQUIREMENTS
Date Violation Determined: 04/18/1991
Actual Date Achieved Compliance: 07/11/1991

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 04/18/1991
Penalty Type: Not reported

Regulation Violated: Not reported
Area of Violation: TSD-OTHER REQUIREMENTS (OVERSIGHT)
Date Violation Determined: 03/28/1991
Actual Date Achieved Compliance: 05/02/1991

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 04/08/1991
Penalty Type: Not reported

Regulation Violated: Not reported
Area of Violation: TSD-FINANCIAL RESPONSIBILITY REQUIREMENTS
Date Violation Determined: 09/21/1990
Actual Date Achieved Compliance: 02/11/1991

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 09/21/1990

DRUG AND LABORATORY DISPOSAL INC (Continued) **1000231423**

Penalty Type:	Not reported
Regulation Violated:	Not reported
Area of Violation:	TSD-OTHER REQUIREMENTS (OVERSIGHT)
Date Violation Determined:	12/01/1989
Actual Date Achieved Compliance:	01/22/1991
Enforcement Action:	WRITTEN INFORMAL
Enforcement Action Date:	12/05/1989
Penalty Type:	Not reported
Regulation Violated:	Not reported
Area of Violation:	GENERATOR-LAND BAN REQUIREMENTS
Date Violation Determined:	05/01/1989
Actual Date Achieved Compliance:	10/03/1989
Enforcement Action:	WRITTEN INFORMAL
Enforcement Action Date:	05/18/1989
Penalty Type:	Not reported
Regulation Violated:	Not reported
Area of Violation:	TSD-LAND BAN REQUIREMENTS
Date Violation Determined:	05/01/1989
Actual Date Achieved Compliance:	10/03/1989
Enforcement Action:	WRITTEN INFORMAL
Enforcement Action Date:	05/18/1989
Penalty Type:	Not reported
Regulation Violated:	Not reported
Area of Violation:	TSD-LAND BAN REQUIREMENTS
Date Violation Determined:	09/25/1987
Actual Date Achieved Compliance:	01/12/1988
Enforcement Action:	WRITTEN INFORMAL
Enforcement Action Date:	09/28/1987
Penalty Type:	Not reported
Regulation Violated:	Not reported
Area of Violation:	TSD-OTHER REQUIREMENTS
Date Violation Determined:	03/18/1987
Actual Date Achieved Compliance:	04/15/1987
Enforcement Action:	WRITTEN INFORMAL
Enforcement Action Date:	04/10/1987
Penalty Type:	Not reported
Regulation Violated:	Not reported
Area of Violation:	TSD-OTHER REQUIREMENTS
Date Violation Determined:	07/22/1986
Actual Date Achieved Compliance:	10/03/1986
Enforcement Action:	WRITTEN INFORMAL
Enforcement Action Date:	08/13/1986
Penalty Type:	Not reported

DRUG AND LABORATORY DISPOSAL INC (Continued) **1000231423**

There are 23 violation record(s) reported at this site:

Evaluation	Area of Violation	Date of Compliance
Compliance Evaluation Inspection	Transporter-manifest/record keeping requirements	19990201
Compliance Evaluation Inspection	GENERATOR-LAND BAN REQUIREMENTS	19980330
Compliance Evaluation Inspection	TSD-CONTAINERS REQUIREMENTS	19960405
	TSD-PREPAREDNESS/PREVENTION REQUIREMENTS	19960405
Financial Record Review	TSD-FINANCIAL RESPONSIBILITY REQUIREMENTS	19940711
Compliance Evaluation Inspection	TSD-OTHER REQUIREMENTS	19940106
Compliance Evaluation Inspection	TSD-OTHER REQUIREMENTS	19921229
Compliance Evaluation Inspection	GENERATOR-LAND BAN REQUIREMENTS	19920806
Compliance Evaluation Inspection	TSD-OTHER REQUIREMENTS	19920414
Compliance Evaluation Inspection	TSD-OTHER REQUIREMENTS	19920414
	TSD-LAND BAN REQUIREMENTS	19920414
Financial Record Review	TSD-FINANCIAL RESPONSIBILITY REQUIREMENTS	19920414
Compliance Evaluation Inspection	TSD-OTHER REQUIREMENTS	19920414
Other Evaluation	TSD-OTHER REQUIREMENTS (OVERSIGHT)	19910605
Non-Financial Record Review	TSD-GOUNDWATER MONITORING REQUIREMENTS	19910711
Compliance Evaluation Inspection	TSD-OTHER REQUIREMENTS (OVERSIGHT)	19910502
Financial Record Review	TSD-FINANCIAL RESPONSIBILITY REQUIREMENTS	19910211
Compliance Evaluation Inspection	TSD-OTHER REQUIREMENTS (OVERSIGHT)	19910122
Compliance Evaluation Inspection	GENERATOR-LAND BAN REQUIREMENTS	19891003
	TSD-LAND BAN REQUIREMENTS	19891003
Compliance Evaluation Inspection	TSD-LAND BAN REQUIREMENTS	19880112
Compliance Evaluation Inspection	TSD-OTHER REQUIREMENTS	19870415
Compliance Evaluation Inspection	TSD-OTHER REQUIREMENTS	19861003

NY MANIFEST
Additional detail is available in NY MANIFEST. Please contact your EDR Account Executive for more information.
CT MANIFEST
Additional detail is available in CT MANIFEST. Please contact your EDR Account Executive for more information.

FINDS:
Other Pertinent Environmental Activity Identified at Site:
AIRS Facility System (AIRS/AFS)
Biennial Reporting System (BRS)
Facility Registry System (FRS)
National Compliance Database (NCDB)
Resource Conservation and Recovery Act Information system (RCRAINFO)
Toxic Chemical Release Inventory System (TRIS)

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25 East 1/2-1 3817 ft. Higher **KEWAUNEE SCIENTIFIC EQUIP**
100-322 ACORN
PLAINWELL, MI 49080

RCRIS-SQG **1000160092**
SHWS **MID020887485**
FINDS
CERC-NFRAP

CERCLIS-NFRAP Classification Data:
Site Incident Category: Not reported
Non NPL Code: NFRAP
Ownership Status: Other
Federal Facility: Not a Federal Facility
NPL Status: Not on the NPL

CERCLIS-NFRAP Assessment History:

Assessment:	DISCOVERY	Completed:	01/08/1980
Assessment:	PRELIMINARY ASSESSMENT	Completed:	06/28/1985
Assessment:	SITE INSPECTION	Completed:	09/18/1990
Assessment:	INTEGRATED ASSESSMENT	Completed:	09/30/1994
Assessment:	SITE INSPECTION	Completed:	09/30/1994

KEWAUNEE SCIENTIFIC EQUIP (Continued) **1000160092**

Assessment: ARCHIVE SITE Completed: 09/30/1994

RCRIS:
Owner: NAME NOT REPORTED
(312) 555-1212
EPA ID: MID020887485

Contact: MYRON SAYLES
(616) 685-6831

Classification: Small Quantity Generator
Used Oil Recyc: No
TSDF Activities: Not reported

Violation Status: No violations found

FINDS:
Other Pertinent Environmental Activity Identified at Site:
Facility Registry System (FRS)
Resource Conservation and Recovery Act Information system (RCRAINFO)

SHWS:
Facility ID: 03000014
Facility Status: No Action Taken
Source: Metal processing
Pollutant(s): Trichloroethane, Chromium Arsenic, Nickel Zinc
SAM Score: 40
SAM Score Date: 1990-09-07 00:00:00.
Township: 01N
Range: 11W
Section: 29
Quarter: N
Quarter/Quarter: S

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26 South 1/2-1 3877 ft. Higher

BLOOMFIELD RES WELL
1052 BLOOMFIELD
PLAINWELL, MI 49080

SHWS **S105143812**
N/A

SHWS:
Facility ID: 03000052
Facility Status: Active
Source: Unknown
Pollutant(s): 1,1 DCA, PCE, 1,4 DCB 1,1,1 TCA
SAM Score: 27
SAM Score Date: 1990-10-23 00:00:00.
Township: 01N
Range: 11W
Section: 31
Quarter: N
Quarter/Quarter: N

---

27 ENE 1/2-1 4933 ft. Higher

NEO-TECH (IST)
939 INDUSTRIAL PARKWAY
PLAINWELL, MI 49080

CERCLIS **1000139834**
RCRIS-SQG **46506NRGBR12**
SHWS
FINDS
TRIS
BEA

NEO-TECH (IST) (Continued) **1000139834**

CERCLIS Classification Data:
Site Incident Category: Not reported Federal Facility: Not a Federal Facility
Non NPL Status: Removal Only Site (No Site Assessment Work Needed)
Ownership Status: Unknown NPL Status: Not on the NPL
Site Description: THE SITE IS AN ABANDONED ELECTROLESS PLATING FACILITY. NE0-TECH (IST) WAS EVICTED FROM THE PROPERTY IN AUGUST 1992.THE SITE IS AN ABANDONED ELECTROLESS PLATING FACILITY. NE0-TECH (IST) WAS EVICTED FROM THE PROPERTY IN AUGUST 1992.

CERCLIS Alias Name(s):
INTERNATIONAL SHIELDING
TECHNOLOGIES (IST)

RCRIS:
Owner: PLEMMONS JAMES T AND MINNING ROBERT C
(312) 555-1212
EPA ID: MID980903009

Contact: JAMES PLEMMONS
(616) 685-9543

Classification: Small Quantity Generator
Used Oil Recyc: No
TSDF Activities: Not reported

Violation Status: Violations exist

Regulation Violated: Not reported
Area of Violation: GENERATOR-OTHER REQUIREMENTS
Date Violation Determined: 03/17/1992
Actual Date Achieved Compliance: 03/29/1993

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 03/17/1992
Penalty Type: Not reported

Regulation Violated: Not reported
Area of Violation: GENERATOR-LAND BAN REQUIREMENTS
Date Violation Determined: 03/17/1992
Actual Date Achieved Compliance: 03/29/1993

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 03/17/1992
Penalty Type: Not reported

Regulation Violated: Not reported
Area of Violation: GENERATOR-ALL REQUIREMENTS (OVERSIGHT)
Date Violation Determined: 04/23/1991
Actual Date Achieved Compliance: 03/29/1993

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 04/25/1991
Penalty Type: Not reported

Regulation Violated: Not reported
Area of Violation: GENERATOR-ALL REQUIREMENTS (OVERSIGHT)
Date Violation Determined: 04/23/1991
Actual Date Achieved Compliance: 03/29/1993

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 04/25/1991
Penalty Type: Not reported

Regulation Violated: Not reported

NEO-TECH (IST) (Continued) **1000139834**

Area of Violation: GENERATOR-ALL REQUIREMENTS (OVERSIGHT)
Date Violation Determined: 05/26/1988
Actual Date Achieved Compliance: 01/09/1989

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 06/06/1988
Penalty Type: Not reported

Regulation Violated: Not reported
Area of Violation: GENERATOR-LAND BAN REQUIREMENTS
Date Violation Determined: 05/26/1988
Actual Date Achieved Compliance: 01/09/1989

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 06/06/1988
Penalty Type: Not reported

There are 6 violation record(s) reported at this site:

Evaluation	Area of Violation	Date of Compliance
Compliance Evaluation Inspection	GENERATOR-OTHER REQUIREMENTS	19930329
	GENERATOR-LAND BAN REQUIREMENTS	19930329
Compliance Evaluation Inspection	GENERATOR-ALL REQUIREMENTS (OVERSIGHT)	19930329
	GENERATOR-ALL REQUIREMENTS (OVERSIGHT)	19930329
Compliance Evaluation Inspection	GENERATOR-ALL REQUIREMENTS (OVERSIGHT)	19890109
	GENERATOR-LAND BAN REQUIREMENTS	19890109

FINDS:
Other Pertinent Environmental Activity Identified at Site:
Comperhensive Environmental Response, Compensation and Liability Information System (CERCLIS)
Facility Registry System (FRS)
Resource Conservation and Recovery Act Information system (RCRAINFO)

SHWS:
Facility ID: 03000202
Facility Status: Active
Source: Plating & Polishing
Pollutant(s): Nickel, Chromium, null
SAM Score: 27
SAM Score Date: 1997-09-18 00:00:00.
Township: 01N
Range: 11W
Section: 29
Quarter: N
Quarter/Quarter: N

BEA:
Petition Disclosure: 0
BEA Number: 40
District: Kalamazoo
Date Received: 09/27/1996
Submitter Name: Mapco, Inc.
Petition Determination: No Request
Category: No Hazardous Substance(s)
Determination 20107A: No Request
Reviewer: temppm
Division Assigned: Environmental Response Division

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
OTSEGO TWP	1000828954	PLAINWELL INC	N END OF 12TH ST	49080	RCRIS-SQG, FINDS
PLAINWELL	S103086075	GUN PLAIN TOWNSHIP LANDFILL	103RD AVENUE	49080	SHWS
PLAINWELL	S103595120	ACORN ST INDUSTRIAL PARK	ACORN STREET	49080	SHWS
PLAINWELL	1000237898	MIDOT MAINT DIV PLAINWELL	106 ST AT US-131	49080	RCRIS-SQG, FINDS
PLAINWELL	S103085928	CHURCH & ALLEGAN	CHURCH AND ALLEGAN ROADS	49080	SHWS
PLAINWELL	1003871566	PLAINWELL MUN WELL #2	CORNER OF M89 & DOUGLAS	49080	CERC-NFRAP
PLAINWELL	S103085912	HUGHES ENGRAVING	DOUGLAS AVENUE	49080	SHWS
PLAINWELL	1004531883	PLAINWELL WWTP	129 FAIRLANE	49080	FINDS
PLAINWELL	S103085926	JERSEY STREET PLAINWELL	JERSEY STREET	49080	SHWS
PLAINWELL	S103085916	SECTION 25 GUN PLAIN TOWNSHIP	LAKE DOSTER DR	49080	SHWS
PLAINWELL	S103595121	CONRAIL-PLAINWELL	PLAINWELL RAILROAD YARD	49080	SHWS
WAYLAND TWP	S103595136	SUNRISE LF	132ND ST	49080	SHWS

EPA Waste Codes Addendum

Code	Description
D001	IGNITABLE HAZARDOUS WASTES ARE THOSE WASTES WHICH HAVE A FLASHPOINT OF LESS THAN 140 DEGREES FAHRENHEIT AS DETERMINED BY A PENSKY-MARTENS CLOSED CUP FLASH POINT TESTER. ANOTHER METHOD OF DETERMINING THE FLASH POINT OF A WASTE IS TO REVIEW THE MATERIAL SAFETY DATA SHEET, WHICH CAN BE OBTAINED FROM THE MANUFACTURER OR DISTRIBUTOR OF THE MATERIAL. LACQUER THINNER IS AN EXAMPLE OF A COMMONLY USED SOLVENT WHICH WOULD BE CONSIDERED AS IGNITABLE HAZARDOUS WASTE.
D002	A WASTE WHICH HAS A PH OF LESS THAN 2 OR GREATER THAN 12.5 IS CONSIDERED TO BE A CORROSIVE HAZARDOUS WASTE. SODIUM HYDROXIDE, A CAUSTIC SOLUTION WITH A HIGH PH, IS OFTEN USED BY INDUSTRIES TO CLEAN OR DEGREASE PARTS. HYDROCHLORIC ACID, A SOLUTION WITH A LOW PH, IS USED BY MANY INDUSTRIES TO CLEAN METAL PARTS PRIOR TO PAINTING. WHEN THESE CAUSTIC OR ACID SOLUTIONS BECOME CONTAMINATED AND MUST BE DISPOSED, THE WASTE WOULD BE A CORROSIVE HAZARDOUS WASTE.
D003	A MATERIAL IS CONSIDERED TO BE A REACTIVE HAZARDOUS WASTE IF IT IS NORMALLY UNSTABLE, REACTS VIOLENTLY WITH WATER, GENERATES TOXIC GASES WHEN EXPOSED TO WATER OR CORROSIVE MATERIALS, OR IF IT IS CAPABLE OF DETONATION OR EXPLOSION WHEN EXPOSED TO HEAT OR A FLAME. ONE EXAMPLE OF SUCH WASTE WOULD BY WASTE GUNPOWDER.
D004	ARSENIC
D005	BARIUM
D006	CADMIUM
D007	CHROMIUM
D008	LEAD
D009	MERCURY
D010	SELENIUM
D011	SILVER
D017	2,4,5-TP (SILVEX)
D018	BENZENE
D019	CARBON TETRACHLORIDE
D020	CHLORDANE
D021	CHLOROBENZENE
D022	CHLOROFORM
D035	METHYL ETHYL KETONE

EPA Waste Codes Addendum

Code	Description
D038	PYRIDINE
F001	THE FOLLOWING SPENT HALOGENATED SOLVENTS USED IN DEGREASING: TETRACHLOROETHYLENE, TRICHLOROETHYLENE, METHYLENE CHLORIDE, 1,1,1-TRICHLOROETHANE, CARBON TETRACHLORIDE, AND CHLORINATED FLUOROCARBONS; ALL SPENT SOLVENT MIXTURES/BLENDS USED IN DEGREASING CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F002, F004, AND F005, AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.
F002	THE FOLLOWING SPENT HALOGENATED SOLVENTS: TETRACHLOROETHYLENE, METHYLENE CHLORIDE, TRICHLOROETHYLENE, 1,1,1-TRICHLOROETHANE, CHLOROBENZENE, 1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE, ORTHO-DICHLOROBENZENE, TRICHLOROFLUOROMETHANE, AND 1,1,2-TRICHLOROETHANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE LISTED IN F001, F004, OR F005, AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.
F003	THE FOLLOWING SPENT NON-HALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NON-HALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NON-HALOGENATED SOLVENTS, AND, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005, AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.
F004	THE FOLLOWING SPENT NON-HALOGENATED SOLVENTS: CRESOLS AND CRESYLIC ACID, AND NITROBENZENE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NON-HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.
F005	THE FOLLOWING SPENT NON-HALOGENATED SOLVENTS: TOLUENE, METHYL ETHYL KETONE, CARBON DISULFIDE, ISOBUTANOL, PYRIDINE, BENZENE, 2-ETHOXYETHANOL, AND 2-NITROPROPANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NON-HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, OR F004; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.
U037	BENZENE, CHLORO-
U037	CHLOROBENZENE
U044	CHLOROFORM
U044	METHANE, TRICHLORO-
U073	[1,1'-BIPHENYL]-4,4'-DIAMINE, 3,3'-DICHLORO-

EPA Waste Codes Addendum

Code	Description
U073	3,3'-DICHLOROBENZIDINE
U080	METHANE, DICHLORO-
U080	METHYLENE CHLORIDE
U112	ACETIC ACID ETHYL ESTER (I)
U112	ETHYL ACETATE (I)
U117	ETHANE, 1,1'-OXYBIS-(I)
U117	ETHYL ETHER (I)
U154	METHANOL (I)
U154	METHYL ALCOHOL (I)
U211	CARBON TETRACHLORIDE
U211	METHANE, TETRACHLORO-
U213	FURAN, TETRAHYDRO-(I)
U213	TETRAHYDROFURAN (I)
U220	BENZENE, METHYL-
U220	TOLUENE
U239	BENZENE, DIMETHYL- (I,T)
U239	XYLENE (I)

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Elapsed ASTM days: Provides confirmation that this EDR report meets or exceeds the 90-day updating requirement of the ASTM standard.

FEDERAL ASTM STANDARD RECORDS

NPL: National Priority List
Source: EPA
Telephone: N/A
National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 01/29/03
Date Made Active at EDR: 03/04/03
Database Release Frequency: Semi-Annually
Date of Data Arrival at EDR: 02/04/03
Elapsed ASTM days: 28
Date of Last EDR Contact: 02/04/03

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 3
Telephone 215-814-5418

EPA Region 4
Telephone 404-562-8033

EPA Region 6
Telephone: 214-655-6659

EPA Region 8
Telephone: 303-312-6774

Proposed NPL: Proposed National Priority List Sites
Source: EPA
Telephone: N/A

Date of Government Version: 01/29/03
Date Made Active at EDR: 03/04/03
Database Release Frequency: Semi-Annually
Date of Data Arrival at EDR: 02/04/03
Elapsed ASTM days: 28
Date of Last EDR Contact: 02/04/03

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System
Source: EPA
Telephone: 703-413-0223
CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 12/13/02
Date Made Active at EDR: 01/15/03
Database Release Frequency: Quarterly
Date of Data Arrival at EDR: 12/26/02
Elapsed ASTM days: 20
Date of Last EDR Contact: 12/26/02

CERCLIS-NFRAP: CERCLIS No Further Remedial Action Planned
Source: EPA
Telephone: 703-413-0223
As of February 1995, CERCLIS sites designated "No Further Remedial Action Planned" (NFRAP) have been removed from CERCLIS. NFRAP sites may be sites where, following an initial investigation, no contamination was found, contamination was removed quickly without the need for the site to be placed on the NPL, or the contamination was not serious enough to require Federal Superfund action or NPL consideration. EPA has removed approximately 25,000 NFRAP sites to lift the unintended barriers to the redevelopment of these properties and has archived them as historical records so EPA does not needlessly repeat the investigations in the future. This policy change is part of the EPA's Brownfields Redevelopment Program to help cities, states, private investors and affected citizens to promote economic redevelopment of unproductive urban sites.

Date of Government Version: 12/13/02
Date Made Active at EDR: 01/15/03
Database Release Frequency: Quarterly

Date of Data Arrival at EDR: 12/26/02
Elapsed ASTM days: 20
Date of Last EDR Contact: 12/26/02

CORRACTS: Corrective Action Report
Source: EPA
Telephone: 800-424-9346
CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 01/15/03
Date Made Active at EDR: 03/04/03
Database Release Frequency: Semi-Annually

Date of Data Arrival at EDR: 01/21/03
Elapsed ASTM days: 42
Date of Last EDR Contact: 12/09/02

RCRIS: Resource Conservation and Recovery Information System
Source: EPA/NTIS
Telephone: 800-424-9346
Resource Conservation and Recovery Information System. RCRIS includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA).

Date of Government Version: 09/09/02
Date Made Active at EDR: 10/28/02
Database Release Frequency: Varies

Date of Data Arrival at EDR: 09/24/02
Elapsed ASTM days: 34
Date of Last EDR Contact: 12/26/02

ERNS: Emergency Response Notification System
Source: National Response Center, United States Coast Guard
Telephone: 202-260-2342
Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 12/31/01
Date Made Active at EDR: 07/15/02
Database Release Frequency: Annually

Date of Data Arrival at EDR: 07/02/02
Elapsed ASTM days: 13
Date of Last EDR Contact: 01/27/03

FEDERAL ASTM SUPPLEMENTAL RECORDS

BRS: Biennial Reporting System
Source: EPA/NTIS
Telephone: 800-424-9346
The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/99
Database Release Frequency: Biennially

Date of Last EDR Contact: 12/17/02
Date of Next Scheduled EDR Contact: 03/17/03

CONSENT: Superfund (CERCLA) Consent Decrees
Source: EPA Regional Offices
Telephone: Varies
Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: N/A
Database Release Frequency: Varies

Date of Last EDR Contact: N/A
Date of Next Scheduled EDR Contact: N/A

ROD: Records Of Decision
Source: EPA
Telephone: 703-416-0223
Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 01/09/03
Database Release Frequency: Annually

Date of Last EDR Contact: 01/07/03
Date of Next Scheduled EDR Contact: 04/07/03

DELISTED NPL: National Priority List Deletions
Source: EPA
Telephone: N/A
The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 01/29/03
Database Release Frequency: Quarterly

Date of Last EDR Contact: 02/04/03
Date of Next Scheduled EDR Contact: 05/05/03

FINDS: Facility Index System/Facility Identification Initiative Program Summary Report
Source: EPA
Telephone: N/A
Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 01/14/03
Database Release Frequency: Quarterly

Date of Last EDR Contact: 01/06/03
Date of Next Scheduled EDR Contact: 04/07/03

HMIRS: Hazardous Materials Information Reporting System
Source: U.S. Department of Transportation
Telephone: 202-366-4555
Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 11/30/02
Database Release Frequency: Annually

Date of Last EDR Contact: 01/23/03
Date of Next Scheduled EDR Contact: 04/21/03

MLTS: Material Licensing Tracking System
Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 01/16/03
Database Release Frequency: Quarterly

Date of Last EDR Contact: 01/06/03
Date of Next Scheduled EDR Contact: 04/07/03

MINES: Mines Master Index File
Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959

Date of Government Version: 09/10/02
Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 01/03/03
Date of Next Scheduled EDR Contact: 03/31/03

NPL LIENS: Federal Superfund Liens
Source: EPA
Telephone: 205-564-4267
Federal Superfund Liens. Under the authority granted the USEPA by the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner receives notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/91
Database Release Frequency: No Update Planned
Date of Last EDR Contact: 02/27/03
Date of Next Scheduled EDR Contact: 05/26/03

PADS: PCB Activity Database System
Source: EPA
Telephone: 202-564-3887
PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 09/20/02
Database Release Frequency: Annually
Date of Last EDR Contact: 02/10/03
Date of Next Scheduled EDR Contact: 05/12/03

RAATS: RCRA Administrative Action Tracking System
Source: EPA
Telephone: 202-564-4104
RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/95
Database Release Frequency: No Update Planned
Date of Last EDR Contact: 12/10/02
Date of Next Scheduled EDR Contact: 03/10/03

TRIS: Toxic Chemical Release Inventory System
Source: EPA
Telephone: 202-260-1531
Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/00
Database Release Frequency: Annually
Date of Last EDR Contact: 12/26/02
Date of Next Scheduled EDR Contact: 03/24/03

TSCA: Toxic Substances Control Act
Source: EPA
Telephone: 202-260-5521
Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/98
Database Release Frequency: Every 4 Years
Date of Last EDR Contact: 12/10/02
Date of Next Scheduled EDR Contact: 03/10/03

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
Source: EPA
Telephone: 202-564-2501

Date of Government Version: 10/24/02
Database Release Frequency: Quarterly
Date of Last EDR Contact: 12/26/02
Date of Next Scheduled EDR Contact: 03/24/03

SSTS: Section 7 Tracking Systems
Source: EPA
Telephone: 202-564-5008
Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/00
Database Release Frequency: Annually
Date of Last EDR Contact: 01/21/03
Date of Next Scheduled EDR Contact: 04/21/03

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-564-2501
FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 10/24/02
Database Release Frequency: Quarterly
Date of Last EDR Contact: 12/26/02
Date of Next Scheduled EDR Contact: 03/24/03

STATE OF MICHIGAN ASTM STANDARD RECORDS

SHWS: Contaminated Sites
Source: Department of Environmental Quality
Telephone: 517-373-9541
State Hazardous Waste Sites. State hazardous waste site records are the states' equivalent to CERCLIS. These sites may or may not already be listed on the federal CERCLIS list. Priority sites planned for cleanup using state funds (state equivalent of Superfund) are identified along with sites where cleanup will be paid for by potentially responsible parties. Available information varies by state.

Date of Government Version: 02/21/03
Date Made Active at EDR: 03/10/03
Database Release Frequency: Semi-Annually
Date of Data Arrival at EDR: 02/24/03
Elapsed ASTM days: 14
Date of Last EDR Contact: 02/24/03

SWF/LF: Solid Waste Facilities Database
Source: Department of Environmental Quality
Telephone: 517-335-4035
Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 05/07/02
Date Made Active at EDR: 06/07/02
Database Release Frequency: Semi-Annually
Date of Data Arrival at EDR: 05/14/02
Elapsed ASTM days: 24
Date of Last EDR Contact: 01/27/03

LUST: Leaking Underground Storage Tank Sites
Source: Department of Environmental Quality
Telephone: 517-373-8168
Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state.

Date of Government Version: 12/01/02
Date Made Active at EDR: 01/16/03
Database Release Frequency: Annually
Date of Data Arrival at EDR: 12/17/02
Elapsed ASTM days: 30
Date of Last EDR Contact: 12/17/02

UST: Underground Storage Tank Facility List
Source: Department of Environmental Quality
Telephone: 517-373-8168
Registered Underground Storage Tanks. UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

Date of Government Version: 01/02/03
Date Made Active at EDR: 01/16/03
Database Release Frequency: Annually
Date of Data Arrival at EDR: 01/02/03
Elapsed ASTM days: 14
Date of Last EDR Contact: 12/17/02

BEA: BASELINE ENVIRONMENTAL ASSESSMENT DATABASE
Source: DEPT. OF ENVIRONMENTAL QUALITY
Telephone: 517-373-9541

Date of Government Version: 09/18/02
Date Made Active at EDR: 10/04/02
Database Release Frequency: Semi-Annually

Date of Data Arrival at EDR: 09/18/02
Elapsed ASTM days: 16
Date of Last EDR Contact: 12/16/02

INDIAN UST: Underground Storage Tanks on Indian Land
Source: EPA Region 5
Telephone: 312-886-6136

Date of Government Version: 11/01/02
Date Made Active at EDR: 12/04/02
Database Release Frequency: Varies

Date of Data Arrival at EDR: 11/12/02
Elapsed ASTM days: 22
Date of Last EDR Contact: 02/25/03

HIST LF: Inactive Solid Waste Facilities
Source: Department of Environmental Quality
Telephone: 517-335-4034
The database contains historical information and is no longer updated.

Date of Government Version: 03/01/97
Date Made Active at EDR: 03/06/03
Database Release Frequency: No Update Planned

Date of Data Arrival at EDR: 02/28/03
Elapsed ASTM days: 6
Date of Last EDR Contact: 02/28/03

STATE OF MICHIGAN ASTM SUPPLEMENTAL RECORDS

AST: Aboveground Tanks
Source: Department of Environmental Quality
Telephone: 517-373-8168
Registered Aboveground Storage Tanks.

Date of Government Version: 01/03/03
Database Release Frequency: No Update Planned

Date of Last EDR Contact: 12/16/02
Date of Next Scheduled EDR Contact: 03/17/03

EDR PROPRIETARY HISTORICAL DATABASES

Former Manufactured Gas (Coal Gas) Sites: The existence and location of Coal Gas sites is provided exclusively to EDR by Real Property Scan, Inc. ©Copyright 1993 Real Property Scan, Inc. For a technical description of the types of hazards which may be found at such sites, contact your EDR customer service representative.

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OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 1999 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 from the U.S. Fish and Wildlife Service.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

STREET AND ADDRESS INFORMATION

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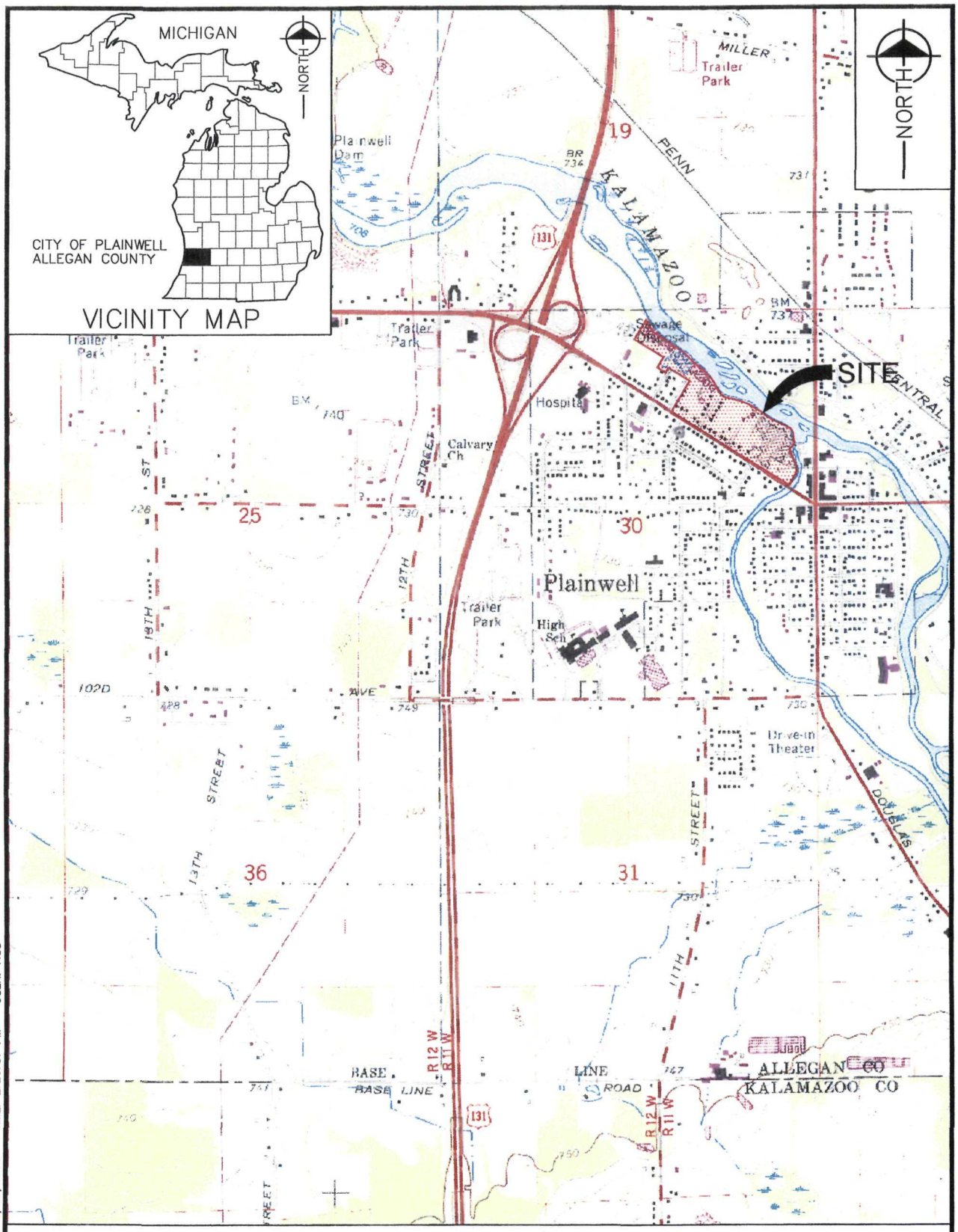


0 2000 4000

Scale: 1" = 2000'

REFERENCE:
OTSEGO NE, MI
QUADRANGLE 7.5 MINUTE
SERIES DATED: 1967
PHOTOREVISED: 1973

USGS TOPOGRAPHIC MAP

PLOT INFO: N:\01248 \USGS.DWG DATE: 4/25/2003 TIME: 2:26:07 PM USER: ACS

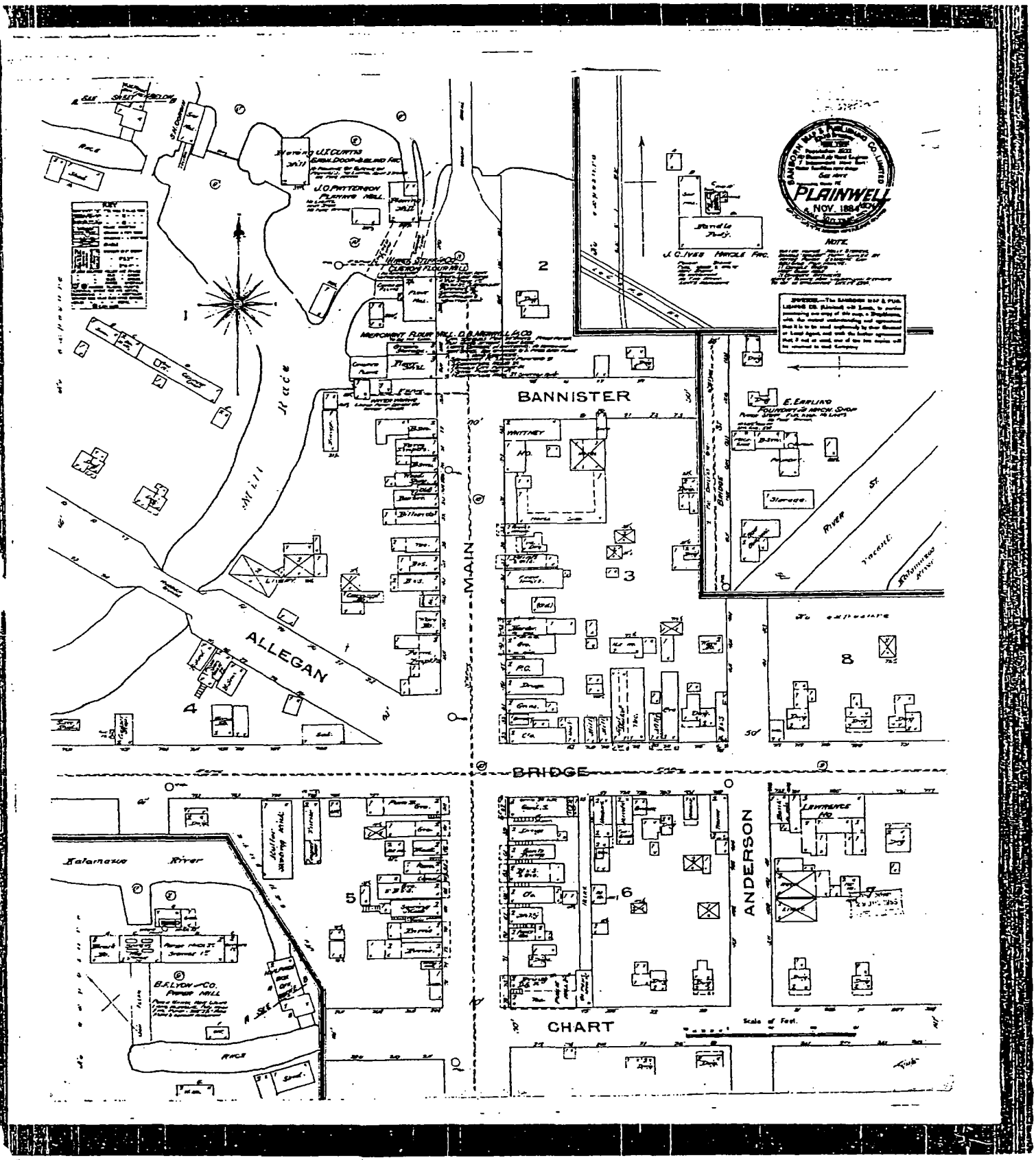
Fishbeck, Thompson, Carr & Huber
Engineers • Scientists • Architects
Kalamazoo, Michigan

Plainwell Paper
Plainwell, Michigan

Phase I Environmental Site Assessment

PROJECT NO.
G02579

APPENDIX
16.8



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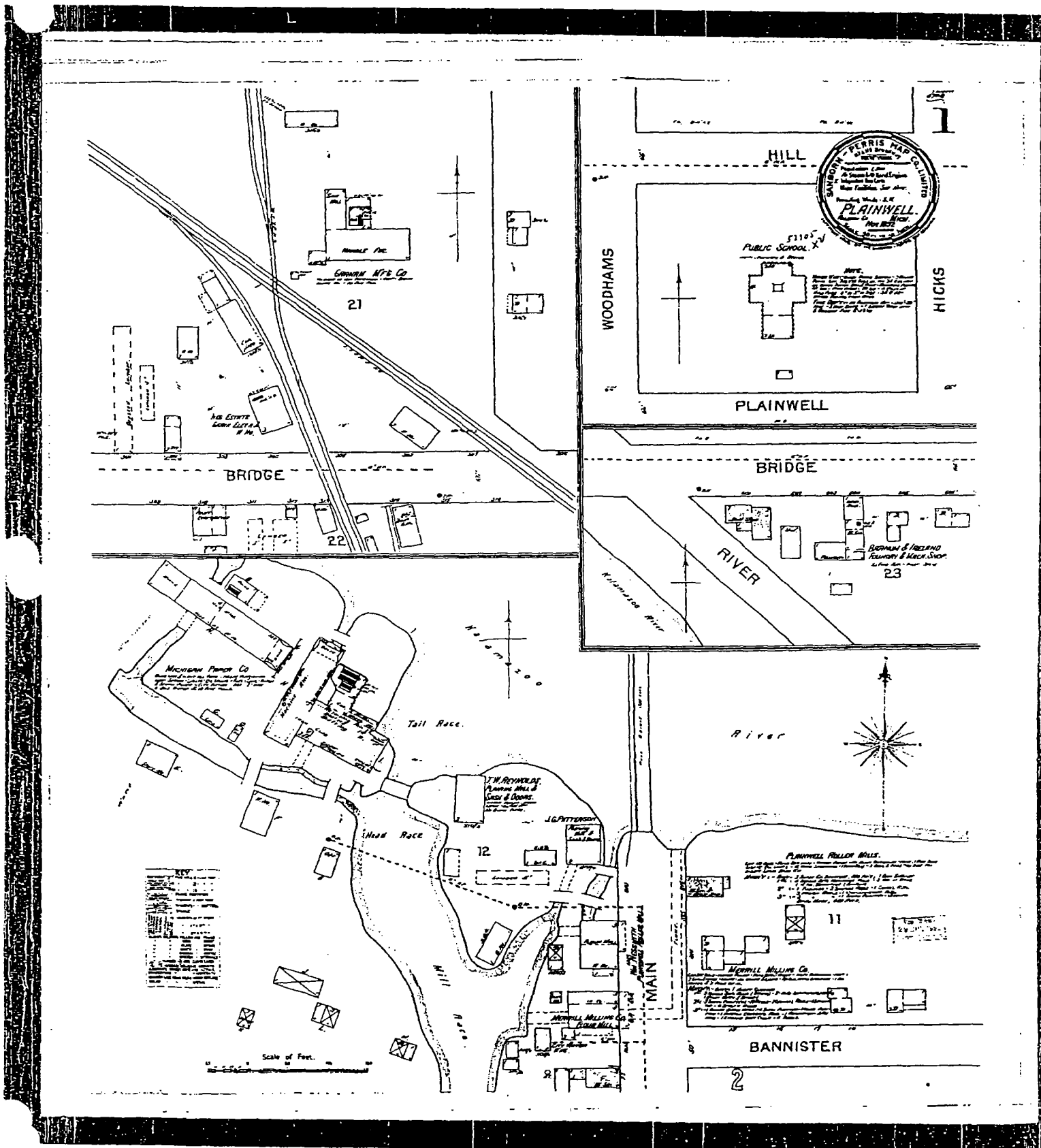

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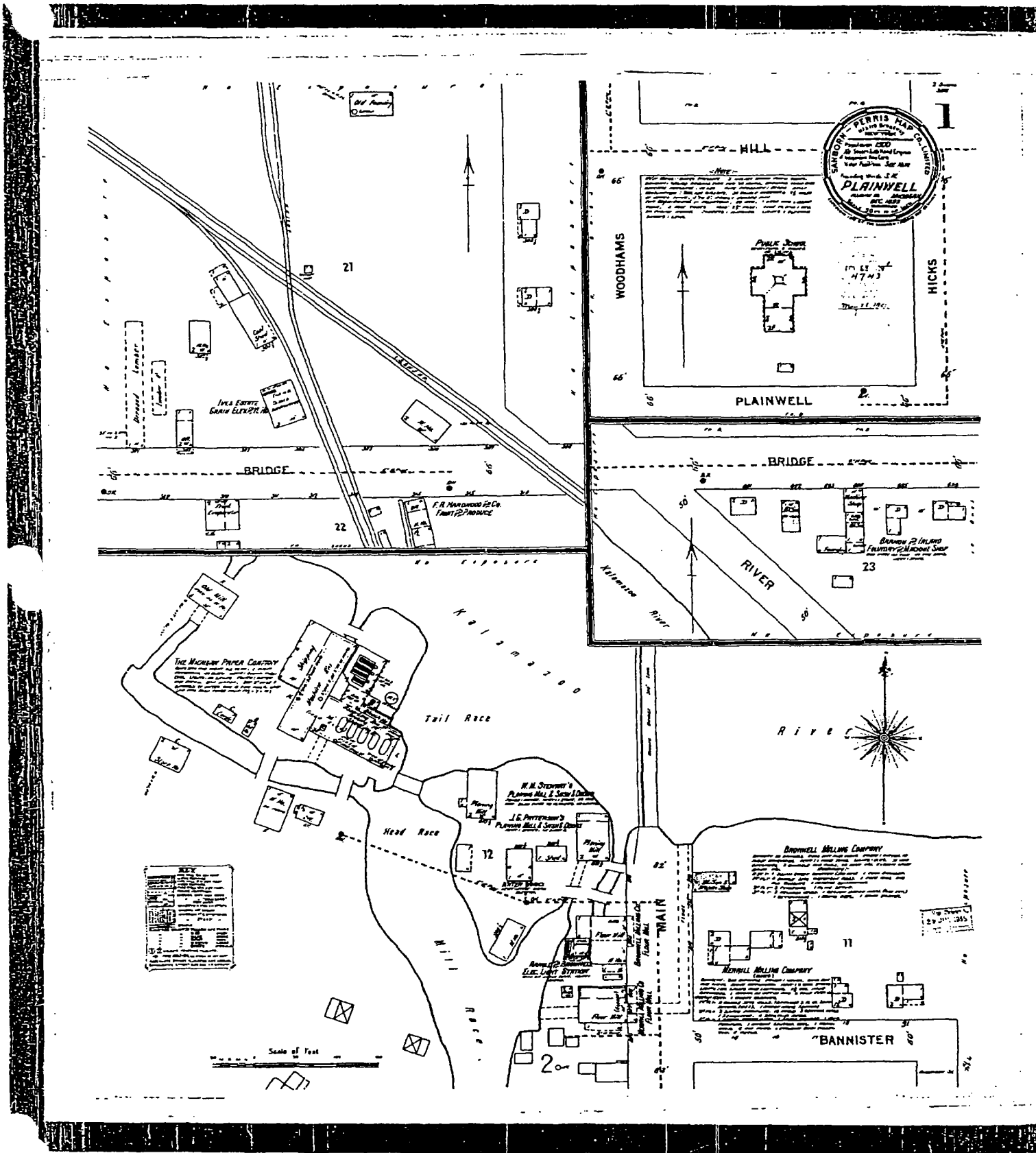

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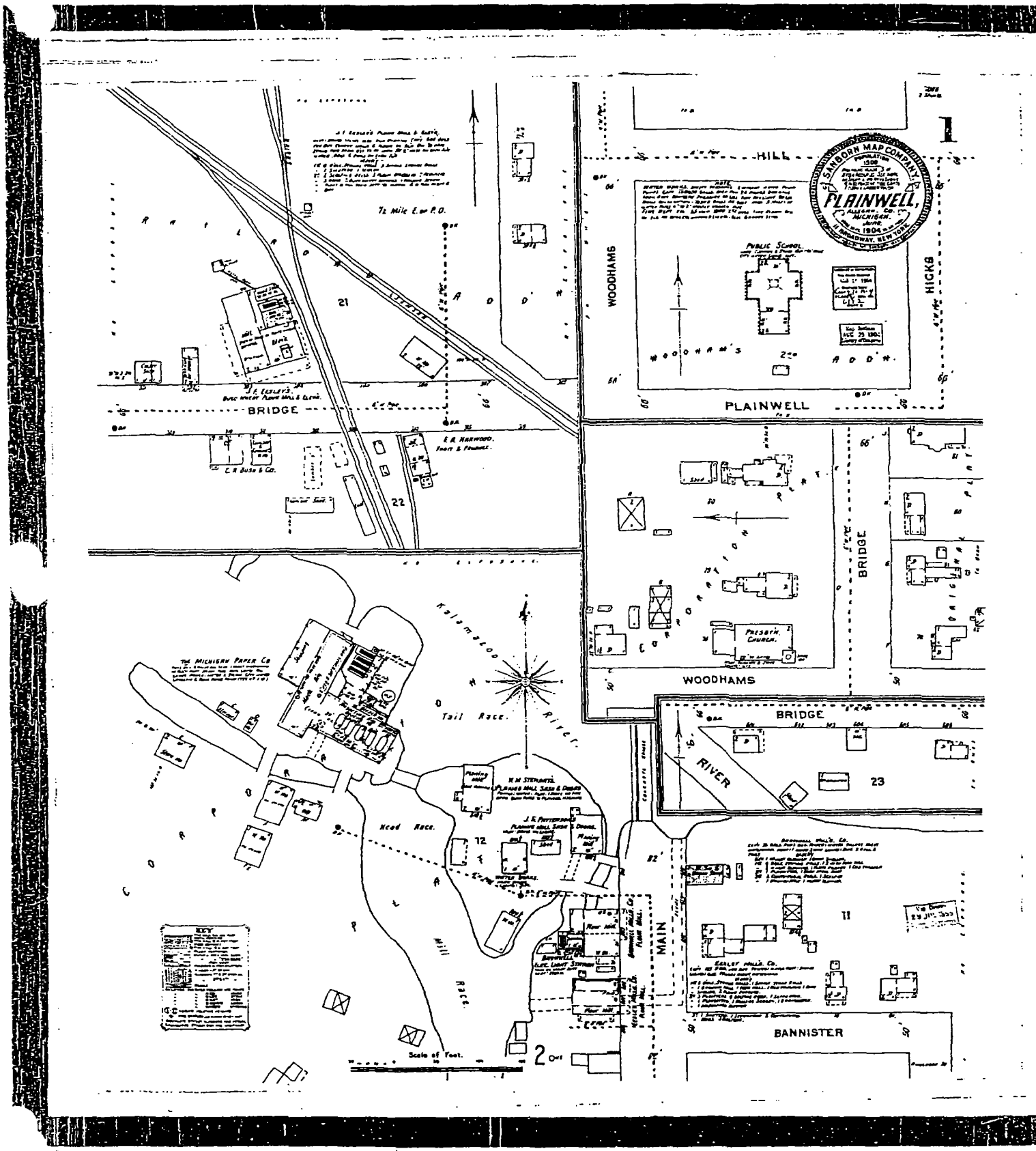

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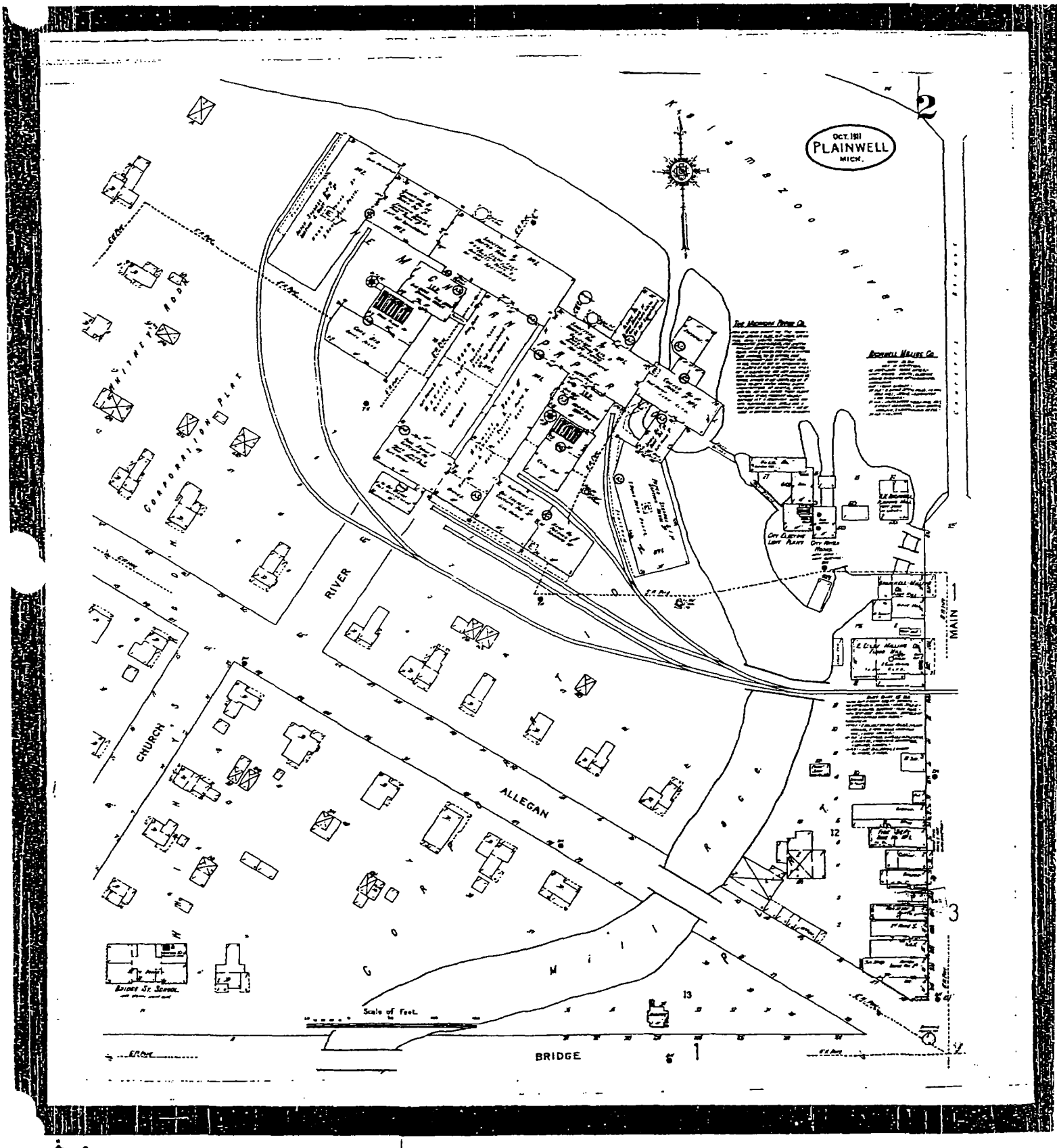

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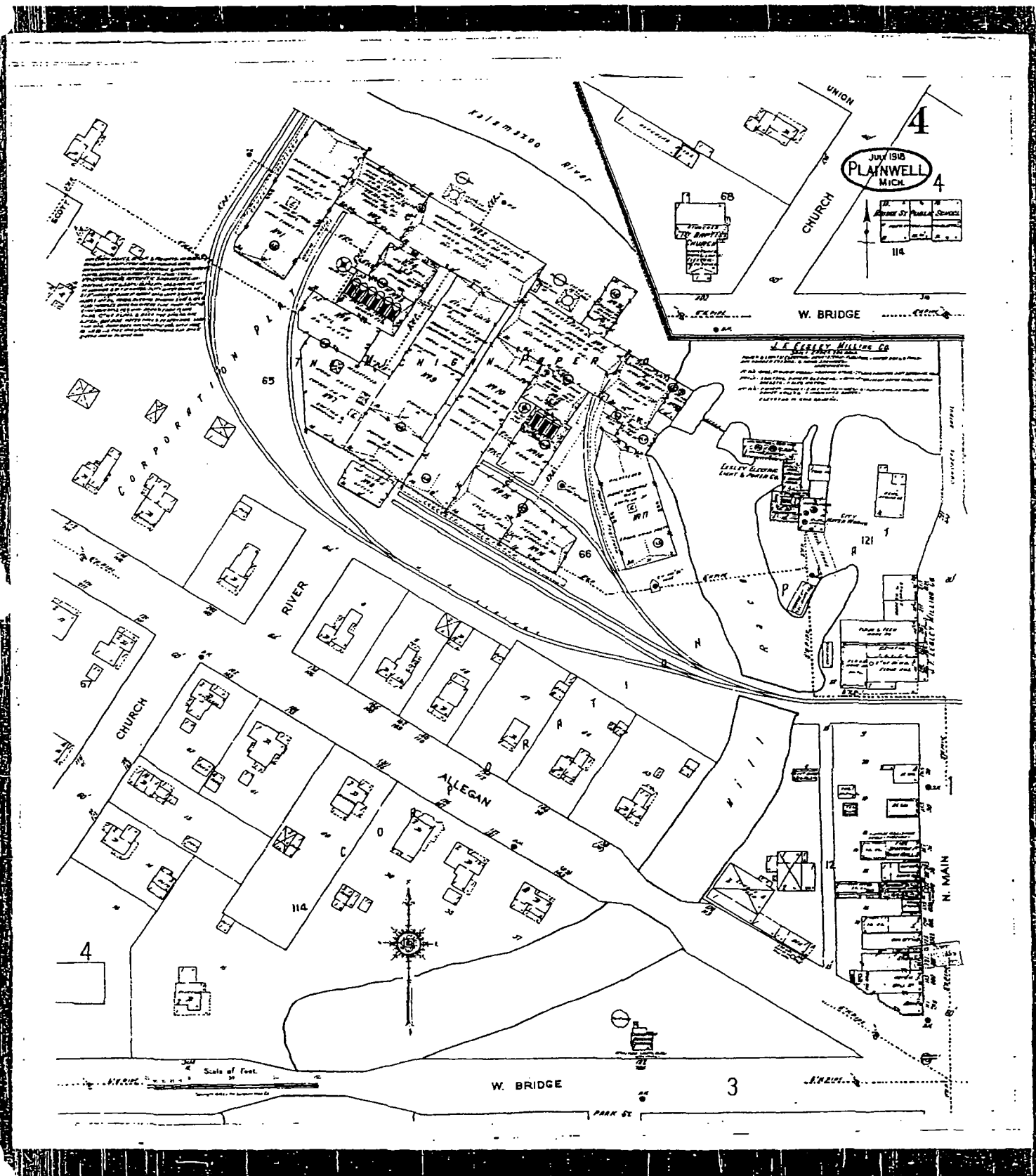

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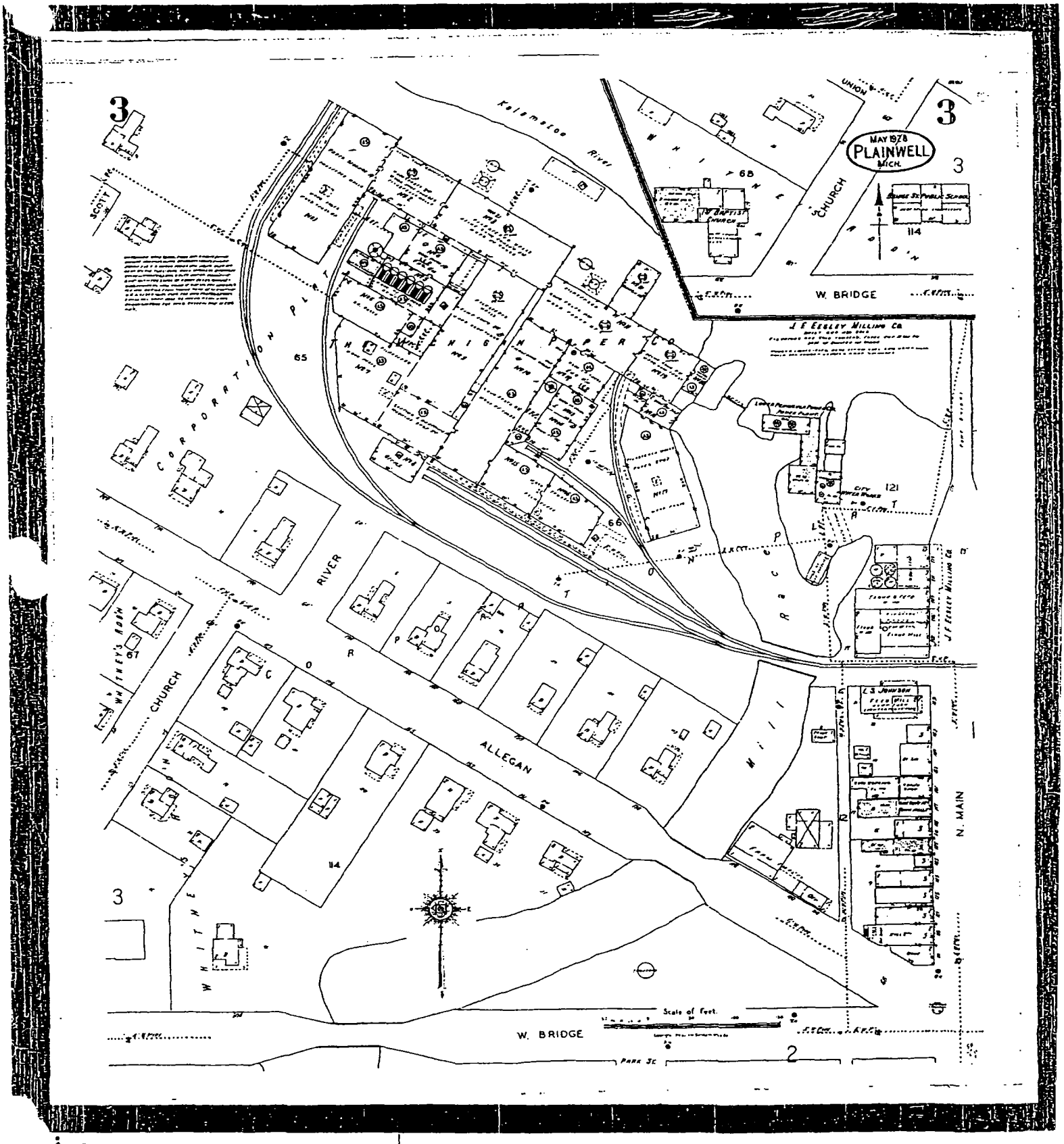

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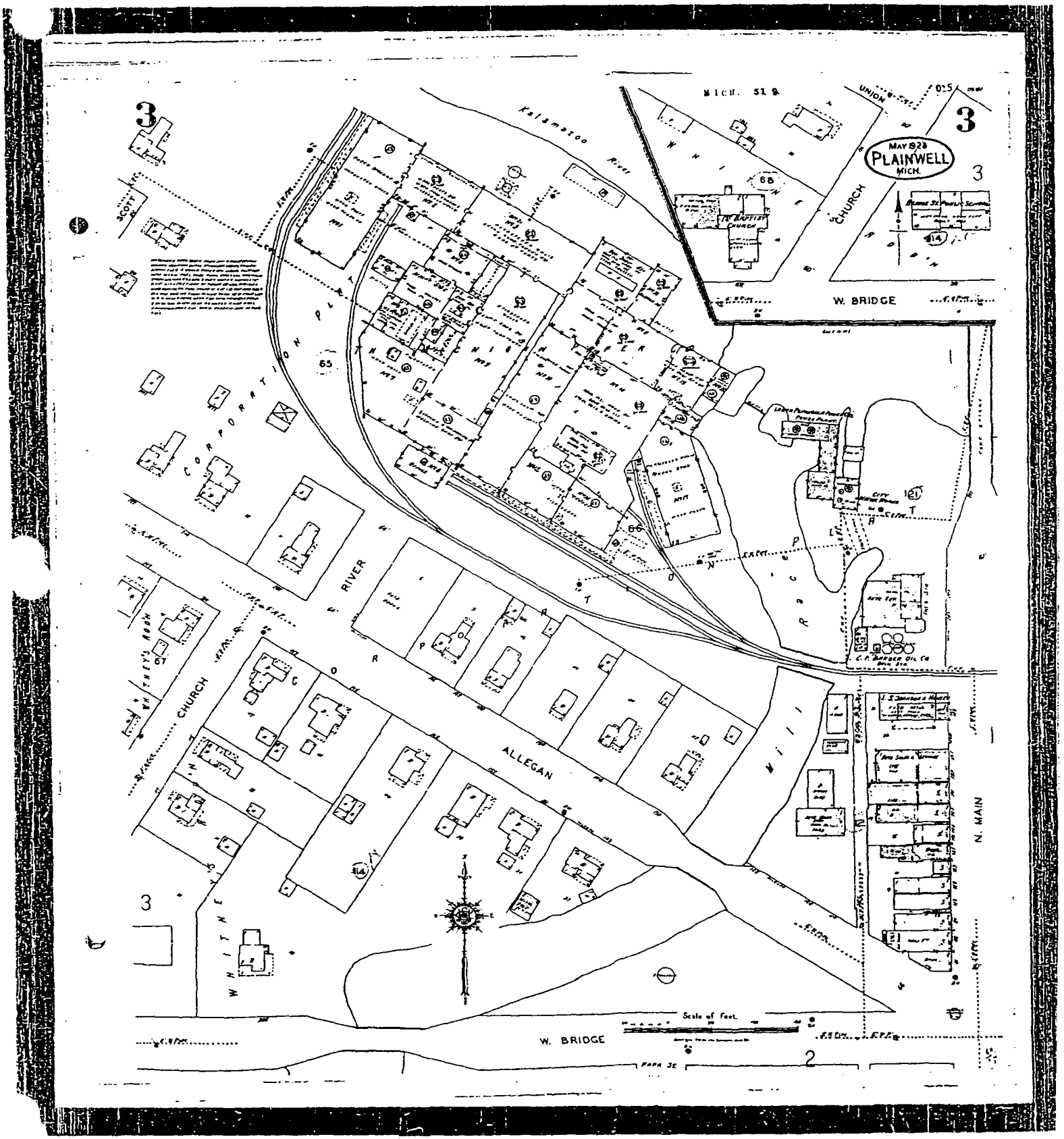

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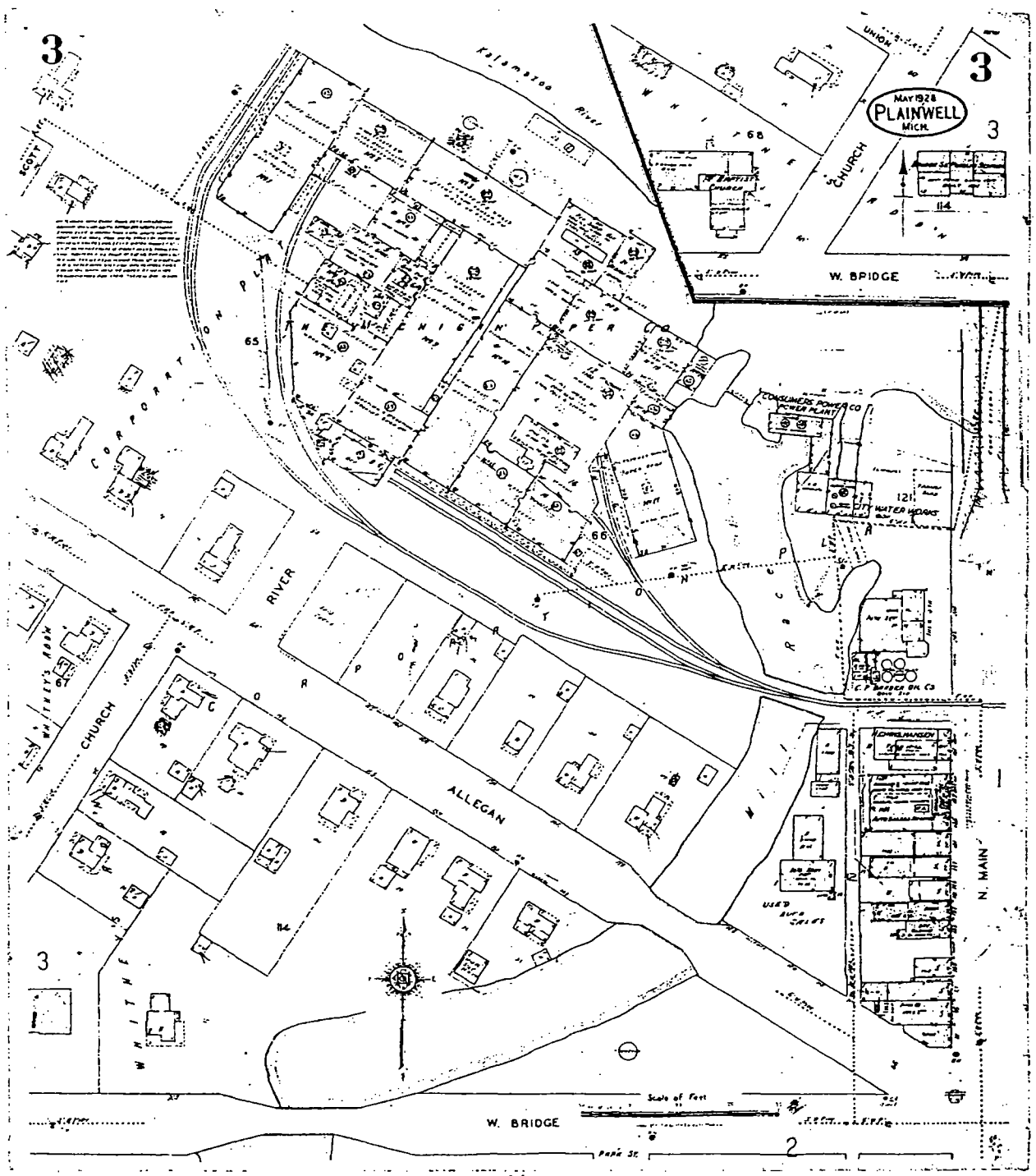

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Simpson Plainwell Paper Company Historical Highlights

1886 On January 26th, a group of 25 Plainwell business men met at the "Banking House of Messrs. Soule & Hicks" for the purpose of organizing a paper company with authorized capital stock of $50,000 to be known as The Michigan Paper Company of Plainwell. Hale W. Page elected president and board chairman.

1887 An order for 76" Harper Improved Fourdrinier paper machine with appliances and attachments costing $12,000 placed with Smith, Winchester & Co. on February 15th. Hale W. Page died on May 17th, and H.P. Kauffer elected president. Mill produced first paper on August 17th. Capacity about 8 tons per day.

1888 Construction of a finishing room authorized. H.P. Kauffer resigned and J.H. Wagner elected president.

1891 Obtained property of the Lyon Paper Mill in Plainwell for $6,000. George N. Anderson new president.

1896 Authorized capital increased to $250,000 to finance future expansion of facilities. Lengthening of wire to 50 feet, additional dryers, and new stack of calenders increased production. Although lack of a rail siding hampers handling of raw materials, it was decided to turn down a proposition from Kalamazoo parties to move mill to that city.

1905 Contract with Grand Rapids & Indiana Railway to furnish spur track approved. Prior to this time, all materials were hauled by horse drawn wagon from depot. Additional stock issued and bond issue authorized to modernize existing facilities and install new equipment to increase capacity to 15 tons per day. First cash dividend paid. Ground broken for new paper mill.

1906 Contract for a new 112" Fourdrinier paper machine costing $23,000 awarded to Smith, Winchester Mfg. Co. Old 76" machine to be modernized at same time. Contracts for additional beater engines awarded. J.D. Wagner new president.

1907 New paper machine began operation. Plans for expansion of finishing room approved. Capital stock increased to $175,000.

1910 Contracts awarded for construction of new paper mill and necessary boiler facilities. Two new 130" paper machines ordered. Capacity to be about 50 tons per day. Four machines now operating; one 76", one 112", and two 130".

Simpson Plainwell Paper Company Historical Highlights

1927 Purchase of the Bradford Paper Co. of Kalamazoo completed; operations of this mill continued under the name "Coating Division of The Michigan Paper Co.". G.H. Ames new president. Capacity about 70 tons per day.

1930 #1 & #2 boilers were installed. They are still in operation in 1991.

1932 The original 76" paper machine was retired from service.

1935 George W. Gilkey killed in an accident, and Dwight L. Stocker appointed president.

1939 Coating Division moved to Plainwell and operations consolidated.

1944 Plans approved and contracts awarded for rebuilding No. ~~18~~ 9 paper machine.

1946 No. ~~18~~ 9 paper machine completely rebuilt and resumes production. Capacity now about 90 tons per day.

1947 All outstanding stock purchased Booth Newspapers and Evening News Association syndicate of Detroit, Michigan. Mill begins production of newsprint from waste paper.

1948 Coating operations are discontinued.

1952 Dwight L. Stocker resigns to accept presidency of The Kalamazoo Vegetable Parchment Co. Allan B. Milham elected president.

1954 All outstanding stock purchased by W.C. Hamilton & Sons. Contracts awarded for expansion of stock preparation facilities.

1955 Allan B. Milham retires, and L.D. Nicolson elected President.

1956 Size press and new dryer section added to No. 17 paper machine. The Michigan Paper Co. of Plainwell, after more than 70 years of existence, was dissolved as a separate company and its business merged with that of its parent company, Hamilton Paper Co.

1957 New hypo-chlorite bleaching plant begins production of higher quality stock from waste paper.

Simpson Plainwell Paper Company Historical Highlights

1958	Size press and new dryer section added to No. 16 paper machine. Capacity now about 100 tons per day.
1959	Frank L. Brown, long-time purchasing agent and Assistant Secretary retired. Further refinements in equipment and processes boost capacity to about 115 tons per day.
1961	Weyerhaeuser purchases the mill. Joseph Klein retires after 49 years of service primarily in the maintenance dept.
1963	$3,000,000 authorization approved for expansion, plans are to add on-machine coater to #18 paper machine. Mabel Denning retires after 46 years of service in the offices.
1965	On-machine coater construction completed.
1968	#3 boiler installed. Mary Huggins retires after 52 years of service.
1969	New offices and addition completed. (Old office area in finished goods warehouse).
1970	Philip Morris purchases mill after strike closes mill down.
1975	Office renovation of old warehouse begins with the completion of R&D offices.
1977	#16 paper machine rebuilt. Capacity about tons per day. Administrative offices in old warehouse finished and moved into.
1980	Rebuilt #18 paper machine; installed bielomatic precision sheeter; new roll wrap equipment. 1st phase of new waste treatment plant completed with the installation of new primary clarifier and sludge thickening equipment.
1984	2nd phase waste treatment plant completed with the installation of secondary clarifier and aeration basin.
1985	Chesapeake purchases mill. Samual Taylor was named president, the 1st since 1956.
1986	Celebrated 100 years of papermaking. Capacity about 226 tons per day.

Simpson Plainwell Paper Company Historical Highlights

1987	Simpson purchases mill. Mill converts to natural gas, eliminating coal as an energy resource.
1991	#4 boiler installed; recycled paper used as a major raw material. Capacity about 268 tons per day.

10

NATURAL RESOURCES COMMISSION
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STATE OF MICHIGAN

JAMES J. BLANCHARD, Governor

DEPARTMENT OF NATURAL RESOURCES

GORDON E. GUYER, Director

District 12 Headquarters
P.O. Box 355, Plainwell, Michigan 49080

January 6, 1988

George W. Lawton
Plainwell Paper Co.
Headquarters
Plainwell, MI 49080

RE: Kerosine Tank Spill

Dear Mr. Lawton:

This letter confirms our meeting at your facility on December 29, 1987. An incident was reported to this office by the Plainwell Police Department. On Sunday, December 27, 1987, a large, recently excavated, underground storage tank leaked a significant volume of its liquid contents. Soil was used as diking material to prevent spillage into the Kalamazoo River.

All contaminated soil from this incident is to be excavated and properly disposed of. If the contamination has impacted the groundwater in the area, further steps to mitigate the situation will be necessary.

Please contact either Paul Massoth of this office, or me, when you plan on excavating contaminated soil. Feel free to call with any questions.

Sincerely,

ENVIRONMENTAL RESPONSE DIVISION

James C. Woodruff
Plainwell District
616-685-9886

JW:cw

cc: T. Work
P. Massoth

R1006.1

TECHNICAL REPORT

Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site Remedial Investigation/ Feasibility Study

Technical Memorandum 15 Mill Investigation

Volume I of II

Allied Paper, Inc./Portage Creek/
Kalamazoo River Superfund Site
Kalamazoo, Michigan

August 1996

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KPC

1. Introduction

1.1 RI Location Descriptions and Background

As part of the Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site Remedial Investigation/Feasibility Study (RI/FS), six different properties were investigated to assess the potential for polychlorinated biphenyls (PCB) to be released to the Kalamazoo River and to assess the presence of PCB in areas where paper-making residuals had been stored for disposal. The six properties are as follows:

- Georgia-Pacific Corporation Kalamazoo Mill;
- Simpson Plainwell Paper Company Mill;
- Former Allied Paper, Inc. Bryant Mill;
- Former Allied Paper Company King Mill;
- The King Street Storm Sewer area; and
- Former Allied Paper Company Monarch Mill.

Locations of the mills and the King Street Storm Sewer area are shown on Figure 1.

The presence of PCB in historic paper-making residuals stems from the use of PCB in carbonless copy paper during the period 1957-1971. This carbonless copy paper, which was produced exclusively by National Cash Register Corporation, entered the office paper waste stream during the late 1950s to early 1970s and contributed PCB to recycled paper fiber. Waste treatment systems which came online in the mid-to-late 1950s (e.g., clarifiers) at deinking (recycling) mills retained some PCB containing solids at the mills which required further management for disposal. These treatment systems were not totally effective in retaining of PCB however, and PCB were released as a consequence to the Kalamazoo River. The Simpson Plainwell Mill operated such a deinking process between 1957 and 1962 (Thacker, 1991). Based upon current knowledge, deinking was practiced at Allied's Bryant Mill between 1957 and 1971 (Peterson, 1991). Deinking also occurred at the King Mill until 1965 (Oeming, 1965). A mill currently owned by Georgia-Pacific also deinked waste paper from the 1950s until the present; however, the discharge to the river was eliminated in 1964 when wastewater was diverted to the Kalamazoo wastewater treatment plant (Schmidt, 1991).

1.1.1 Georgia-Pacific Mill

The Georgia-Pacific Corporation Kalamazoo Mill (Georgia-Pacific Mill) property is located at 2425 King Highway in Kalamazoo, Michigan (Figure 2). The property is bordered to the south by King Highway (M-96), to the north by railroad tracks and commercial property, to the east by commercial property, and to the southwest and west by the Kalamazoo River.

The Georgia-Pacific Mill property, formerly known as the Kalamazoo Paper Company, has been operated as a paper-making facility by several companies since the mid-1800s, and continues to produce paper.

In 1954, the Kalamazoo Paper Company constructed a 110-foot diameter clarifier for primary treatment of its process waste. Previously, all industrial wastewater from the mills was discharged to the Kalamazoo River. During operation, wastewater flowed from the mills to a centrally located intercept station, which pumped the mill effluent to the clarifier. Overflow from the clarifier went to the Kalamazoo River, while underflow was pumped to the adjacent lagoons. Several lagoons and a clarifier located northwest of the plant were also used at this time to treat wastewater from Mill 2. The King Highway dewatering lagoons were constructed on the opposite side of the river in the late 1950s for dewatering the underflow from the clarifier. The lagoons adjacent to the clarifier were

subsequently used as emergency lagoons until 1980, when they were excavated and the material was taken to the King Highway Landfill. Currently, they are partially backfilled with soil.

Mill 2, which housed two paper-making machines, did not conduct deinking. The mill and its wastewater treatment facilities ceased operations in 1970.

Beginning in 1964, the clarifier's effluent was sent to the Kalamazoo wastewater treatment plant for secondary treatment and the underflow, which contained two to four percent solids, was pumped to the King Highway dewatering lagoons. The supernatant from the lagoons was returned to the clarifier. Periodically, the lagoons were excavated and the waste material was sent to the Willow Boulevard Site until 1975 when the Willow Boulevard Site reached capacity. After 1975, dewatered residuals from the King Highway dewatering lagoons were excavated and disposed of at the A-Site.

In 1977, Georgia-Pacific updated their entire waste treatment system by installing a new 135-foot diameter primary clarifier, a 50-foot diameter sludge thickener, and two dewatering presses. These presses increased the solids content of the waste to 40 to 50 percent. The waste could then be trucked directly to the A-Site from the dewatering presses.

The former King Highway dewatering lagoons started to receive residuals from the filter press when the A-Site reached capacity and closed in 1987. The King Highway Landfill is currently the Georgia-Pacific Kalamazoo Mill's licensed Type III landfill.

A more extensive review of the physical setting and characteristics of the Georgia-Pacific Mill is contained in the *Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site Description of the Current Situation* (DCS) report (Blasland & Bouck Engineers, P.C., 1992), and the *Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site RI/FS Work Plan* (Work Plan; Blasland & Bouck Engineers, P.C., 1993b).

1.1.2 Simpson Plainwell Mill

The Simpson Plainwell Company Mill (Simpson Plainwell Mill) property is located at 200 Allegan Street in Plainwell, Michigan (Figure 3). The 34-acre property is bordered by the Kalamazoo River to the north, the Plainwell central business district to the east, residential property to the south, and the Plainwell wastewater treatment plant to the west.

This mill has produced a wide variety of paper products during its 106 years of operation.

Between 1910 and 1962, the Simpson Plainwell Mill obtained pulp through the recycling of used paper which required deinking (RMT, 1990). The area of the mill where deinking took place drained via a system of internal and external drains. This drainage system has since been reconfigured, and drains that were not taken out of service or removed now discharge through an open drain to the mill's wet well.

Wastewater was discharged directly into the Kalamazoo River until 1954, when a clarifier was installed adjacent to the mill and wastewater was treated by primary clarification. The clarified effluent was discharged into the Kalamazoo River. The underflow from the clarifier was dewatered in a series of on-site lagoons. Typically twice each year, each lagoon was excavated and the material was taken to the 12th Street Landfill, located near the Plainwell Dam.

In 1967, secondary treatment was initiated with the installation of a 1.85 million gallon plastic-lined aeration basin to the east of the lagoons and a secondary clarifier measuring 55 feet in diameter and 13 feet in depth located 500 feet east of the aeration basin (Thinnes, 1967). Effluent from the aeration basin was conveyed to the secondary clarifier. The effluent from the secondary clarifier went to the Kalamazoo River, and the underflow went to the lagoons. Some biosludges produced in the aeration basin were excavated and taken to the 12th Street Landfill. In 1981, a new primary clarifier was constructed and the old primary clarifier was subsequently torn down. A mechanical dewatering system (belt press), which produces a cake of 30 to 40 percent solids, also began operating in 1981. Consequently, the lagoons ceased receiving residuals. Residuals produced from the mechanical dewatering system were disposed primarily at the Cork Street Landfill in Kalamazoo, and they are disposed there currently. For a short time in the early 1980s, the residuals may have been disposed elsewhere. Residuals remaining in some of the lagoons were removed in 1981 and taken to the 12th Street Landfill. In 1983, the residuals from the rest of the lagoons were consolidated into four of the lagoons. These four lagoons are presently covered with soil and are well vegetated. The other lagoons were filled with soil after being cleaned out and are almost entirely located under the mill's present wastewater treatment facilities. The secondary treatment system was updated in 1983 with the installation of a new secondary clarifier, and the old secondary clarifier was taken out of service. At this time, the aeration lagoon was also taken out of service and was replaced by an activated sludge treatment system (Lawton, 1987). The aeration basin was partially backfilled with construction and demolition waste. The activated sludge treatment system is in use today along with the primary and secondary clarifiers.

It is believed that PCB were introduced into the residuals as a result of the recycling of carbonless copy paper during operations at the plant between 1957 and 1962. This period corresponds to the use of a primary clarifier and lagoon system for treatment of wastes. The treated waste was disposed at the 12th Street Landfill.

A more extensive review of the physical setting and characteristics of the Simpson Plainwell Mill is contained in the DCS and the Work Plan.

1.1.3 Former Allied Paper, Inc. Bryant Mill

The former Allied Paper, Inc. Bryant Mill property, presently known as the Portage Paper Mill, is located along Portage Creek, approximately 3 miles upstream from Portage Creek's confluence with the Kalamazoo River (Figure 4). For purposes of this document, this mill will be referred to as the former Allied Paper, Inc. Bryant Mill. The property is approximately 40 acres in area. Mill C is bordered to the south by Alcott Street, to the north by Bryant Street, to the east by Portage Road, and to the west by Portage Creek. Mill D is bordered to the south by Bryant Street, to the north by Reed Street, to the east by Belford Street, and to the west by the Conrail Railroad tracks. The northern part of the mill property is bordered by residential areas, and commercial and industrial property border the mill to the southwest, south, and southeast.

The Bryant Paper Company was formed in 1895, and was sold in 1946 to the St. Regis Paper Company (Kalamazoo Gazette, 1955). It was purchased by Allied Paper in 1956 and became Allied's Bryant Mill. In 1988, the mill was sold to Performance Paper, Inc., and operations ceased in 1989.

During its 94 years of operation, the Bryant Mill produced a variety of high-quality papers including bible, bond, uncoated book, end leaf, gift wrapping, label, map, offset, opaque, sensitizing, text, vellum, xerographic, litho, chart, music, and watermark paper. Production averaged 275 tons of produce daily (Lockwood-Post, 1991). Raw materials used included both recycled paper products that underwent the deinking process and virgin pulp.

2.1.4 Additional Samples

At the MDNR's request, one additional sample (GPP-1) was collected. The sample location is shown on Figure 2. This sample was taken from a pile of gypsum-like substance located to the west of Lagoon 3. This sample was collected with a stainless-steel hand trowel and submitted for PCB analysis.

Collection of QA/QC samples was done in conjunction with the collection of the samples. The number of QA/QC samples for this purpose followed the guidelines presented in the *Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site RI/FS Quality Assurance Project Plan* (QAPP; Blasland & Bouck Engineers, P.C., 1993d). All boring and core locations were flagged and subsequently surveyed for horizontal and vertical control. Survey data are included in Appendix A.

2.2 Simpson Plainwell Mill

The investigation of the Simpson Plainwell Mill property was performed to determine the presence of PCB at the former mill lagoons, the former wastewater treatment system, and the stormwater conveyances. The investigation also assessed the nature and extent of residuals.

2.2.1 Lagoon Samples

To characterize the nature and extent of residuals in the former lagoons (A through N) at the Simpson Plainwell Mill, 13 borings (SPL-1 through SPL-13) were drilled at the locations shown on Figure 3. The locations of the 13 borings were selected during an initial field reconnaissance. The field reconnaissance was conducted to determine the location of the former lagoons and a former aeration basin. The lagoon boundaries were estimated by measuring from the existing fenceline and correlating those measurements with a site map. Existing surface depressions were also taken into account while locating the lagoons.

Note that boring location SPL-9 was to be completed in former Lagoon I. However, upon initial installation of SPL-9, it became evident that the location was on top of a mound, which may have been the berm of the former lagoon. As a result, the boring was terminated at 6 feet below ground surface (bgs) and the boring location labeled SPL-9A. The boring location was moved 4 feet to the east, and completed as SPL-9B. Each boring was sampled continuously with a split-spoon sampler for visual characterization. Samples from select depth intervals at locations SPL-1 through SPL-5 were to be collected for PCB analysis, in accordance with the Work Plan. However, samples were selected for analysis from borings SPL-11 and SPL-13 as alternatives to the samples from borings SPL-3 and SPL-5, due to the lack of a residuals layer at these borings. All samples were collected in the manner prescribed in the FSP.

A residuals sample from the former aeration basin (SPL-6) was not collected due to the lack of an observed residuals layer in the boring. However, one soil sample was collected from both the 0.0 to 0.5 feet bgs interval, and the 2- to 4-foot bgs interval.

Upon completion, all borings were abandoned by pumping the borehole full with a cement/bentonite (approximately 4 percent bentonite) grout. Cuttings were placed in containers, as described in the *Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site RI/FS Health and Safety Plan* (HASP; Blasland & Bouck Engineers, P.C., 1993a) and were transported to the 12th Street Landfill Operable Unit for storage at the end of the field program.

2.2.2 Former Wastewater Treatment Structures

Two solids samples (SPC-1 and SPC-2) were collected from former wastewater treatment plant structures to assess the presence of PCB. Sampling locations are shown on Figure 3. SPC-1 was collected from the area of the razed primary clarifier. SPC-2 was collected from the end of a former discharge pipe that had historically conveyed process water to the Kalamazoo River. These two samples (SPC-1 and SPC-2) were collected using a stainless-steel trowel.

The Work Plan described sampling from the former secondary clarifier (SPC-3); however, with MDNR concurrence, SPC-3 was not sampled because there were no solids observed in the secondary clarifier.

2.2.3 Stormwater Conveyances

A stormwater drainage analysis of the mill was performed and the results reported in Technical Memorandum 1. As outlined in Technical Memorandum 1, a sample was to be collected from Outfall A; however, since no sediment was present in the outfall, Outfall B was used as an alternate. The drainage analysis identified an overall stormwater catchment area to locate a representative stormwater sediment collection point (SPD-1). SPD-1 was collected with a stainless steel trowel and analyzed for PCB and PCDD/PCDF.

2.2.4 Additional Samples

At the direction of the MDNR, an additional soil sample (SPI-1) was collected from an area identified as the location where waste may have been temporarily stored. The sample location is shown on Figure 3. SPI-1 was installed through soil fill with a hand-auger. A sample was collected at a depth of 3 to 3.5 feet bgs and analyzed for PCB. As directed by the MDNR, the boring was backfilled upon completion.

Collection of QA/QC samples was done in conjunction with the collection of the samples. The number of QA/QC samples for this purpose followed the guidelines presented in the QAPP. All boring and core locations were flagged and subsequently surveyed for horizontal and vertical control. Survey data are included in Appendix A.

2.2.5 Warehouse Sampling

On-site testing for PCB was performed September 21, October 6, and October 12, 1994 at the at the Simpson Plainwell Mill warehouse construction site. This sampling was not included in the scope of the RI/FS as presented in the 1993 Work Plan.

A total of 23 soil borings were installed. In addition, two grab samples, and a composite sample were collected. Thirty-six samples including two duplicates were tested on-site for PCB using EnSys Corporation PCB RISc™ immunoassay test kits. Seven samples were selected and submitted to the laboratory for Aroclor-specific quantification. Approximate sample locations are shown on Figure 8.

At locations SPG-1, SPG-2, SPG-3, SPW-8 through SPW-19, and SPW-21, surficial (0-0.5 feet bgs) samples were collected. At locations SPW-1 through SPW-7, samples were collected at the 0-0.5, 2.0-2.5, and 4.0-4.5 feet bgs depth intervals (4.5-5.0 for SPW-1 and SPW-2). Grab and composite samples were collected from stock-piled soil (from excavation of a water line) at locations SWL-1 through SWL-3.

Asphalt and concrete were removed prior to soil sampling at locations SPW-12 and SPW-13, and SPW-14 through SPW-17, respectively.

Each immunoassay test kit had a lower screening limit of 1 part per million (ppm). Samples SPG-1 through SPG-3, SPW-3 and SPW-4 had an upper screening limit of 25 ppm. Samples SPW-3 through SPW-13 were additional samples requested by Simpson staff in the field to characterize the excavated soil and determine whether PCB concentrations were greater than or less than 1.0 ppm. Therefore, not all of these samples were screened against the upper limit of 25 ppm. Sample locations SPW-14 through SPW-19, SPW-21, and SWL-1 through SWL-3 had upper screening limits of 25 ppm. Sample SPW-6 which had a screening result of greater than 1 ppm was also analyzed for PCB by gas chromatography. Samples taken from the warehouse construction site were not visually characterized.

2.3 Former Allied Paper, Inc. Bryant Mill

As directed by the Work Plan, several locations at the former Allied Paper, Inc. Bryant Mill were to be sampled to determine the presence of PCB associated with the wastewater and process water conveyances. However, the historical residuals were removed from the Bryant Clarifier in May 1992 and stored on site. Therefore, when the sampling team and an MDNR representative visited the property to examine the sampling locations determined in the Work Plan and the stormwater catchment area sampling location determined in Technical Memorandum 1, it was observed that there were little historical residuals in the proposed sampling locations. As a result, the MDNR concurred that it was not necessary to collect samples.

2.4 Former King Mill and King Street Storm Sewer

The investigation activities at the former King Mill were performed to determine the presence of PCB associated with the mill's former lagoons and clarifiers, and to assess whether stormwater runoff or drainage from the 48-inch diameter pipe (which apparently discharged mill wastewater to the Kalamazoo River), are potential contributors of PCB to the Kalamazoo River. In addition, a site drainage analysis was performed to assess the nature of surface runoff to storm sewers.

2.4.1 Former Lagoons

A field reconnaissance was performed in the area surrounding the lagoons to visually inspect the location of the former lagoons. The ground surface was probed with a hand shovel around the lagoons to determine if residuals were present.

To characterize the nature and extent of the residuals present in the lagoons at the former King Mill, six borings were installed (KM-3 through KM-8) at the locations shown on Figure 5. All borings were sampled continuously for visual characterization. Samples from select depth intervals at locations KM-4 and KM-7 were analyzed for PCB. All samples were collected in the manner prescribed in the FSP.

Upon completion, and as directed by the MDNR, all hand-auger borings were abandoned by replacing the cuttings into each borehole. The remainder of the borehole annulus was filled with hydrated bentonite. Boring KM-5 was installed with a trailer-mounted rig, and it was abandoned by pumping the borehole full with a cement/bentonite (approximately 4 percent bentonite) grout. Cuttings produced during the installation of KM-5 were containerized as described in the HASP, and were transported to the Allied Paper, Inc. Operable Unit at the end of the field program.

GPL-2, GPL-3, GPL-4, and GPL-5, respectively. The samples were quantified as a mixture of Aroclor 1016, 1242, 1248, 1254, and 1260.

The total PCB concentration of the wastewater-related sample (GPC-1) collected from the former primary clarifier was an estimated 0.15 mg/kg, quantified as Aroclor 1260.

The total PCB concentration of the stormwater-related sample (GPD-1) was an estimated 0.65 mg/kg, quantified as Aroclor 1242, 1248, and 1260.

The total PCB concentration of the sample from a pile of gypsum-like substance near Lagoon 3 (GPP-1) was 0.15 mg/kg, quantified as Aroclor 1248.

PCDD/PCDF were detected in the stormwater-related sample (GPD-1). 2,3,7,8-Tetrachlorinated dibenzo-p-dioxin (2,3,7,8-TCDD) was not detected. 1,2,3,4,7,8-Hexachlorinated dibenzo-p-dioxin (HxCDD) was detected at a concentration of 1.4E-6 mg/kg. 1,2,3,6,7,8-HxCDD was detected at a concentration of 3.8E-6 mg/kg. 1,2,3,4,6,7,8-Heptachlorinated dibenzo-p-dioxin (HpCDD) was detected at a concentration of 9.7E-5 mg/kg. Octachlorinated dibenzo-p-dioxin (OCDD) was detected at a concentration of 6.0E-4 mg/kg. 2,3,7,8-Tetrachlorinated dibenzofuran (2,3,7,8-TCDF) was detected at a concentration of 2.9E-6 mg/kg. 1,2,3,4,7,8-Hexachlorinated dibenzofuran (HxCDF) was detected at an estimated concentration of 2.0E-6 mg/kg. 1,2,3,6,7,8-HxCDF was detected at a concentration of 1.1E-6 mg/kg. 1,2,3,4,6,7,8-Heptachlorinated dibenzofuran (HpCDF) was detected at a concentration of 1.1E-5 mg/kg. 1,2,3,4,7,8,9-HpCDF was detected at a concentration of 8.8E-7 mg/kg. Octachlorinated dibenzofuran (OCDF) was detected at a concentration of 3.5E-5 mg/kg.

3.2 Simpson Plainwell Mill

Field data to characterize the extent of residuals in the former lagoons at the Simpson Plainwell Mill property were collected during the investigation. Thirteen borings (SPL-1 through SPL-5, SPL-7, SPL-8, SPL-9A, SPL-9B, and SPL-10 through SPL-13) were completed in the former lagoons (Figure 3). SPL-6 was completed in the former aeration basin. Visual observations of the subsurface materials to characterize the residuals, fill, and native soil were used to generate subsurface logs for each boring. The subsurface logs are presented in Appendix E. Samples taken from the former wastewater treatment structures (SPC-1 and SPC-2), stormwater conveyances (SPD-1) and the area where wastes may have been temporarily stored (SPI-1) were grab samples; therefore, a visual characterization of the subsurface profile could not be logged.

Residuals were found in 11 of the 13 borings installed in the former lagoons. Boring SPL-5 (Lagoon K) and SPL-12 (Lagoon D) did not encounter residuals. Residuals, where found, ranged up to 10.5 feet in thickness. Residuals were observed to a maximum depth of 18 feet bgs (Table 3-4). No residuals were observed in the former aeration basin (SPL-6). Residuals, according to the Burmister Soil Classification System were generally characterized as grey clay material with "little" (10 to 20 percent) to "some" (20 to 35 percent) paper fibers. The residuals were generally homogeneous with little variation in color or texture. Blow counts taken during split-spoon sampling were low throughout the entire thickness of residuals, and ranged between weight of rods (WOR) or weight of hammer (WOH) to 1 or 2 blows per inch (N Value = 1).

A fine to coarse sand and a brown and black fill were observed above the residuals layers. The fill material was also found mixed in with the residuals. The fill consists of various amounts of fine to coarse sand, gravel, silt, and coal ash.

The native soil underlying the residuals and fill is characterized as a grey to black fine to coarse sand.

Table 3-4 presents a summary of the field data collected at the Simpson Plainwell Mill property.

The results of PCB and PCDD/PCDF analyses of Simpson Plainwell Mill property residuals/soil/solids samples are presented in Table 3-5 and Table 3-6, respectively, and on Figure 10.

PCB were detected in two of five surficial (0 to 0.5 feet bgs) samples collected in the former lagoons. The total PCB concentration of the SPL-2 sample was an estimated 0.040 mg/kg, quantified as Aroclor 1260. The total PCB concentration of the SPL-11 sample was an estimated 0.038 mg/kg, quantified as Aroclor 1254. PCB were not detected in the surficial samples from SPL-1, SPL-4, and SPL-13.

PCB were detected in the five subsurface residuals samples collected in the former lagoons. Total PCB concentrations were an estimated 0.27 mg/kg, 0.20 mg/kg, an estimated 1.5 mg/kg, an estimated 1.6 mg/kg, and 0.11 mg/kg in SPL-1, SPL-2, SPL-4, SPL-11, and SPL-13, respectively. The samples were quantified as a mixture of Aroclor 1016, 1242, 1248, 1254, and 1260.

PCB were detected in the five native soil samples collected in the former lagoons. Total PCB concentrations were an estimated 0.12 mg/kg, an estimated 0.025 mg/kg, an estimated 0.048 mg/kg, an estimated 0.051 mg/kg, and 0.091 mg/kg in SPL-1, SPL-2, SPL-4, SPL-11, and SPL-13, respectively. The samples were quantified as a mixture of Aroclor 1016, 1242, 1248, and 1260.

PCB were detected in the surficial (0 to 0.5 feet bgs) sample collected in the former aeration basin area (SPL-6) at a total PCB concentration of 0.27 mg/kg, quantified as Aroclor 1254 and 1260. PCB were not detected in the sample collected from the 2- to 4-foot bgs interval.

PCB were detected in the solids samples collected from the area of the razed primary clarifier, a former pipe, an area where wastes may have been temporarily stored, and the representative mill stormwater catchment area. SPC-1, collected from the area of the razed primary clarifier, had a total PCB concentration of 0.74 mg/kg, quantified as Aroclor 1254 and 1260. SPC-2, collected from the end of a former discharge pipe that had historically conveyed process water to the Kalamazoo River, had a total PCB concentration of 240 mg/kg, quantified as Aroclor 1248. SPI-1, collected from an area where wastes may have been temporarily stored, had a total PCB concentration of 1.4 mg/kg, quantified as Aroclor 1254 and 1260. The SPD-1 sediment sample collected from the location representative of the stormwater catchment area had a total PCB concentration of 3.9 mg/kg, quantified as Aroclor 1254 and 1260. This sample was taken from a manhole that also had formerly handled process wastewater.

The EnSys Corporation PCB RISc™ immunoassay results from the soil samples taken at the warehouse construction site are presented in Table 3-7, and on Figure 11.

Seven out of the 36 sample PCB results at the warehouse construction site were >1 ppm (SPW-3, SPW-3* (duplicate), SPW-5, SPW-6, SPW-7, SPW-8, and SPW-9); PCB detections were only in the surficial (0 to 0.5 feet bgs) soil layers. The remaining samples were <1 ppm.

In order to quantify the "greater than 1 ppm" interpretation at SPW-6, the surficial (0-0.5 feet bgs) soil sample was submitted for laboratory analysis for PCB. The analytical result, as reported by the laboratory, indicates that PCB were detected at a total PCB concentration of 1.8 mg/kg, quantified as Aroclor 1254.

The samples from SPW-1 and SPW-2 were sent for laboratory analysis. The surficial interval (0- to 0.5-feet bgs) of SPW-1 had an estimated total PCB concentration of 0.037 mg/kg. Its duplicate had an estimated total PCB concentration of 0.024 mg/kg. Both were quantified as Aroclor 1254. The 2- to 2.5-foot bgs and 4.5- to 5-foot bgs intervals of SPW-1 had an estimated total PCB concentration of 0.26 mg/kg and 0.20 mg/kg, respectively. Both were quantified as Aroclor 1248 and 1254. None of the three samples from SPW-2 (0- to 0.5-foot bgs, 2- to 2.5-foot bgs, and 4.5- to 5-foot bgs) had detectable levels of PCB.

PCDD/PCDF were detected in the stormwater-related sample (SPD-1). 2,3,7,8-TCDD was detected at a concentration of 5.1E-5 mg/kg. 1,2,3,4,7,8-HxCDD was detected at a concentration of 2.9E-4 mg/kg. 1,2,3,6,7,8-HxCDD was detected at a concentration of 4.5E-4 mg/kg. 1,2,3,6,7,8,9-HxCDD was detected at an estimated concentration of 1.4E-4 mg/kg. 1,2,3,4,6,7,8-HpCDD was detected at a concentration of 1.4E-2 mg/kg. OCDD was detected at a concentration of 1.9E-1 mg/kg. 2,3,7,8-TCDF was detected at a concentration of 6.5E-4 mg/kg. 1,2,3,7,8-Pentachlorinated dibenzofuran (PeCDF) was detected at a concentration of 4.7E-5 mg/kg. 2,3,4,7,8-PeCDF was detected at a concentration of 5.0E-5 mg/kg. 1,2,3,4,7,8-HxCDF was detected at a concentration of 1.7E-4 mg/kg. 1,2,3,6,7,8-HxCDF was detected at a concentration of 2.8E-5 mg/kg. 2,3,4,6,7,8-HxCDF was detected at an estimated concentration of 6.0E-5 mg/kg. 1,2,3,4,6,7,8-HpCDF was detected at a concentration of 9.4E-4 mg/kg. 1,2,3,4,7,8,9-HpCDF was detected at a concentration of 8.6E-5 mg/kg. OCDF was detected at a concentration of 2.5E-3 mg/kg.

3.3 Former Allied Paper, Inc. Bryant Mill

As described in the Work Plan, samples were to be collected at the former Bryant Mill property; however, because the historical residuals were removed prior to the mill being re-activated, the MDNR concurred that it was not necessary to collect samples.

3.4 Former King Mill and King Street Storm Sewer

Field data to characterize the extent of residuals in the former King Mill lagoons were collected during the investigation by conducting field reconnaissance and installing borings. Six borings (KM-3 through KM-8) were completed in the area of the former lagoons, and two borings (KM-1 and KM-2) were installed in the area of the former clarifiers (Figure 5). Visual observations of the subsurface materials to characterize the residuals, fill, and native soil were used to generate subsurface logs for each boring. The subsurface logs are presented in Appendix E. Samples collected from the stormwater conveyance system (KMD-1) and from the 48-inch diameter pipe (KMS-1) were not visually characterized.

To determine whether the 48-inch diameter pipe discharged water to the Kalamazoo River, the pipe was inspected the morning of June 13, 1994 approximately 5 hours into a major rainfall event. The inspection was conducted by removing the manhole cover on East Vine Street (Figure 5). The pipe was inspected before the rainfall event and it was observed that the manhole was dry. After the rainfall event it was again observed that the manhole was dry, indicating that the pipe did not convey water to the river during the major precipitation event.

Residuals were observed in all six of the borings installed in the former lagoons. The thickness of the residuals ranged from 0.3 to 9.5 feet. The maximum depth of residuals was found at 9.5 feet bgs. No residuals were observed in the area of the former clarifiers. Residuals, according to the Burmister Soil Classification System, were generally characterized as grey clay material with "little" (10 to 20 percent) to "some" (20-35 percent) paper fibers.

4. Preliminary Findings

4.1 Conclusions

Based on the preliminary evaluation of the field and analytical data collected during the remedial investigations, the primary conclusions are summarized as follows:

- The results of the Georgia-Pacific Mill Investigation indicate the need to further assess the extent of residuals within the eastern end of the three former lagoons located in the northwest corner of the property, as well as to the west of the lagoons. No additional response to the data collected at other locations is necessary.

- The results of the Simpson Plainwell Mill Investigation indicate the need to further assess whether the sediment in the sampled storm-sewer manhole (SPD-1) represents current or historic deposition. Mill records indicate, however, that many years ago the storm sewer discharged process water. Although the former deinking plant pipe is no longer active, the need to cap an area which includes the pipe, due to the potential for flood damage, will involve a response to the observation of PCB in the residue solids contained in the pipe. No other responses to the data are indicated for the lagoons or former wastewater treatment facilities.

- The results of the former King Mill Investigation indicate the need for additional sampling in and around the EW lagoon to further assess the extent of residuals outside of the lagoon, and to obtain sufficient information regarding PCB levels for addressing potential remedial needs or alternatives in the RI/FS. The PCB levels seen in the EW lagoon contrast with the lack of detection of PCB in the NS lagoon. Thus, the need for additional characterization of PCB levels in the residuals in the NS lagoon is also indicated. No additional response is indicated to address the area of the former clarifiers or stormwater drainage.

- No additional response is necessary at the former Monarch Mill.

- The combination of historic and current data for the King Street Storm Sewer area appear sufficient to complete the assessment of this area in the RI/FS.

TABLE 2-1

ALLIED PAPER, INC./PORTAGE CREEK/KALAMAZOO RIVER
SUPERFUND SITE

MILL INVESTIGATIONS
USEPA CONTRACT LABORATORY PROGRAM-TARGET COMPOUND LIST/TARGET ANALYTE LIST

TARGET COMPOUND LIST		
VOCs		
acetone	chloromethane	methylene chloride
benzene	dibromochloromethane	4-methyl-2-pentanone
bromodichloromethane	1,1-dichloroethane	styrene
bromoform	1,2-dichloroethane	1,1,2,2-tetrachloroethane
bromomethane	1,1-dichloroethene	tetrachloroethene
2-butanone	1,2-dichloroethene (total)	toluene
carbon disulfide	1,2-dichloropropane	1,1,1-trichloroethane
carbon tetrachloride	cis-1,3-dichloropropene	1,1,2-trichloroethane
chlorobenzene	trans-1,3-dichloropropene	trichloroethene
chloroethane	ethylbenzene	vinyl chloride
chloroform	2-hexanone	xylenes (total)
SVOCs		
acenaphthene	dibenzo(a,h)anthracene	hexachloroethane
acenaphthylene	dibenzofuran	indeno(1,2,3-cd)pyrene
anthracene	di-n-butylphthalate	isophorone
benzo(a)anthracene	1,2-dichlorobenzene	2-methylnaphthalene
benzo(b)fluoranthene	1,3-dichlorobenzene	2-methylphenol
benzo(k)fluoranthene	1,4-dichlorobenzene	4-methylphenol
benzo(g,h,i)perylene	3,3'-dichlorobenzidine	naphthalene
benzo(a)pyrene	2,4-dichlorophenol	2-nitroaniline
4-bromophenyl phenyl ether	diethyl phthalate	3-nitroaniline
butyl benzyl phthalate	2,4-dimethylphenol	4-nitroaniline
carbazole	4,6-dinitro-2-methyl phenol	nitrobenzene
4-chloroaniline	dimethyl phthalate	2-nitrophenol
bis(2-chloroethoxy)methane	2,4-dinitrophenol	4-nitrophenol
bis(2-chloroethyl)ether	2,4-dinitrotoluene	n-nitrosodiphenylamine
4-chloro-3-methyl phenol	2,6-dinitrotoluene	n-nitroso-di-n-propylamine
2-chloranaphthalene	di-n-octyl phthalate	pentachlorophenol
2-chlorophenol	bis(2-ethlyhexyl)phthalate	phenanthrene
4-chlorophenyl phenyl ether	fluoranthene	phenol
2,2'-oxybis(1-chloropropane)	fluorene	pyrene
chyrsene	hexachlorobenzene	1,2,4-trichlorobenzene
	hexachlorobutadiene	2,4,5-trichlorophenol
	hexachlorocyclopentadiene	2,4,6-trichlorophenol

See Notes on Page 2

TABLE 2-1

ALLIED PAPER, INC./PORTAGE CREEK/KALAMAZOO RIVER
SUPERFUND SITE

MILL INVESTIGATIONS
USEPA CONTRACT LABORATORY PROGRAM–TARGET COMPOUND LIST/TARGET ANALYTE LIST

TARGET COMPOUND LIST		
Pesticides/PCB Compounds		
aldrin	beta-BHC	endosulfan I
alpha-BHC	gamma-BHC (lindane)	endosulfan II
Aroclor – 1016*	delta-BHC	endosulfan sulfate
Aroclor – 1221*	alpha-chlordane	endrin
Aroclor – 1232*	gamma-chlordane	endrin aldehyde
Aroclor – 1242*	4,4'-DDD	endrin ketone
Aroclor – 1248*	4,4'-DDE	heptachlor
Aroclor – 1254*	4,4'-DDT	heptachlor epoxide
Aroclor – 1260*	dieldrin	methoxychlor
		toxaphene
TARGET ANALYTE LIST		
Metals/Other Compounds		
aluminum	cobalt	nickel
antimony	copper	potassium
arsenic	cyanide	selenium
barium	iron	silver
beryllium	lead	sodium
cadmium	magnesium	thallium
calcium	manganese	vanadium
chromium	mercury	zinc

Notes:

TCL: USEPA, 1991b.
TAL: USEPA, 1991c.
*PCB were not included in the TCL/TAL analyses but were analyzed separately.

TABLE 2-2

ALLIED PAPER, INC./PORTAGE CREEK/KALAMAZOO RIVER
SUPERFUND SITE

MILL INVESTIGATIONS
SUMMARY OF REMEDIAL INVESTIGATION RESIDUALS/SOIL/SOLIDS SAMPLES

Boring	Depth (ft)[1]	Media	Sample ID	Analysis	Comments
Georgia-Pacific Mill					
GPC-1	0-1	Soil	G52018	PCB	
GPD-1	NA	Sediment	G52019	PCB+PCDD/PCDF	
GPP-1	NA	Solids	G52009	PCB	
GPL-1	0-0.5	Residuals	G52004	PCB	MS/MSD
	0.5-1	Soil	G52005	PCB	
GPL-2	0-0.5	Soil	G52010	PCB	
	0.5-1.5	Residuals	G52011	PCB	
	1.5-2.5	Soil	G52012	PCB	
GPL-3	0-0.5	Residuals	G52006	PCB	
	3.5-4.5	Residuals	G52007	PCB	
	4.5-5.0	Soil	G52008	PCB	
GPL-4	0-0.5	Residuals	G52000	PCB	Duplicate (G52001)
	0.5-1	Soil	G52002	PCB	Duplicate (G52003)
GPL-5	0-0.5	Soil	G52015	PCB	
	0.5-0.75	Soil/Residuals	G52016	PCB	
	0.75-2.0	Soil	G52017	PCB	
Simpson Plainwell Mill					
SPC-1	0-0.5	Soil	S56025	PCB	
SPC-2	NA	Soil/Residuals	S56026	PCB	
SPD-1	NA	Sediment	S56027	PCB + PCDD/PCDF	MS/MSD
SPI-1	3-3.5	Soil	S56019	PCB	MS/MSD
SPL-1	0-0.5	Soil	S56000	PCB	
	4-6	Residuals	S56001	PCB	
	6-8	Soil	S56002	PCB	
SPL-2	0-0.5	Soil	S56003	PCB	
	8-10	Residuals	S56004	PCB	
	10-12	Soil	S56005	PCB	
SPL-4	0-0.5	Soil	S56010	PCB	
	12-14	Residuals	S56011	PCB	
	16-18	Soil	S56012	PCB	
SPL-6	0-0.5	Soil	S56013	PCB	
	2-4	Soil	S56014	PCB	
SPL-11	0-0.5	Soil	S56015	PCB	
	10-10.5	Residuals	S56016	PCB	
	10.5-12	Soil	S56017	PCB	
SPL-13	0-0.5	Soil	S56006	PCB	
	0.5-1	Soil	S56007	PCB	
	14-16	Residuals	S56008	PCB	
	16-18	Soil	S56009	PCB	MS/MSD

See Notes on Page 3

ALLIED PAPER, INC./PORTAGE CREEK/KALAMAZOO RIVER
SUPERFUND SITE

MILL INVESTIGATIONS
SUMMARY OF REMEDIAL INVESTIGATION RESIDUALS/SOIL/SOLIDS SAMPLES

Boring	Depth (ft)[1]	Media	Sample ID	Analysis	Comments
Simpson Plainwell Mill – Warehouse Construction Site Sampling					
SPG-1	0.0-0.5	Soil	NA	Immunoassay PCB	
SPG-2	0.0-0.5	Soil	NA	Immunoassay PCB	
SPG-3	0.0-0.5	Soil	NA	Immunoassay PCB	
SPW-1	0.0-0.5	Soil	SPW - 1A	PCB	Duplicate (SPW-D1)
	2.0-2.5	Soil	SPW - 1B	PCB	MS/MSD
	4.5-5.0	Soil	SPW - 1C	PCB	
SPW-2	0.0-0.5	Soil	SPW - 2A	PCB	
	2.0-2.5	Soil	SPW - 2B	PCB	
	4.5-5.0	Soil	SPW - 2C	PCB	
SPW-3	0.0-0.5	Soil	NA	Immunoassay PCB	Duplicate taken
	2.0-2.5	Soil	NA	Immunoassay PCB	
	4.0-4.5	Soil	NA	Immunoassay PCB	
SPW-4	0.0-0.5	Soil	NA	Immunoassay PCB	
	2.0-2.5	Soil	NA	Immunoassay PCB	
	4.0-4.5	Soil	NA	Immunoassay PCB	
SPW-5	0.0-0.5	Soil	NA	Immunoassay PCB	
	2.0-2.5	Soil	NA	Immunoassay PCB	
	4.0-4.5	Soil	NA	Immunoassay PCB	
SPW-6	0.0-0.5	Soil	SPW - 6A	Immunoassay PCB/ PCB	Split sample submitted for PCB analysis
	2.0-2.5	Soil	NA	Immunoassay PCB	
	4.0-4.5	Soil	NA	Immunoassay PCB	
SPW-7	0.0-0.5	Soil	NA	Immunoassay PCB	
	2.0-2.5	Soil	NA	Immunoassay PCB	
	4.0-4.5	Soil	NA	Immunoassay PCB	
SPW-8	0.0-0.5	Soil	NA	Immunoassay PCB	
SPW-9	0.0-0.5	Soil	NA	Immunoassay PCB	
SPW-10	0.0-0.5	Soil	NA	Immunoassay PCB	
SPW-11	0.0-0.5	Soil	NA	Immunoassay PCB	
SPW-12	0.0-0.5	Soil	NA	Immunoassay PCB	
SPW-13	0.0-0.5	Soil	NA	Immunoassay PCB	
SPW-14	0.0-0.5	Soil	NA	Immunoassay PCB	
SPW-15	0.0-0.5	Soil	NA	Immunoassay PCB	
SPW-16	0.0-0.5	Soil	NA	Immunoassay PCB	
SPW-17	0.0-0.5	Soil	NA	Immunoassay PCB	Duplicate taken
SPW-18	0.0-0.5	Soil	NA	Immunoassay PCB	
SPW-19	0.0-0.5	Soil	NA	Immunoassay PCB	
SPW-21	0.0-0.5	Soil	NA	Immunoassay PCB	
SWL-1	NA[3]	Soil	NA	Immunoassay PCB	
SWL-2	NA[3]	Soil	NA	Immunoassay PCB	
SWL-3	NA[3] (composite)	Soil	NA	Immunoassay PCB	

See Notes on Page 3

TABLE 3-4

ALLIED PAPER, INC./PORTAGE CREEK/KALAMAZOO RIVER
SUPERFUND SITE

MILL INVESTIGATIONS
SIMPSON PLAINWELL MILL
SUMMARY OF BORING FIELD DATA

Boring	Date Drilled	Total Depth[2] (ft)	Residuals Depth Interval[2] (ft)	Description of Residuals[1]	Thickness of Residuals[3] (ft)
Former Lagoons					
SPL-1	06/02/94	18.0	1.5 – 6.0	Grey clay/white clay/grey paper fibers	4.5
SPL-2	06/03/94	14.0	5.5 – 11.0	Light to dark grey clay/white clay/light grey paper fibers	5.5
SPL-3[4]	06/08/94	16.0	6.0 – 12.0	Black silt/black-grey coal ash/grey clay and paper fibers	6.0
SPL-4	06/07/94	18.0	11.8 – 13.5	Grey silt/some clay and paper fibers	1.7
SPL-5[4]	06/06/94	10.0	7.5-7.6	Grey clay and paper fibers	0.1
SPL-7[4]	06/02/94	20.0	7.5 – 18.0	Light grey to black clay/white grading to grey clay/ paper fibers	10.5
SPL-8[4]	06/03/94	12.0	5.5 – 11.5	Grey clay/paper fibers	6.0
SPL-9A[4]	06/03/94	6.0	0.2 – 2.0	Dark brown fine to medium sand/some silt/trace paper fibers	1.8
SPL-9B[4]	06/03/94	7.5	2.0 – 5.5	Brown/grey clay/paper fibers	3.5
SPL-10[4]	06/06/94	15.0	0.0 – 0.5	Brown/grey silt and fine to medium sand, trace paper fibers	0.5
			3.0 – 4.0	Brown silt/some fine to medium sand/trace paper fibers	1.0
SPL-11	06/08/94	12.0	10.0 – 10.2	Grey clay/paper fibers	0.2
SPL-12[4]	06/06/94	14.0	--	No residuals	0
SPL-13	06/07/94	18.0	14.0 – 16.0	Brown/grey fine sand and grey paper fibers	2.0
Aeration Basin					
SPL-6	06/08/94	6.0	--	No residuals	0

Notes:
[1]Descriptions provided only for intervals within which residuals were encountered.
[2] The depth is referenced to ground surface.
[3] The thickness of residuals within the borings.
[4] Sample collected for visual description only.

TABLE 3-5

ALLIED PAPER, INC./PORTAGE CREEK/KALAMAZOO RIVER
SUPERFUND SITE

MILL INVESTIGATIONS
SIMPSON PLAINWELL MILL
SUMMARY OF DETECTED PCB RESULTS FOR RESIDUALS/SOIL SAMPLES[1] (mg/kg)

Location Depth (ft) Sample ID	SPL-1 0.0-0.50 S56000	SPL-1 4.0-6.0 S56001	SPL-1 6.0-8.0 S56002	SPL-2 0.0-0.50 S56003	SPL-2 8.0-10 S56004	SPL-2 10-12 S56005	SPL-4 0.0-0.50 S56010	SPL-4 12-14 S56011
Aroclor-1016	ND (0.050 U)	0.080 J	0.029 J	ND (0.051 U)	ND (0.080 U)	ND (0.056 U)	ND (0.051 U)	ND (0.11 U)
Aroclor-1242	ND (0.050 U)	ND (0.094 U)	ND (0.062 U)	ND (0.051 U)	ND (0.080 U)	ND (0.056 U)	ND (0.051 U)	0.68
Aroclor-1248	ND (0.050 U)	ND (0.094 U)	0.036 J	ND (0.051 U)	0.082	0.025 J	ND (0.051 U)	0.13
Aroclor-1254	ND (0.050 U)	0.19	0.050 J	ND (0.051 U)	0.12	ND (0.056 U)	ND (0.051 U)	0.60
Aroclor-1260	ND (0.050 U)	ND (0.094 U)	ND (0.062 U)	0.040 J	ND (0.080 U)	ND (0.056 U)	ND (0.051 U)	0.070 J
Total PCB	ND (0.050 U)	0.27 J	0.12 J	0.040 J	0.20	0.025 J	ND (0.051 U)	1.5 J

Location Depth (ft) Sample ID	SPL-4 16-18 S56012	SPL-6 0.0-0.50 S56013	SPL-6 2.0-4.0 S56014	SPL-11 0.0-0.50 S56015	SPL-11 10-10.5 S56016	SPL-11 10.5-12 S56017	SPL-13 0.0-0.50 S56006	SPL-13 0.50-1.0 S56007
Aroclor-1016	ND (0.058 U)	ND (0.050 U)	ND (0.052 U)	ND (0.050 U)	ND (0.16 UJ)	ND (0.057 U)	ND (0.051 U)	ND (0.051 U)
Aroclor-1242	0.048 J	ND (0.050 U)	ND (0.052 U)	ND (0.050 U)	0.81 J	0.051 J	ND (0.051 U)	ND (0.051 U)
Aroclor-1248	ND (0.058 U)	ND (0.050 U)	ND (0.052 U)	ND (0.050 U)	0.24 J	ND (0.057 U)	ND (0.051 U)	ND (0.051 U)
Aroclor-1254	ND (0.058 U)	0.19	ND (0.052 U)	0.038 J	0.51 J	ND (0.057 U)	ND (0.051 U)	ND (0.051 U)
Aroclor-1260	ND (0.058 U)	0.079	ND (0.052 U)	ND (0.050 U)	0.071 J	ND (0.057 U)	ND (0.051 U)	ND (0.051 U)
Total PCB	0.048 J	0.27	ND (0.052 U)	0.038 J	1.6 J	0.051 J	ND (0.051 U)	ND (0.051 U)

See Notes on Page 2

TABLE 3-5

ALLIED PAPER, INC./PORTAGE CREEK/KALAMAZOO RIVER
SUPERFUND SITE

MILL INVESTIGATIONS
SIMPSON PLAINWELL MILL
SUMMARY OF DETECTED PCB RESULTS FOR RESIDUALS/SOIL SAMPLES[1] (mg/kg)

Location Depth (ft) Sample ID	SPL-13 14-16 S56008	SPL-13[2] 16-18 S56009	SPC-1 0.0-0.50 S56025	SPC-2 S56026	SPD-1 S56027	SPI-1 3.0-3.5 S56019	SPW-1[3] 0.0-0.5 SPW-1A	SPW-1[3] (dup) 0.0-0.5 SPW-D1
Aroclor-1016	ND (0.055 U)	ND (0.056 U)	ND (0.051 U)	ND (32 U)	ND (0.40 U)	ND (0.12 U)	ND (0.096 U)	ND (0.093 U)
Aroclor-1242	ND (0.055 U)	0.091	ND (0.051 U)	ND (32 U)	ND (0.40 U)	ND (0.12 U)	ND (0.096 U)	ND (0.093 U)
Aroclor-1248	0.11	ND (0.056 U)	ND (0.051 U)	240	ND (0.40 U)	ND (0.12 U)	ND (0.096 U)	ND (0.093 U)
Aroclor-1254	ND (0.055 U)	ND (0.056 U)	0.51	ND (32 U)	2.9	0.82	0.037 J	0.024 J
Aroclor-1260	ND (0.055 U)	ND (0.056 U)	0.23	ND (32 U)	0.99	0.61	ND (0.19 U)	ND (0.19 U)
Total PCB	0.11	0.091	0.74	240	3.9	1.4	0.037J	0.024J

Location Depth (ft) Sample ID	SPW-1[2,3] 2.0-2.5 SPW-1B	SPW-1[3] 4.5-5.0 SPW-1C	SPW-2[3] 0.0-0.5 SPW-2A	SPW-2[3] 2.0-2.5 SPW-2B	SPW-2[3] 4.5-5.0 SPW-2C	SPW-6[3] 0.0-0.5 SPW-6A
Aroclor-1016	ND (0.090 U)	ND (0.096 U)	ND (0.081 U)	ND (0.095 U)	ND (0.085 U)	ND (0.21 U)
Aroclor-1242	ND (0.090 U)	ND (0.096 U)	ND (0.081 U)	ND (0.095 U)	ND (0.085 U)	ND (0.21 U)
Aroclor-1248	0.061 J	0.023 J	ND (0.081 U)	ND (0.095 U)	ND (0.085 U)	ND (0.21 U)
Aroclor-1254	0.20	0.18 J	ND (0.16 U)	ND (0.19 U)	ND (0.17 U)	1.8
Aroclor-1260	ND (0.18 U)	ND (0.19 U)	ND (0.16 U)	ND (0.19 U)	ND (0.17 U)	ND (0.42 U)
Total PCB	0.26 J	0.20 J	ND (0.16 U)	ND (0.19 U)	ND (0.17 U)	1.8

Notes:
[1]Showing only the results for aroclors detected above quantitation limits.
[2]MS/MSD of this sample was analyzed.
[3]Samples from the warehouse construction site, which are not included as part of the RI work scope as presented in the Work Plan.
ND – Not detected.

Notes Explaining Data Qualifiers:
J – The compound was positively identified. However, the associated numerical value is an estimated concentration only.
U – The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
UJ – The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.

ALLIED PAPER, INC./PORTAGE CREEK/KALAMAZOO RIVER
SUPERFUND SITE

MILL INVESTIGATIONS
SIMPSON PLAINWELL MILL
SUMMARY OF DETECTED PCDD/PCDF RESULTS FOR
STORMWATER–RELATED SAMPLE[1] (mg/kg)

Location Sample ID	SPD–1 S56027
2,3,7,8–TCDD	5.1E–5
1,2,3,4,7,8–HxCDD	2.9E–4
1,2,3,6,7,8–HxCDD	4.5E–4
1,2,3,7,8,9–HxCDD	1.4E–4 JPR
1,2,3,4,6,7,8–HpCDD	1.4E–2
OCDD	1.9E–1
2,3,7,8–TCDF	6.5E–4
1,2,3,7,8–PeCDF	4.7E–5
2,3,4,7,8–PeCDF	5.0E–5
1,2,3,4,7,8–HxCDF	1.7E–4
1,2,3, 6,7,8–HxCDF	3.8E–5
2,3,4,6,7,8–HxCDF	6.0E–5 JPR
1,2,3,4,6,7,8–HpCDF	9.4E–4
1,2,3,4,7,8,9–HpCDF	8.6E–5
OCDF	2.5E–3

Note:
[1] Showing only the results for congeners detected above quantitation limits.

Notes Explaining Data Qualifiers:
J – The compound was positively identified. However, the associated numerical value is an estimated concentration only.
PR – The reported concentration may be underestimated due to a poorly resolved gas chromatographic peak.

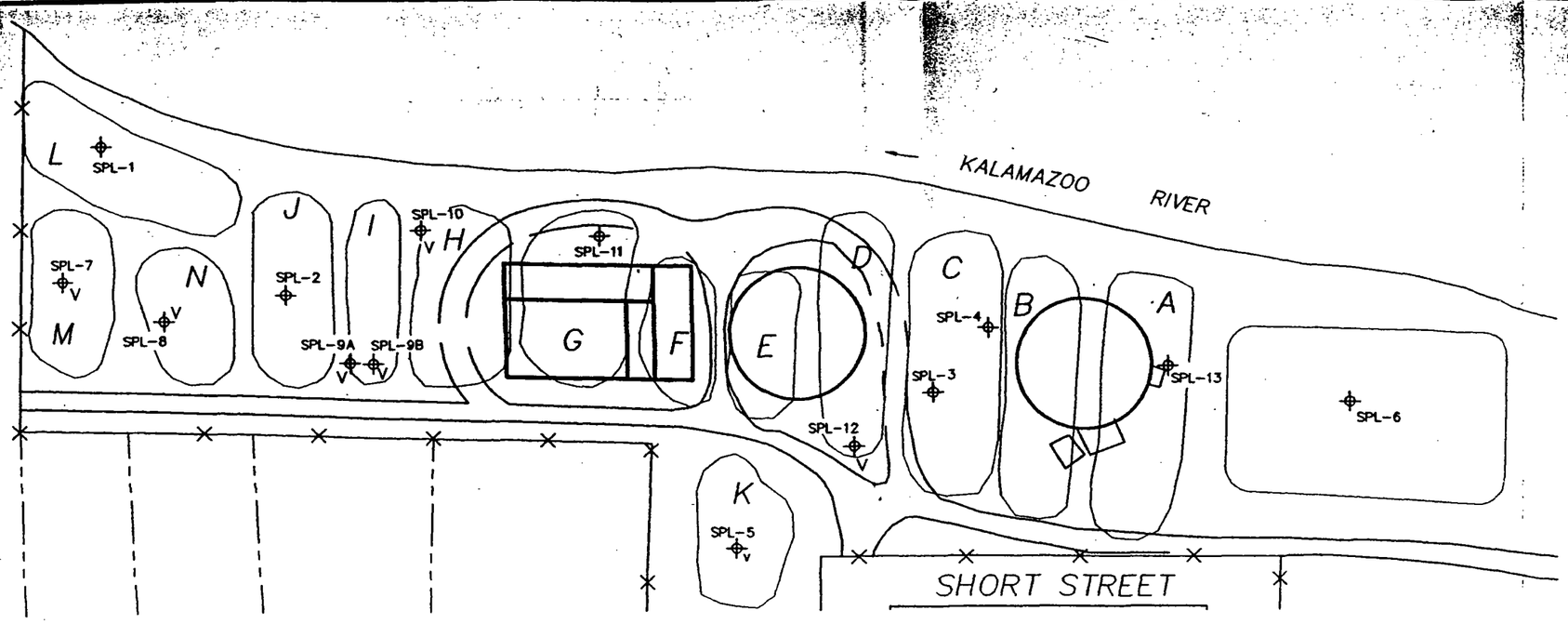
TABLE 3-7

ALLIED PAPER INC./PORTAGE CREEK/KALAMAZOO RIVER
SUPERFUND SITE

MILL INVESTIGATIONS
SIMPSON PLAINWELL MILL WAREHOUSE CONSTRUCTION SITE SAMPLING
SUMMARY OF PCB RISc™ IMMUNOASSAY SOIL TESTS

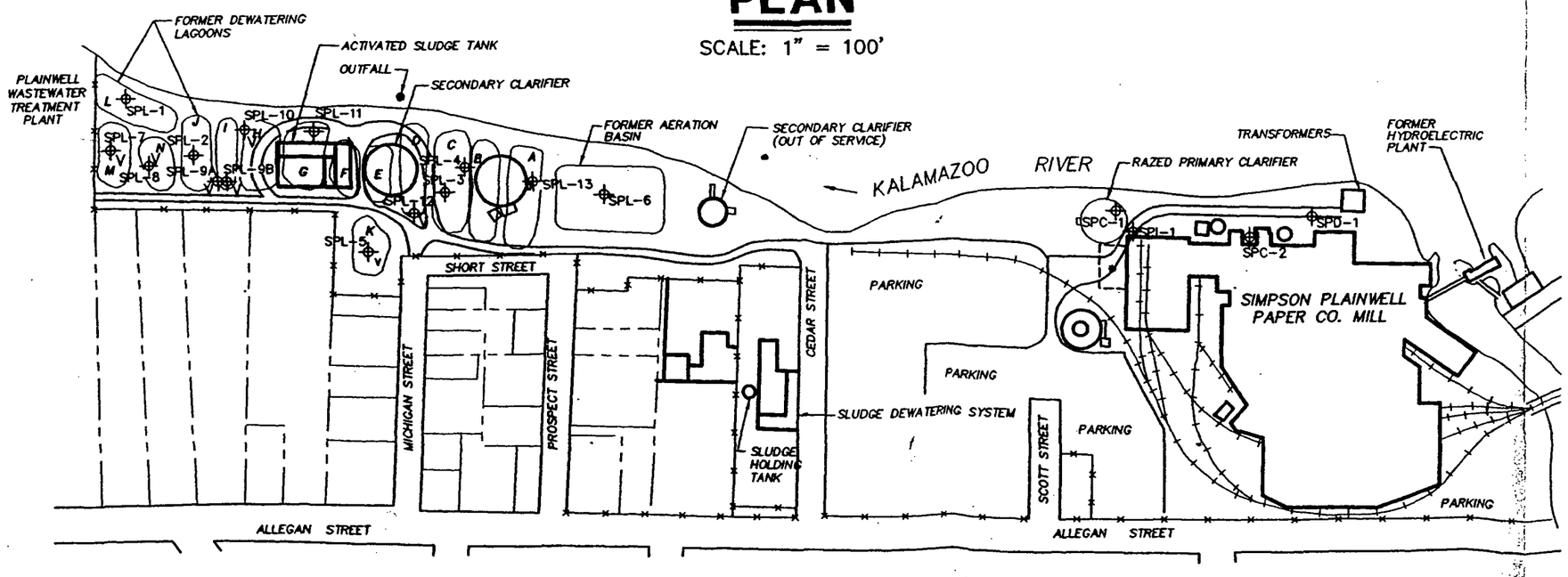
Sample ID	Depth (ft)	Change from OD Standards	OD Sample 1 ppm	1 ppm Interpretation	OD Sample 25 ppm	25 ppm Interpretation
October 6, 1994						
SPG-1	0.0 – 0.5	-0.08	+0.12	ND	+0.73	ND
SPG-2	0.0 – 0.5	-0.08	+0.19	ND	+0.59	ND
SPG-3	0.0 – 0.5	-0.08	+0.49	ND	+0.48	ND
SPW-3	0.0 – 0.5	-0.09	-0.72	>1	+0.35	ND
	0.0 – 0.5 (dup)	-0.04	-0.95	>1		
	2.0 – 2.5	-0.09	+0.32	ND	+0.66	ND
	4.0 – 4.5	-0.09	+0.40	ND	+0.49	ND
SPW-4	0.0 – 0.5	-0.04	+0.53	ND	+0.73	ND
	2.0 – 2.5	-0.04	+0.56	ND	+0.74	ND
	4.0 – 4.5	-0.04	+0.76	ND	+0.69	ND
SPW-5	0.0 – 0.5	-0.14	-0.86	>1	NA	NA
	2.0 – 2.5	-0.14	+0.26	ND	NA	NA
	4.0 – 4.5	-0.14	+0.16	ND	NA	NA
SPW-6	0.0 – 0.5	-0.14	-0.61	>1	NA	NA
	2.0 – 2.5	-0.22	+0.65	ND	NA	NA
	4.0 – 4.5	-0.22	+0.07	ND	NA	NA
SPW-7	0.0 – 0.5	-0.22	-0.98	>1	NA	NA
	2.0 – 2.5	-0.22	+0.56	ND	NA	NA
	4.0 – 4.5	-0.22	+0.47	ND	NA	NA
SPW-8	0.0 – 0.5	-0.22	-1.29	>1	NA	NA
SPW-9	0.0 – 0.5	-0.22	-0.91	>1	NA	NA
SPW-10	0.0 – 0.5	-0.22	+0.08	ND	NA	NA
SPW-11	0.0 – 0.5	-0.00	+0.15	ND	NA	NA
SPW-12	0.0 – 0.5	-0.00	+0.16	ND	NA	NA
SPW-13	0.0 – 0.5	-0.00	+0.43	ND	NA	NA
October 12, 1994						
SPW-14	0.0 – 0.5	-0.16	+0.07	ND	+0.57	ND
SPW-15	0.0 – 0.5	-0.16	+0.32	ND	+0.65	ND
SPW-16	0.0 – 0.5	-0.16	+0.56	ND	+0.67	ND
SPW-17	0.0 – 0.5	-0.02	+0.35	ND	+0.52	ND
	0.0 – 0.5 (dup)	-0.16	+0.21	ND	+0.65	ND
SPW-18	0.0 – 0.5	-0.02	+0.36	ND	+0.71	ND
SPW-19	0.0 – 0.5	-0.02	+0.54	ND	+0.68	ND
SPW-21	0.0 – 0.5	-0.16	+0.44	ND	+0.50	ND
SWL-1	Grab Sample*	-0.20	+0.33	ND	+0.82	ND
SWL-2	Grab Sample*	-0.20	+0.16	ND	+0.47	ND
SWL-3	Composite Sample*	-0.20	+0.40	ND	+0.51	ND

Notes:
OD – Optical Density
ND – Not detected
NA – Not analyzed
* – from stock-piled soil



PLAN

SCALE: 1" = 100'



PLAN

SCALE: 1" = 250'

LEGEND:

- GPL-2A V — NEW BORING FOR VISUAL ANALYSIS ONLY
- GPL-1 — NEW BORING
- GPD-1 — GRAB SAMPLE
- A — FORMER DEWATERING LAGOONS INTERPRETED FROM AERIAL PHOTOGRAPHS (1955, 1960, 1967, 1974, 1981, 1986 AND 1991)
- LOCATION OF CURRENT STRUCTURE
- RAILROAD TRACKS
- APPROXIMATE LOCATION OF WAREHOUSE CONSTRUCTION SITE SAMPLING, SEE FIGURE 8 FOR SAMPLING LOCATIONS.

NOTES:

1. SAMPLE LOCATIONS ARE APPROXIMATE.
2. BASE MAP DIGITIZED FROM AERIAL PHOTOGRAPHS. LOCATIONS ARE APPROXIMATE.

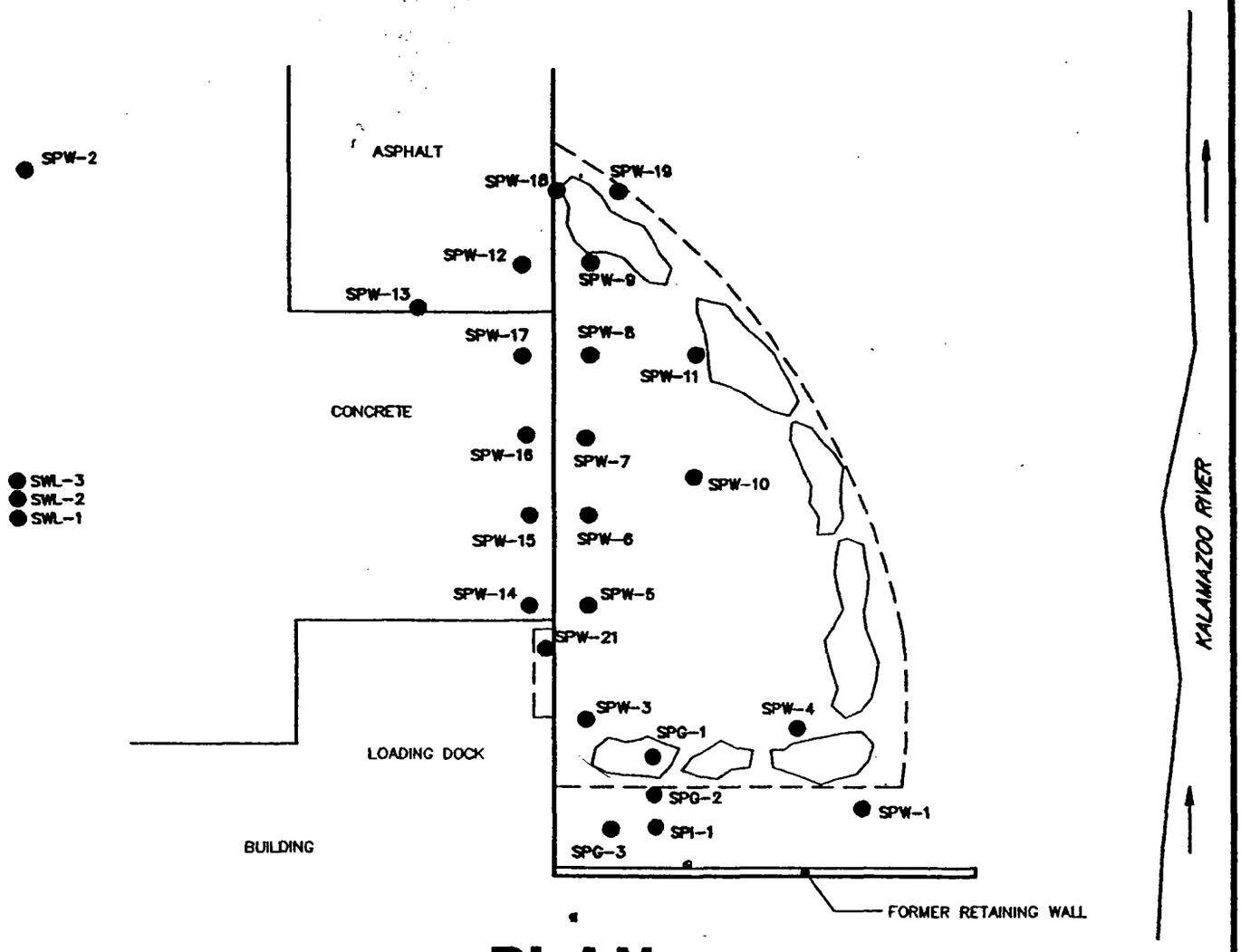
KALAMAZOO RIVER STUDY GROUP
ALLIED PAPER, INC. / PORTAGE CREEK / KALAMAZOO RIVER SUPERFUND SITE
TECHNICAL MEMORANDUM 15 MILL INVESTIGATIONS

SIMPSON PLAINWELL MILL SAMPLING LOCATIONS

BBL BLASLAND, BOUCK & LEE, INC. engineers & scientists

FIGURE 3

X: (XREF)
L: (LAYER)
P: DJ-BSIZE.PCP
5/96 SYR-54-PMC YCC



PLAN

N.T.S.

LEGEND:

SPW-3 SAMPLING LOCATION

SOIL PILE

NOTES:

1. FACILITY AND SAMPLE LOCATIONS ARE APPROXIMATE
2. SAMPLING WAS NOT REQUIRED BY THE RI/FS AS OUTLINED IN THE WORK PLAN
3. SAMPLING PERFORMED ON SEPTEMBER 21, OCTOBER 6, AND OCTOBER 12, 1994.

X: (XREF)
L: (LAYER)
P: DJ-ASIZE.PCP
5/96 SYR-54-YOC
64514404/64514G16.DWG

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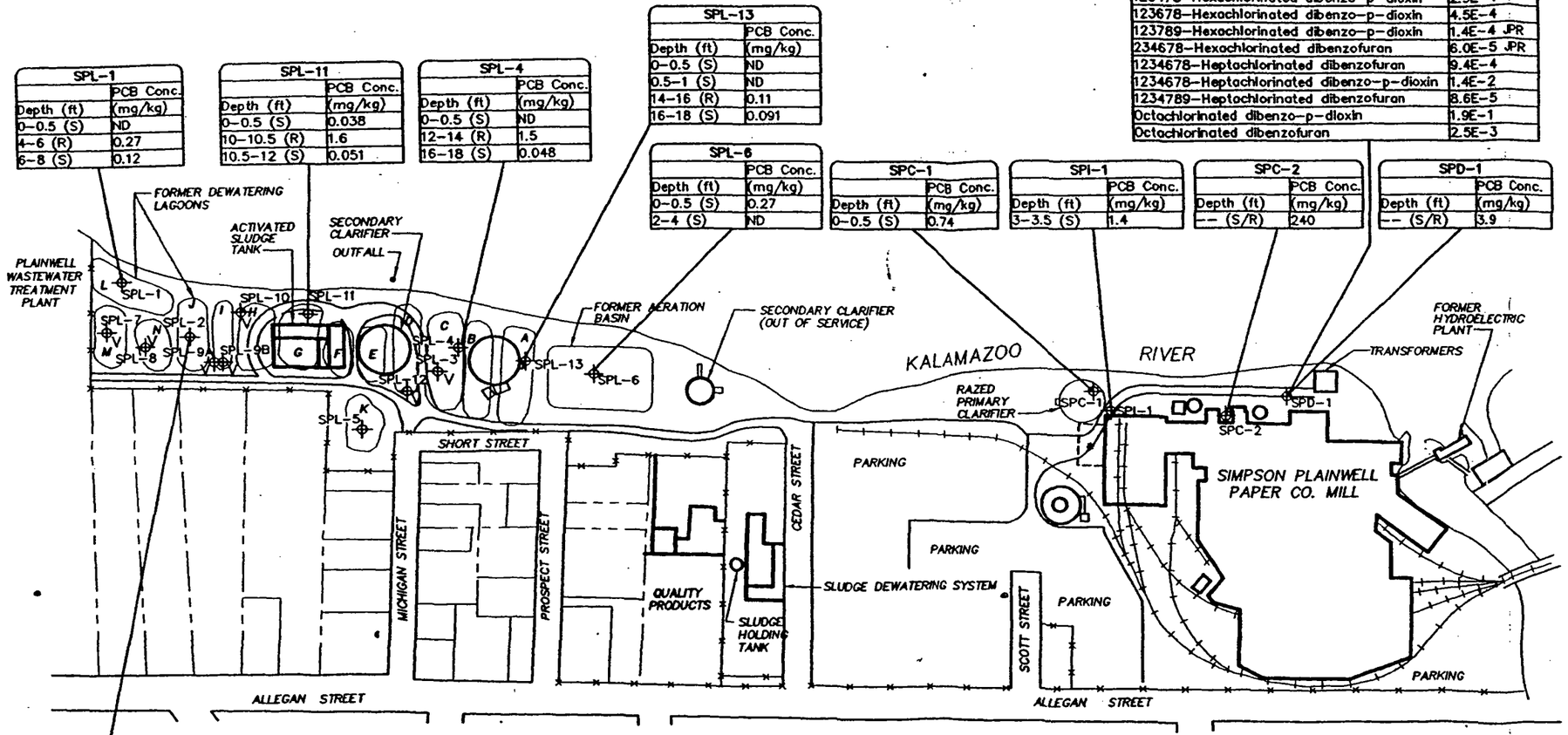
TECHNICAL MEMORANDUM 15 MILL INVESTIGATIONS

SIMPSON PLAINWELL MILL WAREHOUSE CONSTRUCTION SITE SAMPLING LOCATIONS

BBL BLASLAND, BOUCK & LEE, INC. engineers & scientists

FIGURE 8



SPL-1	
Depth (ft)	PCB Conc. (mg/kg)
0–0.5 (S)	ND
4–6 (R)	0.27
6–8 (S)	0.12

SPL-11	
Depth (ft)	PCB Conc. (mg/kg)
0–0.5 (S)	0.038
10–10.5 (R)	1.6
10.5–12 (S)	0.051

SPL-4	
Depth (ft)	PCB Conc. (mg/kg)
0–0.5 (S)	ND
12–14 (R)	1.5
16–18 (S)	0.048

SPL-13	
Depth (ft)	PCB Conc. (mg/kg)
0–0.5 (S)	ND
0.5–1 (S)	ND
14–16 (R)	0.11
16–18 (S)	0.091

SPL-6	
Depth (ft)	PCB Conc. (mg/kg)
0–0.5 (S)	0.27
2–4 (S)	ND

SPC-1	
Depth (ft)	PCB Conc. (mg/kg)
0–0.5 (S)	0.74

SPI-1	
Depth (ft)	PCB Conc. (mg/kg)
3–3.5 (S)	1.4

SPC-2	
Depth (ft)	PCB Conc. (mg/kg)
-- (S/R)	240

SPD-1	
Depth (ft)	PCB Conc. (mg/kg)
-- (S/R)	3.9

SPD-1	
Compound	Conc. (mg/kg)
2378–Tetrachlorinated dibenzo–p–dioxin	5.1E–5
2378–Tetrachlorinated dibenzofuran	6.5E–4
12378–Pentachlorinated dibenzofuran	4.7E–5
13478–Pentachlorinated dibenzofuran	5.0E–5
123478–Hexachlorinated dibenzofuran	1.7E–4
123678–Hexachlorinated dibenzofuran	3.8E–5
123478–Hexachlorinated dibenzo–p–dioxin	2.9E–4
123678–Hexachlorinated dibenzo–p–dioxin	4.5E–4
123789–Hexachlorinated dibenzo–p–dioxin	1.4E–4 JPR
234678–Hexachlorinated dibenzofuran	6.0E–5 JPR
1234678–Heptachlorinated dibenzofuran	9.4E–4
1234678–Heptachlorinated dibenzo–p–dioxin	1.4E–2
1234789–Heptachlorinated dibenzofuran	8.6E–5
Octachlorinated dibenzo–p–dioxin	1.9E–1
Octachlorinated dibenzofuran	2.5E–3

SPL-2	
Depth (ft)	PCB Conc. (mg/kg)
0–0.5 (S)	0.040
8–10 (R)	0.20
10–12 (S)	0.025

PLAN

SCALE: 1" = 250'

LEGEND:

- GPL-2A (V) — NEW BORING FOR VISUAL ANALYSIS ONLY
- GPL-1 — NEW BORING
- GPD-1 — GRAB SAMPLE
- FORMER DEWATERING LAGOONS INTERPRETED FROM AERIAL PHOTOGRAPHS (1955, 1960, 1967, 1974, 1981, 1986 AND 1991)
- CURRENT STRUCTURE
- APPROXIMATE LOCATION OF WAREHOUSE CONSTRUCTION SITE SAMPLING, SEE FIGURE 8 FOR SAMPLING LOCATIONS.

NOTES:

1. SAMPLE LOCATIONS ARE APPROXIMATE.
2. BASE MAP DIGITIZED FROM AERIAL PHOTOGRAPHS. LOCATIONS ARE APPROXIMATE.
3. DATA REFLECT TOTAL PCB DERIVED FROM THE SUM OF INDIVIDUAL AROCLORS. AROCLOR–SPECIFIC RESULTS AND THEIR QUALIFIERS CAN BE FOUND IN TABLE 3–8.

KEY:

ND NOT DETECTED

J THE COMPOUND WAS POSITIVELY IDENTIFIED. HOWEVER, THE ASSOCIATED NUMERICAL VALUE IS AN ESTIMATED CONCENTRATION ONLY.

PR THE REPORTED CONCENTRATION MAY BE UNDERESTIMATED DUE TO A POORLY RESOLVED GAS CHROMATOGRAPHIC PEAK.

(S) SOIL SAMPLE

(R) RESIDUALS SAMPLE

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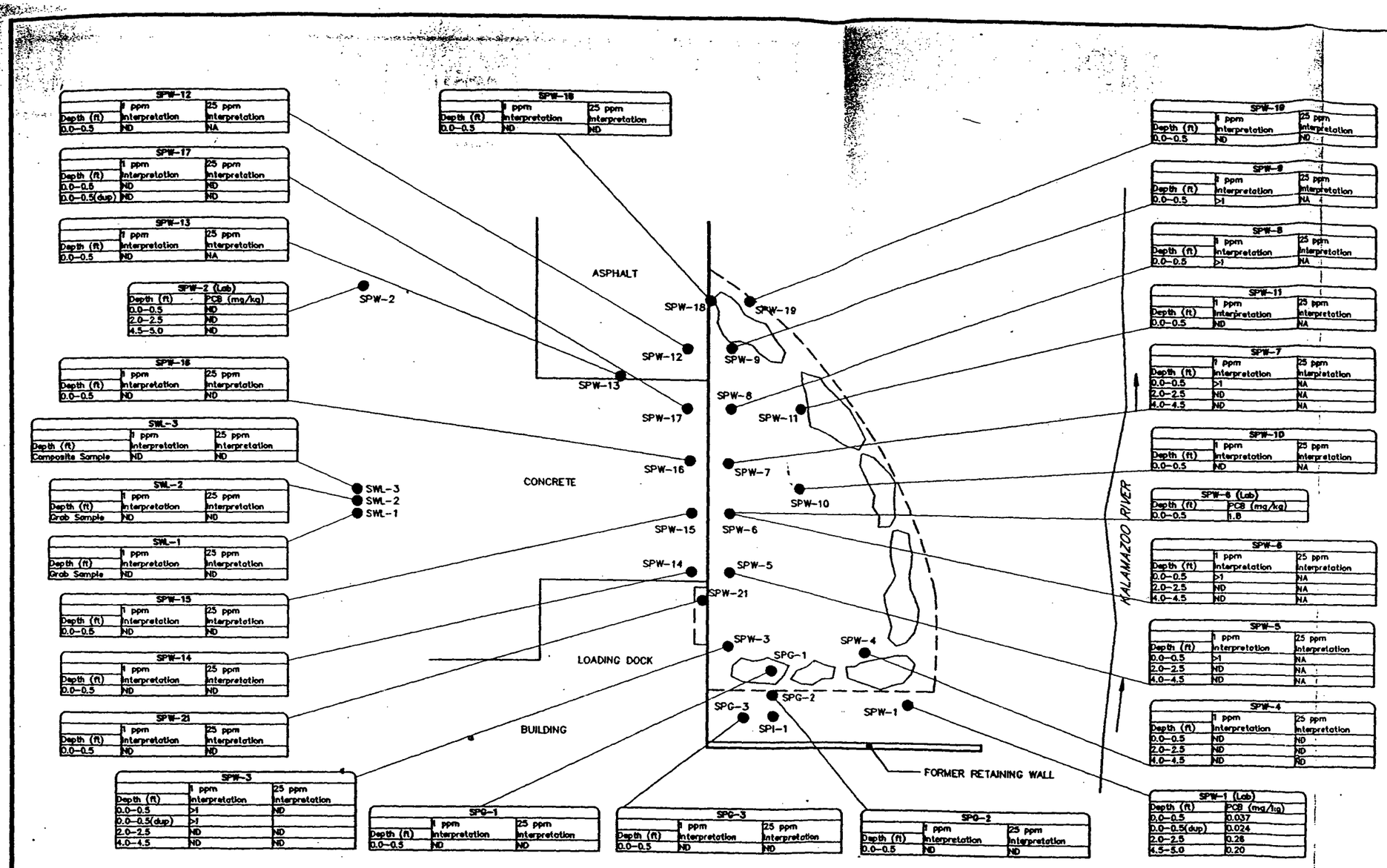
TECHNICAL MEMORANDUM 15 MILL INVESTIGATIONS

SIMPSON PLAINWELL MILL RESIDUALS/SOIL PCB AND PCDD/PCDF DATA

BBL BLASLAND, BOUCK & LEE, INC. engineers & scientists

FIGURE 10

X: (XREF)
L: (LAYER)
P: DJ-BSIZE.PCP
6/98 SYR-54-PMC YCC
84514404/84514G14.DWG



SPW-12		
Depth (ft)	1 ppm Interpretation	25 ppm Interpretation
0.0–0.5	ND	NA

SPW-17		
Depth (ft)	1 ppm Interpretation	25 ppm Interpretation
0.0–0.5	ND	ND
0.0–0.5(dup)	ND	ND

SPW-13		
Depth (ft)	1 ppm Interpretation	25 ppm Interpretation
0.0–0.5	ND	NA

SPW-2 (Lab)	
Depth (ft)	PCB (mg/kg)
0.0–0.5	ND
2.0–2.5	ND
4.5–5.0	ND

SPW-16		
Depth (ft)	1 ppm Interpretation	25 ppm Interpretation
0.0–0.5	ND	ND

SWL-3		
Depth (ft)	1 ppm Interpretation	25 ppm Interpretation
Composite Sample	ND	ND

SWL-2		
Depth (ft)	1 ppm Interpretation	25 ppm Interpretation
Grab Sample	ND	ND

SWL-1		
Depth (ft)	1 ppm Interpretation	25 ppm Interpretation
Grab Sample	ND	ND

SPW-15		
Depth (ft)	1 ppm Interpretation	25 ppm Interpretation
0.0–0.5	ND	ND

SPW-14		
Depth (ft)	1 ppm Interpretation	25 ppm Interpretation
0.0–0.5	ND	ND

SPW-21		
Depth (ft)	1 ppm Interpretation	25 ppm Interpretation
0.0–0.5	ND	ND

SPW-18		
Depth (ft)	1 ppm Interpretation	25 ppm Interpretation
0.0–0.5	ND	ND

SPW-19		
Depth (ft)	1 ppm Interpretation	25 ppm Interpretation
0.0–0.5	ND	ND

SPW-9		
Depth (ft)	1 ppm Interpretation	25 ppm Interpretation
0.0–0.5	>1	NA

SPW-8		
Depth (ft)	1 ppm Interpretation	25 ppm Interpretation
0.0–0.5	>1	NA

SPW-11		
Depth (ft)	1 ppm Interpretation	25 ppm Interpretation
0.0–0.5	ND	NA

SPW-7		
Depth (ft)	1 ppm Interpretation	25 ppm Interpretation
0.0–0.5	>1	NA
2.0–2.5	ND	NA
4.0–4.5	ND	NA

SPW-10		
Depth (ft)	1 ppm Interpretation	25 ppm Interpretation
0.0–0.5	ND	NA

SPW-6 (Lab)	
Depth (ft)	PCB (mg/kg)
0.0–0.5	1.8

SPW-6		
Depth (ft)	1 ppm Interpretation	25 ppm Interpretation
0.0–0.5	>1	NA
2.0–2.5	ND	NA
4.0–4.5	ND	NA

SPW-5		
Depth (ft)	1 ppm Interpretation	25 ppm Interpretation
0.0–0.5	>1	NA
2.0–2.5	ND	NA
4.0–4.5	ND	NA

SPW-4		
Depth (ft)	1 ppm Interpretation	25 ppm Interpretation
0.0–0.5	ND	ND
2.0–2.5	ND	ND
4.0–4.5	ND	ND

SPW-1 (Lab)	
Depth (ft)	PCB (mg/kg)
0.0–0.5	0.037
0.0–0.5(dup)	0.024
2.0–2.5	0.28
4.5–5.0	0.20

SPW-3		
Depth (ft)	1 ppm Interpretation	25 ppm Interpretation
0.0–0.5	>1	ND
0.0–0.5(dup)	>1	
2.0–2.5	ND	ND
4.0–4.5	ND	ND

SPG-1		
Depth (ft)	1 ppm Interpretation	25 ppm Interpretation
0.0–0.5	ND	ND

SPG-3		
Depth (ft)	1 ppm Interpretation	25 ppm Interpretation
0.0–0.5	ND	ND

SPG-2		
Depth (ft)	1 ppm Interpretation	25 ppm Interpretation
0.0–0.5	ND	ND

LEGEND:

SPW-3 SAMPLING LOCATION

SOIL PILE

KEY

ND NOT DETECTED

NA NOT ANALYZED

Lab LABORATORY SAMPLE RESULT

(dup) DUPLICATE SAMPLE

NOTES:

1. FACILITY AND SAMPLE LOCATIONS ARE APPROXIMATE.
2. ENSYS CORPORATION PCB RISc IMMUNOASSAY TEST KIT RESULTS. SPW-1, SPW-2 AND SPW-6 LABORATORY RESULTS AS REPORTED BY QUANTERRA ENVIRONMENTAL SERVICES, 1994. TM
3. SAMPLING WAS NOT REQUIRED BY THE RI/FS OUTLINED IN THE WORK PLAN.
4. SAMPLING PERFORMED ON SEPTEMBER 21, OCTOBER 6, AND OCTOBER 12, 1994.
5. LABORATORY DATA FOR SPW-1, SPW-2, AND SPW-6 REFLECT TOTAL PCB DERIVED FROM THE SUM OF INDIVIDUAL AROCLORS. AROCLOR-SPECIFIC RESULTS AND THEIR QUALIFIERS CAN BE FOUND IN TABLE 3-8.

PLAN

N.T.S

X: (XREF)
L: (LAYER)
P: DJ-BSIZE.PCP
S/M: STR-54-YCC
64514404/64514G15.DWG

KALAMAZOO RIVER STUDY GROUP
ALLIED PAPER, INC. / PORTAGE CREEK /
KALAMAZOO RIVER SUPERFUND SITE

TECHNICAL MEMORANDUM 15 MILL INVESTIGATIO

SIMPSON PLAINWELL MILL WAREHOUSE CONSTRUCTION SITI PCB RESULTS

BBL BLASLAND, BOUCK & LEE, INC. engineers & scientists

FIGUI 11

Date Start/Finish: 08/02/94 / 08/02/94 **Drilling Company:** Mateco **Driller's Name:** Bob Dreyer **Drilling Method:** Hollow Stem Auger **Bit Size:** N/A-in. **Auger Size:** 3.25-in. **Rig Type:** CME-45A **Spoon Size:** N/A-in. **Hammer Weight:** N/A-lb **Height of Fall:** N/A-in.	**Northing:** **Easting:** **Borehole Depth:** 18 ft. **Ground Surface Elev.:** 720.0 ft. **Geologist:** David W. Lay	**Boring No.** SPL-1 **Site:** Simpson Painwell Mill **Client:** Allied Paper, Inc./Portage Creek/ Kalamazoo River Superfund Site

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	Geotechnical Test	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation 720.0 ft.	720									GROUND SURFACE	
		S58000		1 1 1 1	2	1.0	1.1			Brown fine to medium SAND, some silt, little rootlets, loose, moist.	Cement/bentonite grout backfill to 18.0'.
				2 1 WOR WOR	1	NR				Grey CLAY, little fine to medium sand, trace paper fibers, loose, moist.	
5	715	S58001		1 WOR WOR 1	WOR	0.8	2.1			White CLAY, trace paper fibers, loose, moist.	
		S58002		14 14 7 7	21	0.8	2.0			Dark grey PAPER FIBERS, little clay, loose, moist. Black stained fine SAND, loose, moist (FILL).	
				4 5 7 8	12	1.1				Grading wet.	
10	710			4 4 4 4	8	1.2					
				4 4 4 4	8	1.4	0.8				
15	705			18 30	51	2.0	1.2				

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Remarks:
Boring filled with bentonite upon completion.

Saturated Zones

Date / Time	Elevation	Depth

Client:
Allied Paper, Inc./Portage Creek/
Kalamazoo River Superfund Site

Site:
Simpson Painwell Mill

Boring No. SPL-1
Total Depth = 18 ft.

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	Geotechnical Test	Geologic Column	Stratigraphic Description	Boring Construction
	705			21 19	51	2.0	1.2			Grey fine to medium GRAVEL, some coarse sand, loose, wet.	
				7 8 10 12	18	2.0	1.0			Black fine SAND, loose, wet.	
										End of boring at 18.0' BGS.	
20	700										
25	695										
30	690										
35	685										

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Remarks:

Saturated Zones

Date / Time	Elevation	Depth

KB 515

Project: 645.14
Script: BBL-bore
Date: 07/06/94

Date Start/Finish: 06/03/94 / 06/03/94 Drilling Company: Mateco Driller's Name: Bob Dreyer Drilling Method: Hollow Stem Auger Bit Size: N/A-in. Auger Size: 3.25-in. Rig Type: CME-45A Spoon Size: N/A-in. Hammer Weight: N/A-lb Height of Fall: N/A-in.	Northing: Easting: Borehole Depth: 14 ft. Ground Surface Elev.: 721.2 ft. Geologist: David W. Lay	Boring No. SPL-2 Site: Simpson Painwell Mill Client: Allied Paper, Inc./Portage Creek/ Kalamazoo River Superfund Site

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 in.	N	Recovery (ft)	PID (ppm) Headspace	Geotechnical Test	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation 721.2 ft.										GROUND SURFACE	
		S56003		2 3 3 4	6	2.2				Brown fine to medium SAND, some coarse sand and silt, little fine gravel, loose, moist.	Cement/bentonite grout backfill to 14.0'.
	720			3 3 3 3	6	1.1				Grading with no gravel.	
5				1 WOH 1 1	1	0.9				2" layer fine SAND and SILT.	
	715			1 WOH 1 WOH	1	0.7				Light to dark grey CLAY, little paper fibers, and fine to medium sand, loose, wet. 2" layer of white CLAY.	
		S56004		WOH WOH WOH 1	WOH	1.7				Light to dark grey CLAY, little paper fibers and fine to medium sand, loose, wet. Light grey PAPER FIBERS, little clay, soft, wet (Hydrogen Sulfide odor).	
10	710	S56005		1 10 11 12	21	1.8				Black stained fine SAND, trace silt, loose, wet.	
				10 12 13 15	25	0.5					
15										End of boring at 14.0' BGS.	

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Remarks:
Boring filled with bentonite upon completion.

Saturated Zones		
Date / Time	Elevation	Depth

Project: 845.14 Script: BBL-bore Date: 07/06/94

KB 515

Date Start/Finish: 06/08/94 / 06/08/94 **Drilling Company:** Mateco **Driller's Name:** Bob Dreyer **Drilling Method:** Hollow Stem Auger **Bit Size:** N/A-in. **Auger Size:** 3.25-in. **Rig Type:** CME-45A **Spoon Size:** N/A-in. **Hammer Weight:** N/A-lb **Height of Fall:** N/A-in.	**Northing:** **Easting:** **Borehole Depth:** 18 ft. **Ground Surface Elev.:** 722.0 ft. **Geologist:** David W. Lay	**Boring No.** SPL-3 **Site:** Simpson Painwell Mill **Client:** Allied Paper, Inc./Portage Creek/ Kalamazoo River Superfund Site

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 in.	N	Recovery (ft.)	PID (ppm) Headspace	Geotechnical Test	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation 722.0 ft.											
										GROUND SURFACE	
				2 4 8 8	10	1.4	1.0			Dark brown SILT, little fine sand, trace clay and rootlets, loose, moist (TOPSOIL).	Cement/bentonite grout backfill to 18.0'.
	720			2 3 4 5	7	1.2	1.0			Brown fine to medium SAND, little coarse sand, trace silt, loose, moist (FILL).	
5				2 2 2 2	4	1.4	0.5				
	715			4 5 7 7	12	1.3	0.8			Black SILT and COAL ASH, little fine to coarse sand and fine gravel, trace grey paper fibers, loose, moist (FILL).	
				4 3 2 2	5	1.1	2.9				
10				18 29 12 10	41	1.0	3.1			Black/grey COAL ASH and medium to coarse SAND, some grey clay and paper fibers, little fine gravel and fine sand, loose, wet (FILL).	
	710			4 6 8 10	14	1.1	3.8			Black medium to coarse SAND, some fine angular gravel, little silt, loose, wet (FILL). Brick fragments at 13.5' BGS.	
15				4 5	12	0.8	4.8			Black rounded fine to coarse SAND, some fine gravel, trace clay, loose, wet	

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Remarks:
Boring filled with bentonite upon completion.

Saturated Zones

Date / Time	Elevation	Depth

Project: 845.14 Script: BBL-bore Date: 07/05/94

KB 515

Client:
Allied Paper, Inc./Portage Creek/
Kalamazoo River Superfund Site

Site:
Simpson Palmwell Mill

Boring No. SPL-3

Total Depth = 18 ft.

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	Geotechnical Test	Geologic Column	Stratigraphic Description	Boring Construction
				7 7	12	0.8	4.8				
										End of boring at 18.0' BGS.	
	705										
20											
	700										
25											
	695										
30											
	690										
35											

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Remarks:

Saturated Zones

Date / Time	Elevation	Depth

Project: 845.14

Script: BBL-bore
Date: 07/05/94

KB 515

Date Start/Finish: 06/07/94 / 06/07/94 Drilling Company: Mateco Driller's Name: Bob Dreyer Drilling Method: Hollow Stem Auger Bit Size: N/A-in. Auger Size: 3.25-in. Rig Type: CME-45A Spoon Size: N/A-in. Hammer Weight: N/A-lb Height of Fall: N/A-in.	Northing: Easting: Borehole Depth: 18 ft. Ground Surface Elev.: 725.6 ft. Geologist: David W. Lay	Boring No. SPL-4 Site: Simpson Painwell Mill Client: Allied Paper, Inc./Portage Creek/ Kalamazoo River Superfund Site

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 in.	N	Recovery (ft)	PID (ppm) Headspace	Geotechnical Test	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation 725.6 ft.										GROUND SURFACE	
	725	S58010		2 2 3 4	5	L2				Brown fine SAND, some silt and medium sand, little coarse sand, loose, damp (FILL).	Cement/bentonite grout backfill to 18.0'.
				4 4 4 4	8	L1					
5	720			2 3 4 4	7	L5				Grading to trace silt, moist.	
				2 3 4 5	7	L2					
				4 5 7 8	12	L3					
10	715			5 10 15 17	25	L7					
		S58011		12 29 17 30	46	L2				Grey silt, some clay and paper fibers, little medium to coarse sand, medium dense, moist.	
15				10 29	80	0.4				Fine to medium SAND, some coarse sand, trace silt, loose, wet.	

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Remarks:
Boring filled with bentonite upon completion.

Saturated Zones		
Date / Time	Elevation	Depth

Project: 845.14 Script: BBL-bore Date: 07/08/94

KB 515

Client: Allied Paper, Inc./Portage Creek/ Kalamazoo River Superfund Site

Site: Simpson Painwell Mill

Boring No. SPL-4

Total Depth = 18 ft.

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft)	PID (ppm) Headspace	Geotechnical Test	Geologic Column	Stratigraphic Description	Boring Construction
	710			31 18	60	0.4				Black fine SAND and SILT, little medium to coarse sand and coal slag, loose, wet.	
		S58012		4 5 7 10	12	0.7				Grey/brown medium to coarse SAND, some fine sand, little fine gravel, trace silt, loose, wet.	
										End of boring at 18.0' BGS.	
20	705										
25	700										
30	695										
35											

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Remarks:

Saturated Zones

Date / Time	Elevation	Depth

Project: 645.14

Script: BBL-bore
Date: 07/08/94

KB 515

Date Start/Finish: 08/08/94 / 08/08/94 Drilling Company: Mateco Driller's Name: Bob Dreyer Drilling Method: Hollow Stem Auger Bit Size: N/A-in. Auger Size: 4.25-in. Rig Type: CME-45A Spoon Size: N/A-in. Hammer Weight: N/A-lb Height of Fall: N/A-in.	Northing: Easting: Borehole Depth: 10 ft. Ground Surface Elev.: 719.0 ft. Geologist: David W. Lay	Boring No. SPL-5 Site: Simpson Painwell Mill Client: Allied Paper, Inc./Portage Creek/ Kalamazoo River Superfund Site

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	Geotechnical Test	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation 719.0 ft.										GROUND SURFACE	
				8 11 4 3	15	0.8				Brown SILT and fine SAND, little medium to coarse sand and fine gravel, loose, damp (FILL).	Cement/bentonite grout backfill to 10.0'.
				1 1 2 2	3	0.3				Brown/black fine to medium SAND and COAL SLAG, loose, moist, wood fragments in nose of spoon.	
	715			1 1 1 1	2	NR					
5				1 4 10 14	14	1.8				COAL SLAG	
										Grey CLAY and PAPER FIBERS.	
	710			4 8 10 10	18	0.8				Brown coarse SAND and fine GRAVEL, little fine to medium sand and silt, loose, wet.	
10										Brown rounded medium to coarse SAND and fine GRAVEL, little fine sand, trace silt, loose, moist.	
										End of boring at 10.0' BGS.	
	705										
15											

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Remarks:

No analytical samples submitted from this boring. Boring filled with bentonite upon completion.

Saturated Zones

Date / Time	Elevation	Depth

Project: 845.14

Script: BBL-bore
Date: 07/08/94

KB 515

Date Start/Finish: 06/08/94 / 06/08/94 Drilling Company: Mateco Driller's Name: Bob Dreyer Drilling Method: Hollow Stem Auger Bit Size: N/A-in. Auger Size: 3.25-in. Rig Type: CME-45A Spoon Size: N/A-in. Hammer Weight: N/A-lb Height of Fall: N/A-in.	Northing: Easting: Borehole Depth: 6.0 ft. Ground Surface Elev: 715.5 ft. Geologist: David W. Lay	Boring No. SPL-6 Site: Simpson Painwell Mill Client: Allied Paper, Inc./Portage Creek/ Kalamazoo River Superfund Site

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 in.	N	Recovery (ft.)	PID (ppm) Headspace	Geotechnical Test	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation 715.5 ft.										GROUND SURFACE	
	715	S58013		4 10 26 27	36	0.7	3.1			Brown SILT and fine SAND, little medium to coarse sand, trace fine gravel, loose, damp (FILL).	Cement/bentonite grout backfill to 6.0'.
		S58014		7 8 10 11	18	1.0	1.2			Brown fine to coarse SAND, rounded, trace silt and gravel, loose, moist.	
5	710			4 5 6 6	11	0.4	2.2			Red/brown oxidation staining. Grading wet.	
										End of boring at 6.0' BGS.	
10	705										
15											

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Remarks:
Boring filled with bentonite upon completion.

Saturated Zones		
Date / Time	Elevation	Depth

Project: 845.14 Script: BBL-bore Date: 07/06/94

KB 515

Date Start/Finish: 06/03/94 / 06/03/94 **Drilling Company:** Mateco **Driller's Name:** Bob Dreyer **Drilling Method:** Hollow Stem Auger **Bit Size:** N/A-in. **Auger Size:** 3.25-in. **Rig Type:** CME-45A **Spoon Size:** N/A-in. **Hammer Weight:** N/A-lb **Height of Fall:** N/A-in.	**Northing:** **Easting:** **Borehole Depth:** 12 ft. **Ground Surface Elev.:** 721.5 ft. **Geologist:** David W. Lay	**Boring No.** SPL-8 **Site:** Simpson Painwell Mill **Client:** Allied Paper, Inc./Portage Creek/ Kalamazoo River Superfund Site

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	Geotechnical Test	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation 721.5 ft.											
										GROUND SURFACE	
	720			4 5 3 3	8	1.1				Brown fine to medium SAND, some silt, little coarse sand and gravel, loose, moist.	Cement/bentonite grout backfill to 12.0'.
				4 3 2 1	5	0.8					
5				WOH WOH 1 WOH	1	1.0				Brown fine to coarse SAND, some fine gravel, trace silt, loose, wet.	
	715			1 WOH WOH WOH	WOH	0.8				Grey CLAY, some paper fibers, little fine to coarse sand, loose, wet. Grading with some coarse sand.	
10				WOH 1 1 1	2	0.7					
	710			4 9 10 12	19	1.3				Grey CLAY, trace paper fibers.	
										Black stained fine SAND, little silt, trace gravel, loose, wet.	
										End of boring at 12.0' BGS.	
15											

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Remarks:

No analytical samples submitted from this boring. Boring filled with bentonite upon completion.

Saturated Zones

Date / Time	Elevation	Depth

KB 515

Project: 845.14

Script: BBL-bore
Date: 07/08/94

Date Start/Finish: 06/03/94 / 06/03/94 **Drilling Company:** Mateco **Driller's Name:** Bob Dreyer **Drilling Method:** Hollow Stem Auger **Bit Size:** N/A-in. **Auger Size:** 3.25-in. **Rig Type:** CME-45A **Spoon Size:** N/A-in. **Hammer Weight:** N/A-lb **Height of Fall:** N/A-in.	**Northing:** **Easting:** **Borehole Depth:** 8.0 ft. **Ground Surface Elev.:** 721.7 ft. **Geologist:** David W. Lay	**Boring No.** SPL-9A **Site:** Simpson Painwell Mill **Client:** Allied Paper, Inc./Portage Creek/ Kalamazoo River Superfund Site

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 in.	N	Recovery (ft.)	PID (ppm) Headspace	Geotechnical Test	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation 721.7 ft.										GROUND SURFACE	
				2 3 3 3	6	0.8				Brown SILT, some fine to coarse sand, trace fine gravel, loose, damp.	Cement/bentonite grout backfill to 8.0'.
	720									Dark brown fine to medium SAND, some silt, trace paper fibers and coal slag, loose, moist.	
				2 2 3 4	5	1.8				Black COAL ASH, loose, moist.	
										Brown fine SAND, some silt, little medium to coarse sand, loose, moist.	
5				3 3 4 5	7	1.1				2" layers of black coal ash and grey paper fibers at 5.1' and 5.5' BGS.	
	715									End of boring at 8.0' BGS.	
10											
	710										
15											

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Remarks:
No analytical samples submitted from this boring. Boring filled with bentonite upon completion.

Saturated Zones

Date / Time	Elevation	Depth

KB 515

Project: 845.14 Script: BBL-bore
Date: 07/05/94

Date Start/Finish: 06/03/94 / 06/03/94 Drilling Company: Mateco Driller's Name: Bob Dreyer Drilling Method: Hollow Stem Auger Bit Size: N/A-in. Auger Size : 3.25-in. Rig Type: CME-45A Spoon Size: N/A-in. Hammer Weight: N/A-lb Height of Fall: N/A-in.	Northing: Easting: Borehole Depth: 7.5 ft. Ground Surface Elev.: 721.7 ft. Geologist: David W. Lay	Boring No. SPL-98 Site: Simpson Painwell Mill Client: Allied Paper, Inc./Portage Creek/ Kalamazoo River Superfund Site

gs elevation 721.7 ft.

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 in.	N	Recovery (ft.)	PID (ppm) Headspace	Geotechnical Test	Geologic Column	Stratigraphic Description	Boring Construction
										GROUND SURFACE	
				1 1 3 4	4	1.1				Brown fine SAND and SILT, little medium to coarse sand, trace fine gravel, loose, moist.	Cement/bentonite grout backfill to 7.5'.
	720									Grades to some fine gravel.	
				1 1 WOH WOH	1	1.3				Brown/grey CLAY, some fine to medium sand, trace paper fibers, loose, moist.	
										Grey CLAY, little black laminated paper fibers, soft, moist.	
5				1 1 3 3	4	0.8					
										Brown/grey fine to coarse SAND, little grey clay and silt, loose, wet.	
	715			4 4 20/0.2	24+	0.3				Black stained fine to medium SAND, some coarse sand, little silt, loose, wet.	
										Auger refusal at 7.5' BGS.	
10											
	710										
15											

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Remarks:

No analytical samples submitted from this boring. Boring filled with bentonite upon completion.

Saturated Zones

Date / Time	Elevation	Depth

KB 515

Date Start/Finish: 06/06/94 / 06/06/94 Drilling Company: Mateco Driller's Name: Bob Dreyer Drilling Method: Hollow Stem Auger Bit Size: N/A-in. Auger Size: 3.25-in. Rig Type: CME-45A Spoon Size: N/A-in. Hammer Weight: N/A-lb Height of Fall: N/A-in.	Northing: Easting: Borehole Depth: 15 ft. Ground Surface Elev: 721.0 ft. Geologist: David W. Lay	Boring No. SPL-10 Site: Simpson Painwell Mill Client: Allied Paper, Inc./Portage Creek/ Kalamazoo River Superfund Site

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 in.	N	Recovery (ft.)	PID (ppm) Headspace	Geotechnical Test	Geologic Column	Stratigraphic Description	Boring Construction
	as elevation 721.0 ft.									GROUND SURFACE	
	720			4 5 5 8	10	1.3				Brown/grey SILT and fine to medium SAND, trace paper fibers, loose, damp (FILL).	Cement/bentonite grout backfill to 15.0'.
										1" layer black CLAY and PAPER FIBERS.	
										Brown fine SAND, little medium to coarse sand and silt, loose, moist (FILL).	
				5 10		0.5				Brown SILT, some fine to medium sand, trace grey paper fibers, loose, moist (FILL).	
5				3 3		0.8				Black stained fine SAND and SILT, trace coal fragments and gravel, loose, moist.	
	715			3 6 13 18	19	1.2				Grades to wet.	
				5 6 6 9	12	NR					
10											
	710			5 6 7 10	13	NR					
				3 4 4 5	8	1.5				Black/grey fine to medium SAND, little coarse sand, trace silt, loose, wet.	
15										2" layer coarse and and gravel.	

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Remarks:
No analytical samples submitted from this boring. Boring filled with bentonite upon completion.

Saturated Zones		
Date / Time	Elevation	Depth

Project: 645.14 Script: BBL-bore Date: 07/06/94

KB 515

Date Start/Finish: 06/08/94 / 06/08/94 **Drilling Company:** Mateco **Driller's Name:** Bob Dreyer **Drilling Method:** Hollow Stem Auger **Bit Size:** N/A-in. **Auger Size:** 3.25-in. **Rig Type:** CME-45A **Spoon Size:** N/A-in. **Hammer Weight:** N/A-lb **Height of Fall:** N/A-in.	**Northing:** **Easting:** **Borehole Depth:** 12 ft. **Ground Surface Elev.:** 720.8 ft. **Geologist:** David W. Lay	**Boring No.** SPL-11 **Site:** Simpson Painwell Mill **Client:** Allied Paper, Inc./Portage Creek/ Kalamazoo River Superfund Site

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	Geotechnical Test	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation 720.8 ft.										GROUND SURFACE	
	720	558015		4 7 8 10	15	1.2	0.8			Brown fine to medium SAND, little coarse sand, trace silt, loose, damp (FILL).	Cement/bentonite grout backfill to 12.0'.
				8 10 11 11	21	1.2	1.8				
5				10 12 13 14	25	1.3	2.1				
	715			5 8 7 9	16	0.8	1.9			Grey fine to coarse SAND, some silt, trace gravel, dense, moist. Brown medium to coarse SAND, some silt, loose, moist. Grey fine SAND and SILT, some coarse sand and fine gravel, dense, moist.	
				3 4 4 5	8	1.5	2.7			Brown medium SAND, some coarse sand and fine gravel, little silt, loose, moist.	
10		558016		4 4 6 7	10	1.3	2.1			Black fine SAND and SILT, some coal ash, little coarse sand and fine gravel, loose, wet.	
	710	558017								Grey CLAY and PAPER FIBERS, soft, wet.	
										Black COAL ASH	
										Brown/grey medium to coarse SAND, rounded, little fine sand and gravel, trace silt, loose, wet.	
15										End of boring at 12.0' BGS.	

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Remarks:
Boring filled with bentonite upon completion.

Saturated Zones

Date / Time	Elevation	Depth

Project: 645.14
Script: BBL-bore
Date: 07/08/94

KB 515

Date Start/Finish: 06/06/94 / 06/06/94 Drilling Company: Mateco Driller's Name: Bob Dreyer Drilling Method: Hollow Stem Auger Bit Size: N/A-in. Auger Size: 4.25-in. Rig Type: CME-45A Spoon Size: N/A-in. Hammer Weight: N/A-lb Height of Fall: N/A-in.	Northing: Easting: Borehole Depth: 14 ft. Ground Surface Elev.: 721.4 ft. Geologist: David W. Lay	Boring No.: SPL-12 Site: Simpson Painwell Mill Client: Allied Paper, Inc./Portage Creek/ Kalamazoo River Superfund Site

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	Geotechnical Test	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation 721.4 ft.										GROUND SURFACE	
	720			8 10 7 8	17	1.0				Brown fine to medium SAND, some coarse sand, trace fine gravel, loose, moist (FILL).	Cement/bentonite grout backfill to 14.0'.
				2 2 3 4	5	1.2					
5				2 3 4 4	7	0.5					
	715					NR				Augered through cobbles.	
				8 10 11 12	21	0.9				Brown fine to medium SAND, little coarse sand and fine gravel, trace silt, loose, moist (FILL). 1" layer of brown SILT and CLAY.	
10				10 10 10 10	20	1.1					
	710			3 5 7 11	12					Black stained, rounded, medium to coarse SAND, some fine gravel, little fine sand, loose, wet.	
15										End of boring at 14.0' BGS.	

BLASLAND, BOUCK & LEE
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Remarks:
No analytical samples submitted from this boring. Boring filled with bentonite upon completion.

Saturated Zones

Date / Time	Elevation	Depth

Project: 645.14 Script: BBL-bore Date: 07/05/94

KB 515

Date Start/Finish: 06/07/94 / 06/07/94 Drilling Company: Mateco Driller's Name: Bob Dreyer Drilling Method: Hollow Stem Auger Bit Size: N/A-in. Auger Size : 3.25-in. Rig Type: CME-45A Spoon Size: N/A-in. Hammer Weight: N/A-lb Height of Fall: N/A-in.	Northing: Easting: Borehole Depth: 18 ft. Ground Surface Elev.: 725.9 ft. Geologist: David W. Lay	Boring No. SPL-13 Site: Simpson Painwell Mill Client: Allied Paper, Inc./Portage Creek/ Kalamazoo River Superfund Site

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 in.	N	Recovery (ft.)	PID (ppm) Headspace	Geotechnical Test	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation 725.9 ft.										GROUND SURFACE	
	725	558008 558007		3 4 4 5	8	1.5				4" layer dark brown SILT, some fine sand and rootlets, loose, damp (TOPSOIL). Brown fine SAND, some medium to coarse sand, little silt, loose, moist (FILL).	Cement/bentonite grout backfill to 18.0'.
				1 1 1 1	2	0.8					
5	720			1 1 1 1	2	0.9				Grading wet.	
				4 5 7 8	12	1.3					
10	715			8 10 12 12	22	1.4					
				5 5 5 5	10	1.4					
				9 7 8 8	13	1.4					
15		558008		4 4	8	1.2				1" layer black COAL ASH. Brown/grey fine SAND and grey PAPER FIBERS, loose, wet.	

BLASLAND, BOUCK & LEE
ENGINEERS & SCIENTISTS

Remarks:
Boring filled with bentonite upon completion.

Saturated Zones

Date / Time	Elevation	Depth

Project: 845.14 Script: BBL-bore Date: 07/05/94

KB 515

Client:
Allied Paper, Inc./Portage Creek/
Kalamazoo River Superfund Site

Site:
Simpson Painwell Mill

Boring No. SPL-13

Total Depth = 18 ft.

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	Geotechnical Test	Geologic Column	Stratigraphic Description	Boring Construction
	710	558008		4 7	8	1.2					
		558008		5 7 10 11	17	1.4				Black stained fine to medium SAND, little coarse sand and fine gravel, trace silt, loose, wet.	
										End of boring at 18.0' BGS.	
20	705										
25	700										
30	695										
35											

BLASLAND, BOUCK & LEE
ENGINEERS & SCIENTISTS

Remarks:

Saturated Zones

Date / Time	Elevation	Depth

KB 515

Project: 845.14

Script: BBL-bore
Date: 07/05/94

Date Start/Finish: 06/02/94 / 06/02/94 **Drilling Company:** Mateco **Driller's Name:** Bob Dreyer **Drilling Method:** Hollow Stem Auger **Bit Size:** N/A-in. **Auger Size:** 3.25-in. **Rig Type:** CME-45A **Spoon Size:** N/A-in. **Hammer Weight:** N/A-lb **Height of Fall:** N/A-in.	**Northing:** **Easting:** **Borehole Depth:** 20 ft. **Ground Surface Elev.:** 720.4 ft. **Geologist:** David W. Lay	**Boring No.** SPL-7 **Site:** Simpson Painwell Mill **Client:** Allied Paper, Inc./Portage Creek/ Kalamazoo River Superfund Site

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	Geotechnical Test	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation 720.4 ft.										GROUND SURFACE	
	720			3 4 5 7	9	1.3	1.3			Brown fine to medium SAND, some coarse sand, little silt and gravel, trace grey clay, loose, wet.	Cement/bentonite grout backfill to 20.0'.
				3 3 2 2	5	0.4	2.5			Grading to trace silt.	
5	715			WOR WOR 1 1	1	0.8	2.8				
				1 - 1 -	1	0.8	3.0				
				WOH WOH 2 4	2	1.1	2.5			Light grey to black CLAY, some paper fibers, loose, wet. White grading to grey CLAY, little paper fibers, grading with fine sand, loose, wet.	
10	710			3 4 8 8	10	0.9	1.3			2" Black stained fine to coarse SAND, loose, wet. Brown/black medium to coarse SAND, little angular gravel, clay and paper fibers, loose, wet (FILL).	
				13 14 9 9	23	0.3	1.7				
15				4 5	12	0.5	1.3				

BLASLAND, BOUCK & LEE
ENGINEERS & SCIENTISTS

Remarks:

No analytical samples submitted from this boring. Boring filled with bentonite upon completion.

Saturated Zones

Date / Time	Elevation	Depth

Project: 645.14

Script: BBL-bore
Date: 07/05/94

KB 515

Client:
Allied Paper, Inc./Portage Creek/
Kalamazoo River Superfund Site

Site:
Simpson Painwell Mill

Boring No. SPL-7

Total Depth = 20 ft.

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	Geotechnical Test	Geologic Column	Stratigraphic Description	Boring Construction
	705			7 9	12	0.5	1.3				
				4 5 7 9	12	0.7	2.4				
				4 4 6 7	10	1.0	2.5			Grey fine to medium SAND, trace silt, loose, wet.	
20	700									Grey fine SAND, little medium sand and gravel, loose, wet.	
										End of boring at 20.0' BGS.	
25	695										
30	690										
35											

BLASLAND, BOUCK & LEE
ENGINEERS & SCIENTISTS

Remarks:

Saturated Zones

Date / Time	Elevation	Depth

Project: 645.14

Script: BBL-bore
Date: 07/05/94

KB 515

BBL
BLASLAND, BOUCK & LEE, INC.
engineers & scientists

Transmitted Via Facsimile/Federal Express

December 3, 1996

Mary B. Schafer
MDEQ - Environmental Response Division
Superfund Section
301 S. Capitol Avenue
Lansing, MI 48933

Re: Simpson Plainwell Mill
Project #: 645.14 #2

Dear Mary:

As discussed during our November 19, 1996 telephone conversation, BBL has prepared this letter report describing recent activities at the Simpson Plainwell Mill. These activities were performed in accordance with the scope of work described in the *Kalamazoo River Work Plan Addendum #1 - Supplemental Mill Investigations*, dated March 17, 1995. The work was approved by the MDEQ on October 5, 1995 and was conducted in December 1995 and October 1996.

December 1995 Sediment Removal

On December 6, 1995, BBL Environmental Services (BBLES) removed sediments from a storm sewer manhole (SPD-1) and in the end of a former wastewater pipe (SPC-2) to address PCB detected at these locations during the remedial investigation. The sample from the manhole contained 3.9 mg/kg of PCB. The sample from the end of the wastewater pipe contained 240 mg/kg of PCB. These results were reported to the MDEQ in *Technical Memorandum 15 - Mill Investigations*, which was submitted in December 1994 and finalized in August 1996. Sample locations are shown on Figure 1. The following tasks were completed as proposed in the March 17, 1995 Work Plan Addendum:

- Removal, containment, and sampling of accumulated sediments/residuals in a storm-sewer manhole (location SPD-1);
- Removal, containment, and sampling of accumulated sediments/residuals in a former wastewater pipe (location SPC-2);
- Capping of the former effluent pipe; and
- Disposal of the containerized sediments/residuals.

6723 Towpath Road • P.O. Box 66 • Syracuse, NY 13214-0066
Tel (315) 446-9120 • Voice Mail (315) 446-2570 • Fax (315) 449-0017 • Offices Nationwide

Storm Sewer Manhole

Approximately 0.8 cubic yards (cy) of sediment were manually removed from the storm sewer manhole (SPD-1) and containerized in three Department of Transportation (DOT) 17H steel 55-gallon drums. To determine disposal requirements, a representative composite sample was collected from the drums and shipped overnight to Upstate Laboratories, Inc. in East Syracuse, New York for Toxicity Characteristic Leaching Procedure (TCLP), PCB, percent solids, total phenols, and percent organic chlorine analyses. The drums were sealed and properly labeled, including the use of PCB stickers. The drums were then held in an on-site warehouse to await receipt of analytical results and arrangements for disposal.

The analytical results are presented in Attachment A. The following were detected in the TCLP analysis: barium (0.4 mg/L), lead (0.1 mg/L), mercury (0.0007 mg/L), and methyl ethyl ketone (0.63 mg/L). PCB were detected at a concentration of 2 mg/kg, quantified as Aroclor 1254. The sample was 70 percent solids.

Former Wastewater Pipe

Approximately 0.15 cy of sediment were manually removed from the former wastewater pipe (SPC-2) and containerized in one DOT 17H steel 55-gallon drum. To determine disposal requirements, a representative composite sample was collected from the drum and shipped overnight to Upstate Laboratories, Inc. in East Syracuse, New York for TCLP, PCB, and percent solids analyses. The drum was sealed and properly labeled, including the use of PCB stickers. The drum was then held in an on-site warehouse with the drums containing materials from the storm sewer manhole.

The analytical results are presented in Attachment A. The following were detected in the TCLP analysis: barium (0.7 mg/L), cadmium (0.045 mg/L), and lead (0.1 mg/L). PCB were detected at a concentration of 92 mg/kg. The sample was 86 percent solids.

Following manual sediment removal, approximately four 80-pound bags of cement were prepared and used to cap the pipe at both ends. The end of the pipe that was previously buried was then backfilled with the same soil removed to expose the pipe.

Disposal of Containerized Sediments/Residuals

Analytical results for the containerized materials were reviewed by a hazardous waste handler, Superior Special Services, Inc. of Port Washington, Wisconsin to determine disposal requirements. Based on the analytical results, sediments/residuals collected from the storm sewer manhole (three drums) were classified as non-TSCA soil, and the sediments/residuals collected from the former wastewater pipe (one drum) were classified as TSCA soil. Superior Services, Inc. took custody of the material on January 12, 1996. The TSCA soil was transferred to the Aptus, Inc. hazardous waste disposal facility in Lakeville, Minnesota; while the non-TSCA soil was transferred to the Hechimovich Landfill in Horicon, Wisconsin. Copies of the completed Uniform Hazardous Waste Manifest and Straight Bill of Lading are provided in Attachment B.

Additional Sampling

As a follow-up to the actions discussed above, the Work Plan Addendum describes additional sampling of sediment from the storm-sewer manhole. The Work Plan Addendum stated that approximately six months after the removal, sediment which has accumulated in the storm sewer manhole will be sampled and analyzed for PCB. Results would be compared to the original remedial investigation result.

A sediment/residuals sample was collected on October 8, 1996 in the storm sewer manhole (SPD-1). The sample was forwarded to Inchcape - Aquatec Laboratories in Colchester, Vermont for PCB analysis. The total PCB concentration detected was 7.2 mg/kg and is similar to the 1994 RI result. The sample had a solids content of 53 percent. The validated data package is provided in Attachment C.

In response to the relatively low PCB concentration reported for the 1995 and 1996 sampling efforts, the storm sewer manhole (SPD-1) will be recleaned and then resampled for PCB analysis. During the field effort, stormwater connections to the manhole will be inspected and, to the extent possible, sources of water entering the storm sewer manhole will be confirmed.

Please call if you have any questions.

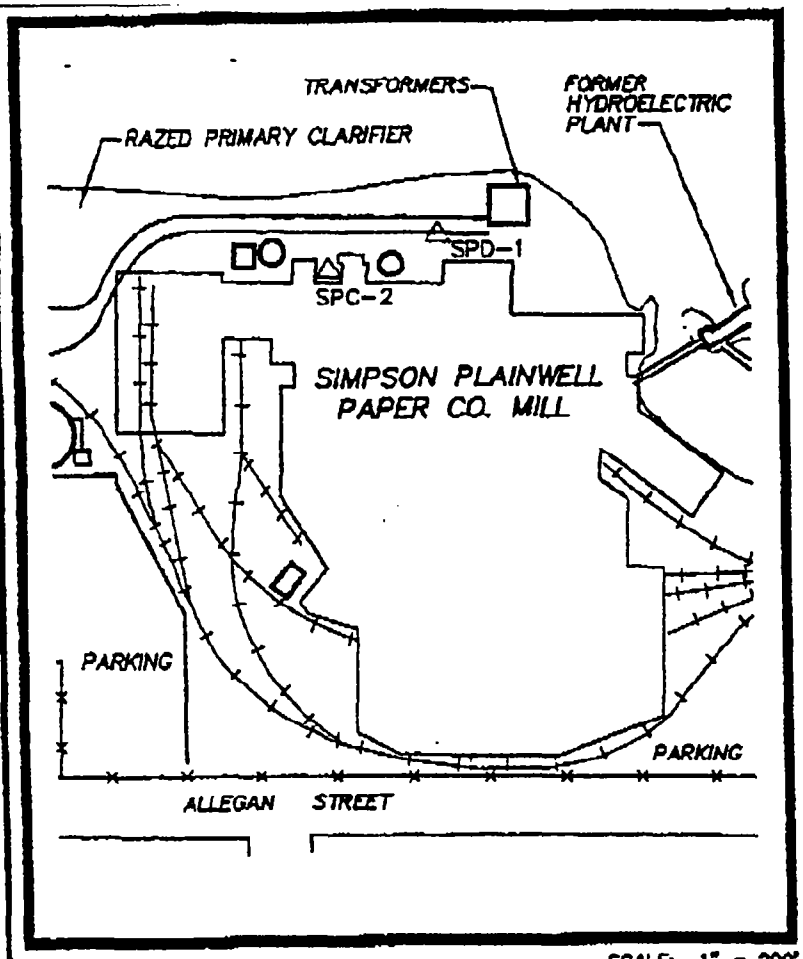
Sincerely,

BLASLAND, BOUCK & LEE, INC.

Mark P. Brown, Ph.D.
Vice President

PNM/ama
4096171H

cc: Kathy E.B. Robb, Esq., Hunton & Williams
Edward John Reeve, Esq., Simpson Investment Company



SCALE: 1" = 200'

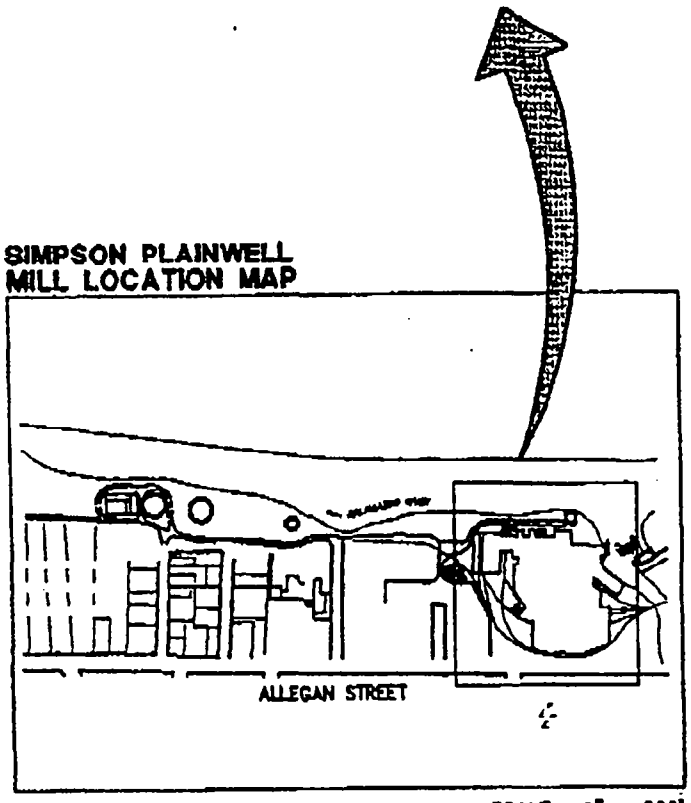
LEGEND:

SPC-2 SAMPLING LOCATION

STRUCTURE/BUILDING

RAILROAD TRACKS

SIMPSON PLAINWELL MILL LOCATION MAP



SCALE: 1" = 800'

NOTE:

1. BASE MAP DIGITIZED FROM AERIAL PHOTOGRAPHS. ALL LOCATIONS ARE APPROXIMATE.

KALAMAZOO RIVER STUDY GROUP
ALLIED PAPER, INC./PORTAGE CREEK/KALAMAZOO RIVER SUPERFUND SITE

MILL INVESTIGATIONS

SIMPSON PLAINWELL MILL SAMPLING LOCATIONS

BBL BLASLAND, BOUCK & LEE, INC. engineers & scientists

FIGURE 1

CDM Camp Dresser & McKee

consulting
engineering
construction
operations

One Woodward Avenue, Suite 1500
Detroit, Michigan 48226
Tel: 313 963-1313 Toll Free: 888-CDM-MICH
Fax: 313 963-3130

NOV 1 3 2001
5268

November 8, 2001

Mr. Brian von Gunten
MDEQ
Knapps Office Centre
300 S. Washington
Lansing, MI 48933

Subject: Plainwell Paper Gray Seam Investigation

Dear Mr. von Gunten:

Introduction

This memorandum summarizes sampling of the gray seam material within the former Plainwell Impoundment along the banks of the Plainwell Paper property at 200 Allegan Street, Plainwell, Michigan. On October 2 and 3, 2001, representatives from Camp Dresser & McKee (CDM), Blasland Bouck & Lee (BBL), and Plainwell Paper conducted a brief site reconnaissance of the proposed sample locations. In addition to the site reconnaissance, representatives from CDM and BBL collected split samples from four locations within the floodplains of the Kalamazoo River and one location (PM-8) on the Plainwell Paper property. CDM sent their soil samples to Northeast Analytical Inc. (NEA) at 2190 Technology Drive, Schenectady, New York for polychlorinated biphenyls (PCBs) analyses by EPA Method 8082. BBL placed their split samples on hold in frozen storage at their office in Kalamazoo.

The purpose of the sampling was to delineate the PCB contamination within the gray seam along the riverbank and compare these PCB concentrations with samples collected previously at the site.

Site Conditions and Sampling Methodology

Nine locations (labeled PM-1 to PM-9 and spaced approximately every 500 feet) were proposed by the Michigan Department of Environmental Quality (MDEQ) to be sampled on the southern bank of the Kalamazoo River along the Plainwell Paper property as shown in Figure 1. CDM located each sample using a Trimble/Compaq GPS handheld computer. The unit is accurate to ±10 feet in the horizontal direction.

Field observations and the contour lines in Figure 1 show the slope at the boundary of the Plainwell Paper property and the river is steep, and varies in height from approximately three to fifteen feet. The largest floodplain area is near PM-1 and PM-2, where the width extends over 30 feet from the riverbank to the toe of the slope. Very few low-lying areas exist between PM-3 and PM-9. In addition to the steep slope, the banks from PM-3 to PM-9 are littered with concrete slabs, rip rap, large boulders, fallen trees, thick vegetation, and other man made debris. As a result, CDM was not able to obtain samples at four of the nine proposed locations. CDM attempted to auger in these areas, however, the debris mentioned above prevented the auger from going any deeper than 6 inches. The existence of PCB contamination in these areas cannot be confirmed or refuted.

At the five locations where samples were collected, CDM measured approximately 10 feet from the river bank and drilled an investigation boring. CDM used a 3-inch diameter, 6-inch deep stainless steel hand auger. Soil was pushed from the auger using a stainless steel spoon and placed on aluminum foil in 6-inch intervals. CDM logged the soil intervals using the USCS soil classification system to maintain consistency with classifying activities across the Allied Paper Inc./Portage Creek/Kalamazoo River Superfund Site. If gray material (suspect paper residual) was encountered, CDM continued augering until the material was no longer observed in the vertical direction. CDM then moved away from the river toward the slope and began another boring. This process continued until the gray seam was delineated in both the vertical and horizontal directions (or until no sample could be collected). Samples were collected from the interval that was most suspicious in grain size, color, and odor. The soil was composited by hand and placed into an 8-ounce glass jar. Samples were kept on ice until shipment to NEA via FedEx for overnight delivery. BBL collected split samples at each of the five locations. The auger was decontaminated between sample locations with water, Liquinox, Hexane, Isopropyl Alcohol, and a final rinse with DI water.

Results

CDM collected soil samples at PM1, PM2, PM4, PM5, and PM8. Locations PM3, PM6, PM7, and PM9 were not collected due to a lack of floodplain and/or impenetrable ground surface. The five samples were sent to NEA labs for Aroclor PCB analysis by EPA Method 8082. The total PCB results are shown in the Table 1.

Table 1 indicates that PCB contamination exists within a gray seam along the southern bank of the river adjacent to the Plainwell Paper property. Soil samples collected from floodplain areas vary from a minimum total PCB concentration of 14.12 mg/kg to a maximum concentration of 66.57 mg/kg. The sample collected on the Plainwell Paper property at PM-8 was 0.113 mg/kg.

Table 1 – Soil Analytical Total PCB Results

Boring ID	Top (ft.)	Bottom (ft.)	Distance from River Bank (ft.)	Approximate Elevation (ft.)	Total PCBs (mg/kg)	Soil Description
PM 5-1	2.75	3.0	7	716	66.57	Dark gray clayey silt, strong petroleum odor, wet
PM 2-2	1.5	2.0	18	713	26.7	Gray clayey silt, trace organics, little gravel, slightly moist
PM 4-1	1.5	2.5	5	719	24.17	Gray clayey silt, slight odor, dry
PM 1-2	1.5	1.9	21	712	14.12	Gray to light gray clayey silt, slight petroleum odor, wet
PM 8-1	0.3	0.5	12	718	0.113	Brown fine sand, little silt with trace light gray fine sand/silt clumps

Figure 1 includes total PCB results from EPA's Stage I Removal Assessment in June and July 2001. Two of EPA's samples, SD016 and SL001, are in the vicinity of samples collected during this investigation, PM-1 and PM-5 respectively, and have PCB concentrations of 7.4 mg/kg and 79 mg/kg. PM-5 and SL001 concentrations correlate well since they are both located on a small floodplain area with residual material observed on the ground surface. The PCB contamination of SD016 is half of that for PM-1, but SD016 was collected from the river channel, while PM-1 is located on the floodplain.

The thickness and length of the gray seam varies at each of the five locations. The gray seam at PM-1 was observed to extend approximately 27 feet from the riverbank at a depth of 6 inches and a thickness of 2.5 feet. At PM-2, the seam was observed to extend beyond 22 feet from the riverbank at a depth of 1 foot and a thickness approximately 1 foot. CDM was not able to delineate past 22 feet due to the steep slope, however, the seam visually appeared to extend into the slope. Only one boring could be completed at PM-4 and PM-5 due to large rocks and a steep slope. The gray seam was observed to have a thickness at these locations of 6 to 35 inches at PM-4 and 33 to 36 inches at PM-5.

Conclusions

A gray seam of PCB contaminated soil does exist within the floodplain areas along the southern bank of the Kalamazoo River adjacent to the Plainwell Paper property. The thickness varies from three inches to 30 inches and may extend from the riverbank to 27 feet. Samples collected during this investigation correlate well with those samples previously collected by EPA along the riverbank.

Very truly yours,

CAMP DRESSER & McKEE

Andrew Santini

Andrew D. Santini
Project Engineer

Enclosure

cc: T. King, CDM
Project File

CHAIN OF CUSTODY RECORD

PAGE 1 OF 1

NORTHEAST ANALYTICAL, INC.
2190 Technology Drive, Schenectady, NY 12308
Telephone (518) 346-4592 Fax (518) 381-6055
www.nealab.com information @nealab.com

LRF # 01100044
(NEA USE ONLY)

DISPOSAL REQUIREMENTS: (To be filled in by Client)
- ○ RETURN TO CLIENT
- ☒ DISPOSAL BY NORTHEAST ANALYTICAL
- ○ ARCHIVAL BY NORTHEAST ANALYTICAL

Additional charges incurred for disposal (if hazardous) or archival. Call for details.

CLIENT (REPORTS TO BE SENT TO): CDM / MDEQ
PROJECT#/PROJECT NAME: Plainwell Mill Supplemental
PROJECT MANAGER: Todd King
LOCATION (CITY/STATE) ADDRESS: Kalamazoo, MI
PHONE: 313-963-1313
SAMPLED BY: (Please Print) Andrew Santini
REQUIRED TURN AROUND TIME: Standard
SAMPLING FIRM: CDM
NAME OF COURIER (IF USED): FedEx #827735599733
RESULTS TO BE E-MAILED ☐ E-MAIL ADDRESS:
RESULTS TO BE FAXED ☐ FAX #:

ENTER ANALYSIS AND METHOD NUMBER REQUESTED

PRESERVATIVE CODE:	0							
BOTTLE TYPE:	Glass							
BOTTLE SIZE:	8 oz							

PRESERVATIVE KEY: 0 - NONE; 1 - HCL; 2 - HNO3; 3 - H2SO4; 4 - NaOH; 5 - Zn. Acetate; 6 - MeOH; 7 - NaHSO4; 8 - Other _____

SAMPLE ID	DATE	TIME	MATRIX	GRAB/ COMP	LAB SAMPLE ID (NEA USE ONLY)	NUMBER OF CONTAINERS	Aroclor PCBs							REMARKS:
OU7-PM1-2 (1.5to2.9)-01	10/2/01	1400	Soil	Grab	AEO 9174	1	X							
OU7-PM2-2 (1.8to2.4)-01	10/2/01	1550	Soil	Grab	AEO 9175	1	X							
OU7-PM8-1 (0.3to0.5)-01	10/3/01	0847	Soil	Grab	AEO 9176	1	X							
OU7-PM5-1 (3.3to3.6)-01	10/3/01	1125	Soil	Grab	AEO 9177	1	X							
OU7-PM4-1 (2.5to2.5)-01	10/3/01	1220	Soil	Grab	AEO 9178	1	X							

AMBIENT OR CHILLED: (Chilled) TEMP: 7.0 COC TAPE: Y (N) PROPERLY PRESERVED: (Y) N OTHER NOTES:
RECEIVED BROKEN OR LEAKING: Y (N) COC DISCREPANCIES: Y (N) RECVD W/I HOLDING TIMES: (Y) N

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
SIGNATURE [signature]	SIGNATURE [signature]	SIGNATURE	SIGNATURE	SIGNATURE	SIGNATURE
PRINTED NAME Andrew Santini	PRINTED NAME Wendy Schroeder	PRINTED NAME	PRINTED NAME	PRINTED NAME	PRINTED NAME
COMPANY CDM	COMPANY NEA	COMPANY	COMPANY	COMPANY	COMPANY
DATE/TIME 10/4/01 1800	DATE/TIME ~~10/4/01~~ 10/5/01 10:30	DATE/TIME	DATE/TIME	DATE/TIME	DATE/TIME

NORTHEAST ANALYTICAL

ENVIRONMENTAL LAB SERVICES

2190 Technology Drive, Schenectady, NY 12308

(518) 346-4592 • FAX: (518) 381-6055

CERTIFICATE OF ANALYSIS
10/19/2001

CAMP, DRESSER & MCKEE
ONE WOODWARD AVE., SUITE 1500
DETROIT, MI 48226
CONTACT: TODD KING

CUSTOMER ID:	OU7-PM1-2(1.5TO1.9)-01	**NEA ID:**	AE09174
MATRIX :	SOIL	**DATE SAMPLED:**	10/02/2001 **TIME:** 14:00
DATE RECEIVED:	10/05/2001 **TIME:** 10:30	**PROJECT:**	PLAINWELL MILL SUPPLEMENTAL
SAMPLED BY:	A. SANTINI	**LOCATION:**	KALAMAZOO, MI
CUSTOMER PO:	N/A	**LAB ELAP #:**	11078

PARAMETER PERFORMED	RESULTS	PQL	UNITS	DATE TESTED	FLAGS
SW-846 Method 8082, Polychlorinated Biphenyls					
Aroclor 1016	ND	0.368	µg/g	10/16/01	
Aroclor 1221	ND	0.368	µg/g	10/16/01	
Aroclor 1232	ND	0.368	µg/g	10/16/01	
Aroclor 1242	6.47	0.368	µg/g	10/16/01	AD
Aroclor 1248	ND	0.368	µg/g	10/16/01	
Aroclor 1254	4.45	0.368	µg/g	10/16/01	AF
Aroclor 1260	3.20	0.368	µg/g	10/16/01	AG
Total PCB Amount > Reporting Limit	14.1 µg/g				

AD-Aroclor 1242 is being reported as the best Aroclor match. The sample exhibits an altered PCB pattern.
AF-Aroclor 1254 is being reported as the best Aroclor match. The sample exhibits an altered PCB pattern.
AG-Aroclor 1260 is being reported as the best Aroclor match. The sample exhibits an altered PCB pattern.
Note: There were few non-target peaks.

Note: ND (Not Detected) Denotes analyte not detected at a concentration greater than the PQL
PQL (Practical Quantitation Limit) Denotes lowest analyte concentration reportable for the sample

AUTHORIZED SIGNATURE:

Northeast Analytical, Inc.

Robert E. Wagner, Laboratory Director

NY STATE DEPARTMENT OF HEALTH CERTIFIED LAB

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NORTHEAST ANALYTICAL

ENVIRONMENTAL LAB SERVICES

2190 Technology Drive, Schenectady, NY 12308

(518) 346-4592 • FAX: (518) 381-6055

CERTIFICATE OF ANALYSIS
10/19/2001

CAMP, DRESSER & MCKEE
ONE WOODWARD AVE., SUITE 1500
DETROIT, MI 48226
CONTACT: TODD KING

CUSTOMER ID:	OU7-PM2-2(18TO24)-01	**NEA ID:**	AE09175
MATRIX :	SOIL	**DATE SAMPLED:**	10/02/2001 **TIME:** 15:50
DATE RECEIVED:	10/05/2001 **TIME:** 10:30	**PROJECT:**	PLAINWELL MILL SUPPLEMENTAL
SAMPLED BY:	A. SANTINI	**LOCATION:**	KALAMAZOO, MI
CUSTOMER PO:	N/A	**LAB ELAP #:**	11078

PARAMETER PERFORMED	RESULTS	PQL	UNITS	DATE TESTED	FLAGS
SW-846 Method 8082, Polychlorinated Biphenyls					
Aroclor 1016	ND	2.60	µg/g	10/16/01	
Aroclor 1221	ND	2.60	µg/g	10/16/01	
Aroclor 1232	ND	2.60	µg/g	10/16/01	
Aroclor 1242	11.7	2.60	µg/g	10/16/01	AD,DF
Aroclor 1248	ND	2.60	µg/g	10/16/01	
Aroclor 1254	15.0	2.60	µg/g	10/16/01	AF
Aroclor 1260	ND	2.60	µg/g	10/16/01	
Total PCB Amount > Reporting Limit	26.7 µg/g				

AD-Aroclor 1242 is being reported as the best Aroclor match. The sample exhibits an altered PCB pattern.
DF-The Aroclor pattern exhibited by this sample has a diminished front end pattern compared to an Aroclor standard.
AF-Aroclor 1254 is being reported as the best Aroclor match. The sample exhibits an altered PCB pattern.
Note: There were few non-target peaks.

Note: ND (Not Detected) Denotes analyte not detected at a concentration greater than the PQL
PQL (Practical Quantitation Limit) Denotes lowest analyte concentration reportable for the sample

AUTHORIZED SIGNATURE:

Northeast Analytical, Inc.

Robert E. Wagner, Laboratory Director

NY STATE DEPARTMENT OF HEALTH CERTIFIED LAB

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NORTHEAST ANALYTICAL

ENVIRONMENTAL LAB SERVICES

2190 Technology Drive, Schenectady, NY 12308

(518) 346-4592 • FAX: (518) 381-6055

CERTIFICATE OF ANALYSIS
10/19/2001

CAMP, DRESSER & MCKEE
ONE WOODWARD AVE., SUITE 1500
DETROIT, MI 48226
CONTACT: TODD KING

CUSTOMER ID:	OU7-PM4-1(1.5TO2.5)-01	**NEA ID:**	AE09178
MATRIX :	SOIL	**DATE SAMPLED:**	10/03/2001 **TIME:** 12:20
DATE RECEIVED:	10/05/2001 **TIME:** 10:30	**PROJECT:**	PLAINWELL MILL SUPPLEMENTAL
SAMPLED BY:	A. SANTINI	**LOCATION:**	KALAMAZOO, MI
CUSTOMER PO:	N/A	**LAB ELAP #:**	11078

PARAMETER PERFORMED	RESULTS	PQL	UNITS	DATE TESTED	FLAGS
SW-846 Method 8082, Polychlorinated Biphenyls					
Aroclor 1016	ND	0.475	µg/g	10/18/01	
Aroclor 1221	ND	0.475	µg/g	10/18/01	
Aroclor 1232	ND	0.475	µg/g	10/18/01	
Aroclor 1242	11.1	0.475	µg/g	10/18/01	AD,DF
Aroclor 1248	ND	0.475	µg/g	10/18/01	
Aroclor 1254	11.3	0.475	µg/g	10/18/01	AF
Aroclor 1260	1.77	0.475	µg/g	10/18/01	
Total PCB Amount > Reporting Limit	24.2 µg/g				

AD-Aroclor 1242 is being reported as the best Aroclor match. The sample exhibits an altered PCB pattern.
DF-The Aroclor pattern exhibited by this sample has a diminished front end pattern compared to an Aroclor standard.
AF-Aroclor 1254 is being reported as the best Aroclor match. The sample exhibits an altered PCB pattern.
Note: There were few non-target peaks.

Note: ND (Not Detected) Denotes analyte not detected at a concentration greater than the PQL
PQL (Practical Quantitation Limit) Denotes lowest analyte concentration reportable for the sample

AUTHORIZED SIGNATURE:

Northeast Analytical, Inc.

Robert E. Wagner, Laboratory Director

NY STATE DEPARTMENT OF HEALTH CERTIFIED LAB

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NORTHEAST ANALYTICAL

ENVIRONMENTAL LAB SERVICES

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CERTIFICATE OF ANALYSIS
10/19/2001

CAMP, DRESSER & MCKEE
ONE WOODWARD AVE., SUITE 1500
DETROIT, MI 48226
CONTACT: TODD KING

CUSTOMER ID:	OU7-PM5-1(33TO36)-01	**NEA ID:**	AE09177
MATRIX :	SOIL	**DATE SAMPLED:**	10/03/2001 **TIME:** 11:25
DATE RECEIVED:	10/05/2001 **TIME:** 10:30	**PROJECT:**	PLAINWELL MILL SUPPLEMENTAL
SAMPLED BY:	A. SANTINI	**LOCATION:**	KALAMAZOO, MI
CUSTOMER PO:	N/A	**LAB ELAP #:**	11078

PARAMETER PERFORMED	RESULTS	PQL	UNITS	DATE TESTED	FLAGS
SW-846 Method 8082, Polychlorinated Biphenyls					
Aroclor 1016	ND	3.03	µg/g	10/16/01	
Aroclor 1221	ND	3.03	µg/g	10/16/01	
Aroclor 1232	ND	3.03	µg/g	10/16/01	
Aroclor 1242	56.7	3.03	µg/g	10/16/01	AD
Aroclor 1248	ND	3.03	µg/g	10/16/01	
Aroclor 1254	9.87	3.03	µg/g	10/16/01	AF
Aroclor 1260	ND	3.03	µg/g	10/16/01	
Total PCB Amount > Reporting Limit	66.6 µg/g				

AD-Aroclor 1242 is being reported as the best Aroclor match. The sample exhibits an altered PCB pattern.

AF-Aroclor 1254 is being reported as the best Aroclor match. The sample exhibits an altered PCB pattern.

Note: ND (Not Detected) Denotes analyte not detected at a concentration greater than the PQL
PQL (Practical Quantitation Limit) Denotes lowest analyte concentration reportable for the sample

AUTHORIZED SIGNATURE: Robert E. Wagner

Northeast Analytical, Inc.
Robert E. Wagner, Laboratory Director

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10/19/2001

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ONE WOODWARD AVE., SUITE 1500
DETROIT, MI 48226
CONTACT: TODD KING

CUSTOMER ID:	OU7-PM8-1(0.3TO0.5)-01	**NEA ID:**	AE09176
MATRIX :	SOIL	**DATE SAMPLED:**	10/03/2001 **TIME:** 8:47
DATE RECEIVED:	10/05/2001 **TIME:** 10:30	**PROJECT:**	PLAINWELL MILL SUPPLEMENTAL
SAMPLED BY:	A. SANTINI	**LOCATION:**	KALAMAZOO, MI
CUSTOMER PO:	N/A	**LAB ELAP #:**	11078

PARAMETER PERFORMED	RESULTS	PQL	UNITS	DATE TESTED	FLAGS
SW-846 Method 8082, Polychlorinated Biphenyls					
Aroclor 1016	ND	0.0652	µg/g	10/16/01	
Aroclor 1221	ND	0.0652	µg/g	10/16/01	
Aroclor 1232	ND	0.0652	µg/g	10/16/01	
Aroclor 1242	ND	0.0652	µg/g	10/16/01	
Aroclor 1248	ND	0.0652	µg/g	10/16/01	
Aroclor 1254	0.113	0.0652	µg/g	10/16/01	AF
Aroclor 1260	ND	0.0652	µg/g	10/16/01	
Total PCB Amount > Reporting Limit	0.113 µg/g				

AF-Aroclor 1254 is being reported as the best Aroclor match. The sample exhibits an altered PCB pattern.

Note: ND (Not Detected) Denotes analyte not detected at a concentration greater than the PQL
PQL (Practical Quantitation Limit) Denotes lowest analyte concentration reportable for the sample

AUTHORIZED SIGNATURE: Robert E. Wagner

Northeast Analytical, Inc.
Robert E. Wagner, Laboratory Director

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Core Boring Report

Point ID: PM1-2	Easting	Northing	Latitude	Longitude
	12776984.79217	348660.36095		

Top Dpt	Bot. Dpt	Description
0	6	Brown silt, little fine sand, Trace clay, roots, Dry
6	18	Gray silt, little clay, Trace fine sand, Trace roots, Trace petroleum odor
18	24	Gray to light Gray silt,wet(inside of clay), slight petroleum odor. (Residual)
24	30	Same as above
30	36	Dark gray to Gray silt, some clay, slight petroleum odor. Wet to drytrace fine sand
36	42	Gray to Dark gray clay, Fine to medium sand

Sample ID's	Date Sampled	Top Depth	Bot. Depth	Description
OU7-PM1-2(1.5to1.9)-01	10/02/2001	1.5	1.9	Refer to (PM1-2) Core sample taken from intervals 1.5 to1.9

Test

% Total Solids

SW-846 Method 8082, PCB Solid

Lab Results

Client Sample ID:	*OU7-PM1-2(1.5to1.9)-01*	Lab Sample ID:	AE09174
Matrix:	SOIL	Date Sampled:	10/02/2001
Time Sampled:	2:00:00 PM		

% Total Solids = 39.9 %
Aroclor 1016 < 0.368 µg/g
Aroclor 1221 < 0.368 µg/g
Aroclor 1232 < 0.368 µg/g
Aroclor 1242 = 6.47 µg/g
Aroclor 1248 < 0.368 µg/g
Aroclor 1254 = 4.45 µg/g
Aroclor 1260 = 3.2 µg/g

Core Boring Report

Point ID: PM2-2	Easting	Northing	Latitude	Longitude
	12777199.70207	348454.40563		

Top Dpt	Bot. Dpt	Description
0	6	Dark brown silt,Trace organics, trace gravel, Dry
6	12	Same as above, Trace fine sand, Dry
12	18	Dark grey silt, little clay, Trace organics. Dry
18	24	Gray clayey Silt, Trace organics, little gravel, slightly moist.
24	30	Dark brown silt, Little clay, Trace organics, lens fine sand, moist.
30	34	Dark brown to red brown sandy silt, Trace gravel, moist
34	36	Dark brown clayey silt, little fine sand, little gravel, moist.

Sample ID's	Date Sampled	Top Depth	Bot. Depth	Description
OU7-PM2-2(18to24)-01	10/02/2001	18	24	Refer to (PM2-2) Core Sample was taken from intervals 18 to 24". Water was encountered at 2.7'

Test

% Total Solids

SW-846 Method 8082, PCB Solid

Lab Results

Sample ID:	*OU7-PM2-2(18to24)-01*	Lab Sample ID:	AE09175
Matrix:	SOIL	Date Sampled:	10/02/2001
Time Sampled:	3:50:00 PM		

% Total Solids = 53.4 %
Aroclor 1221 < 2.6 µg/g
Aroclor 1016 < 2.6 µg/g
Aroclor 1232 < 2.6 µg/g
Aroclor 1242 = 11.7 µg/g
Aroclor 1248 < 2.6 µg/g
Aroclor 1254 = 15 µg/g
Aroclor 1260 < 2.6 µg/g

Core Boring Report

Point ID: PM4-1	Easting	Northing	Latitude	Longitude

Top Dpt	Bot. Dpt	Description
0	6	Brown gray clayey Silt, Trace roots, Dry
6	12	Gray clayey Silt, Dry, slight odor
12	18	Same as above
18	30	Same as above (Chunks of stiff clay from 27 to 33")
30	35	Same as above
35	36	Dark brown gray fine to medium sand, Trace coarse sand & gravel, Trace shells

Sample ID's	Date Sampled	Top Depth	Bot. Depth	Description
OU7-PM4-1(1.5to2.5)-01	10/03/2001	1.5	2.5	Refer to core (PM4-1). Core was taken from intervals 1.5 to 2.5 Water depth is 2.1 feet.

Test

% Total Solids

SW-846 Method 8082, PCB Solid

Lab Results

Client Sample ID:	*OU7-PM4-1(1.5to2.5)-01*	NEA Sample ID:	AE09178
Matrix:	SOIL	Date Sampled:	10/03/2001
Time Sampled:	12:20:00 PM		

% Total Solids = 50.9 %
Aroclor 1260 = 1.77 µg/g
Aroclor 1016 < 0.475 µg/g
Aroclor 1221 < 0.475 µg/g
Aroclor 1232 < 0.475 µg/g
Aroclor 1242 = 11.1 µg/g
Aroclor 1248 < 0.475 µg/g
Aroclor 1254 = 11.3 µg/g

Core Boring Report

Point ID: PM5-1	Easting	Northing	Latitude	Longitude
	12777905.32646	347702.91563		

Top Dpt	Bot. Dpt	Description
0	3	Dark brown sandy silt, Trace roots, Dry
3	6	Brown fine sand, Little silt, Trace coarse sand, Trace roots, Dry
6	12	Same as above, Trace fine gravel, moist
12	18	Dark brown to Black fine medium sand, Trace silt, trace coarse sand.
18	24	Same as above, Wet
24	30	Same as above, Wet
30	33	Same as above, Wet
33	36	Dark grey clayey Silt, strong petroleum odor, Wet (Residual)
36	42	Dark gray rounded gravel, little silt

Sample ID's	Date Sampled	Top Depth	Bot. Depth	Description
OU7-PM5-1(33to36)-01	10/03/2001	33	36	Refer to core (PM5-1). Core was taken from intervals 33 to 36" Water depth is 1.3 feet.

Test

% Total Solids

SW-846 Method 8082, PCB Solid

Lab Results

Sample ID:	*OU7-PM5-1(33to36)-01*	Lab Sample ID:	AE09177
Matrix:	SOIL	Date Sampled:	10/03/2001
Time Sampled:	11:25:00 AM		

% Total Solids = 47.4 %
Aroclor 1254 = 9.87 µg/g
Aroclor 1016 < 3.03 µg/g
Aroclor 1221 < 3.03 µg/g
Aroclor 1232 < 3.03 µg/g
Aroclor 1248 < 3.03 µg/g
Aroclor 1260 < 3.03 µg/g
Aroclor 1242 = 56.7 µg/g

Core Boring Report

Point ID: PM8-1	Easting	Northing	Latitude	Longitude
	12778726.45782	347276.87847		

Top Dpt	Bot. Dpt	Description
0	6	Brown fine sand, little silt, Trace coarse sand, little gravel, little roots, Dry Light gray fine sand little silt
6	12	Dark brown fine to medium sand, little silt, little coarse sand, Trace fine gravel, Little coarse gravel, trace roots, dry
12	18	Dark brown fine coarse sand, Trace fine coarse gravel, trace silt, Trace concrete chunks (Fill)
18	30	Brown fine coarse sand, little fine to coarse gravel, trace concrete chunks, trace metal bolts (Fill), dry

Sample ID's	Date Sampled	Top Depth	Bot. Depth	Description
OU7-PM8-1(0.3to0.5)-01	10/03/2001	0.3	0.5	Refer to core (PM8-1). Core was taken from intervals 0.3to0.5

Test

% Total Solids

SW-846 Method 8082, PCB Solid

Lab Results

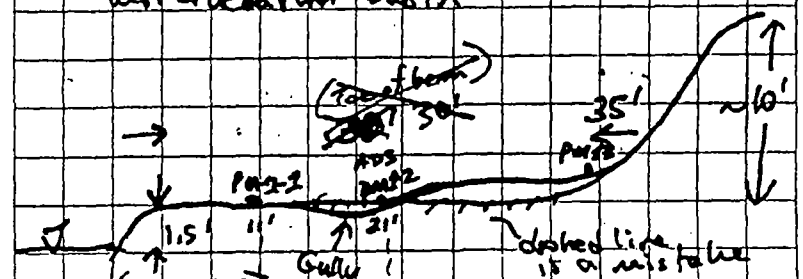
OU7 Sample ID:	*OU7-PM8-1(0.3to0.5)-01*	NEA Sample ID:	AE09176
Matrix:	SOIL	Date Sampled:	10/03/2001
Time Sampled:	8:47:00 AM		

% Total Solids = 73.7 %
Aroclor 1248 < 0.0652 µg/g
Aroclor 1254 = 0.113 µg/g
Aroclor 1260 < 0.0652 µg/g
Aroclor 1232 < 0.0652 µg/g
Aroclor 1221 < 0.0652 µg/g
Aroclor 1242 < 0.0652 µg/g
Aroclor 1016 < 0.0652 µg/g

A. Santini 10/2/01

1100 – onsite @ Plainwell Mill –
met Brian Loomis (BBL)
– signed in @ guard house – met
w/ Plainwell rep Gordon Hultmark
told us where we could drive to
and access issues

1130 – starting @ furthest location to
the west – naming it PMI –
west location basin



– augering core 19' from bank –
describing it; named PMI-I
PMI-I

0-6" Br silt, l: F-SND, Tr clay,
roots, dry
6-11" Gray silt, Tr F SND, Tr roots, Tr dry
Tr petro odor, moist
11-12" Br M-SND, moist
12-15 Dk Gy M-C SND, wet

15-18" Gray clayey silt, ~~strong~~ slight petro odor; (residual), Tr gravel wet

18-24" Dk Br-Gray M-SND, li C-SND, li F SND, wet

24-30" SAA

* encountered water @ ~15", auguared from 30-36" but SND kept falling out of the auger since it was below the GW table + was sand (not very cohesive to auger)

PM1-2 (28' from bank) -WD=1.4'

0-6" Br silt, li F SND, Tr Clay, roots, dry

6-18" Gray silt, li clay, Tr F SND, Tr roots, Tr petro odor

18-24" Gray-Lt Gray clayey silt, wet (inserts of clay dry), slight petro odor (residual)

24-30" SAA

30-36" Dk Gray-Gray silt, Some clay, slight petro odor, wet, Tr dry, Tr F-SND

36-42" Gray-Dk Gray F-M SND,

PM1-3

0-6" Dk Br silt, li roots, li F-SND

6-12 Dark brown silt, Trace clay little roots little gravel slightly MOIST

PM 1-4

0-6" Dark brown silt, little roots Trace clay slightly MOIST

6-12" SAA, More clay

12-14" SAA

14-18" Dark brown fine sand little clay MOIST

Red/Brown

18-24" FINE To Medium Sand Trace gravel MOIST

24-30" SAA, Saturated

H2O encountered @ 23'

30-36" SAA

36-42" SAA more gravel

42-48" SAA more gravel

(138) 10-2-01 A. Santini

@ location PM1-2 CDM Deconed.

* Deconed Measures:
  - DI H_2O
  - Liquinox
  - Hexane
  - Isopropanol
  - DI H_2O

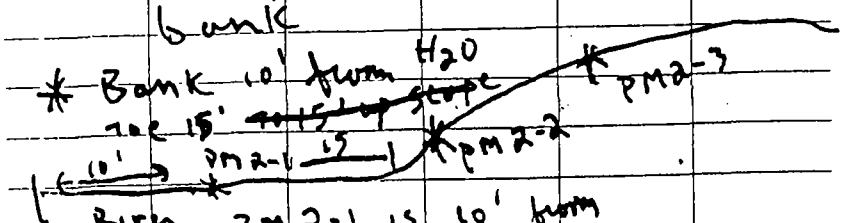
Sample taken 2' adjacent from original location PM1-2

* Took photo #1 looking West and #2 looking South

Took Sample OUT-PM1-2(1.5 TO 1.9)-01
1400

1440 Location PM2-1 3' from river going South up slope of bank

* Bank 10' from H_2O
Toe 15' ~~to 15' up slope~~



River PM2-1 is 10' from

A. Santini 10/2/01 (139)

Bank To H_2O 1.9'

1445 PM2-1

0-6" Dark brown silt, Trace roots dry

6-12" SAA, ~~fine~~ Trace fine sand dry

12-18" Gray Clayey Silt, Trace organics slightly moist

* 18-24" Gray clayey silt Trace organics slightly higher moisture content

H_2O Encountered @ 210'

24-30" Dark brown clayey silty Trace organics M0151

30-36" SAA, Saturated

36-42" Brown fine sand, Trace silt, Trace gravel Wet

PM 2-2 is 1.4' higher Than The Toe of slope

PM 2-2

1500 0-6" Dark brown SILT, Trace organics Trace gravel dry

6-12" SAA, Trace fine Sand Dry

12-18" Dark grey silt little clay, Trace organics ~~SLIGHTLY~~ MOIS Dry

*#20 encountered @ 2.7'

18-24" Gray clayey silt Trace organics, LITTLE gravel SLIGHTLY MOIST

24-30" Dark brown SILT, LITTLE Clay, Trace organics Lens fine brown Sand MOIST

30-~~36~~ 34" Dark brown To red brown Sandy SILT, Trace gravel MOIST

34-36" Dark brown Clayey silt little fine sand LITTLE gravel MOIST

* PHOTO 3 LOOKING WEST of Sample Location

PHOTO 4 LOOKING South going up TO Toe of slope from River

PM 2-3

PM 2-3 Taken 22' up ~~slope of~~ BOTTOM bank & 2.3' above

0-6" Dark brown Sand some silt Trace organics dry

6-12" SAA

12 - 30" Gray brown fine sand, Trace SILT, Trace organics Trace gravel dry

30 - 36" Dark grey clayey silt SLIGHTLY MOIST

* 1550 Sample is out - PM2-2(18-24)-01

Sample Take 1' west adjacent sample location PM 2-2

* PhoTO # 5 LOOKING South @ all 3 sample location

- using the rest of the day to perform field recon. of additional sever locations (PM3 to PM-9)
- From PM3 to PM7, slope very steep w/ boulders, concrete debris, thick vegetation, fallen trees, misc. manmade + natural debris - no floodplain visible from top of bank - Bank ht varys from 10 to 15' high -

will bring waders tomorrow to look from river to find floodplains where residuals may have deposited.

- From PM7 to PM8, bank grassy, ~3 to 4' high, steep bank (straight drop off), no floodplains - will try to auger @ PM8 on top of bank tommorrow.
- From PM8 to PM9, bank all concrete slabs, rip rap, and concrete foundations - no sample will be collected here

Weather - low 70s, mostly sunny

Personnel - Drew Santini + Justin Woods (con)
Brian Loomis (BBL)

End of Day Notes:

- possible residual material observed @ PM1 11' from bank @ 15-18" and @ 21' from the bank @ 18-30" (thicker since the location is in a gully), but @ 33' there was no residual; ∴ residual (based on field obs.) pinches out between 21 - 33' - likely to be around ~30' since elevation becomes greater
- possible residual @ PM2 was observed from 12 to 24" 10' from bank, 12 to 24" 15' from bank, and 30-36" 22' from bank - boring were stopped @ 22' because slope too steep to keep augering - took sample of gray layer (if PCB detects, then confirms that PCBs exist past 22' into the slope) - layer also not as ~~comm~~ more evident as residuals compared to PM-1.
- CDM decontaminated equipment before a sample was collected, and between each boring location where a sample

was going to be collected (PM1 to PM2) - CDM decon. w/ Liquinox, hexane, isopropyl alcohol, DI rinse - CDM used a stainless steel spoon to dig soil out of 3" diameter, 6" deep stainless steel hand auger - soil was laid out for each interval & soil was classified using nitrile medical gloves, augered soil was placed back into each boring; pin flags were placed @ each boring to be surveyed @ a later date.

- photos taken w/ digital camera
  (1) looking west @ PM2 floodplains
  (2) looking south @ PM1 borings (1-4)
  (3+4) looking south @ soil intervals from borings @ PM2
  (5) looking south at borings from PM-2
- Plan for tomorrow is to collect a sample @ PM8, then walk the stretch of the river from PM7 to PM3 looking for floodplains

do collect a sample; a shovel will be brought to dig w/ in areas along bank to look for residual.

1730 – signed out @ guard house; told security will be returning @ 730 on tomorrow to complete sampling – spoke w/ Gordon again & told him what we collected today and our plans for tomorrow – he was ok w/ everything.

A. Santini
10/2/01

0750 – Arrive on site @ Plainwell Mill; signed in @ security
– starting augering @ PM8

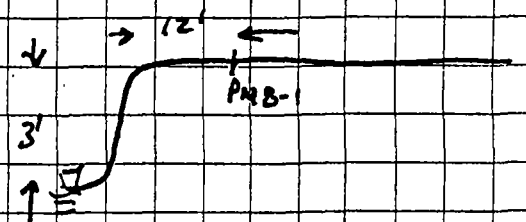
PM8-1

0-6 Brn F SND, li silt, Tr C-SND + F gravel, li roots, dry, light gray F-SND/silt

6-12 Dk Brn F-M SND, li silt, li C-SND, Tr F gravel + C gravel, Tr roots, dry

12-18 Dk Brn F-C SND, Tr F-C gravel, Tr silt, Tr concrete chunks, dry

18-30 Brn F-C SND, li F-C gravel, Tr concrete chunks, Tr bolt, dry



– took sample @ PM8-1 from 0.3' to 0.5' interval of Brn F SND, li silt w/ light gray F-SND/silt; not a defined gravel layer but small pebbles (pea size) exist; took 3 borings around PM8-1, gray existed in all 3 but some more than others – all within 1 foot of each boring

- PM7

→ Location has steep bank (3 to 4') w/ no floodplains; bank littered w/ concrete slabs, rocks, thick vegetation and tree roots

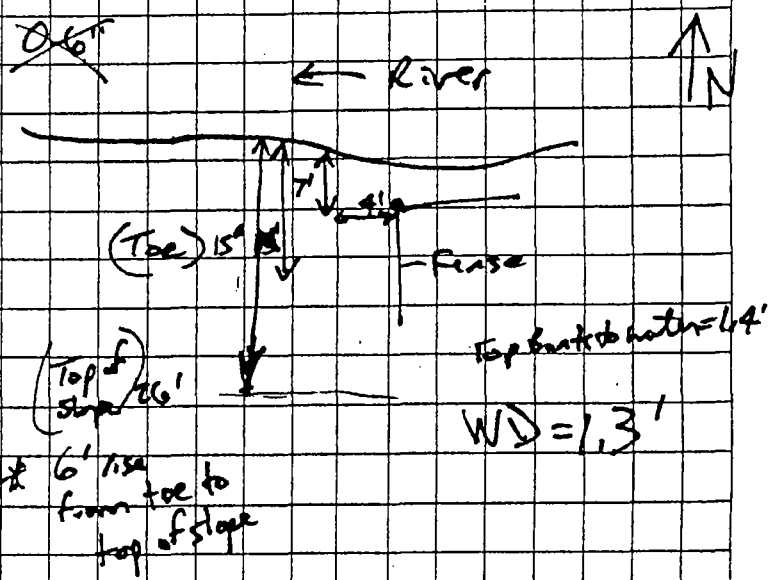
↳ tried augering & kept hitting concrete in top foot; decided not to collected sample - do not see residual on bank where sediment/soil exposed.

- @ EPA core (near PM6) core collected 5' from bank, 7' is start of slope, bank ~5' high; littered w/ gravel, concrete, pipes, wood; residual observed on surface

- walking along river to see if there are any places between PM7 and PM3 to take cores; bank generally start @ ~5' @ PM7 and rise to ~~10~~ 15' @ PM3

- Found 2 locations that have potential to auger + contain residuals

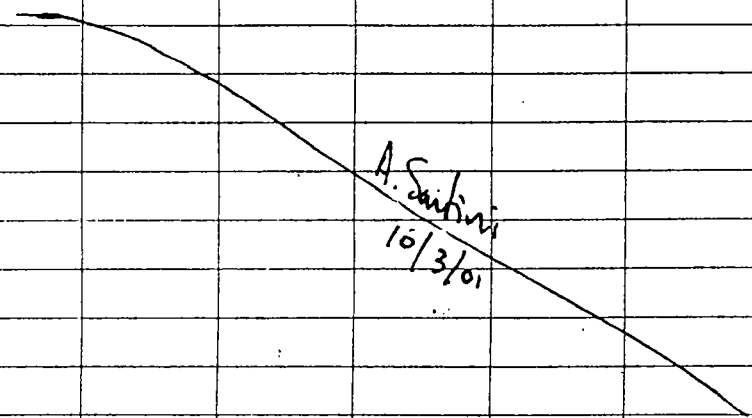
PM5 (moved u/s ~ halfway toward PM6)



0-3" Dk Brn sandy silt, Tr roots, dry
3-6" Brn F-M SND, li silt, Tr C-SND, Tr roots, dry
6-12 SAA (3-6") w/ Tr F-M-gravel, moist
12-18 Dk Brn - Blk F-M SND, Tr silt, Tr C-SND
18-24 SAA, wet
24-30 SAA, wet
30-33 SAA, wet
33-36 Dk Gray clayey silt, strong petro odor, wet (residual)
36-42 Dk Gray river gravel (rounded), li silt,

10/3/01 A. Santini

- took sample @ 1125 of 33 to 36"
  OU7-PMS-1(33-36)-01

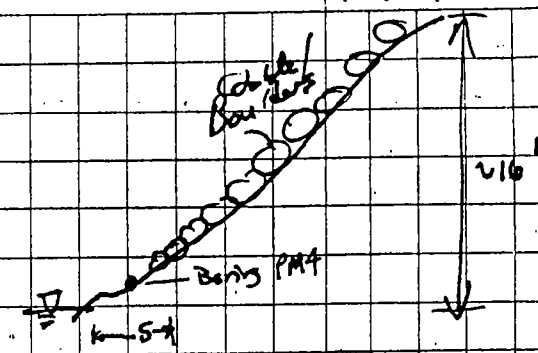


PM4

0-6 Brn-Gray clayey silt, roots, dry
6-12 Gray clayey silt, dry, slight odor
12-18 SAA
18-30 SAA (chunks of stiff clay from 27 to 33')
30-35 SAA
35-36 Dk Brn-Gray F-M SND, Tr C-SHOT gravel, Tr shells

WD = 2.1'
water to hole = 2.5'
Top Bank to water = 2.0'
Ht of Bank = ~16'

A. Santini 10/3/01



- took sample in 1.5' to 2.5" interval @ 1220 - OU7-PM4-1(1.5 to 2.5)-01

- used a sharpshooter shovel to dig on banks (where possible) to look for residual; no obvious residual observed between PM7 to PM3, except @ PM4 + PM5 where there was a little bit of floodplains (~4 to 8' wide)
- sampling / decon procedures same as outlined on 10/2/01
- personnel: Dan Santini + Justin Woods (CDM); Brian Loomis (BBL)
- weather: Mid 70's mostly sunny, high winds from the SW
- samples will be kept on ice throughout the night + will be sent to NEA labs via FedEx for overnight delivery for Arsenic RBS.

(152) 10/3/01 A. Santini

- Photolog
(1) View west while Justin woods augers @ PM8
(2) View SE @ PM7 (notice steep bank ~3/4' high and concrete slabs)
(3) EPA core near PM6
(4) Rocky slope between PM6 + PM9
(5) View of proposed location for PM6
(6) View of PM5 boring
(7) View South @ PM5
(8) PM4 boring/sample location
(9) + View SE @ PM4 (notice narrow
(10) floodplain then steep bank w/ rocks)
(11) View west @ PM1 floodplain
(12) View of floodplains east of PM1
(13) View of borings @ PM1

1300 Leaving site

A. Santini
10/3/01

(153) 11/02/01 overcast

TKiling 55°F
J Woods
Gordon OAK MARK - Plainwell
Benchmark = Finish Floor Pulper Bldg - 717.9
0800 Arrive on site

Review NOTES AFTER LUNCH
& MAKE CORRECTION =
Leave K200 3:15 pm 15:15

TWK

11/2/01

154

	+	HI	−	ELEV	Report
FF PULPER	5.48	723.38		717.9	
PM8-1			5.32	718.06	718
TP#1		JK	3.50	719.88	
"	6.30	726.18			
TP#2			4.59	721.63	
TP#2	4.81	726.44			
PM5-1			11.70	714.74	~~715~~ +1/2 error
TP#3	~~1.30~~ TK		1.30	725.14	716
"	STET ~~8.53~~	733.67			
PM4-1	STET	STET	16.84	716.83	~~717~~ +2/3 error
TOTP-3	~~8.71~~ TK	~~733.85~~ TK	STET TK	STET TK	719
	8.71	733.85	~~1.02~~	~~732.93~~	
~~TOTP-3~~	~~5.41~~	~~730.55~~	1.02	~~729.50~~ TK 732.53	3.33' OFF
BM Clarifier			~~1.04~~	~~729.46~~	
				BM 728.5 TK	Check

Move TO AERATION BASIN

AERATION	2.90	730.90		728	
PM-2			17.80	713.00	713
PM-1			18.60	712.2	712

155

LOCATION	NORTH	EAST	ELEV
PM8-1	347268.8	12778777.6	721.5
TP#1 GND			OFFSET = 3.5
			718.0
BMs	T/C	729.50	Primary Clarifier
	T/C	728.00	AERATION BASIN
PM5-1	347693.8	12777931.3	718.42
		OS	3.50
			~712
PM4-1	348032.8	12777672.2	725.36

NOTE ALL VALUES APPROXIMATE REPORT TO NEAREST FOOT

TKY INSTRUMENT PROBLEMS

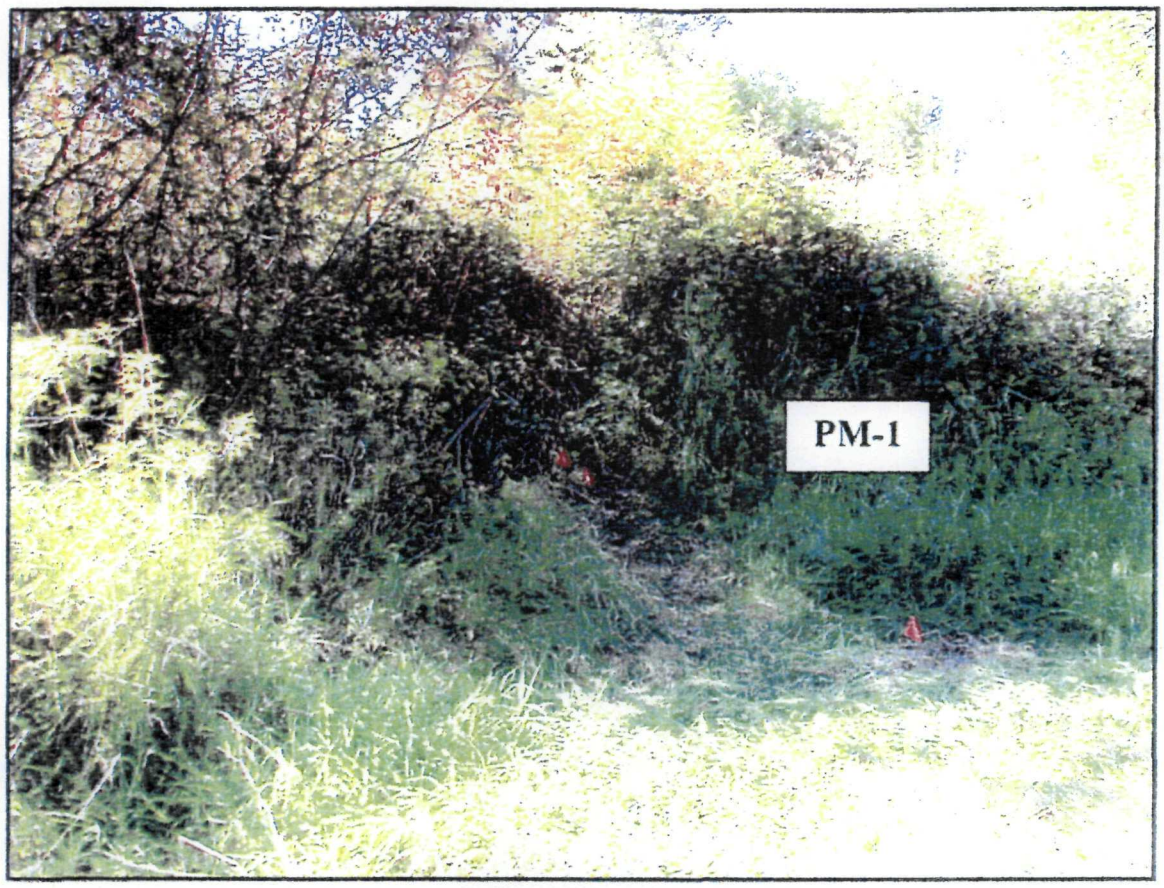
156

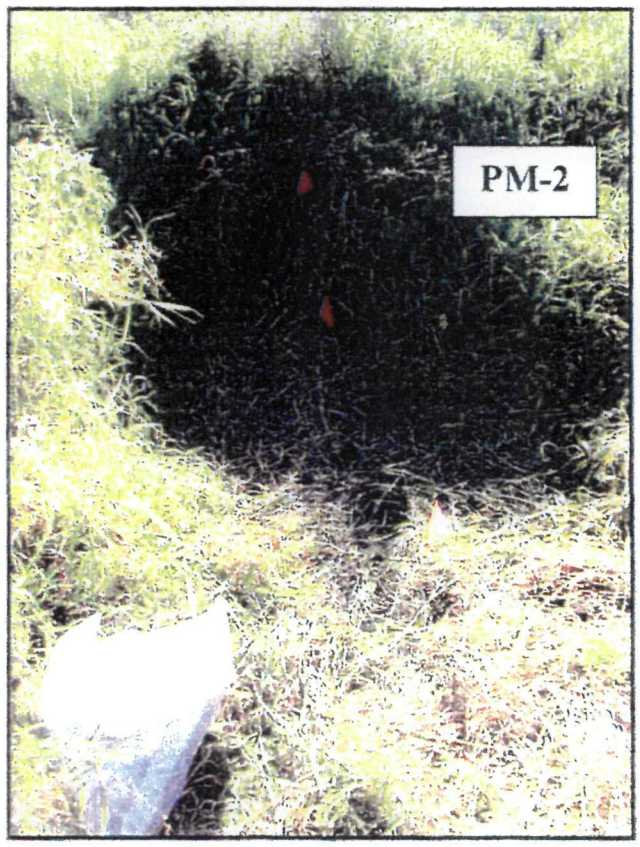
	NORTH	EAST	ELEV
PM-1	348632.2	12777000.8	716.43
PM-2	348472.6	12777168.6	716.69

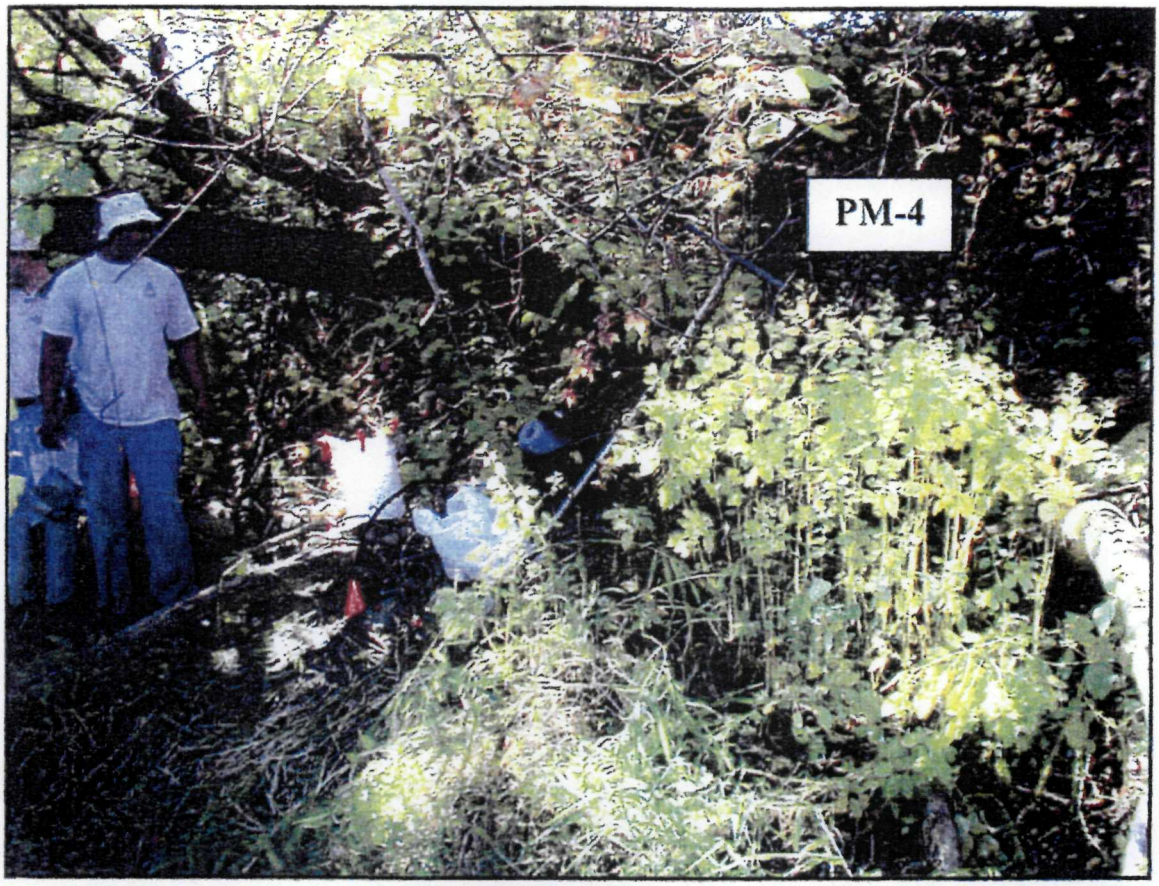
PACKED UP & ~~LEFT~~
WENT GUARD SHACK TO
SIGN OUT 12:15PM

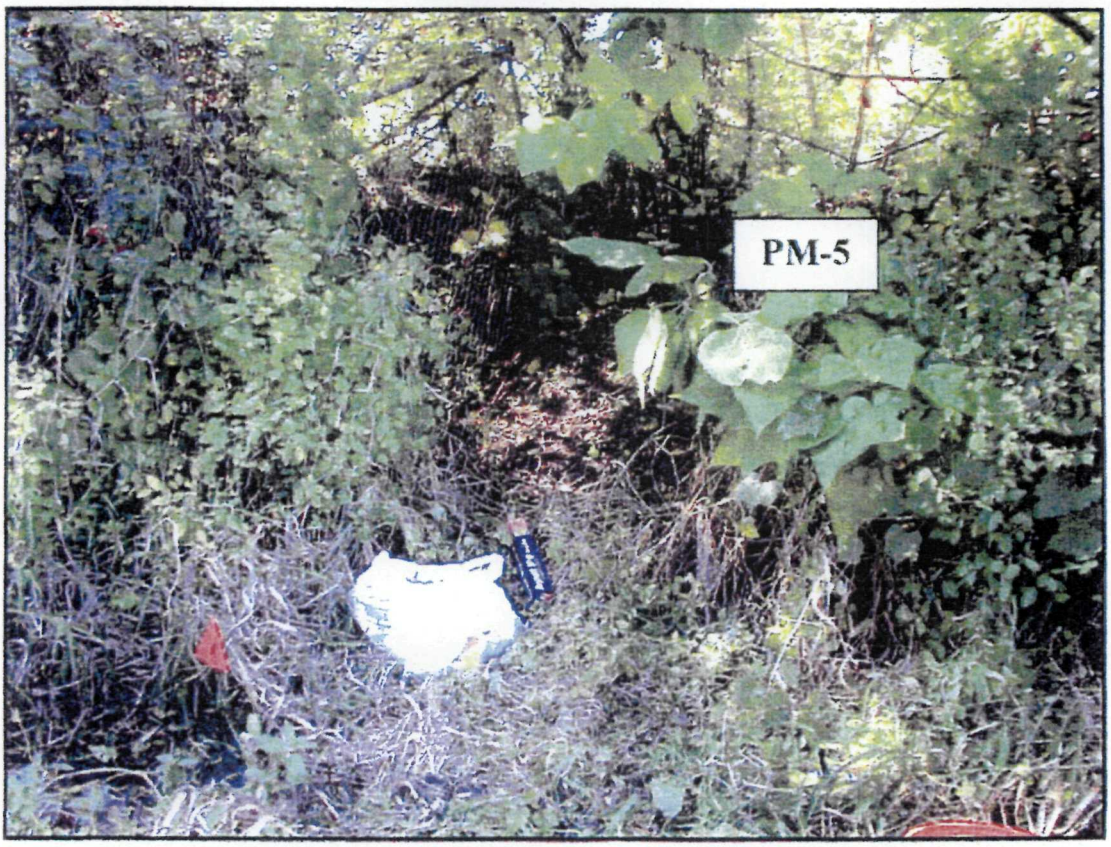
[signature] 11/2/01

157


PM-1

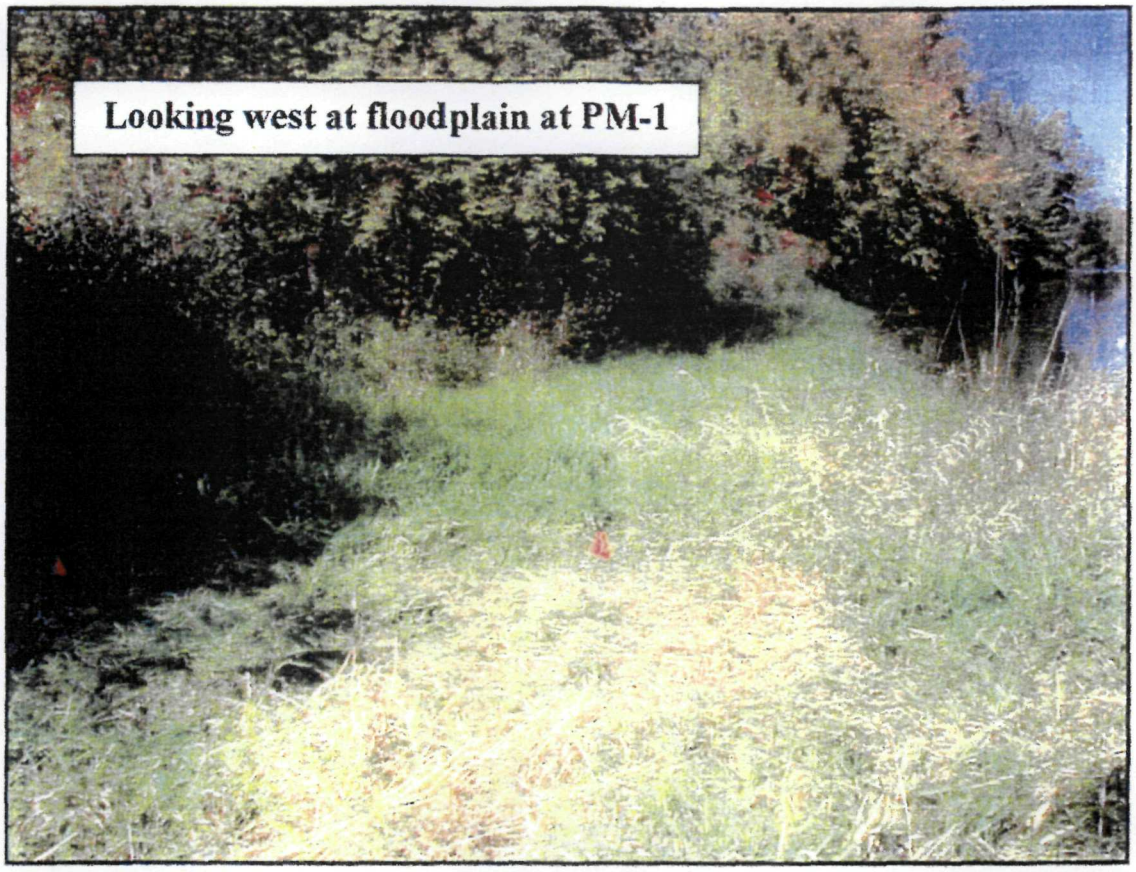

PM-2

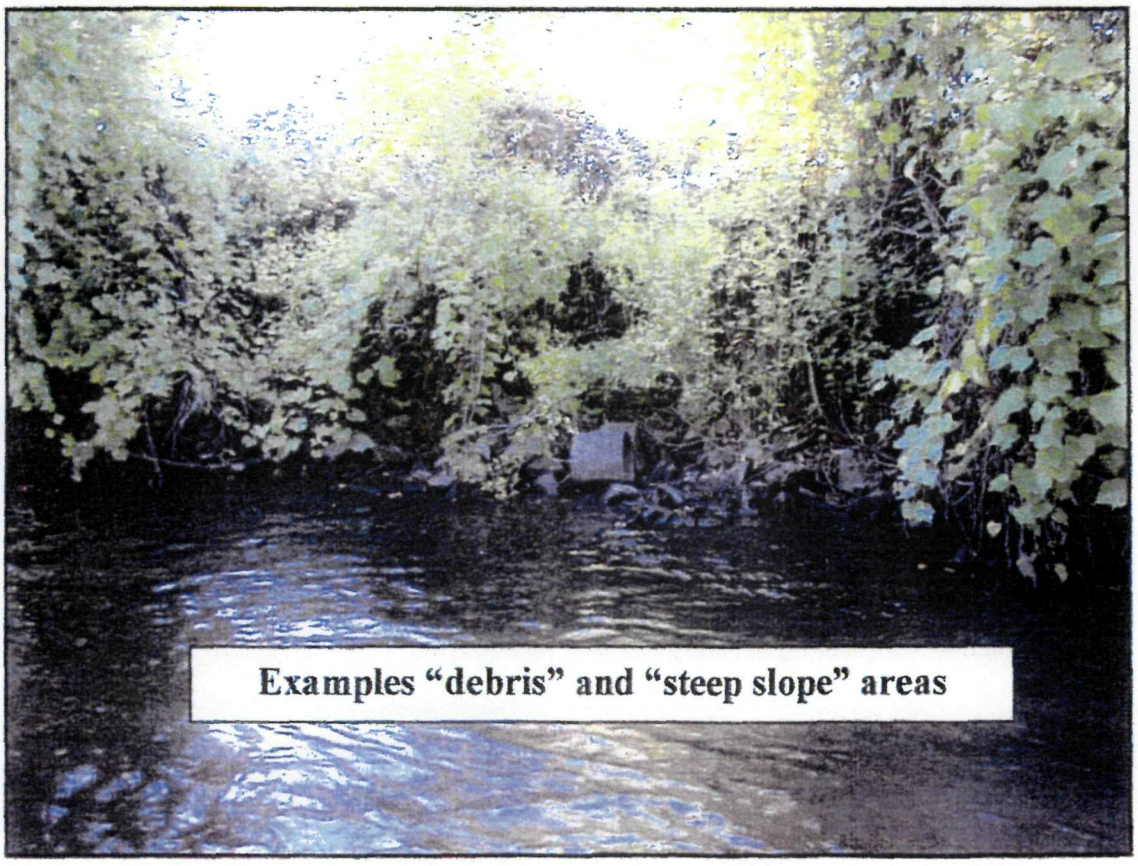

PM-4


PM-5

PM-8

SL001


Looking west at floodplain at PM-1


Examples "debris" and "steep slope" areas

	Total PCBs
PM-1	14.12
PM-2	26.70
PM-4	24.17
PM-5	66.57
PM-8	0.11

Total Aroclor PCBs (mg/kg)

N W E S

LEGEND

Plainwell Mill - Max PCB (mg/kg)

- 0 - 0.33
- 0.33 - 1
- 1 - 5
- 5 - 10
- 10 - 20
- > 20

EPA Stage 1 - Max PCB (mg/kg)

- 0 - 0.33
- 0.33 - 1
- 1 - 5
- 5 - 10
- 10 - 20
- > 20

- Not Collected - Steep Bank / Concrete Debris
- Highways
- Local Roads

Contour Elevations

- Stream Limit
- 715' and 720'

0 200 400 Feet

Notes:
(1) Aerial photographs taken by Air Land Surveys, Inc. on 4/24/00.
(2) Coordinates are in State Plane Michigan South NAD 1983.
(3) Coordinates for EPA Stage I sample locations were provided by FIELDS and were surveyed using a Trimble GPS unit.
(4) Coordinates for Plainwell Mill sample locations were surveyed using a Trimble GPS unit.

DRAFT

CDM Camp Dresser & McKee Inc.
One Woodward Ave., Suite 1500
Detroit, Michigan 48226
Phone: (313) 963-1313
Fax: (313) 963-3130

Prepared By: A. Santini
Date: 11/9/01

Allied Paper, Inc./Portage Creek/ Kalamazoo River Superfund Site

Plainwell Mill Sampling Investigation Results

Figure No. 1

\\Detsvr\DETL007779\c:\proj\28963\ou7\plainwellmill\plainwellmill.apr

FINAL REPORT

Prepared for Godfrey & Kahn, S.C. on behalf of
The New Group, and
Kirkland & Ellis on behalf of Citicorp Value Capital

Simpson Plainwell Paper Company Phase I Environmental Site Assessment and Phase II Investigation Plainwell, Michigan

June 6, 1997

Project No. 97058

Environmental Resources Management-North Central, Inc.
611 East Wisconsin Avenue, Suite 560
Milwaukee, Wisconsin 53202

James E. Kane

James E. Kane, P.E.

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1.0 EXECUTIVE SUMMARY

This report summarizes the findings of the Phase I Environmental Site Assessment (Phase I ESA) and a follow up Phase II Investigation of the Simpson Plainwell Paper Company (Simpson Plainwell) operations located in the Plainwell, Michigan area. The Phase I ESA was performed concurrently with an Environmental Compliance Review of the Simpson Plainwell operations. The Simpson Plainwell operations consist of:

- The Simpson Plainwell mill located at 200 Allegan Street in Plainwell, Michigan.
- The railroad siding serving the Simpson Plainwell mill.
- The property located adjacent to the Simpson Plainwell mill in Plainwell, Michigan that is leased by Specialty Minerals, Incorporated (SMI) from Simpson Plainwell.
- The Behnke Warehouse located at 300 Lincoln Parkway in Plainwell, Michigan.
- The 12th Street Landfill located on the Kalamazoo River approximately 1.5 miles northwest of Plainwell, Michigan.

Figure 1 illustrates the locations of the Simpson Plainwell operations, and Figure 2 presents the significant features of the Simpson Plainwell mill.

Environmental Resources Management-North Central, Inc. (ERM) was retained by Godfrey & Kahn, S.C. and Kirkland & Ellis on behalf of The New Group and Citicorp Value Capital, Limited, respectively, to conduct this assessment prior to the possible acquisition of Simpson Plainwell, including the above stated operations.

ERM conducted the investigation in accordance with the tenets of the American Society for Testing Materials (ASTM) Standard E 1527-94 (the "ASTM Standard"). Accordingly, ERM investigated current and historical activities at the above stated operations and available information on the adjacent properties to identify recognized environmental conditions. The Simpson Plainwell mill and the 12th Street Landfill have been designated as operable units of the Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site by the Michigan Department of Environmental Quality (MDEQ). Based on our review, there is no evidence of any other recognized environmental concerns at the Simpson Plainwell operations

located in the Plainwell, Michigan area. Several issues were identified about which additional information was required to assess the potential environmental risk to the Simpson Plainwell operations. This information was obtained through performance of a Phase II Investigation. These issues are:

- An area of soil staining is visible in the vicinity of the 200,000 gallon No. 6 fuel oil aboveground storage tank (AST) and the associated pump house and filling connection at the Simpson Plainwell mill. Smaller ASTs containing gasoline and diesel fuel have also been historically located in this area. A series of soil borings were drilled and sampled in this area during the Phase II Investigation to obtain additional information regarding the nature and extent of this apparent soil contamination. Table 1 presents information regarding the soil samples collected from these borings that were submitted for laboratory analysis (e.g., sample identification, sampling interval, analytical parameters), and Figure 3 presents the locations of these borings. Samples of shallow ground water were also obtained during the Phase II Investigation from locations upgradient and downgradient of this area of apparent soil contamination (Table 1 and Figure 3). Copies of the laboratory results prepared for these samples are contained in Appendix A.

  The analytical data developed from these samples reveals that the area of soil staining contains concentrations of volatile and semi-volatile petroleum constituents and lead that would be expected based on the historical storage of gasoline, diesel fuel, and No. 6 fuel oil in the vicinity. The elevated levels of petroleum constituents appear to be confined to a lateral area of approximately 150 square feet and a depth of less than 6 feet below ground surface (BGS). The analysis of shallow ground water samples obtained from this area show that petroleum constituents are not being released to ground water in measurable concentrations.

  ERM believes that the cost to remove and dispose of this petroleum-contaminated soil is $2,000 to $3,000.

- The Simpson Plainwell mill historically used on-site lagoons to dewater sludges resulting from the treatment of papermaking wastewaters. According to Simpson Plainwell personnel, fly ash resulting from the on-site burning of coal was combined with these sludges and placed in the on-site dewatering lagoons. These lagoons were used to dewater the papermaking wastewater treatment sludges and fly ash resulting from the on-site burning of coal beginning in 1954

and ending in 1981 when equipment was installed at the Simpson Plainwell mill to mechanically dewater wastewater sludges. The residual materials contained in these lagoons were removed in 1981 from all but four of the original 14 lagoons and managed off site. These remaining four lagoons were covered with soil, and a vegetative cover was established. Prior investigations of these covered lagoons have not analyzed the residual materials for elevated concentrations of metals that may be present due to the historic combining of fly ash with the papermaking wastewater sludges placed in these lagoons. Concentrations of metals present in these residual materials may be released to shallow ground water infiltrating through these lagoons. Metals released to the shallow ground water could reach the nearby Kalamazoo River in concentrations that could affect water quality.

As part of the Phase II Investigation of the Simpson Plainwell operations two samples of the residual materials were obtained from each of the four lagoons (see Table 1 and Figure 3) and submitted for laboratory analysis of the metals arsenic, cadmium, lead, zinc, chromium, copper, selenium, and mercury. Soil samples were also collected in five locations of the Simpson Plainwell mill presumably not containing fly ash to provide information regarding background levels of these metals (Table 1 and Figure 3).

Copies of the laboratory reports prepared for these samples and the statistical analysis of the analytical data are contained in Appendix A. The analytical data developed from the lagoon samples was statistically compared to the data developed from the background samples. This analysis revealed that the metals concentrations of the residual materials are not statistically different than the background levels for the mill. Therefore, the potential is low for the release of metals to shallow ground water and, subsequently, to the Kalamazoo River from the four lagoons.

Samples of shallow ground water were also obtained during the Phase II Investigation from locations upgradient and downgradient of the lagoons (Table 1 and Figure 3). The analysis of these samples for dissolved-phase concentrations of metals showed that an increase in concentrations does not occur in shallow ground water beneath the lagoons.

- The Simpson Plainwell mill burned coal to produce steam from 1884 to 1987. A portion of the Simpson Plainwell mill property was used to stockpile coal during this time period. Trace concentrations of metals in coal can be released due to the weathering of stockpiled coal. The

weathering of stockpiled coal can also release concentrations of polynuclear aromatic hydrocarbons (PAHs). Additionally, water infiltrating through the stockpiled coal becomes acidic and can mobilize naturally-occurring metals present in soils. Concentrations of metals and PAHs released from stockpiled coal can reach shallow ground water and, subsequently, the Kalamazoo River.

Soil and ground water samples were obtained during the Phase II Investigation to assess conditions in the vicinity of, and downgradient of, the area formerly used to stockpile coal. Soil samples were collected from five locations in the former coal pile area and five locations between the former coal pile area and the Kalamazoo River (Table 1 and Figure 3). Samples of shallow ground water were obtained in two locations upgradient of the former coal pile and one location downgradient. The data developed by the analysis of the soil samples for metals was statistically compared to the data developed from the background samples obtained as part of the assessment of the sludge dewatering lagoons. Copies of the laboratory reports prepared for these samples and the statistical analysis of the metals data are contained in Appendix A.

The statistical analysis of the metals data revealed that the concentrations of metals present in soils underlying the former coal pile and between this area and the Kalamazoo River are not statistically different than the background levels for the mill. The analytical data shows that residual concentrations of several PAHs are present in soils underlying the former coal pile and between this area and the Kalamazoo River. These measured concentrations may have resulted from the unavoidable incorporation in the samples submitted for testing of small coal particles present in the sampling locations. The ground water analytical data shows that PAHs are not present in measurable quantities downgradient of the former coal pile. Similarly, the dissolved-phase concentrations of metals in shallow ground water do not increase beneath the former coal pile. These data support the conclusion that residual materials in the vicinity of the former coal pile are not affecting the condition of shallow ground water.

- A 10,000-gallon underground storage tank (UST) at the Simpson Plainwell mill stored kerosene used in the de-inking operations. This UST was removed in 1985, and there is no record of the soil conditions observed during removal of this UST. A warehouse addition was subsequently constructed over the former location of this UST. The potential exists that a release of kerosene may have occurred from this UST prior to its removal in 1985. If residual levels of kerosene are

present in soils in the vicinity of the former location of the UST, these soils could act as a secondary source of contamination by releasing constituents of kerosene to shallow ground water and, subsequently, the Kalamazoo River. Space limitations prevented drilling within the warehouse addition to obtain soil samples in the vicinity of the former UST. However, information concerning the condition of soil and ground water in the vicinity of the former UST was obtained by the evaluation of ground water conditions downgradient of this location. Samples of shallow ground water were obtained during the Phase II Investigation from two locations downgradient of the former UST (Table 1 and Figure 3). Copies of the laboratory reports prepared for these samples are contained in Appendix A.

The analytical data developed from these samples revealed that kerosene constituents are not present in shallow ground water in the vicinity of the former kerosene UST.

- A 300 gallon UST at the Simpson Plainwell mill stored gasoline used to fuel mill vehicles. This UST was removed in 1985, and there is no information available regarding site conditions at the time of removal. The potential exists that gasoline constituents may have been released from this UST prior to its removal in 1985. If residual levels of gasoline are present in soils in this area, these soils could act as a secondary source of contamination by releasing gasoline constituents to shallow ground water and, subsequently, the Kalamazoo River. A soil boring was drilled and sampled during the Phase II Investigation in the former location of the UST to obtain information regarding soil conditions (Table 1 and Figure 3). Samples of shallow ground water were obtained in two locations downgradient of the former UST (Table 1 and Figure 3). Copies of the laboratory reports prepared for these samples are contained in Appendix A.

  The analytical data developed from these samples revealed that residual levels of gasoline constituents are not present in soil in the vicinity of the former UST, or in shallow ground water downgradient of the former UST.

- Facility personnel indicated that the hydraulic oils previously used in several elevator lifts at the Simpson Plainwell mill contained polychlorinated biphenyls (PCBs). These PCB-containing oils were reportedly removed, and the hydraulic equipment cleaned prior to filling with new hydraulic oil that does not contain PCBs. Facility personnel stated that subsequent testing of samples of hydraulic oils obtained from these elevator lifts have shown residual levels of PCBs.

The inspection of one elevator lift pit revealed the presence of residual oils on the concrete floor and walls of the pit. Wipe testing of the concrete floor and walls of the mill's five elevator pits was performed during the Phase II Investigation to assess whether residual levels of PCBs are present in these areas. Concentrations of PCBs were measured in one or more wipe test samples obtained from each of the elevator pits. However, the levels measured are well below the standard of 100 micrograms/100 square centimeters contained in 40 CFR Part 761.125 for indoor areas with low potential for human contact. These data support the conclusion that decontamination of the elevator pits is not required. Mill personnel and outside contractors entering these elevator pits to perform equipment maintenance should be provided with the personal protective equipment necessary to prevent skin contact with areas that may contain residual concentrations of PCBs.

- The piping used to transfer No. 6 fuel oil from the 200,000 gallon AST to the Simpson Plainwell mill's boiler room is contained in a concrete tunnel. This tunnel previously was used to convey coal from the nearby coal pile to the boiler room. Facility personnel indicated that releases of No. 6 fuel oil within the coal tunnel have occurred twice in the last 15 years. If constituents of No. 6 fuel oil have been released from the tunnel, the condition of shallow ground water in the vicinity of the tunnel could be affected. A portion of the tunnel was inspected during the Phase II Investigation by ERM personnel using self-contained breathing apparatus. This inspection revealed that the tunnel contains an approximately 1-foot thick residual fuel oil layer. Water has also accumulated in the tunnel. The concrete tunnel walls appeared to be in good condition and there were no visible cracks or joint failures that would indicate that a release from the tunnel could have occurred. Facility personnel indicated that coal was loaded into the tunnel through a vertical shaft covered with a metal grate located adjacent to a railroad siding (Figure 2). The metal grate reportedly was covered and soil was placed over the covered grate when the Simpson Plainwell mill stopped burning coal to produce steam in 1987. It is unlikely that the covered grate is a water-tight barrier to water infiltrating through shallow soils. It is likely that the water observed during the inspection entered the tunnel through the covered grate and the vertical shaft.

  Soil samples were not collected in the vicinity of the tunnel during the Phase II Investigation because the relative positions of the concrete tunnel and the apparent ground water table (i.e., the water table is above the tunnel floor) make it unlikely that any release of No. 6 fuel

oil from the concrete tunnel would affect soils above the water table. The concrete tunnel walls appeared to be in good condition and there were no visible cracks or joint failures that would indicate that a release from the tunnel could have occurred. Information regarding the condition of shallow ground water in the vicinity of the concrete tunnel was obtained by the evaluation of ground water conditions downgradient of the concrete tunnel. Samples of shallow ground water were obtained during the Phase II Investigation from two locations downgradient of the concrete tunnel (Table 1 and Figure 3). Copies of the laboratory reports prepared for these samples are contained in Appendix A.

The analytical data developed from these samples revealed that fuel oil constituents are not present in shallow ground water in the vicinity of the concrete tunnel.

- Samples of shallow ground water were obtained from three locations upgradient and downgradient (Table 1 and Figure 3) of the mill buildings during the Phase II Investigation to obtain information regarding ground water conditions. The analytical data developed from these samples indicate that the condition of shallow ground water does not change beneath the mill buildings with the exception of the data developed for the water sample (SGWB-7) obtained downgradient of the northeastern portion of the mill buildings (Figure 3). This ground water sample contained low levels of PAHs (i.e., total concentration of all detected compounds was 2.64 $\mu g/l$). A 250-gallon diesel AST was formerly located to the southeast (upgradient) of the SGWB-7 sampling location (RMT, 1996). The potential exists that the low levels of PAHs present in shallow ground water may be associated with a release of diesel fuel during the period of time the AST was used.

  ERM believes that the source of these PAHs can be identified and controlled for $8,000 to $20,000.

2.0 INTRODUCTION

2.1 PURPOSE AND METHODOLOGY

This Phase I ESA was conducted to identify known and potential environmental concerns related to past or present on-site activities. The scope of work for this assessment consisted of the following tasks:

- A review of all readily available environmental databases, including listings of known or suspected contaminated sites, known landfill locations, known leaking UST locations, and operations regulated under Federal or State of Michigan hazardous waste regulations.
- Interviews of individuals familiar with current or historic activities at the various Simpson Plainwell operations.
- An on-site inspection by an ERM senior environmental professional.
- A review of historical fire insurance maps depicting the Simpson Plainwell operations.
- A review of the report (dated July 1996) prepared by RMT, Inc. (RMT) of Madison, Wisconsin presenting the results of a Phase I ESA of the Simpson Plainwell mill.
- Preparation of a written environmental assessment report.

Issues investigated with respect to the Simpson Plainwell operations include, but are not limited to, the following:

- Storage, use, and disposal of chemicals, hazardous materials, or hazardous waste at the Simpson Plainwell operations.
- Previous on-site activities.
- Contamination resulting from off-site sources and nearby properties.
- The potential for asbestos-containing material (ACM) being used as insulation or building material.
- The potential for electrical equipment containing PCBs.

- The condition of any USTs and ASTs.
- The existence of areas of stained soils, stressed vegetation, filled or mounded areas, or other indications of improper waste handling practices.
- Historical or current circumstances that suggest the Simpson Plainwell operations could be sources of contamination.
- Other significant environmental issues.

ERM did not: (1) perform a formal chain-of-title search as part of this assessment, or (2) review any State of Michigan or Federal files concerning the Simpson Plainwell operations or adjoining properties other than those identified as part of the environmental database searches.

2.2 *SPECIAL TERMS AND CONDITIONS*

The scope of work performed during the Phase I ESA and Environmental Compliance Review conformed to that described in the Environmental Review Scope of Work provided by Kirkland & Ellis. This Phase I ESA was conducted and performed in accordance with the tenets of the ASTM Standard E 1527-94. Accordingly, no evaluations were completed as a part of this work involving: (1) radon, (2) lead in drinking water, and (3) lead-based paint. Although no formal asbestos survey was conducted as part of this Phase I ESA, ERM did inspect the Simpson Plainwell operations for items that may be potential ACMs. ERM reviewed readily available environmental databases for information regarding off-site waste disposal facilities currently and historically receiving solid waste from Simpson Plainwell operations. ERM inspected SMI operations located on property leased from Simpson Plainwell during this Phase I ESA. ERM interviewed SMI personnel to obtain general information regarding the raw materials used and the wastes generated in the SMI operations. Specific information could not be obtained because of the proprietary nature of the production operations performed at the facility regarding the potential for ACMs or PCBs being present or the storage and disposal of chemicals, hazardous materials, or hazardous waste. ERM performed an Environmental Compliance Review of the Simpson Plainwell operations concurrently with this Phase I ESA. The results of this Environmental Compliance Review are summarized in a separate report.

2.3 *LIMITATIONS AND EXCEPTIONS OF THIS ASSESSMENT*

This assessment was performed in accordance with the ASTM Standard with the exceptions that a formal chain-of-title search was not conducted.

2.4 *LIMITING CONDITIONS*

This Phase I ESA presents ERM's professional interpretation of the existing conditions based on the information gathered. Professional judgments expressed are based on facts currently available within the limits of the mutually agreed to scope of work, budget, and schedule. ERM's work was performed in accordance with generally accepted engineering standards. It is ERM's specific intent that the conclusions and recommendations presented herein be used as a guidance and not necessarily as a firm course of action unless explicitly stated as such. WE MAKE NO WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING WITHOUT LIMITATION, WARRANTIES AS TO MARKETABILITY OR FITNESS FOR A PARTICULAR PURPOSE. In addition, the information in this report is not to be construed as legal advice.

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3.0 SITE DESCRIPTION

3.1 LOCATION AND LEGAL DESCRIPTION

As stated previously, the Simpson Plainwell operations consist of:

- The Simpson Plainwell mill located at 200 Allegan Street in Plainwell, Michigan.
- The railroad siding serving the Simpson Plainwell mill.
- The portion of the Simpson Plainwell mill that is leased by SMI.
- The Behnke Warehouse located at 300 Lincoln Parkway in Plainwell, Michigan.
- The 12th Street Landfill located on the Kalamazoo River approximately 1.5 miles northwest of Plainwell, Michigan.

The locations of these operations are shown on the U.S. Geological Survey (USGS) topographic map included as Figure 1.

3.2 SITE AND VICINITY CHARACTERISTICS

The land use in the immediate vicinity of the Simpson Plainwell mill and the property leased by SMI is a mixture of residential and commercial development. The Simpson Plainwell mill is bounded on the north by the Kalamazoo River; on the east by the mill race and the City of Plainwell parking lot, and further to the east by an auto parts store and other commercial establishments; on the south by single-family residences; and on the west by single-family residences, the City of Plainwell sewage treatment plant, and a wooded area. The property leased by SMI from Simpson Plainwell is located along Allegan Street to the west of the Simpson Plainwell mill's employee parking lot.

The railroad siding serving the Simpson Plainwell mill is approximately ½-mile long and connects the Simpson Plainwell mill to the Conrail line located along the eastern edge of the City of Plainwell. The railroad siding joins the main line to the west of the intersections of Broad and First Division Streets. The railroad siding and main line are bordered by brushy vacant land and several single-family residences. The railroad

siding is bordered by single-family residences, several commercial developments, a City of Plainwell park, and the Lawrence Industries, Inc. facility.

The Behnke warehouse is located in the City of Plainwell industrial park. The warehouse is bounded on the north by vacant land contained within the City's industrial park; on the east by additional vacant lots prepared for development, and further to the east by a City of Plainwell park; on the south by two storm water retention/infiltration ponds constructed during the initial development of the industrial park; and on the west by the Conrail tracks, and further to the west by vacant land.

The 12th Street Landfill is bounded on the north and west by wetland areas; on the east by the Kalamazoo River; on the southeast by the Plainwell dam; and on the south by a unpaved road providing access to the Plainwell dam. Located further to the south is the Consumers Concrete Corporation production facility, the Ostego shop of BSS&G Mechanical Contractors, and the gravel pit and processing area of Bill Smith's Sand and Gravel, Inc.

3.3 *STRUCTURES, ROADS, AND OTHER IMPROVEMENTS*

The Simpson Plainwell mill property is zoned industrial, and the primary site features of the property are shown in Figure 2. The eastern portion of the property contains the combination of buildings housing the administrative offices, the mill production and support operations, and areas used for the storage of raw materials and final product. The combination of buildings covers approximately 526,000 square feet. The mill buildings are surrounded by asphalt- and concrete-paved yard areas, access roadways, and parking lots with landscaped areas along the property boundary bordering the Kalamazoo River and the mill race. Structures present on the remaining portions of the Simpson Plainwell mill property include wastewater treatment equipment, including the primary clarifier, the activated-sludge aeration tanks and secondary clarifier, and the building housing the sludge dewatering equipment (approximately 40,000 square feet);two metal pole barn type buildings used for the storage of mill equipment (approximately 6,000 square feet); and the 45,000 square foot building housing the SMI operations on property leased from Simpson Plainwell. Other significant features of the Simpson Plainwell mill property include:

- Two 50,000-gallon water towers.

- One 200,000-gallon aboveground storage tank (AST) containing No. 6 fuel oil.
- Four filled lagoons formerly used to dewater papermaking wastewater treatment sludges with a total surface area of approximately 5,000 square feet.

- The approximately 20,000-square-foot area of the property formerly used to stockpile coal during the period of time when coal was burned to produce steam used in the mill (i.e., 1884 to 1987).

The Simpson Plainwell mill is provided electricity by Consumers Energy Co. of Michigan , and natural gas is purchased on the open market. The City of Plainwell provides to the mill potable water obtained from a municipal well field, and sanitary sewers under the control of the City of Plainwell receive domestic sewage from the mill. Non-potable water used in the mill operations is obtained from seven on-site water supply wells; including four wells providing process water, two fire control system water supply wells, and one well providing makeup water to the wastewater treatment system. Papermaking wastewaters are treated on site and discharged to the Kalamazoo River. Non-contact cooling water and storm water runoff are also routed to the Kalamazoo River. The Simpson Plainwell mill property is secured by a chain-link fence. As stated previously, the Simpson Plainwell operations include the railroad siding linking the mill operations to the Conrail line located to the east of the City of Plainwell.

The Behnke warehouse is a metal and brick, high-bay building of on-slab construction. The warehouse is bordered on the south by an asphalt- and concrete-paved yard area providing space for employee parking and a turn-around area for semi-trailer trucks loading/unloading at the warehouse. Simpson Plainwell has obtained an easement extending approximately 20 feet south beyond the property boundary from the owner of the adjoining property to facilitate snow removal activities and the movement and turnaround of semi-trailers.

There are no on-site structures present at the 12th Street Landfill. A chain-link fence secures the southwestern portion of the property, and "No Trespassing" signs are posted along the property boundary. The portion of the landfill containing waste materials is enclosed by a steep berm constructed of soil, fly ash, and papermaking waste treatment sludges. The portion of the property containing waste materials has been covered with soil, and a vegetative cover established.

3.4 *INFORMATION REPORTED BY THE USER REGARDING ENVIRONMENTAL LIENS OR SPECIALIZED KNOWLEDGE OR EXPERIENCE*

ERM reviewed the Phase I ESA report prepared by RMT (July 1996) regarding the historical use of the Simpson Plainwell operation.

3.5 *CURRENT USES OF THE PROPERTY*

The Simpson Plainwell mill manufacturers approximately 300 tons per day of specialty papers including coated printing, technical, and release paper. Raw fiber is received at the Simpson Plainwell mill in the form of bleached Kraft pulp and post-consumer wastepaper. Additionally, scrap paper (broke) generated during mill production is used as a raw material in the papermaking process. The primary fillers used are calcined clays, titanium dioxide, and precipitated calcium carbonate (PCC). Various sizing and coating agents are also added during the production process. The paper production process consists of repulping on a batch basis, forming on three paper machines, drying, coating, and then final drying. Manufactured paper may undergo finishing operations such as super-calendaring, trimming, rewinding, embossing, and sheeting. The finished product is then packaged and shipped. The mill typically operates 24 hours per day, 5 days a week. Raw materials are typically received by rail, and finished goods are shipped by truck. The Simpson Plainwell mill obtains PCC from the SMI operations located on property leased from the mill.

The SMI operations produce PCC used in the Simpson Plainwell mill and other paper mills located in the area. SMI's proprietary process uses quicklime (CaO) and liquid carbon dioxide as raw materials. Non-contact cooling water supplied by the Simpson Plainwell mill is used for non-contact cooling operations at the SMI facility, and is returned to the mill as preheated boiler feedwater. Finished product used by the Simpson Plainwell mill is conveyed directly to the point of use by an underground pipeline. Finished product used by other area paper mills is transported by truck. Raw materials are brought to the SMI facility by truck (liquid carbon dioxide and quicklime). Wastewaters generated by SMI, consisting of floor-washing water and seal water, is pH adjusted and discharged to the Simpson Plainwell mill wastewater treatment system for treatment in accordance with an agreement established between Simpson Plainwell and SMI. The railroad siding serving the Simpson Plainwell mill is in active use, and is used exclusively by Simpson Plainwell.

The Behnke warehouse is used to store bleached Kraft pulp used as a raw material in the Simpson Plainwell mill; spare mill equipment, including beater room and cutter room rolls; and finished product.

The 12th Street Landfill is inactive and last received solid waste from the Simpson Plainwell mill in 1981. The portion of the landfill containing solid waste was covered with soil and a vegetative cover established in 1984. As stated previously, the 12th Street Landfill has been identified as an "operable unit" of the Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site by the MDEQ.

3.6 *PAST USES OF THE PROPERTY*

In order to evaluate past uses of the Simpson Plainwell operations, ERM reviewed historic fire insurance maps obtained from EDR Sanborn, Inc. (Sanborn) of Southport, Connecticut and the 1996 Phase I ESA report prepared by RMT (RMT, 1996). The Simpson Plainwell mill property has been used to produce paper since 1886. ERM reviewed historic fire insurance maps depicting the Simpson Plainwell mill property and the associated railroad siding for the years 1884, 1892, 1899, 1904, 1911, 1918, 1928, 1942, and 1950.

The 1884 map identifies the B. F. Lyon & Company Paper Mill as occupying the eastern portion of the current Simpson Plainwell mill property. The paper production process includes a bleached Kraft pulping operation, rag storage, and one paper machine. The 1892 map identifies the Michigan Paper Company as owners of the property and indicates that the mill operations shown in the 1884 map have been converted to warehousing. In the 1884 map, the new mill operations are located to the east, adjacent to the mill race used to supply electric power through a hydro-electric generating system. The mill property appears unchanged in the 1899 and 1904 maps.

? dam management ?

The 1911 map shows a larger Michigan Paper Company mill and the railroad siding serving the property that exists today. The 1911 map shows two coal-fired boiler rooms serving the mill operations, each power house having its own coal storage area. One of the boiler rooms appears to be in the same location as the Simpson Plainwell mill's boiler room, and the second boiler room is located to the east near the current location of the super calendar room. The mill appears to be unchanged in the 1918 and 1928 maps. Some changes in the mill buildings are evident in the 1942 and 1950 maps, but there is no significant change in the overall size shown in these maps.

The Simpson Plainwell mill property was expanded to the west from 1950 through the 1980s by the purchase and demolition of 22 single-family residences (RMT, 1996). The current boundary of the Simpson Plainwell mill property was created by:

- The purchase of 2.06 acres located to the west of Michigan Street in 1990.

- The purchase of the former Doxey and Quality Products properties (1.75 acres) located to the west of the building currently housing the papermaking wastewater sludge dewatering equipment.

- The agreement reached between Pfizer (now SMI) and Simpson Plainwell to construct and operate the PCC manufacturing plant on mill property in 1992.

- The purchase of two single-family residences (2.8 acres) located west of Michigan Street in 1995.

Papermaking wastewater was discharged from the mill directly to the Kalamazoo River from 1884 to 1954. The mill operations included the de-inking of waste paper from 1910 to 1962, and the de-inking of carbonless copy paper containing PCBs occurred from approximately 1957 to 1962 (RMT, 1996). The on-site treatment of papermaking wastewater began in 1954 and was expanded to its current extent in 1983. The Simpson Plainwell mill burned coal to produce steam used to power the papermaking operations from 1884 to 1987.

In addition to the ownership of the property by the B. F. Lyon & Company and the Michigan Paper Company shown in the historic fire insurance maps, past owners of the Simpson Plainwell mill have included:

- The Hamilton Paper Company (1956 through 1961),
- The Weyerhaeuser Company (1961 through 1970),
- Philip Morris (1970 through 1985), and
- The Chesapeake Corporation (1985 through 1987).

The Simpson Paper Company purchased the stock of the mill in 1987 from the Chesapeake Corporation and renamed the corporation owning the mill to the Simpson Plainwell Paper Company.

The railroad siding serving the Simpson Plainwell mill was purchased from Conrail (formerly Penn Central) in 1983, and the siding is currently maintained by Conrail under an agreement with Simpson Plainwell.

The Behnke warehouse was built in 1985 by the Behnke Trucking Company. Prior to the development of the City of Plainwell Industrial Park, the land containing the Behnke warehouse was agricultural land. Simpson Plainwell leased the Behnke warehouse from the Behnke Trucking Company from 1985 to 1990, and purchased the warehouse in 1990.

The 12th Street Landfill was used from approximately 1955 to 1981 for the disposal of papermaking wastewater treatment sludges and fly ash generated at the Simpson Plainwell mill. From approximately 1955 to 1981 the vertical and lateral extent of the landfill was expanded as necessary to contain the waste materials brought to the landfill. These expansions resulted in the construction of steep berms, in some locations as high as 30 feet, to contain the waste materials. These berms were constructed of soil, gravel, fly ash, and papermaking wastewater sludges (RMT, 1996). In 1984, the 12th Street Landfill was covered with soil, and a vegetative cover established. As stated previously, the 12th Street Landfill has been designated as an "operable unit" of the Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site (see discussion in Section 5.7) by the MDEQ.

3.7 *CURRENT AND PAST USES OF THE ADJOINING PROPERTIES*

As previously indicated, the land use in the general vicinity of the Simpson Plainwell mill is a mixture of commercial establishments and single-family residences. The Simpson Plainwell mill is bounded on the north by the Kalamazoo River; on the east by the mill race, and further to the east by an auto parts store and other commercial establishments; on the south by single-family residences; and on the west by single-family residences, the City of Plainwell sewage treatment plant, and a wooded area. The property leased by SMI from Simpson Plainwell is located along Allegan Street to the west of the Simpson Plainwell mill's employee parking lot.

Information regarding past uses of the property adjoining the Simpson Plainwell mill was obtained by reviewing historic fire insurance maps obtained from Sanborn for the years 1884, 1892, 1899, 1904, 1911, 1918, 1928, 1942, and 1950; and the 1996 Phase I ESA report prepared by RMT (RMT, 1996). The 1884 map shows the B. F. Lyon & Company paper mill to be bounded on the east by the H. W. Page Box Factory, the S. H. Corbin Sawmill on the western bank of the mill race and the J. T. Curtis Sash, Door, and Board Factory further to the east across the mill race. The mill was bounded on the south by a cooperage and several single-family

residences, and the 1884 map provides no coverage for the land located to the west of the mill.

The eastward expansion of the Michigan Paper Company to the western bank of the mill race shown in the 1892 map has eliminated the box factory and saw mill shown in the 1884 map. The T. W. Reynolds Planing Mill and Sash and Door Factory is located across the mill race to the east of the paper mill, and the mill is bounded on the south by single-family residences. The 1892 map also does not provide information regarding the usage of the property to the west of the mill.

The depiction of the surrounding properties in the 1899 map is unchanged except for the designation of the planing mill and the sash and door factory as the W. M. Stewart Factory, and there is no change in the 1904 map. The City Electric Light Plant and City Waterworks have displaced the sash and door factory located across the mill race from the Michigan Paper Company mill in the 1911 map. The mill is bounded on the south and west by single-family residences in the 1911 map.

The only change apparent in the 1918 map is the renaming of the City Electric Light Plant to the Eesley Electric Light and Power Company. In the 1928 map, the power plant located across the mill race from the Michigan Paper Company mill is identified as the Lower Peninsula Power Company. There is no change in the land use of the properties adjoining the Michigan Paper Company mill in the 1942 map, and the only apparent change in the 1950 map is the designation of the power plant as the Consumers Power Company Power Plant.

The Behnke warehouse is located in the City of Plainwell Industrial Park, and is bounded by vacant land contained within the park that has been prepared for development. According to Simpson Plainwell personnel, the industrial park and adjoining property was agricultural land prior to the establishment of the industrial park in 1985.

The 12th Street Landfill is bounded on the north by a wetland area; on the east by the Kalamazoo River; on the southeast by the Plainwell Dam; and on the west and south by the Consumers Concrete Corporation production facility, the Ostego shop of DSFS&G Mechanical Contractors, and the gravel pit and processing area of Bill Smith's Sand and Gravel, Inc. According to RMT, the opening of Bill Smith's Sand and Gravel, Inc. gravel pit began along the west side of the landfill prior to 1938. The remaining properties adjoining the 12th Street Landfill in 1938 consisted of wooded and agricultural lands to the south and east and a wetland area to the north (RMT, 1996). The extent of the sand and gravel operation

expanded from the first activity located to the west of the site to the current operations located to the west and southwest of the 12th Street Landfill.

4.0 *RECORDS REVIEW*

4.1 *STATE AND FEDERAL RECORDS*

ERM retained Environmental Data Resources, Inc. (EDR) of Southport, Connecticut to conduct a search of pertinent State of Michigan and Federal databases to obtain any listed information concerning the Simpson Plainwell operations within the radii specified by the ASTM Standard. Database searches were developed for: (1) the Simpson Plainwell mill, (2) the railroad siding serving the mill, (3) the Behnke warehouse, and (4) the 12th Street Landfill. The database search performed for the Simpson Plainwell mill used expanded search radii to accommodate the size and shape of the property. A corridor study report was prepared for the rail siding to obtain the desired information. The database searches conducted for the Behnke warehouse and the 12th Street Landfill used the radii specified by the ASTM standard. The EDR-Radius Map and GeoCheck™ Reports and the EDR Corridor Study Report™, which are included as Appendix B, contain the results of the review of the following databases:

- Federal Records: The U.S. Environmental Protection Agency's (USEPA's) Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS); Emergency Response Notification System (ERMS); National Priorities List (NPL); Resource Conservation and Recovery Information System (RCRIS); Facility Index System (FINDS); Polychlorinated Biphenyl Activity Database (PADS); Resource Conservation and Recovery Act (RCRA); RCRA Administration Action Tracking System (RAATS); Toxic Release Inventory System (TRIS); and Toxic Substances Control Act (TSCA) databases; and the U.S. Department of Transportation's (USDOT's) Hazardous Materials Incidence Report System (HMIRS).

- State *of Michigan* Records: State hazardous waste sites, solid waste facilities/landfill sites, registered USTs and leaking USTs incident reports, registered ASTs, and reported spills.

4.1.1 *Simpson Plainwell Mill*

The Simpson Plainwell mill was identified by the database search as part of the Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site, as being a small quantity generator (SQG) of hazardous waste (MID 053666228) and as having a registered UST (i.e., a 300-gallon gasoline UST that is identified as having been removed). The database listing indicates

that no violations of hazardous waste handling regulations have been recorded; and that the mill generates spent halogenated solvents (F001). The Simpson Plainwell mill is also identified as a facility that releases toxic chemicals to the air, water, and land in reportable quantities under the Superfund Amendments and Reauthorization Act (SARA) Title III Section 313. No additional NPL or CERCLIS sites were identified by the database search, however, the Drug and Laboratory Disposal, Inc. facility (102 South Main Street) was identified as a CERCLIS site for which no further remedial actions are planned. This site is located within ½-mile and to the southeast of the Simpson Plainwell mill. This facility is also identified as a large-quantity generator (LQG) of hazardous waste, as a hazardous waste treatment/storage/disposal facility, and as a facility that has undergone a RCRA corrective action. Because the direction of ground water flow in the Plainwell area is toward the Kalamazoo River, this site would be located sidegradient to the Simpson Plainwell mill and any ground water contamination emanating from this location would not pose a risk to the mill.

Four sites located within 1 mile of the Simpson Plainwell mill were identified as Michigan State Hazardous Waste Sites (SHWS), the Michigan equivalent to CERCLIS. The A1 Disposal Corporation facility (400 Broad Street) is located to the east southeast of the Plainwell Simpson mill and to the east of the Kalamazoo River. Because shallow ground water in the vicinity of this site would flow westerly and discharge into the Kalamazoo River, any ground water contamination emanating from this location would not pose a risk to the Simpson Plainwell mill. Similarly, the Kewaunee Scientific Equipment facility (100-322 Acorn) located to the east southeast of the Simpson Plainwell mill and to the east of the Kalamazoo River, would not pose a risk to the Simpson Plainwell mill because any ground water contamination emanating from this location would likely discharge to the Kalamazoo River. The other two SHWS listed facilities located within 1 mile of the Simpson Plainwell mill are the M89 residential wells (1208 W. M-89) and the Bloomfield residential well (1052 Bloomfield). The M89 residential wells and the Bloomfield residential well are located to the west northwest and to the south of the mill property, respectively. The listing for the M89 residential wells indicates that ground water at this location is contaminated with petroleum constituents released from a gasoline service station. Because the direction of ground water flow at this location would be in a north northwesterly direction toward the Kalamazoo River, any ground water contamination emanating from this location would not pose a risk to the Simpson Plainwell mill. The Bloomfield residential well listing identifies the chlorinated solvents tetrachloroethene (PCE); 1,1,1-trichloroethane (TCA); and break-down products of these chlorinated solvents as the

contaminants identified. If ground water contamination exists at this location, it is unlikely to pose a risk to the Simpson Plainwell mill because of the distance separating it from the mill.

The database search identified 16 sites with registered USTs in addition to the Simpson Plainwell mill UST, and 12 sites reporting a leaking UST. Two of the 12 sites reported in the leaking UST are located within ¼ mile of the Simpson Plainwell mill. The Clark store #2009 (665 Allegan Street), a gasoline service station, is located to the west northwest of the Simpson Plainwell mill. Because of the north northwesterly direction of ground water flow in the vicinity of this facility, any ground water contamination emanating from this location would not pose a risk to the Simpson Plainwell mill. The PIPP Community Hospital (411 Naoimi Street) is located approximately ¼ mile to the west of the Simpson Plainwell mill. Because of the northerly direction of ground water flow in the vicinity of this facility, the PIPP Community Hospital would be located sidegradient to the Simpson Plainwell mill and any ground water contamination emanating from this location would not pose a risk to the mill. The database search identified five SQGs besides the Simpson Plainwell mill, and one SQG (i.e., the Clark store #2009) is located within ¼ mile of the mill. The Clark service station is shown to generate ignitable (D001) hazardous waste and hazardous waste containing elevated concentrations of benzene (D018). There have been no violations of hazardous waste handling regulations recorded for this site. The database search identified two LQGs located within 1 mile of the Simpson Plainwell mill.

No other sites were identified by the database search that pose a risk to the Simpson Plainwell mill.

4.1.2 *Railroad Siding Serving the Simpson Plainwell Mill*

The database search obtained from EDR for the railroad siding was a corridor study using the entire run of the railroad siding as the point from which to establish the 1-mile search radius. The railroad siding was not listed in any of the databases searched by EDR, and no NPL sites other than the Simpson Plainwell mill (see Section 4.1.1) were identified within the search radii.

The Drug and Laboratory Disposal, Inc. facility (331 Broad Street) was listed as a hazardous waste LQG, a hazardous waste treatment/storage/disposal facility, a CERCLIS site for which it has been determined that no further remedial actions are planned, and a facility that has undergone a RCRA corrective action. The database search determined that this facility has been issued 18 notices of violations

(NOVs) concerning the treatment/storage/disposal of hazardous wastes between 1986 and 1996. The information provided in the database search indicates that all of the listed NOVs have been corrected. This facility is located within ⅛ mile of the railroad siding near the portion of the siding that connects to the north/south Conrail line. Based on the information contained in the database search, the CERCLIS issue involving this facility was discovered in 1988 and was resolved in 1989. Although the facility has been issued a number of NOVs involving the management of hazardous waste, the steps necessary to resolve these NOVs have been taken. Therefore, it is unlikely that this facility poses a risk to the continued use of the railroad siding by Simpson Plainwell. In addition to the Drug and Laboratory Disposal, Inc. listing on the CERCLIS, the database search identified another CERCLIS listing (Neo-Tech 939 Industrial Parkway) and a second CERCLIS-listed facility for which no further remedial actions are planned (Kewaunee Scientific Equipment, 100-322 Acorn). The Neo-Tech facility is located within ½ mile and to the northeast of the railroad siding, and is identified as being an electroless plating facility that was abandoned in 1992. The information obtained by the database search indicated that a hazardous waste removal action has been performed on the site, and the site is currently under investigation to assess the extent of any further action required. Because of its distance from the railroad siding, it appears that this facility does not pose a risk to the continued use of the railroad siding by Simpson Plainwell. The Kewaunee Scientific Equipment facility is located within ⅛ mile of the eastern end of the railroad siding. This facility is also identified as a hazardous waste SQG and is listed on the SHWS database (i.e., the Michigan equivalent to CERCLIS). The CERCLIS issue involving this facility was discovered in 1980, a preliminary assessment was completed in 1985, two screening site inspections were completed in 1990 and 1994, and an integrated waste removal/remediation assessment was completed in 1994. This facility has not been issued NOVs regarding the management of hazardous wastes, and the facility was added to the SHWS database in 1990 because of the suspected presence of contamination involving TCA and the metals chromium, arsenic, nickel, and zinc. Based on the determination that no further remedial actions are planned for this facility involving the CERCLIS issue, this facility does not pose a risk to the continued use of the railroad siding by Simpson Plainwell.

In addition to the Kewaunee Scientific Equipment facility, two other facilities were listed on the SHWS database (i.e., A1 Disposal Corporation, 400 Broad Street; and Bloomfield residential well, 1052 Bloomfield). The A1 Disposal Corporation facility is located within ⅛ mile of the railroad siding in the vicinity of the junction with the east-west Conrail line. The

information obtained through the database search indicates that the contaminants suspected to be present on the site are TCA; TCE; and the metals lead, arsenic, cadmium, and mercury. This facility was added to the SHWS database in 1991 and is also identified as a facility reporting a leaking UST. The information developed through the database search indicates that the UST reported to be leaking was used to store gasoline. The Michigan Department of Natural Resources (MDNR, now the MDEQ) Real Estate Division of Lansing, Michigan is identified as the owner of the two gasoline USTs registered for the site. Based on the MDEQ's ownership of the USTs at the site, it appears that the State has taken action to control facility operations to prevent further contamination. Therefore, it is unlikely that this site would pose a risk to the continued operation of the railroad siding by Simpson Plainwell. The Bloomfield residential well is listed in the SHWS database because of ground water contamination consisting of TCA, TCE, and their breakdown products. This site is within 1 mile and to the south of the railroad siding, and does not pose a risk to the continued operation of the railroad siding by Simpson Plainwell because of its location and distance to the railroad siding.

In addition to the A1 Disposal site, there are 15 facilities identified as having registered USTs (including the Simpson Plainwell mill), and eight of these locations are identified as reporting a leaking UST. The City of Plainwell's Fire Department building (115 West Bridge Street) is located within ⅛ mile and to the south of the railroad siding. The information obtained through the database search indicated that two gasoline USTs have been removed at this location. There is no information indicating that further remedial actions are planned for this location. Therefore, it is unlikely that this location would pose a risk to the continued operation of the railroad siding by Simpson Plainwell. The Lake's Drycleaners and Shirt Service (133 North Main Street) facility has reported a leaking UST. Information obtained through the database search indicated that a petroleum UST was removed from this site, and there is no indication that additional remedial activities are required. Therefore, it is unlikely that this site poses a risk to the continued operation of the railroad siding by Simpson Plainwell.

Nine hazardous waste SQGs and two hazardous waste LQGs were identified by the database search, including the Simpson Plainwell mill as a SQG. The Jim Koestner Pontiac dealership (218 North Main Street), located immediately north of the railroad siding, was identified as a hazardous waste SQG. This facility is listed as generating ignitable (D001) hazardous waste and spent non-halogenated solvents (F003 and F005). This facility was issued an NOV regarding the management and disposal of hazardous waste, and the NOV was satisfied in 1995. The operations of

this facility do not pose a risk to the continued use of the railroad siding by Simpson Plainwell. The Lawrence Industries, Inc. facility (139 Mariette Street), located immediately south of the railroad siding (near the connection to the east-west Conrail line) is identified as a hazardous waste LQG. This facility was issued an NOV involving the management of hazardous waste by generators, and this NOV was satisfied in 1986. The information obtained through the database search indicates that the hazardous wastes generated by this facility are spent halogenated solvents (F001) and wastewater treatment sludges from electroplating operations (F006). This facility does not pose a risk to the continued use of the railroad siding by Simpson Plainwell.

No other sites were identified by the database search that pose a risk to the continued use of the railroad siding by Simpson Plainwell.

4.1.3 *Behnke Warehouse*

The Behnke warehouse was not listed in any of the databases searched by EDR, and no NPL sites other than the Simpson Plainwell mill (see Section 4.1.1.) were identified within the search radii. The Neo-Tech facility (939 Industrial Parkway) is listed in the CERCLIS database. This facility is located within ½ mile and southeast of the Behnke warehouse. The site is an electroless plating facility that was abandoned in 1992, has undergone a waste removal action, and is currently under investigation to assess the extent of any further actions required. The electroless plating process uses a chemical reaction to apply and bond the metal (e.g., zinc, nickel) coating to the work piece rather than the electric potential used in electroplating. The site has not been nominated to be included on the NPL. Based on the west southwesterly direction of ground water flow at this location, the Neo-Tech site is located sidegradient to the Behnke warehouse. Therefore, any ground water contamination emanating from this location would not pose a risk to the Behnke warehouse.

Two sites located within 1 mile of the Behnke warehouse were listed in the SHWS database. The A1 Disposal Corporation site (400 Broad Street) is located slightly over ½ mile and to the south of the Behnke warehouse. This location has also reported a leaking UST. The information obtained through the database search indicates that the contaminants at this location are TCA, TCE, lead, arsenic, cadmium, and mercury. Based on the west southwesterly direction of ground water flow at this location, the A1 Disposal Corporation site would be downgradient or sidegradient of the Behnke warehouse. Therefore, any ground water contamination emanating from this location would not pose a risk to the Behnke warehouse. The Kewaunee Scientific Equipment facility (100-322 Acorn)

is also listed in the SHWS database. This facility is located approximately ¾ mile to the south of the Behnke warehouse, and is also listed as a hazardous waste SQG and a facility listed on the CERCLIS database for which no further remedial actions are planned. Shallow ground water in the vicinity of this site flows west southwest toward the Kalamazoo River. Therefore, this site is located sidegradient or downgradient of the Behnke warehouse, and any ground water contamination emanating from this site would not pose a risk to the Behnke warehouse.

No other sites were identified by the database search that could pose a risk to the Behnke warehouse.

4.1.4 *12th Street Landfill*

The 12th Street Landfill was listed as an "operable unit" of the Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site by the MDEQ, and the reach of the Kalamazoo River bordering the 12th Street Landfill on the east is identified as part of this NPL site. No other NPL or CERCLIS sites were identified within the search radii.

One site (M89 residential wells - 1209 West M-89) is listed in the SWHS database. This site is located southeast of the 12th Street Landfill, and the listing resulted from the discovery of the presence of gasoline constituents in ground water resulting from a release from a gasoline service station. Shallow ground water in the vicinity of this site flows north toward the Kalamazoo River. This site is located sidegradient of the 12th Street Landfill, and therefore, any ground water contamination emanating from this location would not pose a risk to the 12th Street Landfill. The database search obtained from EDR identified the Allegan County Gas Company site on West River Street as a former manufactured gas (coal gas) site. This site is located across the Kalamazoo River approximately 1 mile west northwest of the 12th Street Landfill. Shallow ground water in the vicinity of this coal gas site flows southwest toward the Kalamazoo River. Therefore any ground water emanating from this site would not pose a risk to the 12th Street Landfill. No other sites were identified by the database search that pose a risk to the 12th Street Landfill.

4.2 *PHYSICAL SETTING SOURCES*

ERM reviewed the following documents to evaluate the physical setting (including the topography, underlying stratigraphy, and hydrogeology) of the Simpson Plainwell operations:

- USGS 7.5-minute topographic maps depicting the Simpson Plainwell operation (Ostego, Michigan, 7.5-minute quadrangle).

- The GeoTech™ Reports prepared by EDR for the Simpson Plainwell operations.

- Phase I Environmental Site Assessment, Simpson Plainwell Paper Company, Plainwell Mill, Plainwell, Michigan, RMT, Inc., Madison, Wisconsin, July, 1996.

The ground surface of the Simpson Plainwell mill and adjoining properties is flat with the exception of the banks of the Kalamazoo River and the mill race located along the northern and eastern portion of the property boundary, respectively. The eastern portion of the mill property is entirely covered with building structures and asphalt or concrete paving, with the exception of the landscaped areas located along the Kalamazoo River and the mill race. The remaining portion of the mill property contains various building structures and asphalt- or concrete-paved service roadways, unpaved areas (i.e., the former coal pile area), or grassed areas. The shallow stratigraphy of the mill property generally consists of approximately 6 to 12 feet of fill material containing coal, brick, fly ash, and fine- to coarse-grained sand overlying native soils consisting of fine to coarse sand and fine gravel to a depth of at least 40 feet (RMT, 1996). Shallow ground water beneath the mill property is present at depths ranging from 15 to 20 feet below ground surface (BGS) and the direction of flow is northerly toward the Kalamazoo River. As stated previously, the Simpson Plainwell mill uses seven on-site water supply wells to provide non-potable water used in mill production and support operations. The railroad siding serving the Simpson Plainwell mill is bordered by city streets and sidewalks or a grassed right-of-way. The City of Plainwell storm sewer system or drainage ditches bordering the railroad siding convey storm water runoff away from the railroad siding. Shallow ground water beneath the railroad siding, expected to occur at depths of 15 to 20 feet, discharges to the Kalamazoo River. Therefore the direction of ground water flow beneath the railroad siding is dependent upon the location relative to the Kalamazoo River.

The property containing the Behnke warehouse is relatively flat with the exception of drainage swales connected to the drainage features of the north-south Conrail line located immediate west of the property. During the development of the City of Plainwell Industrial Park, two storm water drainage/infiltration ponds were constructed to the south of the Behnke warehouse. Based on the inspection of this area, it is likely that these storm water drainage/retention ponds receive water from the majority of

the area comprising the industrial park. Because these ponds did not contain water during the inspection, it is likely that shallow ground water in the vicinity of the industrial park is present at depths greater than the bottom of these ponds (i.e., greater than 25 feet). Inspection of the storm water drainage/retention pond revealed that shallow soils in the vicinity of the Behnke warehouse consist of fine- to coarse-grained sand. The direction of ground water flow in the vicinity of the Behnke warehouse is expected to be westerly toward the Kalamazoo River located within 1 mile of the property.

The 12th Street Landfill was constructed with steep berms to enclose the materials placed in the landfill. As stated previously, these berms were constructed of soil, fly ash, gravel, and papermaking wastewater treatment sludges. The height of this berm ranges from 10 to 15 feet along the eastern side of the landfill to approximately 30 feet along the western side. The surface of the landfill slopes downward toward the northeast. The land bordering the 12th Street Landfill on the north is identified as a wetlands area on the USGS map. The soil cover of the 12th Street Landfill is vegetated, and the bank of the Kalamazoo River along the eastern side of the landfill is a wooded area. Perched ground water beneath the landfill and the more extensive shallow ground water aquifer underlying the landfill discharge to the Kalamazoo River. A water supply well located on the Consumer's Concrete Corporation property is within ¼ mile of the 12th Street Landfill.

4.3 *HISTORICAL USE INFORMATION*

Historical use of the Simpson Plainwell operations and adjoining properties, as well as the sources of the information, are presented in Sections 3.6 and 3.7.

4.4 *ADDITIONAL RECORDS*

As stated previously, an Environmental Compliance Review of the Simpson Plainwell operation was performed concurrently with this Phase I ESA. The results of this Environmental Compliance Review are presented in a separate report. Therefore, no environmental records were reviewed by ERM during the performance of this Phase I ESA.

5.0 *SITE VISITS AND INTERVIEWS*

James E. Kane, P.E., inspected the entire Simpson Plainwell operations on March 31 and April 1 and 2, 1997. Mr. Kane was accompanied by Mr. Khaja Naimuddin (Technical Superintendent, Environmental of Simpson Plainwell) during the inspection of the operations. The findings of the on-site inspection of the Simpson Plainwell operations are described in the following subsections and documented in photographs included in Appendix C.

5.1 *HAZARDOUS SUBSTANCES IN CONNECTION WITH IDENTIFIED USES*

Raw materials used at the Simpson Plainwell mill consist of bleached Kraft pulp, post-consumer wastepaper, scrap paper (broke), calcined clay, titanium dioxide and PCC. Sizing agents and various coatings are also used in the production process. Other hazardous substances used in activities supporting the paper production operations include:

- No. 6 fuel oil used as an alternate fuel in the mill's boiler room.
- Diesel fuel used to power mill vehicles.
- Aqua ammonia (30% solution) used in the papermaking operations.
- Various flocculants, flocculant aids (e.g., cationic and anionic) polymers (de-foaming agents) used in the wastewater treatment system.
- Sulfuric acid used in the papermaking operations.

Hazardous substances are typically stored in the original shipping containers near the point of use or in bulk ASTs, USTs, or silos (Photograph Nos. 15, 16, 17, 18, 19, and 27). Because these materials are stored throughout the mill near their point of use, the procedures and methods used to store and dispense these materials vary considerably. These procedures and methods are reviewed in detail in the report presenting the results of the Environmental Compliance Review of the Simpson Plainwell operations performed by ERM. According to Mr. Naimuddin, any release of a hazardous substance occurring within the mill buildings would enter the system of mill floor drains and be discharged to the on-site wastewater treatment system.

As stated previously, the Simpson Plainwell mill burned coal to produce steam from 1884 to 1987. A portion of the mill property was used to stockpile coal during this time period. During the inspection of the mill property, it was determined that the approximately 20,000-square-foot area formerly used to stockpile coal contained a residual coal layer varying in thickness from several inches to as much as 1 foot (Photograph No. 1).

Kerosene was used as a solvent to remove ink during the de-inking of wastepaper at the mill between 1910 and 1962. A 10,000-gallon UST located near the northwestern corner of the mill buildings was used to store kerosene used in the de-inking process. This UST was removed in 1985.

A 300-gallon UST located along the northern edge of the mill buildings stored gasoline used to fuel mill vehicles. This UST was removed in 1985.

The piping used to transfer No. 6 fuel oil from the 200,000-gallon AST to the mill's boiler room is contained in a concrete tunnel that previously was used to convey coal from the nearby coal pile to the boiler room (Photograph No. 2). Simpson Plainwell personnel have indicated that releases of No. 6 fuel oil within the coal tunnel have occurred twice in the last 15 years. An inspection of this tunnel during the Phase II Investigation showed that the tunnel contains approximately 1 foot of residual oil and water, but the walls and ceiling appear to be in good shape. Therefore, it is unlikely that a release of fuel oil outside of the tunnel has occurred.

An area of soil staining covering approximately 150 square feet is visible in the vicinity of the 200,000-gallon No. 6 fuel oil AST and the associated pump house and filling connections (Photograph Nos. 3 and 4). A 250-gallon diesel fuel AST is also located in this area, and historically, this area has contained other ASTs used to store gasoline and diesel fuel. The Phase II Investigation has shown that elevated levels of petroleum constituents are present to a depth of less than 6 feet BGS. There is no evidence indicating that this area of soil contamination has affected the condition of shallow ground water.

Hazardous substances stored in outdoor ASTs or in silos are equipped with containment devices to control releases, and these ASTs and silos are covered to prevent contact with storm water (Photograph Nos. 6 and 7).

As stated previously, the SMI operation uses quicklime and liquid carbon dioxide as raw materials. These materials are stored in an outdoor AST

(liquid carbon dioxide) and silo (quicklime). Two additional outdoor ASTs store finished product prior to shipment to other paper mills in the area (Photograph No. 20). The loading/unloading area serving these ASTs and silo is surrounded by concrete curbing, and the area is equipped with a spill-containment sump. The production and support equipment within the SMI facility are equipped with engineered spill-containment equipment, and the wastewater transfer system (i.e., the system used to transfer process wastewater to the Simpson Plainwell wastewater treatment system) can be manually shut off to prevent the uncontrolled release of wastewater containing hazardous substances.

Hazardous substances were not observed during the inspection of the Behnke warehouse or the 12th Street Landfill.

5.2 *HAZARDOUS SUBSTANCES IN UNIDENTIFIED CONTAINERS*

A number of 55-gallon steel drums were observed along the bank of the Kalamazoo River on Simpson Plainwell property and in shallow water near the river bank during the inspection of the mill property. Shipping labels or other indications of the contents of these drums were not visible. ERM could not determine whether these drums contain residual materials. Simpson Plainwell personnel indicated that these drums are not from the mill. The inspection of the asphalt-paved area of the mill property that is located between the former coal pile and the Kalamazoo River revealed an area of white residue extending approximately 30 feet toward the river from the location of an open-top dumpster (Photograph No. 5). Based on an examination of this residue, it is likely to have originated from waste filler used in the papermaking process (e.g., alum, calcined clay, or calcium carbonate) that was placed in the dumpster. Although this residue is unlikely to affect the condition of shallow ground water or the Kalamazoo River, the mill should review existing waste management procedures and, if necessary, take the actions necessary to prevent the inadvertent release of waste materials.

Samples of shallow ground water were obtained from three locations upgradient and downgradient of the mill buildings (Table 1 and Figure 3) during the Phase II Investigation to obtain information regarding ground water conditions. Copies of the laboratory reports prepared for these samples are contained in Appendix A. The analytical data developed from these samples indicate that the condition of shallow ground water does not change beneath the mill buildings with the exception of the data developed for the water sample (SGWB-7) obtained downgradient of the northeastern portion of the mill buildings and approximately 100 feet west of the pad-mounted electrical transformer (Figure 3). The ground water

sample obtained at this location contained low levels of PAHs (i.e., the total concentration of all detected compounds was 2.64 $\mu g/l$). A 250-gallon diesel AST was formerly located to the southeast (i.e., upgradient) of the SGWB-7 sampling location (RMT, 1996). This AST reportedly was set on concrete or asphalt. Although no visible staining of the paving in this area was observed during this assessment or the previous assessment (RMT, 1996), the potential exists that the low levels of PAHs present in shallow ground water may be associated with a release of diesel fuel during the period of time the AST was used. ERM believes that the source of these PAHs can be identified and controlled for $8,000 to $20,000.

Unidentified containers and unknown substances were not observed during the inspection of the railroad siding, the Behnke warehouse, or the 12th Street Landfill.

5.3 *STORAGE TANKS*

A 17,000-gallon UST is used at the Simpson Plainwell mill to store sodium chloride brine used in the water-softening system supporting production operations. As stated previously, a 10,000-gallon UST formerly storing kerosene used in the de-inking operations was removed in 1985. A 300-gallon UST storing gasoline used to fuel mill vehicles was also removed in 1985. No other fill ports, vent pipes, or other signs of USTs were observed on the mill property during the site inspection. Various ASTs located outside of the mill buildings are used to store fuels, hazardous substances used in the production of paper, and water associated with the mill property's fire control system. The ASTs containing fuel include:

- A 200,000-gallon No. 6 fuel oil AST located on a gravel base within a concrete wall.
- A 500-gallon diesel fuel oil AST located adjacent to the No. 6 fuel oil tank equipped with a concrete spill containment curbing.
- A 250-gallon diesel fuel AST equipped with a concrete curbing spill containment system located adjacent to the wastewater treatment sludge dewatering building.

With the exception of the soil staining visible in the area of the No. 6 fuel oil tank previously discussed, there were no visible indications of releases from these fuel ASTs observed during the site inspection.

The ASTs storing materials used in the production of paper include:

- The 10,000-gallon aqua ammonia tank equipped with a concrete spill containment system and a wooden roof (Photograph No. 6).
- Two silos storing starch (Photograph No. 6).
- Two 50,000-gallon ASTs storing calcium carbonate slurry.
- A bulk AST used to accumulate wastewater treatment sludge prior to dewatering.
- Two 50,000 ASTs used to store calcined clay.

Inspection of these ASTs showed no evidence of release of the material stored.

The fire-control system includes a 50,000-gallon water storage tank and a 75,000-gallon water storage tank. These tanks are located along the north side of the mill buildings.

Underground or aboveground storage tanks; or fill ports, vent pipes, or other signs of USTs; were not observed during the inspection of the Behnke warehouse or the 12th Street Landfill.

5.4 *INDICATIONS OF POLYCHLORINATED BIPHYNELS*

Mr. Naimuddin indicated that hydraulic oil previously used in several elevator lifts at the Simpson Plainwell mill contained PCBs. These PCB-containing oils were reportedly removed, and the hydraulic equipment cleaned prior to filling with new hydraulic oil that did not contain PCBs. Mr. Naimuddin stated that subsequent testing of samples of hydraulic oil obtained from these elevator lifts have shown residual levels of PCBs.

The four high-capacity electrical transformers serving the mill property and the SMI facility are owned and operated by the Consumers Power Company. These pad-mounted transformers were not labeled as containing PCBs.

Electrical transformers owned by Simpson Plainwell have undergone testing to determine if PCBs are present. The results of testing performed in 1993 have shown that the dielectric fluids contained in this equipment does not contain PCBs (RMT, 1996). Seven electrical transformers and 41 electrical capacitors with PCB-containing dielectric fluids were disposed of

by Simpson Plainwell between 1984 and 1987 at the General Electric Company Cleveland, Ohio facility (OHD004527008) (RMT, 1996).

The de-inking of carbonless copy paper at the Simpson Plainwell mill from 1957 to 1962 resulted in the release of PCBs in papermaking wastewaters and sludges resulting from the treatment of these wastewaters. The information available regarding the nature and extent of PCB contamination on the mill property is presented in detail in the discussion in Section 5.7 of the potential liability associated with being named as a responsible party to the Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site.

No indications of the presence of PCBs were noted during the inspection of the Behnke warehouse. As stated previously, the 12th Street Landfill has been identified by the MDEQ as an operable unit of the Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site due to the disposal of papermaking wastewater treatment sludges containing PCBs at the landfill.

5.5 *INDICATIONS OF SOLID WASTE DISPOSAL*

The solid waste generated at the Simpson Plainwell mill and Behnke warehouse consist of:

- Trash and packaging waste (both operations).
- Scrap metal (mill operations).
- Spent solvents (mill operations).
- Oil-contaminated soil and oil/water mixtures (mill operations).
- Papermaking wastewater treatment sludges (mill operations).
- Fluorescent lamps (both operations).
- PCB-containing dielectric fluids and oils (mill operations).
- Asbestos-containing materials (mill operations).

The trash and packaging wastes generated at the Simpson Plainwell mill and the Behnke warehouse are transported by Browning Ferris Industries (BFI) to the Kent County Landfill located in Grand Rapids, Michigan. ERM retained EDR to conduct a search of pertinent State and Federal databases to obtain any listed information concerning the BFI facility and the Kent County Landfill. The EDR-Site Reports™ are included as Appendix C. The BFI facility located in Marshall, Michigan is not listed on the NPL or CERCLIS databases and has not been issued an NOV regarding the management of hazardous waste. The Kent County Landfill is listed on the CERCLIS listing as a site for which no further remedial actions or activities are planned.

Scrap metal is recycled by Schupan and Sons, Inc. of Kalamazoo, Michigan. This facility is not listed in any of the databases searched by EDR.

Spent solvents were transported by K&D Industrial Services (K&D) of Kalamazoo, Michigan to the Environmental Waste Control, Inc. (EWC) facility located in Inkster, Michigan for incorporation in a fuel blending operation. The EWC facility is listed as a CERCLIS site for which no further remedial activities are planned. A preliminary assessment of this site was performed in 1987 and the site was reclassified in 1992 as a site for which no further remedial actions are planned. The EWC facility is also listed as a facility that has received NOVs regarding the treatment/storage/disposal of hazardous waste and has undergone a RCRA corrective action. The information obtained through the database search indicates that the facility has satisfied the underlying issues of the listed NOVs.

K&D has transported oil-contaminated soils and oil/water mixtures from the mill property to the West Side Landfill (oil-contaminated soil) located in Three Rivers, Michigan and the Chemical Waste Management, Inc. CIW site (oil/water mixture) located in Romulis, Michigan. The West Side Landfill is listed as a CERCLIS site for which no further remedial actions are planned, and this facility was given that classification in November 1992. This landfill is also listed on the SHWS database. The Chemical Waste Management, Inc. Romulis, Michigan site is identified as a CERCLIS site that has undergone waste removal actions in 1990 and 1991. The information obtained through the database search indicates that the USEPA has determined that no further action is necessary at the site and no additional hazard was identified.

The dewatered paper mill sludge is being transported by BFI to the Cork Street Landfill in Kalamazoo, Michigan under an agreement established with the Cork Street Landfill declaring the dewatered sludge to be a site-specific, inert solid waste suitable for use as a grading material in the closure of the Cork Street Landfill. According to Mr. Naimuddin, Simpson Plainwell has also obtained approval for disposal of dewatered wastewater treatment sludge at the Kent County Landfill in Grand Rapids, Michigan. Mr. Naimuddin also indicated that dewatered wastewater treatment sludge historically may have been transported to the West Side Landfill located in Three Rivers, Michigan for disposal. The Cork Street Landfill is listed as a facility at which solid waste is disposed of on site, and no other listings were found during the database search.

ACMs removed from mill buildings during maintenance and repair operations are transported by General Insulation, Inc. of Kalamazoo, Michigan to the C&C Sanitary Landfill located in Marshall, Michigan or the West Side Landfill located in Three Rivers, Michigan. The C&C Sanitary Landfill is listed as a facility where solid waste is disposed of on site, and no other listings were identified during the database search.

Waste oils generated at the mill operations are reclaimed by Stoddard Oil of Wayland, Michigan. The Stoddard Oil facility is listed as a hazardous waste SQG and as a facility that uses toxic chemicals (i.e., ammonia) and has notified the USEPA under SARA Title III, Section 313. This facility is not listed in any other databases.

Papermaking wastewaters are treated on site and discharged to the Kalamazoo River under a discharge permit issued by the MDEQ. Further discussion of this wastewater discharge, and the compliance with provisions of the discharge permit issued to the mill, is provided in the ERM report presenting the results of the Environmental Compliance Review performed concurrently with this Phase I ESA.

In addition to the above-stated solid wastes, the Simpson Plainwell mill operations have historically generated: (1) fly ash resulting from the burning of coal, and (2) sludges resulting from the treatment of papermaking wastewater. As stated previously, the on-site treatment of papermaking wastewater began in 1954. The fly ash generated by the mill operations was typically mixed with wastewater treatment sludges in 14 on-site dewatering lagoons and transported to the 12th Street Landfill for disposal. The mixture of fly ash and wastewater treatment sludges were also transported to the Cork Street Landfill for disposal.

PCB-containing dielectric fluids and oil and PCB-contaminated soils have been transported by BFI; Superior Special Services of Horicon, Wisconsin; A1 Disposal of Plainwell, Michigan; and Dynex Environmental, Inc. of Farmington Hills, Michigan to the Ensco, Inc. facility located in El Dorado, Arkansas; the APTUS, Inc. facility located in Lakeville, Minnesota; the West Side Landfill located in Three Rivers, Michigan; the Tipton Environmental, Inc. facility located in Tipton, Missouri; and the Hechimovich Landfill located in Horicon, Wisconsin for disposal. The Ensco, Inc. facility is not listed in any of the databases searched by EDR. The APTUS, Inc. facility is listed as a facility that has received NOVs regarding the treatment/storage/disposal of hazardous waste, and has been subject to a RCRA corrective action. The information obtained through the database search indicates that several of the NOVs resulted in a financial penalty being assessed, and the facility has corrected the issues

covered by the listed NOVs. The Tipton Environmental Technologies, Inc. facility is listed as a facility that has undergone a RCRA corrective action. Information obtained through the database search indicates that this facility has undergone a facility inspection and has been assigned a medium priority. The Hechimovich Landfill is owned by Superior Special Services and is listed as a facility that disposes of solid waste on site.

Waste disposal records provided by Mr. Naimuddin indicate that a 55-gallon overpack drum of non-hazardous resin was removed from the 12th Street Landfill and transported by Chemical Waste Management to the Morrow, Georgia facility for disposal. This facility is listed as a CERCLIS site for which no further remedial actions are planned and as a facility that has undergone a USEPA-led RCRA corrective action. The facility classification was changed in 1992 to a facility for which no further remedial actions are planned. The design for a proposed RCRA corrective action has been approved for the site, and the corrective action has been assigned a high priority designation by the USEPA.

The outlines of several of the 14 on-site sludge dewatering lagoons are visible in the western portion of the mill property (Photograph No. 13). The inspection of the mill property did not reveal any other indications that historical solid waste disposal may have occurred.

The inspection of the railroad siding serving the mill and the Behnke warehouse property did not reveal any indications that historical solid waste disposal may have occurred at this location.

5.6 *PHYSICAL SETTING ANALYSIS*

As described previously, the ground surface of the Simpson Plainwell mill is flat with the exceptions of the banks of the Kalamazoo River and the mill race located along the northern and eastern portion of the property boundary, respectively. The eastern portion of the mill property is entirely covered with building structures and asphalt or concrete paving, with the exception of the landscaped areas located along the Kalamazoo River and the mill race. The remaining portions of the mill property contain various building structures and asphalt- or concrete-paved surface roadways, unpaved areas, or grassed areas. The shallow stratigraphy of the mill property generally consists of approximately 6 to 12 feet of fill material containing coal, brick, fly ash, and fine- to coarse-grained sand overlying native soils consisted of fine- to coarse-grained sand and fine gravel to a depth of at least 40 feet (RMT, 1996). Shallow ground water beneath the mill property is present at depths ranging from 15 to 20 feet

BGS, and the direction of ground water flow is northerly toward the Kalamazoo River.

The railroad siding serving the Simpson Plainwell mill is bordered by city streets and sidewalks or a grassed right-of-way. The City of Plainwell storm sewer system or drainage ditches bordering the railroad siding convey storm water runoff away from the railroad siding. Shallow ground water beneath the railroad siding, expected to occur at depths of 15 to 20 feet, discharges to the Kalamazoo River.

The property containing the Behnke warehouse is relatively flat with the exception of drainage swales connected to the drainage features of the north-south Conrail line located immediately west of the property. Two storm water drainage/infiltration ponds are located to the south of the Behnke warehouse and these ponds likely receive water from the majority of the area comprising the industrial park. Because these ponds did not contain water during the site inspection, it is likely that shallow ground water in the vicinity of the industrial park is present at depths greater than 25 feet BGS. Inspection of the storm water drainage/retention pond revealed that shallow soils in the vicinity of Behnke warehouse consisted of fine- to coarse-grained sand. The direction of ground water flow in the vicinity of the Behnke warehouse is expected to be westerly toward the Kalamazoo River.

The 12th Street Landfill was constructed with steep berms to enclose the materials placed in the landfill (Photograph Nos. 30, 31, 32, 33, and 34). These berms were constructed of soil, fly ash, gravel, and papermaking wastewater treatment sludges (RMT, 1996). The surface of the landfill slopes downward toward the northeast (Photograph Nos. 35 and 36). The land bordering the 12th Street Landfill on the north is identified on the USGS map as a wetland area (Photograph Nos. 28 and 29), and historic information obtained from Simpson Plainwell suggests that a portion of the property currently containing the 12th Street Landfill may have historically been a wetlands area. The soil covering the 12th Street Landfill is vegetated, and the bank of the Kalamazoo River along the eastern side of the landfill is a wooded area. The direction of flow of the perched ground water beneath the landfill and the more extensive shallow ground water aquifer underlying the landfill is towards the Kalamazoo River.

5.7 OTHER CONDITIONS

5.7.1 *Indications of Asbestos-Containing Materials*

The buildings comprising the Simpson Plainwell mill were constructed between 1886 and 1992. ACMs are known to be present throughout the mill buildings (Photograph Nos. 21, 22, 23, and 24). General Insulation, Inc. of Kalamazoo, Michigan was retained by Simpson Plainwell in 1990 to perform an asbestos survey of the mill buildings. Based on the results of this survey, Simpson Plainwell removed the ACMs identified in the survey as requiring abatement over the time period 1991 to 1995. An asbestos management program has been developed by Simpson Plainwell based on the results of the asbestos survey to prioritize and schedule additional abatement actions and other asbestos maintenance activities in the mill buildings. Details regarding this asbestos management program, and compliance with regulations associated with ACMs, are presented in the ERM report summarizing the results of the Environmental Compliance Review performed concurrently with this Phase I ESA.

The Behnke warehouse was constructed in 1985. Therefore, it is unlikely that ACMs are present in the Behnke warehouse.

5.7.2 *Information Obtained Regarding Potentially Responsible Party Status*

Simpson Plainwell, along with Allied Paper, Inc. and Georgia Pacific, signed a consent order with the MDEQ in 1990 as a Potentially Responsible Party (PRP) to the Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site. These PRPs formed the Kalamazoo River Study Group (KRSG), and the James River Corporation subsequently joined as a PRP. The KRSG has sued eight other possible PRPs and it appears likely that additional PRPs will be added to the KRSG. A series of investigations have provided information regarding PCB levels in the Kalamazoo River sediments, fish and other biota, waste disposal sites containing mill wastewater sludges with measurable PCB concentrations, and mill properties.

The NPL site has been subdivided into the river portion (including the mill property contiguous to the river) and four "operable units:" (1) the 12th Street Landfill, (2) the King Highway Landfill, (3) the A-Site/Willow Boulevard, and (4) the Bryant Mill Pond. Remedial investigations and feasibility studies (RI/FS) have been completed for the 12th Street Landfill, the King Highway Landfill, and the A-Site/Willow Boulevard. The RI for the river portion and the Bryant Mill Pond are nearing completion.

The PRPs have proposed the use of a "presumptive remedy approach" to accelerate implementation of remedial action at the four "operable units." The MDEQ and the KRSG have agreed in principal that containment (i.e., landfill capping) is an appropriate presumptive remedy for the landfill "operable units" (Geraghty & Miller, 1997). The preferred remedial alternative for the 12th Street Landfill involves:

- Reconsolidating the wastewater sludge residuals present in the adjoining wetlands, the Kalamazoo *River*, and the berm surrounding the landfill.
- Regrading the landfill surface to promote proper drainage.
- Installation of a landfill cap consisting of a flexible membrane liner, a layer of topsoil, and a vegetative cover.
- Implementation of a long-term monitoring program to ensure effectiveness of the remedy.

Wetland replacement may become part of the remedial action. Up to six acres of wetland could have been lost, plus some additional encroachment (say 2 acres) may be lost during performance of the remedial action. Replacement at a ratio of 2:1 may be probable, but a higher ratio could be required based on the quality and attributes of the filled wetlands. There is also the prospect of natural resource damages being assessed.

The remedial alternative for the river portion preferred by the KRSG involves:

- Obtaining maximum credit for the "source control" actions implemented at the "operable units."
- Natural recovery of the river through isolation of PCB-containing sediments by continued sediment deposition and biodegradation of PCBs.
- Limited removal of PCB-containing sediments from the Bryant Mill Pond.

6.0 FINDINGS AND CONCLUSIONS

This Phase I ESA of the Simpson Plainwell operations was conducted according to the scope and limitations of the Environmental Review Scope of Work provided by Kirkland & Ellis and the tenets of the ASTM Standard. Any exceptions to or deletions from the ASTM Standard are described in Section 2.3 of this report. The Simpson Plainwell mill and the 12th Street Landfill have been designated as "operable units" of the Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site by the MDEQ. Based on our review, there is no evidence of any other recognized environmental concerns at the Simpson Plainwell operations located in the Plainwell, Michigan area. The following conclusions can be drawn from the findings of the Phase I ESA and the follow-up Phase II Investigation:

- An area of soil staining is visible in the vicinity of the 200,000 gallon No. 6 fuel oil AST and the associated pump house and filling connection at the Simpson Plainwell mill. Smaller ASTs containing gasoline and diesel fuel have also been historically located in this area. A series of soil borings were drilled and sampled in this area during the Phase II Investigation to obtain additional information regarding the nature and extent of this apparent soil contamination. Table 1 presents information regarding the soil samples collected from these borings that were submitted for laboratory analysis (e.g., sample identification, sampling interval, analytical parameters), and Figure 3 presents the locations of these borings. Samples of shallow ground water were also obtained during the Phase II Investigation from locations upgradient and downgradient of this area of apparent soil contamination (Table 1 and Figure 3). Copies of the laboratory results prepared for these samples are contained in Appendix A.

  The analytical data developed from these samples reveals that the area of soil staining contains concentrations of volatile and semi-volatile petroleum constituents and lead that would be expected based on the historical storage of gasoline, diesel fuel, and No. 6 fuel oil in the vicinity. The elevated levels of petroleum constituents appear to be confined to a lateral area of approximately 150 square feet and a depth of less than 6 feet BGS. The analysis of shallow ground water samples obtained from this area show that petroleum constituents are not being released to ground water in measurable concentrations.

  ERM believes that the cost to remove and dispose of this petroleum-contaminated soil is $2,000 to $3,000.

- The Simpson Plainwell mill historically used on-site lagoons to dewater sludges resulting from the treatment of papermaking wastewaters. According to Simpson Plainwell personnel, fly ash resulting from the on-site burning of coal was combined with these sludges and placed in the on-site dewatering lagoons. These lagoons were used to dewater the papermaking wastewater treatment sludges and fly ash resulting from the on-site burning of coal beginning in 1954 and ending in 1981 when equipment was installed at the Simpson Plainwell mill to mechanically dewater wastewater sludges. The residual materials contained in these lagoons were removed in 1981 from all but four of the original 14 lagoons and managed off site. These remaining four lagoons were covered with soil, and a vegetative cover was established. Prior investigations of these covered lagoons have not analyzed the residual materials regarding the potential for elevated concentrations of metals that may be present due to the historic combining of fly ash with the papermaking wastewater sludges placed in these lagoons. Concentrations of metals present in these residual materials may be released to a shallow ground water infiltrating through these lagoons. Metals released to the shallow ground water could reach the nearby Kalamazoo River in concentrations that could affect water quality.

  As part of the Phase II Investigation of the Simpson Plainwell operations two samples of the residual materials were obtained from each of the four lagoons (see Table 1 and Figure 3) and submitted for laboratory analysis of the metals arsenic, cadmium, lead, zinc, chromium, copper, selenium, and mercury. Soil samples were also collected in five locations of the Simpson Plainwell mill presumably not containing fly ash to provide information regarding background levels of these metals (Table 1 and Figure 3).

  Copies of the laboratory reports prepared for these samples and the statistical analysis of the analytical data are contained in Appendix A. The analytical data developed from the lagoon samples was statistically compared to the data developed from the background samples. This analysis revealed that the metals concentrations of the residual materials are not statistically different than the background levels for the mill. Therefore, the potential is low for the release of metals to shallow ground water and, subsequently, to the Kalamazoo River from the four lagoons.

  Samples of shallow ground water were also obtained during the Phase II Investigation from locations upgradient and downgradient of the lagoons (Table 1 and Figure 3). The analysis of these samples for

concentrations of dissolved-phase metals showed that an increase in concentrations does not occur in shallow ground water beneath the lagoons.

- The Simpson Plainwell mill burned coal to produce steam from 1884 to 1987. A portion of the Simpson Plainwell mill property was used to stockpile coal during this time period. Trace concentrations of metals in coal can be released due to the weathering of stockpiled coal. The weathering of stockpiled coal can also release concentrations of PAHs. Additionally, water infiltrating through the stockpiled coal becomes acidic and can mobilize naturally-occurring metals present in soils. Concentrations of metals and PAHs released from stockpiled coal can reach shallow ground water and, subsequently, the Kalamazoo River.

  Soil and ground water samples were obtained during the Phase II Investigation to assess conditions in the vicinity of, and downgradient of, the area formerly used to stockpile coal. Soil samples were collected from five locations in the former coal pile area and five locations between the former coal pile area and the Kalamazoo River (Table 1 and Figure 3). Samples of shallow ground water were obtained in two locations upgradient of the former coal pile and one location downgradient. The data developed by the analysis of the soil samples for metals was statistically compared to the data developed from the background samples obtained as part of the assessment of the sludge dewatering lagoons. Copies of the laboratory reports prepared for these samples and the statistical analysis of the metals data are contained in Appendix A.

  The statistical analysis of the metals data revealed that the concentrations of metals present in soils underlying the former coal pile and between this area and the Kalamazoo River are not statistically different than the background levels for the mill. The analytical data shows that residual concentrations of several PAHs are present in soils underlying the former coal pile and between this area and the Kalamazoo River. These measured concentrations may have resulted from the unavoidable incorporation in the samples submitted for testing of small coal particles present in the sampling locations. The ground water analytical data shows that PAHs are not present in measurable quantities downgradient of the former coal pile. Similarly, the dissolved-phase concentrations of metals in shallow ground water do not increase beneath the former coal pile. These data support the conclusion that residual materials in the vicinity of the former coal pile are not affecting the condition of shallow ground water.

- A 10,000 gallon UST at the Simpson Plainwell mill stored kerosene used in the de-inking operations. This UST was removed in 1985, and there is no record of the soil conditions observed during removal of this UST. A warehouse addition was subsequently constructed over the former location of this UST. The potential exists that a release of kerosene may have occurred from this UST prior to its removal in 1985. If residual levels of kerosene are present in soils in the vicinity if the former location of the UST, these soils could act as a secondary source of contamination by releasing constituents of kerosene to shallow ground water and, subsequently, the Kalamazoo River. Space limitations prevented drilling within the warehouse addition to obtain soil samples in the vicinity of the former UST. However, information concerning the condition of soil and ground water in the vicinity of the former UST was obtained by the evaluation of ground water conditions downgradient of this location. Samples of shallow ground water were obtained during the Phase II Investigation from two locations downgradient of the former UST (Table 1 and Figure 3). Copies of the laboratory reports prepared for these samples are contained in Appendix A.

  The analytical data developed from these samples revealed that kerosene constituents are not present in shallow ground water in the vicinity of the former kerosene UST.

- A 300 gallon UST at the Simpson Plainwell mill stored gasoline used to fuel mill vehicles. This UST was removed in 1985, and there is no information available regarding site conditions at the time of removal. The potential exists that gasoline constituents may have been released from this UST prior to its removal in 1985. If residual levels of gasoline are present in soils in this area, these soils could act as a secondary source of contamination by releasing gasoline constituent s to shallow ground water and, subsequently, the Kalamazoo River. A soil boring was drilled and sampled during the Phase II Investigation in the former location of the UST to obtain information regarding soil conditions (Table 1 and Figure 3). Samples of shallow ground water were obtained in two locations downgradient of the former UST (Table 1 and Figure 3). Copies of the laboratory reports prepared for these samples are contained in Appendix A.

  The analytical data developed from these samples revealed that residual levels of gasoline constituents are not present in soil in the vicinity of the former UST, or in shallow ground water downgradient of the former UST.

- Facility personnel indicated that the hydraulic oils previously used in several elevator lifts at the Simpson Plainwell mill contained PCBs. These PCB-containing oils were reportedly removed, and the hydraulic equipment cleaned prior to filling with new hydraulic oil that does not contain PCBs. Facility personnel stated that subsequent testing of samples of hydraulic oils obtained from these elevator lifts have shown residual levels of PCBs. The inspection of one elevator lift pit revealed the presence of residual oils on the concrete floor and walls of the pit. Wipe testing of the concrete floor and walls of the mill's five elevator pits was performed during the Phase II Investigation to assess whether residual levels of PCBs are present in these areas. Concentrations of PCBs were measured in one or more wipe test samples obtained from each of the elevator pits. However, the levels measured are well below the standard of 100 micrograms/100 square centimeters contained in 40 CFR Part 761.125 for indoor areas with low potential for human contact. These data support the conclusion that decontamination of the elevator pits is not required. Mill personnel and outside contractors entering these elevator pits to perform equipment maintenance should be provided with the personal protective equipment necessary to prevent skin contact with areas that may contain residual concentrations of PCBs.

- The piping used to transfer No. 6 fuel oil from the 200,000 gallon AST to the Simpson Plainwell mill's boiler room is contained in a concrete tunnel. This tunnel previously was used to convey coal from the nearby coal pile to the boiler room. Facility personnel indicated that releases of No. 6 fuel oil within the coal tunnel have occurred twice in the last 15 years. If constituents of No. 6 fuel oil have been released from the tunnel, the condition of shallow ground water in the vicinity of the tunnel could be affected. A portion of the tunnel was inspected during the Phase II Investigation by ERM personnel using self-contained breathing apparatus. This inspection revealed that the tunnel contains an approximately 1-foot thick residual fuel oil layer. Water has also accumulated in portions of the tunnel. The tunnel walls appeared to be in good condition and there were no visible cracks or joint failures that would indicate that a release from the tunnel could have occurred. Facility personnel indicated that coal was loaded into the tunnel through a vertical shaft covered with a metal grate located adjacent to a railroad siding (Figure 2). The metal grate reportedly was covered and soil was placed over the covered grate when the Simpson Plainwell mill stopped burning coal to produce steam in 1987. It is unlikely that the covered grate is a water-tight barrier to water infiltrating through shallow soils. It is likely that the water observed

during the inspection entered the tunnel through the covered grate and the vertical shaft.

Soil samples were not collected in the vicinity of the tunnel during the Phase II Investigation because the relative positions of the concrete tunnel and the apparent ground water table (i.e., the water table is above the tunnel floor) make it unlikely that any release of No. 6 fuel oil from the concrete tunnel would affect soils above the water table. The concrete tunnel walls appeared to be in good condition and there were no visible cracks or joint failures that would indicate that a release from the tunnel could have occurred. Information regarding the condition of shallow ground water in the vicinity of the concrete tunnel was obtained by the evaluation of ground water conditions downgradient of the concrete tunnel. Samples of shallow ground water were obtained during the Phase II Investigation from two locations downgradient of the concrete tunnel (Table 1 and Figure 3). Copies of the laboratory reports prepared for these samples are contained in Appendix A.

The analytical data developed from these samples revealed that fuel oil constituents are not present in shallow ground water in the vicinity of the concrete tunnel

- Samples of shallow ground water were obtained from three locations upgradient and downgradient (Table 1 and Figure 3) of the mill buildings during the Phase II Investigation to obtain information regarding ground water conditions. The analytical data developed from these samples indicate that the condition of shallow ground water does not change beneath the mill buildings with the exception of the data developed for the water sample (SGWB-7) obtained downgradient of the northeastern portion of the mill buildings (Figure 3). This ground water sample contained low levels of PAHs (i.e., total concentration of all detected compounds was 2.64 $\mu g/l$). A 250-gallon diesel AST was formerly located to the southeast (upgradient) of the SGWB-7 sampling location (RMT, 1996). The potential exists that the low levels of PAHs present in shallow ground water may be associated with a release of diesel fuel during the period of time the AST was used.

  ERM believes that the source of these PAHs can be identified and controlled for $8,000 to $20,000.

- The review of Federal and State of Michigan environmental databases has shown that environmental risks are not posed to the Simpson Plainwell operations by nearby properties.

- Simpson Plainwell; along with Allied Paper, Inc., Georgia Pacific, and the James River Corporation; is a Potentially Responsible Party to the Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site.

7.0 ENVIRONMENTAL PROFESSIONAL QUALIFICATIONS

Information regarding the qualifications of ERM in performing Phase I ESAs and Phase II Investigations is included in the project proposal.

REFERENCES

Phase I Environmental Site Assessment, Simpson Plainwell Paper Company. Plainwell Mill, Michigan. RMT, Inc., July 1996.

Draft Focused Feasibility Study, 12th Street Landfill Operable Unit, Plainwell, Michigan, Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site. Geraghty & Miller, Inc., April 1997.

TABLES

TABLE 1

SAMPLE SUMMARY
SIMPSON PAPER
PLAINWELL, MICHIGAN
(page 1 of 2)

Sample Location	Sample Identification	Sample Depth (feet)	Media	Analysis
Lagoon 1	Lagoon 1A	2.5-3	Soil	Metals
	Lagoon 1B	4-4.5	Soil	Metals
Lagoon 2	Lagoon 2A	2.5-3	Soil	Metals
	Lagoon 2B	4.5-5	Soil	Metals
Lagoon 3	Lagoon 3A	4.5-5	Soil	Metals
	Lagoon 3B	3-3.5	Soil	Metals
Lagoon 4	Lagoon 4A	2.5-3	Soil	Metals
	Lagoon 4B	1.5-2	Soil	Metals
Elevator #1	E1N	Not applicable	PCB wipe	PCBs
	E1S	Not applicable	PCB wipe	PCBs
	E1W	Not applicable	PCB wipe	PCBs
	E1E	Not applicable	PCB wipe	PCBs
	E1B	Not applicable	PCB wipe	PCBs
Elevator #2	E2N	Not applicable	PCB wipe	PCBs
	E2S	Not applicable	PCB wipe	PCBs
	E2W	Not applicable	PCB wipe	PCBs
	E2E	Not applicable	PCB wipe	PCBs
	E2B	Not applicable	PCB wipe	PCBs
Elevator #5	E5N	Not applicable	PCB wipe	PCBs
	E5S	Not applicable	PCB wipe	PCBs
	E5W	Not applicable	PCB wipe	PCBs
	E5E	Not applicable	PCB wipe	PCBs
	E5B	Not applicable	PCB wipe	PCBs
Elevator #7	E7N	Not applicable	PCB wipe	PCBs
	E7S	Not applicable	PCB wipe	PCBs
	E7W	Not applicable	PCB wipe	PCBs
	E7E	Not applicable	PCB wipe	PCBs
	E7B	Not applicable	PCB wipe	PCBs
Elevator #6	E6N	Not applicable	PCB wipe	PCBs
	E6S	Not applicable	PCB wipe	PCBs
	E6W	Not applicable	PCB wipe	PCBs
	E6E	Not applicable	PCB wipe	PCBs
	E6B	Not applicable	PCB wipe	PCBs
Coal Pile	SCSB-1	0-2	Soil	Metals & PAH
	SCSB-2A	0-2	Soil	Metals & PAH
	SCSB-2B	2-4	Soil	Metals & PAH
	SCSB-3	0-2	Soil	Metals & PAH
	SCSB-4	0-2	Soil	Metals & PAH
	SCSB-5	0-2	Soil	Metals & PAH

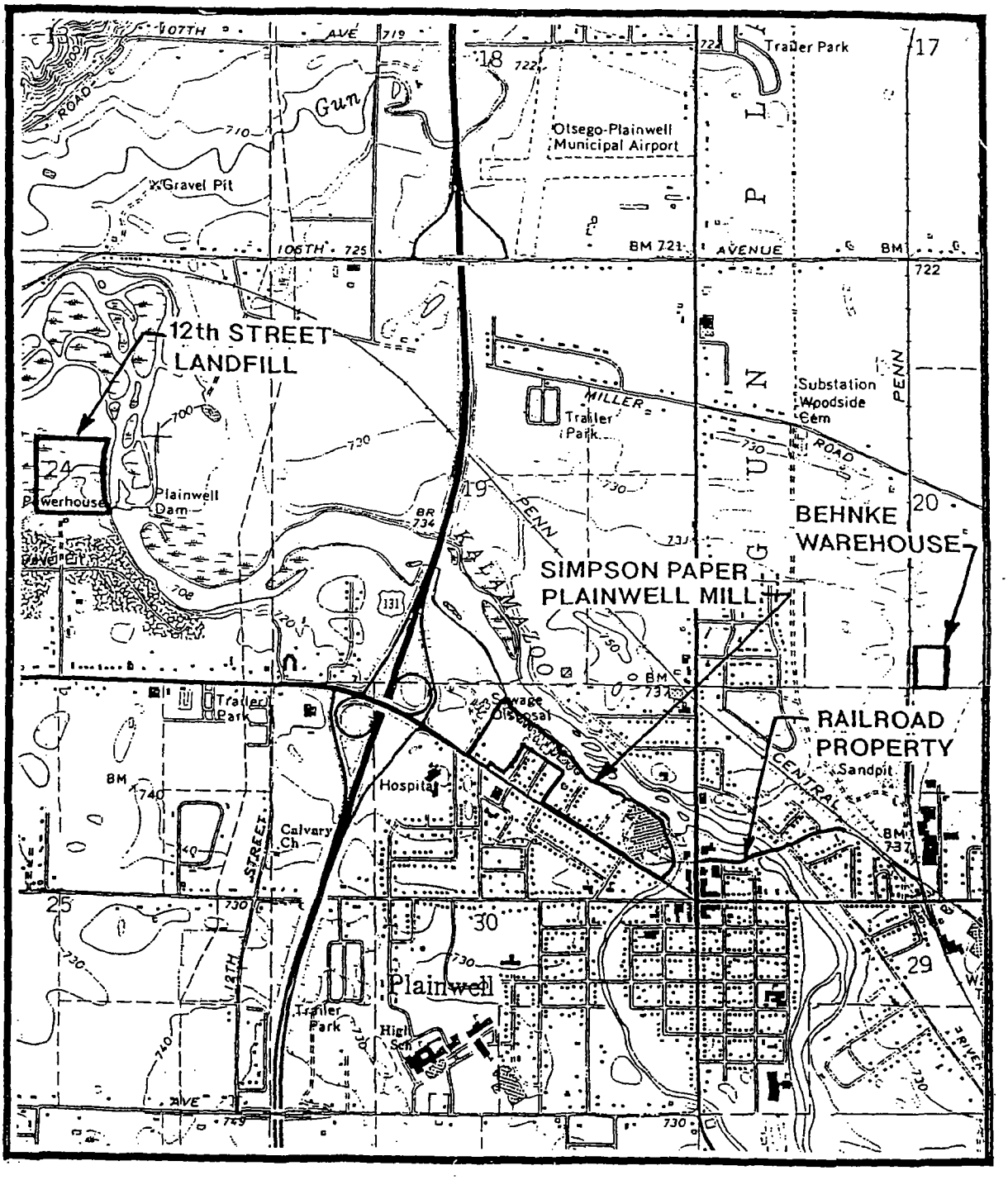
TABLE 1

SAMPLE SUMMARY
SIMPSON PAPER
PLAINWELL, MICHIGAN
(page 2 of 2)

Sample Location	Sample Identification	Sample Depth (feet)	Media	Analysis
Downgradiant of coal piles	DG1	0-1.5	Soil	Metals & PAH
	DG2	0-1.5	Soil	Metals & PAH
	DG3	0-1.5	Soil	Metals & PAH
	DG4	0-1.5	Soil	Metals & PAH
	DG5	0-1.5	Soil	Metals & PAH
#6 Fuel oil AST	SBA-1A	0-2	Soil	VOCs, PAH, & Lead
	SBA-1C/D	4-8	Soil	VOCs, PAH, & Lead
	SBA-2A	0-2	Soil	VOCs, PAH, & Lead
	SBA-2B	2-4	Soil	VOCs, PAH, & Lead
	SBA-3A	0-2	Soil	VOCs, PAH, & Lead
	SBA-3F	10-12	Soil	VOCs, PAH, & Lead
	SBA-4B	2-4	Soil	VOCs, PAH, & Lead
	SBA-4C/D	4-8	Soil	VOCs, PAH, & Lead
	SBA-5A	0-2	Soil	VOCs, PAH, & Lead
	SBA-5F	10-12	Soil	VOCs, PAH, & Lead
	SGWA-1	Not applicable	Water	VOCs, PAH, & Lead
	SGWA-2	Not applicable	Water	VOCs, PAH, & Lead
	SGWA-3	Not applicable	Water	VOCs, PAH, & Lead
	SGWA-4	Not applicable	Water	VOCs, PAH, & Diss. Metals
	SGWA-5	Not applicable	Water	VOCs, PAH, & Diss. Metals
Gasoline UST	SBG-1A/B	0-4	Soil	VOCs, PAH
	SBG-1C/D	4-8	Soil	VOCs, PAH
	SGWG-1	Not applicable	Water	VOCs, PAH, & Diss. Metals
Kerosene Tank	SGWK-1	Not applicable	Water	VOCs, PAH, & Diss. Metals
Background Samples	BK1	1.5-2	Soil	Metals
	BK2	1.5-2	Soil	Metals
	BK3	1.5-2	Soil	Metals
	BK4	1.5-2	Soil	Metals
	BK5	2.5-3	Soil	Metals
	SGWB-1	Not applicable	Water	VOCs, PAH, & Diss. Metals
	SGWB-2	Not applicable	Water	VOCs, PAH, & Diss. Metals
	SGWB-3	Not applicable	Water	VOCs, PAH, & Diss. Metals
	SGWB-4	Not applicable	Water	VOCs, PAH, & Diss. Metals
	SGWB-5	Not applicable	Water	VOCs, PAH, & Diss. Metals
	SGWB-6	Not applicable	Water	VOCs, PAH, & Diss. Metals
	SGWB-7	Not applicable	Water	VOCs, PAH, & Diss. Metals
	SGWB-8	Not applicable	Water	VOCs, PAH, & Diss. Metals
	SGWB-9	Not applicable	Water	VOCs, PAH, & Diss. Metals
	SGWB-10	Not applicable	Water	VOCs, PAH, & Diss. Metals

FIGURES

OTSEGO QUADRANGLE
MICHIGAN
7.5 MINUTE SERIES (TOPOGRAPHIC)
1967
PHOTOREVISED 1973



SCALE 1:24000

1 .5 0 1 MILE

CONTOUR INTERVAL 10 FEET

QUADRANGLE LOCATION

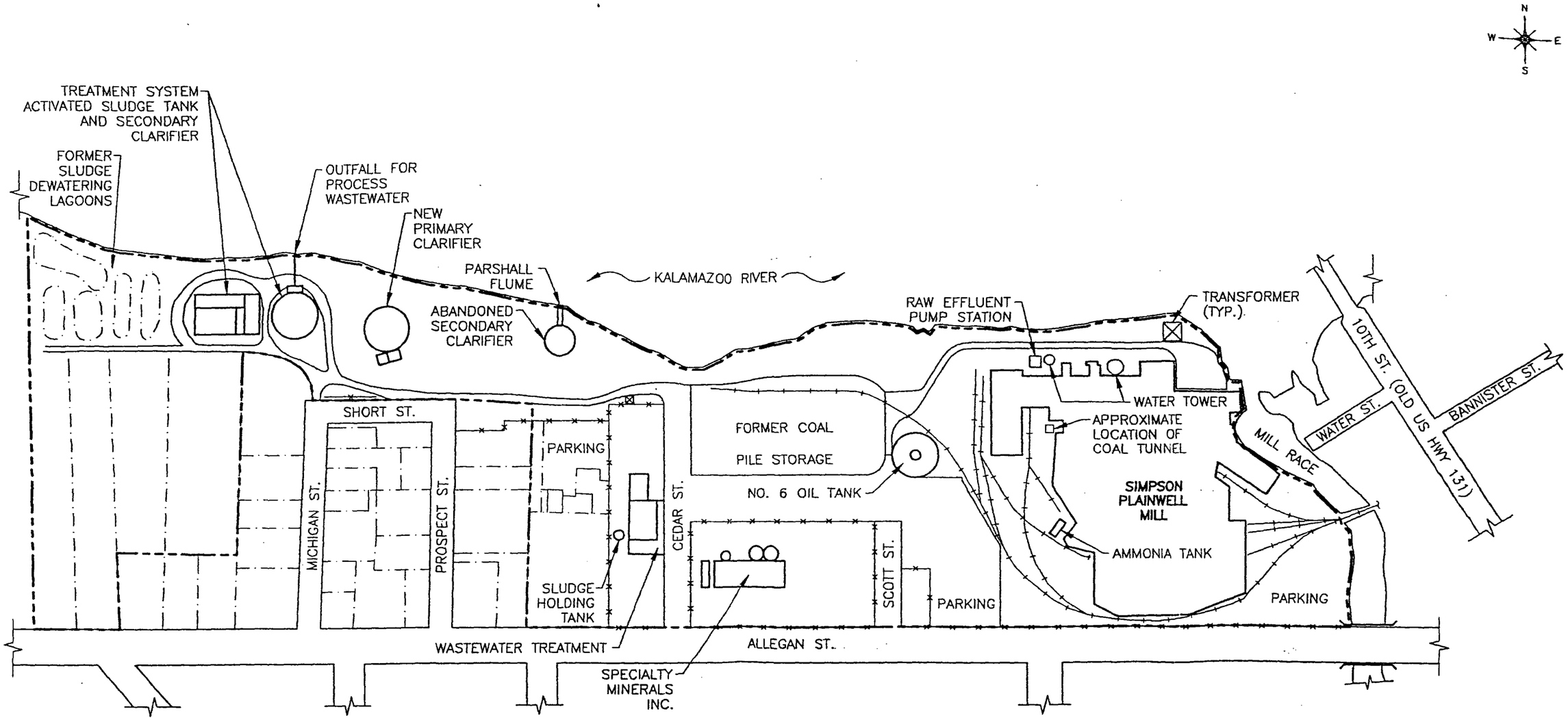
TOWNSHIP T1N
RANGE R12W
SECTION 30

FIGURE 1

SITE LOCATION MAP
SIMPSON PLAINWELL PAPER COMPANY
PLAINWELL, MICHIGAN

S:\CPFILES\ERM\G&K\97058\ACAD\PH2\FIG1.DWG MAY 09, 1997 10:13 AM

FKSR



APPROX. SCALE (ft.)
0 200

SYMBOL LEGEND
PROPERTY LINE
PARCEL LINE
RAILROAD
FENCE LINE

FIGURE 2

SITE FEATURES MAP
SIMPSON PLAINWELL MILL
PLAINWELL, MICHIGAN

ERM

S:\CPFILES\ERM\G&K\97058\ACAD\PH2\FIG2.DWG MAY 07, 1997 3:18 PM
FK

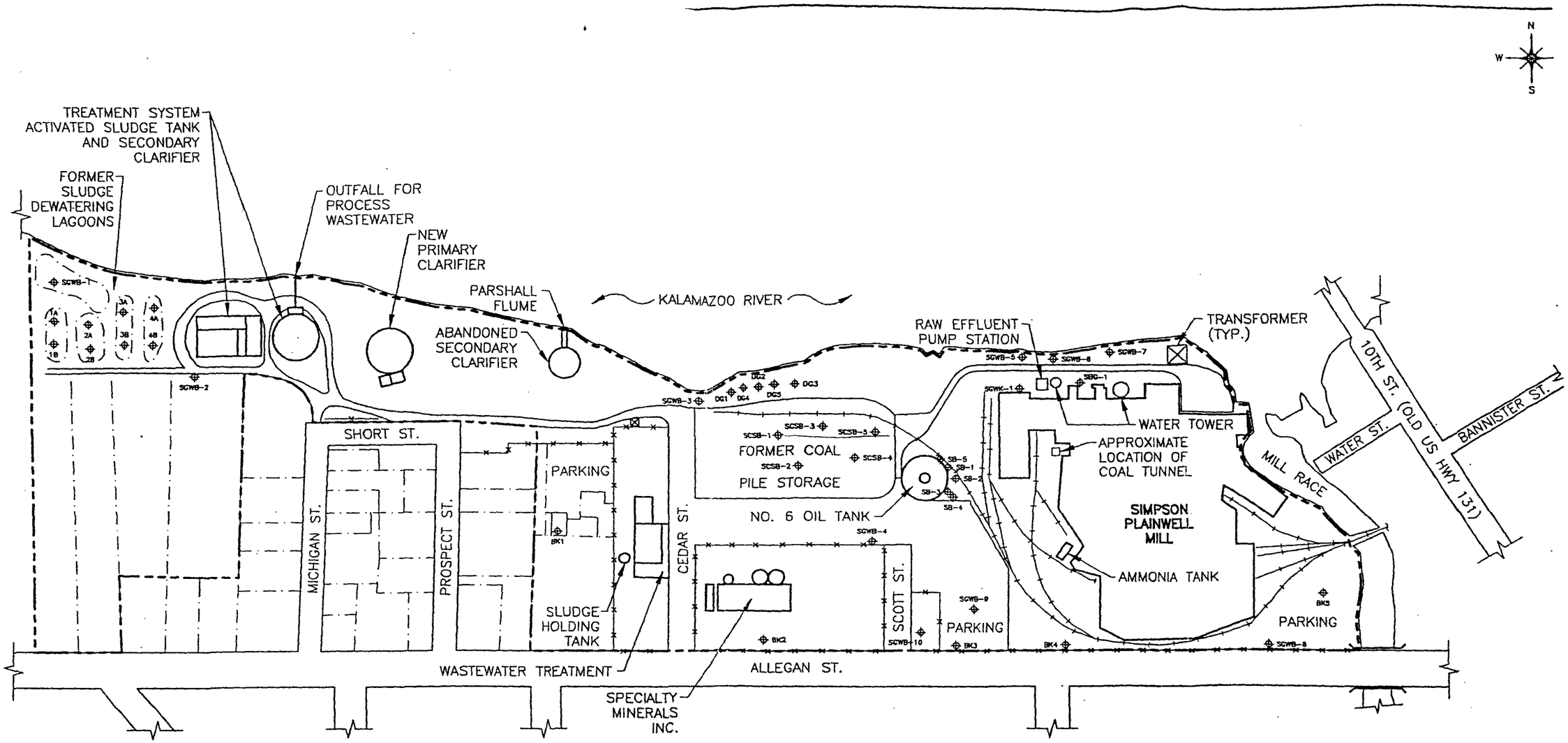


FIGURE 3

SAMPLING LOCATIONS
SIMPSON PLAINWELL MILL
PLAINWELL, MICHIGAN

S:\CPFILES\ERM\G&K\97058\ACAD\PH2\FIG3.DWG MAY 07, 1997 3:21 PM
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APPENDIX A

LABORATORY REPORTS AND THE STATISTICAL ANALYSIS OF ANALYTICAL DATA

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

ERM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 21, 1997
'1 E. Wisconsin Ave., Suite 560	Sample Descript:	Soil: Lagoon 1A	Received:	Apr 22, 1997
'waukee, WI 53202				
.ention: Jim Kane	Lab Number:	704-3666	Analyzed:	Apr 23-25, 1997
			Revised report:	May 1, 1997

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg, Dry Weight	Sample Results mg/kg, Dry Weight
Arsenic	3050/7060	8.6	N.D.
Cadmium	3050/6010	1.7	1.9
Chromium	3050/6010	1.7	8.6
Copper	3050/6010	1.7	28
Lead	3050/7421	0.86	9.7
Mercury	7470	0.14	N.D.
Selenium	3050/7740	1.7	N.D.
Zinc	3050/6010	86	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

'evin W. Keeley
'boratory Director

7043666.ERW <3>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

ERM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled: Apr 21, 1997
11 E. Wisconsin Ave., Suite 560	Sample Descript:	Soil: Lagoon 1B	Received: Apr 22, 1997
ilwaukee, WI 53202			
ention: Jim Kane	Lab Number:	704-3667	Analyzed: Apr 23-25, 1997
			Revised report: May 1, 1997

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg, Dry Weight	Sample Results mg/kg, Dry Weight
Arsenic	3050/7060	3.4	7.0
Cadmium	3050/6010	0.68	1.3
Chromium	3050/6010	0.68	8.9
Copper	3050/6010	3.4	16
Lead	3050/7421	0.34	9.7
Mercury	7470	0.055	N.D.
Selenium	3050/7740	0.68	N.D.
Zinc	3050/6010	34	69

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

'evin W. Keeley
'boratory Director

7043666.ERW <4>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

ERM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled: Apr 21, 1997
11 E. Wisconsin Ave., Suite 560	Sample Descript:	Soil: Lagoon 2A	Received: Apr 22, 1997
waukee, WI 53202			
ention: Jim Kane	Lab Number:	704-3668	Analyzed: Apr 23-25, 1997
			Revised report: May 1, 1997

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg, Dry Weight	Sample Results mg/kg, Dry Weight
Arsenic	3050/7060	2.8	N.D.
Cadmium	3050/6010	0.56	0.95
Chromium	3050/6010	0.56	4.1
Copper	3050/6010	2.8	3.2
Lead	3050/7421	0.28	2.1
Mercury	7470	0.044	N.D.
Selenium	3050/7740	0.56	N.D.
Zinc	3050/6010	28	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

7043666.ERW <5>

Certifications: AALA-461.01; US Army Corps of Engineers: Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

ERM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled: Apr 21, 1997
11 E. Wisconsin Ave., Suite 560	Sample Descript:	Soil: Lagoon 2B	Received: Apr 22, 1997
'lwaukee, WI 53202			
.ention: Jim Kane	Lab Number:	704-3669	Analyzed: Apr 23-25, 1997
			Revised report: May 1, 1997

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg, Dry Weight	Sample Results mg/kg, Dry Weight
Arsenic	3050/7060	2.8	N.D.
Cadmium	3050/6010	0.57	0.97
Chromium	3050/6010	0.57	4.2
Copper	3050/6010	2.8	3.8
Lead	3050/7421	0.28	2.2
Mercury	7470	0.045	N.D.
Selenium	3050/7740	0.57	N.D.
Zinc	3050/6010	28	40

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

'evin W. Keeley
'boratory Director

7043666.ERW <6>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

ERM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled: Apr 21, 1997
311 E. Wisconsin Ave., Suite 560	Sample Descript:	Soil: Lagoon 3A	Received: Apr 22, 1997
Milwaukee, WI 53202			
Attention: Jim Kane	Lab Number:	704-3670	Analyzed: Apr 23-25, 1997
			Revised report: May 1, 1997

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg, Dry Weight	Sample Results mg/kg, Dry Weight
Arsenic	3050/7060	4.1	9.0
Cadmium	3050/6010	0.82	1.3
Chromium	3050/6010	0.82	10
Copper	3050/6010	4.1	22
Lead	3050/7421	0.41	15
Mercury	7470	0.066	0.12
Selenium	3050/7740	0.82	N.D.
Zinc	3050/6010	41	79

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

7043666.ERW <7>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

ERM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled: Apr 21, 1997
11 E. Wisconsin Ave., Suite 560	Sample Descript:	Soil: Lagoon 3B	Received: Apr 22, 1997
Milwaukee, WI 53202			
Attention: Jim Kane	Lab Number:	704-3671	Analyzed: Apr 23-25, 1997
			Revised report: May 1, 1997

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg, Dry Weight	Sample Results mg/kg, Dry Weight
Arsenic	3050/7060	2.8	5.1
Cadmium	3050/6010	0.56	1.9
Chromium	3050/6010	0.56	8.7
Copper	3050/6010	2.8	N.D.
Lead	3050/7421	0.28	18
Mercury	7470	0.045	0.063
Selenium	3050/7740	0.56	N.D.
Zinc	3050/6010	28	29

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

7043666.ERW <8>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-99991716O

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

ERM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled: Apr 21, 1997
11 E. Wisconsin Ave., Suite 560	Sample Descript:	Soil: Lagoon 4A	Received: Apr 22, 1997
'ilwaukee, WI 53202			
.tention: Jim Kane	Lab Number:	704-3672	Analyzed: Apr 23-25, 1997
			Revised report: May 1, 1997

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg, Dry Weight	Sample Results mg/kg, Dry Weight
Arsenic	3050/7060	3.2	5.2
Cadmium	3050/6010	0.63	1.3
Chromium	3050/6010	0.63	8.7
Copper	3050/6010	3.2	16
Lead	3050/7421	0.32	14
Mercury	7470	0.051	0.069
Selenium	3050/7740	0.63	N.D.
Zinc	3050/6010	32	60

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

'evin W. Keeley
ıboratory Director

7043666.ERW <9>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

ERM - North Central, Inc.	Client Project ID: 97058JK, Simpson	Sampled:	Apr 21, 1997
'11 E. Wisconsin Ave., Suite 560	Sample Descript: Soil: Lagoon 4B	Received:	Apr 22, 1997
'ilwaukee, WI 53202			
.ention: Jim Kane	Lab Number:	Analyzed:	Apr 23-25, 1997
	704-3673	Revised report:	May 1, 1997

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg, Dry Weight	Sample Results mg/kg, Dry Weight
Arsenic	3050/7060	3.1	3.9
Cadmium	3050/6010	0.62	1.1
Chromium	3050/6010	0.62	8.6
Copper	3050/6010	3.1	31
Lead	3050/7421	0.31	30
Mercury	7470	0.049	0.10
Selenium	3050/7740	0.62	N.D.
Zinc	3050/6010	31	130

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

'evin W. Keeley
'boratory Director

7043666.ERW <10>

Certifications: AALA-461.01; US Army Corps of Engineers: Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

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ERM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 21, 1997
11 E. Wisconsin Ave., Suite 560	Sample Descript:	Wipe: E1N	Received:	Apr 22, 1997
'waukee, WI 53202	Analysis Method:	EPA 8080	Extracted:	Apr 24, 1997
.ention: Jim Kane	Lab Number:	704-3674	Analyzed:	Apr 24, 1997
			Reported:	Apr 30, 1997

POLYCHLORINATED BIPHENYLS (EPA 8080)

Analyte	Detection Limit ug/wipe	Sample Results ug/wipe
PCB 1016	0.50	N.D.
PCB 1221	0.50	N.D.
PCB 1232	0.50	N.D.
PCB 1242	0.50	N.D.
PCB 1248	0.50	N.D.
PCB 1254	0.50	N.D.
PCB 1260	0.50	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

'evin W. Keeley
'oratory Director

7043666.ERW <22>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

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ERM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 21, 1997
311 E. Wisconsin Ave., Suite 560	Sample Descript:	Wipe: E1S	Received:	Apr 22, 1997
Milwaukee, WI 53202	Analysis Method:	EPA 8080	Extracted:	Apr 24, 1997
Attention: Jim Kane	Lab Number:	704-3676	Analyzed:	Apr 24, 1997
			Reported:	Apr 30, 1997

POLYCHLORINATED BIPHENYLS (EPA 8080)

Analyte	Detection Limit ug/wipe	Sample Results ug/wipe
PCB 1016	0.50	N.D.
PCB 1221	0.50	N.D.
PCB 1232	0.50	N.D.
PCB 1242	0.50	N.D.
PCB 1248	0.50	N.D.
PCB 1254	0.50	0.56
PCB 1260	0.50	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

7043666.ERW <24>

Certifications: AALA 461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

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ERM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 21, 1997
11 E. Wisconsin Ave., Suite 560	Sample Descript:	Wipe: E1W	Received:	Apr 22, 1997
lwaukee, WI 53202	Analysis Method:	EPA 8080	Extracted:	Apr 24, 1997
ention: Jim Kane	Lab Number:	704-3677	Analyzed:	Apr 24, 1997
			Reported:	Apr 30, 1997

POLYCHLORINATED BIPHENYLS (EPA 8080)

Analyte	Detection Limit ug/wipe	Sample Results ug/wipe
PCB 1016	0.50	N.D.
PCB 1221	0.50	N.D.
PCB 1232	0.50	N.D.
PCB 1242	0.50	N.D.
PCB 1248	0.50	N.D.
PCB 1254	0.50	1.2
PCB 1260	0.50	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

evin W. Keeley
horatory Director

7043666.ERW <25>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

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ERM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 21, 1997
11 E. Wisconsin Ave., Suite 560	Sample Descript:	Wipe: E1E	Received:	Apr 22, 1997
'lwaukee, WI 53202	Analysis Method:	EPA 8080	Extracted:	Apr 24, 1997
.tention: Jim Kane	Lab Number:	704-3678	Analyzed:	Apr 24, 1997
			Reported:	Apr 30, 1997

POLYCHLORINATED BIPHENYLS (EPA 8080)

Analyte	Detection Limit ug/wipe	Sample Results ug/wipe
PCB 1016	0.50	N.D.
PCB 1221	0.50	N.D.
PCB 1232	0.50	N.D.
PCB 1242	0.50	N.D.
PCB 1248	0.50	N.D.
PCB 1254	0.50	N.D.
PCB 1260	0.50	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

'evin W. Keeley
'oratory Director

7043666.ERW <26>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

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ERM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 21, 1997
'11 E. Wisconsin Ave., Suite 560	Sample Descript:	Wipe: E1B	Received:	Apr 22, 1997
'lwaukee, WI 53202	Analysis Method:	EPA 8080	Extracted:	Apr 24, 1997
.tention: Jim Kane	Lab Number:	704-3675	Analyzed:	Apr 24, 1997
			Reported:	Apr 30, 1997

POLYCHLORINATED BIPHENYLS (EPA 8080)

Analyte	Detection Limit ug/wipe	Sample Results ug/wipe
PCB 1016	0.50	N.D.
PCB 1221	0.50	N.D.
PCB 1232	0.50	N.D.
PCB 1242	0.50	N.D.
PCB 1248	0.50	N.D.
PCB 1254	0.50	N.D.
PCB 1260	0.50	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

'evin W. Keeley
'oratory Director

7043666.ERW <23>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

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ERM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 21, 1997
11 E. Wisconsin Ave., Suite 560	Sample Descript:	Wipe: E2N	Received:	Apr 22, 1997
'ilwaukee, WI 53202	Analysis Method:	EPA 8080	Extracted:	Apr 24, 1997
.tention: Jim Kane	Lab Number:	704-3686	Analyzed:	Apr 24, 1997
			Reported:	Apr 30, 1997

POLYCHLORINATED BIPHENYLS (EPA 8080)

Analyte	Detection Limit ug/wipe	Sample Results ug/wipe
PCB 1016	0.50	N.D.
PCB 1221	0.50	N.D.
PCB 1232	0.50	N.D.
PCB 1242	0.50	N.D.
PCB 1248	0.50	N.D.
PCB 1254	0.50	1.9
PCB 1260	0.50	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

'evin W. Keeley
aboratory Director

7043666.ERW <34>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

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ERM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 21, 1997
11 E. Wisconsin Ave., Suite 560	Sample Descript:	Soil: E2S	Received:	Apr 22, 1997
waukee, WI 53202	Analysis Method:	EPA 8080	Extracted:	Apr 24, 1997
..ention: Jim Kane	Lab Number:	704-3688	Analyzed:	Apr 24, 1997
			Reported:	Apr 30, 1997

POLYCHLORINATED BIPHENYLS (EPA 8080)

Analyte	Detection Limit ug/wipe	Sample Results ug/wipe
PCB 1016	0.50	N.D.
PCB 1221	0.50	N.D.
PCB 1232	0.50	N.D.
PCB 1242	0.50	N.D.
PCB 1248	0.50	N.D.
PCB 1254	0.50	0.79
PCB 1260	0.50	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

ovin W. Keeley
boratory Director

7043688.ERW <1>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

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ERM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 21, 1997
11 E. Wisconsin Ave., Suite 560	Sample Descript:	Wipe: E2W	Received:	Apr 22, 1997
'lwaukee, WI 53202	Analysis Method:	EPA 8080	Extracted:	Apr 24, 1997
.tention: Jim Kane	Lab Number:	704-3684	Analyzed:	Apr 24, 1997
			Reported:	Apr 30, 1997

POLYCHLORINATED BIPHENYLS (EPA 8080)

Analyte	Detection Limit ug/wipe	Sample Results ug/wipe
PCB 1016	0.50	N.D.
PCB 1221	0.50	N.D.
PCB 1232	0.50	N.D.
PCB 1242	0.50	N.D.
PCB 1248	0.50	N.D.
PCB 1254	0.50	1.1
PCB 1260	0.50	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

'evin W. Keeley
'boratory Director

7043666.ERW <32>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

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ERM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 21, 1997
111 E. Wisconsin Ave., Suite 560	Sample Descript:	Wipe: E2E	Received:	Apr 22, 1997
Milwaukee, WI 53202	Analysis Method:	EPA 8080	Extracted:	Apr 24, 1997
Attention: Jim Kane	Lab Number:	704-3687	Analyzed:	Apr 24, 1997
			Reported:	Apr 30, 1997

POLYCHLORINATED BIPHENYLS (EPA 8080)

Analyte	Detection Limit ug/wipe	Sample Results ug/wipe
PCB 1016	0.50	N.D.
PCB 1221	0.50	N.D.
PCB 1232	0.50	N.D.
PCB 1242	0.50	N.D.
PCB 1248	0.50	N.D.
PCB 1254	0.50	N.D.
PCB 1260	0.50	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

7043666.ERW <35>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

ERM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 21, 1997
11 E. Wisconsin Ave., Suite 560	Sample Descript:	Wipe: E2B	Received:	Apr 22, 1997
'waukee, WI 53202	Analysis Method:	EPA 8080	Extracted:	Apr 24, 1997
..tention: Jim Kane	Lab Number:	704-3685	Analyzed:	Apr 24, 1997
			Reported:	Apr 30, 1997

POLYCHLORINATED BIPHENYLS (EPA 8080)

Analyte	Detection Limit ug/wipe	Sample Results ug/wipe
PCB 1016	0.50	N.D.
PCB 1221	0.50	N.D.
PCB 1232	0.50	N.D.
PCB 1242	0.50	N.D.
PCB 1248	0.50	N.D.
PCB 1254	0.50	2.6
PCB 1260	0.50	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

:evin W. Keeley
boratory Director

7043666.ERW <33>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

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ERM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 21, 1997
11 E. Wisconsin Ave., Suite 560	Sample Descript:	Wipe: E5N	Received:	Apr 22, 1997
'lwaukee, WI 53202	Analysis Method:	EPA 8080	Extracted:	Apr 24, 1997
.tention: Jim Kane	Lab Number:	704-3682	Analyzed:	Apr 24, 1997
			Reported:	Apr 30, 1997

POLYCHLORINATED BIPHENYLS (EPA 8080)

Analyte	Detection Limit ug/wipe	Sample Results ug/wipe
PCB 1016	0.50	N.D.
PCB 1221	0.50	N.D.
PCB 1232	0.50	N.D.
PCB 1242	0.50	N.D.
PCB 1248	0.50	N.D.
PCB 1254	0.50	0.73
PCB 1260	0.50	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

'vin W. Keeley
'oratory Director

7043666.ERW <30>

Certifications: AALA 461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

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ERM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 21, 1997
11 E. Wisconsin Ave., Suite 560	Sample Descript:	Wipe: E5S	Received:	Apr 22, 1997
'lwaukee, WI 53202	Analysis Method:	EPA 8080	Extracted:	Apr 24, 1997
,ention: Jim Kane	Lab Number:	704-3681	Analyzed:	Apr 24, 1997
			Reported:	Apr 30, 1997

POLYCHLORINATED BIPHENYLS (EPA 8080)

Analyte	Detection Limit ug/wipe	Sample Results ug/wipe
PCB 1016	0.50	N.D.
PCB 1221	0.50	N.D.
PCB 1232	0.50	N.D.
PCB 1242	0.50	N.D.
PCB 1248	0.50	N.D.
PCB 1254	0.50	1.2
PCB 1260	0.50	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

'evin W. Keeley
boratory Director

7043666.ERW <29>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

ERM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 21, 1997
1 E. Wisconsin Ave., Suite 560	Sample Descript:	Wipe: E5W	Received:	Apr 22, 1997
waukee, WI 53202	Analysis Method:	EPA 8080	Extracted:	Apr 24, 1997
ention: Jim Kane	Lab Number:	704-3679	Analyzed:	Apr 24, 1997
			Reported:	Apr 30, 1997

POLYCHLORINATED BIPHENYLS (EPA 8080)

Analyte	Detection Limit ug/wipe	Sample Results ug/wipe
PCB 1016	0.50	N.D.
PCB 1221	0.50	N.D.
PCB 1232	0.50	N.D.
PCB 1242	0.50	N.D.
PCB 1248	0.50	N.D.
PCB 1254	0.50	0.72
PCB 1260	0.50	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

vin W. Keeley
oratory Director

7043666.ERW <27>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

ERM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 21, 1997
11 E. Wisconsin Ave., Suite 560	Sample Descript:	Wipe: E5E	Received:	Apr 22, 1997
'lwaukee, WI 53202	Analysis Method:	EPA 8080	Extracted:	Apr 24, 1997
.tention: Jim Kane	Lab Number:	704-3683	Analyzed:	Apr 24, 1997
			Reported:	Apr 30, 1997

POLYCHLORINATED BIPHENYLS (EPA 8080)

Analyte	Detection Limit ug/wipe	Sample Results ug/wipe
PCB 1016	0.50	N.D.
PCB 1221	0.50	N.D.
PCB 1232	0.50	N.D.
PCB 1242	0.50	N.D.
PCB 1248	0.50	N.D.
PCB 1254	0.50	3.8
PCB 1260	0.50	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

evin W. Keeley
boratory Director

7043666.ERW <31>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

ERM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 21, 1997
11 E. Wisconsin Ave., Suite 560	Sample Descript:	Wipe: E5B	Received:	Apr 22, 1997
Milwaukee, WI 53202	Analysis Method:	EPA 8080	Extracted:	Apr 24, 1997
Attention: Jim Kane	Lab Number:	704-3680	Analyzed:	Apr 24, 1997
			Reported:	Apr 30, 1997

POLYCHLORINATED BIPHENYLS (EPA 8080)

Analyte	Detection Limit ug/wipe	Sample Results ug/wipe
PCB 1016	0.50	N.D.
PCB 1221	0.50	N.D.
PCB 1232	0.50	N.D.
PCB 1242	0.50	N.D.
PCB 1248	0.50	N.D.
PCB 1254	0.50	N.D.
PCB 1260	0.50	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

7043666.ERW <28>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

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ERM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 21, 1997
11 E. Wisconsin Ave., Suite 560	Sample Descript:	Soil: E7N	Received:	Apr 22, 1997
ilwaukee, WI 53202	Analysis Method:	EPA 8080	Extracted:	Apr 25, 1997
ttention: Jim Kane	Lab Number:	704-3691	Analyzed:	Apr 29, 1997
			Reported:	Apr 30, 1997

POLYCHLORINATED BIPHENYLS (EPA 8080)

Analyte	Detection Limit ug/wipe	Sample Results ug/wipe
PCB 1016	0.50	N.D.
PCB 1221	0.50	N.D.
PCB 1232	0.50	N.D.
PCB 1242	0.50	N.D.
PCB 1248	0.50	N.D.
PCB 1254	0.50	N.D.
PCB 1260	0.50	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

vin W. Keeley
oratory Director

7043688.ERW <4>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

ERM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 21, 1997
E. Wisconsin Ave., Suite 560	Sample Descript:	Soil: E7S	Received:	Apr 22, 1997
ukee, WI 53202	Analysis Method:	EPA 8080	Extracted:	Apr 25, 1997
ion: Jim Kane	Lab Number:	704-3692	Analyzed:	Apr 30, 1997
			Reported:	Apr 30, 1997

POLYCHLORINATED BIPHENYLS (EPA 8080)

Analyte	Detection Limit ug/wipe	Sample Results ug/wipe
PCB 1016	0.50	N.D.
PCB 1221	0.50	N.D.
PCB 1232	0.50	N.D.
PCB 1242	0.50	N.D.
PCB 1248	0.50	N.D.
PCB 1254	0.50	N.D.
PCB 1260	0.50	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

W. Keeley
tory Director

7043688.ERW <5>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

ERM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 21, 1997
'1 E. Wisconsin Ave., Suite 560	Sample Descript:	Soil: E7W	Received:	Apr 22, 1997
'waukee, WI 53202	Analysis Method:	EPA 8080	Extracted:	Apr 25, 1997
.ention: Jim Kane	Lab Number:	704-3693	Analyzed:	Apr 29, 1997
			Reported:	Apr 30, 1997

POLYCHLORINATED BIPHENYLS (EPA 8080)

Analyte	Detection Limit ug/wipe	Sample Results ug/wipe
PCB 1016	0.50	N.D.
PCB 1221	0.50	N.D.
PCB 1232	0.50	N.D.
PCB 1242	0.50	N.D.
PCB 1248	0.50	N.D.
PCB 1254	0.50	21
PCB 1260	0.50	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

vin W. Keeley
'oratory Director

7043688.ERW <6>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

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ERM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 21, 1997
11 E. Wisconsin Ave., Suite 560	Sample Descript:	Soil: E7E	Received:	Apr 22, 1997
Waukee, WI 53202	Analysis Method:	EPA 8080	Extracted:	Apr 24, 1997
Attention: Jim Kane	Lab Number:	704-3689	Analyzed:	Apr 24, 1997
			Reported:	Apr 30, 1997

POLYCHLORINATED BIPHENYLS (EPA 8080)

Analyte	Detection Limit ug/wipe	Sample Results ug/wipe
PCB 1016	0.50	N.D.
PCB 1221	0.50	N.D.
PCB 1232	0.50	N.D.
PCB 1242	0.50	N.D.
PCB 1248	0.50	N.D.
PCB 1254	0.50	N.D.
PCB 1260	0.50	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

7043688.ERW <2>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

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ERM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 21, 1997
'11 E. Wisconsin Ave., Suite 560	Sample Descript:	Soil: E7B	Received:	Apr 22, 1997
'ilwaukee, WI 53202	Analysis Method:	EPA 8080	Extracted:	Apr 24, 1997
.tention: Jim Kane	Lab Number:	704-3690	Analyzed:	Apr 24, 1997
			Reported:	Apr 30, 1997

POLYCHLORINATED BIPHENYLS (EPA 8080)

Analyte	Detection Limit ug/wipe	Sample Results ug/wipe
PCB 1016	0.50	N.D.
PCB 1221	0.50	N.D.
PCB 1232	0.50	N.D.
PCB 1242	0.50	N.D.
PCB 1248	0.50	N.D.
PCB 1254	0.50	N.D.
PCB 1260	0.50	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

'evin W. Keeley
'boratory Director

7043688.ERW <3>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

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ERM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 21, 1997
11 E. Wisconsin Ave., Suite 560	Sample Descript:	Soil: E6N	Received:	Apr 22, 1997
Milwaukee, WI 53202	Analysis Method:	EPA 8080	Extracted:	Apr 25, 1997
Attention: Jim Kane	Lab Number:	704-3696	Analyzed:	Apr 29, 1997
			Reported:	Apr 30, 1997

POLYCHLORINATED BIPHENYLS (EPA 8080)

Analyte	Detection Limit ug/wipe	Sample Results ug/wipe
PCB 1016	0.50	N.D.
PCB 1221	0.50	N.D.
PCB 1232	0.50	N.D.
PCB 1242	0.50	N.D.
PCB 1248	0.50	N.D.
PCB 1254	0.50	14
PCB 1260	0.50	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

7043688.ERW <9>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

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ERM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 21, 1997
11 E. Wisconsin Ave., Suite 560	Sample Descript:	Soil: E6S	Received:	Apr 22, 1997
'lwaukee, WI 53202	Analysis Method:	EPA 8080	Extracted:	Apr 24, 1997
.tention: Jim Kane	Lab Number:	704-3695	Analyzed:	Apr 24, 1997
			Reported:	Apr 30, 1997

POLYCHLORINATED BIPHENYLS (EPA 8080)

Analyte	Detection Limit ug/wipe	Sample Results ug/wipe
PCB 1016	0.50	N.D.
PCB 1221	0.50	N.D.
PCB 1232	0.50	N.D.
PCB 1242	0.50	N.D.
PCB 1248	0.50	N.D.
PCB 1254	0.50	N.D.
PCB 1260	0.50	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

vin W. Keeley
oratory Director

7043688.ERW <8>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

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ERM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 21, 1997
511 E. Wisconsin Ave., Suite 560	Sample Descript:	Soil: E6W	Received:	Apr 22, 1997
Milwaukee, WI 53202	Analysis Method:	EPA 8080	Extracted:	Apr 25, 1997
Attention: Jim Kane	Lab Number:	704-3697	Analyzed:	Apr 29, 1997
			Reported:	Apr 30, 1997

POLYCHLORINATED BIPHENYLS (EPA 8080)

Analyte	Detection Limit ug/wipe	Sample Results ug/wipe
PCB 1016	0.50	N.D.
PCB 1221	0.50	N.D.
PCB 1232	0.50	N.D.
PCB 1242	0.50	N.D.
PCB 1248	0.50	N.D.
PCB 1254	0.50	18
PCB 1260	0.50	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

7043688.ERW <10>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

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ERM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 21, 1997
311 E. Wisconsin Ave., Suite 560	Sample Descript:	Soil: E6E	Received:	Apr 22, 1997
Milwaukee, WI 53202	Analysis Method:	EPA 8080	Extracted:	Apr 25, 1997
Attention: Jim Kane	Lab Number:	704-3694	Analyzed:	Apr 29, 1997
			Reported:	Apr 30, 1997

POLYCHLORINATED BIPHENYLS (EPA 8080)

Analyte	Detection Limit ug/wipe	Sample Results ug/wipe
PCB 1016	0.50	N.D.
PCB 1221	0.50	N.D.
PCB 1232	0.50	N.D.
PCB 1242	0.50	N.D.
PCB 1248	0.50	N.D.
PCB 1254	0.50	11
PCB 1260	0.50	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

7043688.ERW <7>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

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ERM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 21, 1997
`11 E. Wisconsin Ave., Suite 560	Sample Descript:	Soil: E6B	Received:	Apr 22, 1997
'ilwaukee, WI 53202	Analysis Method:	EPA 8080	Extracted:	Apr 25, 1997
.tention: Jim Kane	Lab Number:	704-3698	Analyzed:	Apr 29, 1997
			Reported:	Apr 30, 1997

POLYCHLORINATED BIPHENYLS (EPA 8080)

Analyte	Detection Limit ug/wipe	Sample Results ug/wipe
PCB 1016	0.50	N.D.
PCB 1221	0.50	N.D.
PCB 1232	0.50	N.D.
PCB 1242	0.50	N.D.
PCB 1248	0.50	N.D.
PCB 1254	0.50	18
PCB 1260	0.50	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

'vin W. Keeley
'oratory Director

7043688.ERW <11>

Certifications: AALA-461.01; US Army Corps of Engineers: Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

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ERM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled: Apr 21, 1997
11 E. Wisconsin Ave., Suite 560	Sample Descript:	Soil: SCSB-1	Received: Apr 22, 1997
'waukee, WI 53202			
.ention: Jim Kane	Lab Number:	704-3699	Analyzed: Apr 23-25, 1997
			Revised report: May 1, 1997

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg, Dry Weight	Sample Results mg/kg, Dry Weight
Arsenic	3050/7060	2.6	N.D.
Cadmium	3050/6010	0.53	1.2
Chromium	3050/6010	0.53	5.5
Copper	3050/6010	2.0	N.D.
Lead	3050/7421	0.20	2.8
Mercury	7470	0.042	N.D.
Selenium	3050/7740	0.53	N.D.
Zinc	3050/6010	26	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

'vin W. Keeley
'oratory Director

7043666.ERW <11>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

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ERM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 21, 1997
311 E. Wisconsin Ave., Suite 560	Sample Descript:	Soil: SCSB-1	Received:	Apr 22, 1997
Milwaukee, WI 53202	Analysis Method:	EPA 8310	Extracted:	Apr 24, 1997
Attention: Jim Kane	Lab Number:	704-3699	Analyzed:	Apr 25, 1997
			Reported:	Apr 30, 1997

POLYNUCLEAR AROMATIC HYDROCARBONS (EPA 8310)

Analyte	Detection Limit ug/kg, Dry Weight	Sample Results ug/kg, Dry Weight
Acenaphthene	110	N.D.
Acenaphthylene	210	N.D.
Anthracene	0.53	N.D.
Benzo (a) anthracene	0.53	N.D.
Benzo (a) pyrene	0.24	N.D.
Benzo (b) fluoranthene	1.1	N.D.
Benzo (ghi) perylene	2.1	N.D.
Benzo (k) fluoranthene	0.53	N.D.
Chrysene	2.1	N.D.
Dibenzo (a,h) anthracene	1.1	N.D.
Fluoranthene	53	N.D.
Fluorene	5.3	N.D.
Indeno (1,2,3-cd) pyrene	21	N.D.
1-methyl Naphthalene	53	N.D.
2-methyl Naphthalene	53	N.D.
Naphthalene	5.3	N.D.
Phenanthrene	5.3	N.D.
Pyrene	21	N.D.

Analytes reported as N.D. were not present above the stated limit of detection. Because matrix effects and/or other factors required additional sample dilution, detection limits for this sample have been raised.

GREAT LAKES ANALYTICAL

Irvin W. Keeley
Laboratory Director

7043688.ERW <16>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

ERM - North Central, Inc.
511 E. Wisconsin Ave., Suite 560
Milwaukee, WI 53202
Attention: Jim Kane

Client Project ID: 97058JK, Simpson
Sample Descript: Soil: SCSB-2A
Lab Number: 704-3700

Sampled: Apr 21, 1997
Received: Apr 22, 1997
Analyzed: Apr 23-25, 1997
Revised report: May 1, 1997

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg, Dry Weight	Sample Results mg/kg, Dry Weight
Arsenic	3050/7060	2.9	6.5
Cadmium	3050/6010	0.59	1.2
Chromium	3050/6010	0.59	9.2
Copper	3050/6010	2.9	10
Lead	3050/7421	0.29	62
Mercury	7470	0.047	0.10
Selenium	3050/7740	0.59	N.D.
Zinc	3050/6010	29	68

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

7043666.ERW <12>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

ERM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 21, 1997
11 E. Wisconsin Ave., Suite 560	Sample Descript:	Soil: SCSB-2A	Received:	Apr 22, 1997
'lwaukee, WI 53202	Analysis Method:	EPA 8310	Extracted:	Apr 24, 1997
.tention: Jim Kane	Lab Number:	704-3700	Analyzed:	Apr 25, 1997
			Reported:	Apr 30, 1997

POLYNUCLEAR AROMATIC HYDROCARBONS (EPA 8310)

Analyte	Detection Limit ug/kg, Dry Weight	Sample Results ug/kg, Dry Weight
Acenaphthene	120	N.D.
Acenaphthylene	240	N.D.
Anthracene	0.59	9.1
Benzo (a) anthracene	0.59	28
Benzo (a) pyrene	0.27	33
Benzo (b) fluoranthene	1.2	38
Benzo (ghi) perylene	2.4	80
Benzo (k) fluoranthene	0.59	11
Chrysene	2.4	99
Dibenzo (a,h) anthracene	1.2	28
Fluoranthene	59	210
Fluorene	5.9	N.D.
Indeno (1,2,3-cd) pyrene	24	N.D.
1-methyl Naphthalene	59	N.D.
2-methyl Naphthalene	59	99
Naphthalene	5.9	44
henanthrene	5.9	79
rene	24	52

Analytes reported as N.D. were not present above the stated limit of detection. Because matrix effects and/or other factors required additional sample dilution, detection limits for this sample have been raised.

GREAT LAKES ANALYTICAL

evin W. Keeley
horatory Director

7043688.ERW <17>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

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ERM - North Central, Inc.
11 E. Wisconsin Ave., Suite 560
lwaukee, WI 53202
tention: Jim Kane

Client Project ID: 97058JK, Simpson
Sample Descript: Soil: SCSB-3
Lab Number: 704-3702

Sampled: Apr 21, 1997
Received: Apr 22, 1997
Analyzed: Apr 23-25, 1997
Revised report: May 1, 1997

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg, Dry Weight	Sample Results mg/kg, Dry Weight
Arsenic	3050/7060	2.7	N.D.
Cadmium	3050/6010	0.54	1.1
Chromium	3050/6010	0.54	4.7
Copper	3050/6010	2.7	5.6
Lead	3050/7421	0.27	9.6
Mercury	7470	0.043	N.D.
Selenium	3050/7740	0.54	N.D.
Zinc	3050/6010	27	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

evin W. Keeley
oratory Director

7043666.ERW <13>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

ERM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 21, 1997
11 E. Wisconsin Ave., Suite 560	Sample Descript:	Soil: SCSB-3	Received:	Apr 22, 1997
lwaukee, WI 53202	Analysis Method:	EPA 8310	Extracted:	Apr 24, 1997
tention: Jim Kane	Lab Number:	704-3702	Analyzed:	Apr 25, 1997
			Reported:	Apr 30, 1997

POLYNUCLEAR AROMATIC HYDROCARBONS (EPA 8310)

Analyte	Detection Limit ug/kg, Dry Weight	Sample Results ug/kg, Dry Weight
Acenaphthene	110	N.D.
Acenaphthylene	220	N.D.
Anthracene	0.54	1.1
Benzo (a) anthracene	0.54	6.3
Benzo (a) pyrene	0.25	9.0
Benzo (b) fluoranthene	1.1	9.7
Benzo (ghi) perylene	2.2	35
Benzo (k) fluoranthene	0.54	3.6
Chrysene	2.2	38
Dibenzo (a,h) anthracene	1.1	N.D.
Fluoranthene	54	N.D.
Fluorene	5.4	N.D.
Indeno (1,2,3-cd) pyrene	22	N.D.
1-methyl Naphthalene	54	N.D.
2-methyl Naphthalene	54	N.D.
Naphthalene	5.4	N.D.
henanthrene	5.4	11
rene	22	N.D.

Analytes reported as N.D. were not present above the stated limit of detection. Because matrix effects and/or other factors required additional sample dilution, detection limits for this sample have been raised.

GREAT LAKES ANALYTICAL

evid W. Keeley
oratory Director

7043688.ERW <18>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

ERM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled: Apr 21, 1997
11 E. Wisconsin Ave., Suite 560	Sample Descript:	Soil: SCSB-4	Received: Apr 22, 1997
ilwaukee, WI 53202			
ttention: Jim Kane	Lab Number:	704-3703	Analyzed: Apr 23-25, 1997
			Revised report: May 1, 1997

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg, Dry Weight	Sample Results mg/kg, Dry Weight
Arsenic	3050/7060	2.6	N.D.
Cadmium	3050/6010	0.53	1.0
Chromium	3050/6010	0.53	5.6
Copper	3050/6010	2.6	N.D.
Lead	3050/7421	0.26	2.0
Mercury	7470	0.042	N.D.
Selenium	3050/7740	0.53	N.D.
Zinc	3050/6010	26	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

vin W. Keeley
oratory Director

7043666.ERW <14>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

ERM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 21, 1997
11 E. Wisconsin Ave., Suite 560	Sample Descript:	Soil: SCSB-4	Received:	Apr 22, 1997
'waukee, WI 53202	Analysis Method:	EPA 8310	Extracted:	Apr 24, 1997
.ention: Jim Kane	Lab Number:	704-3703	Analyzed:	Apr 25, 1997
			Reported:	Apr 30, 1997

POLYNUCLEAR AROMATIC HYDROCARBONS (EPA 8310)

Analyte	Detection Limit ug/kg, Dry Weight	Sample Results ug/kg, Dry Weight
Acenaphthene	110	N.D.
Acenaphthylene	210	N.D.
Anthracene	0.53	N.D.
Benzo (a) anthracene	0.53	N.D.
Benzo (a) pyrene	0.24	N.D.
Benzo (b) fluoranthene	1.1	N.D.
Benzo (ghi) perylene	2.1	N.D.
Benzo (k) fluoranthene	0.53	N.D.
Chrysene	2.1	N.D.
Dibenzo (a,h) anthracene	1.1	N.D.
Fluoranthene	53	N.D.
Fluorene	5.3	N.D.
Indeno (1,2,3-cd) pyrene	21	N.D.
1-methyl Naphthalene	53	N.D.
2-methyl Naphthalene	53	N.D.
Naphthalene	5.3	N.D.
'henanthrene	5.3	N.D.
'rene	21	N.D.

Analytes reported as N.D. were not present above the stated limit of detection. Because matrix effects and/or other factors required additional sample dilution, detection limits for this sample have been raised.

GREAT LAKES ANALYTICAL

'vin W. Keeley
'oratory Director

7043688.ERW <19>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

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ERM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled: Apr 21, 1997
11 E. Wisconsin Ave., Suite 560	Sample Descript:	Soil: SCSB-5	Received: Apr 22, 1997
'waukee, WI 53202			
.ention: Jim Kane	Lab Number:	704-3704	Analyzed: Apr 23-25, 1997
			Revised report: May 1, 1997

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg, Dry Weight	Sample Results mg/kg, Dry Weight
Arsenic	3050/7060	2.8	N.D.
Cadmium	3050/6010	0.56	1.1
Chromium	3050/6010	0.56	4.3
Copper	3050/6010	2.8	N.D.
Lead	3050/7421	0.28	2.1
Mercury	7470	0.045	N.D.
Selenium	3050/7740	0.56	N.D.
Zinc	3050/6010	28	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

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7043666.ERW <15>

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ERM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 21, 1997
11 E. Wisconsin Ave., Suite 560	Sample Descript:	Soil: SCSB-5	Received:	Apr 22, 1997
lwaukee, WI 53202	Analysis Method:	EPA 8310	Extracted:	Apr 24, 1997
tention: Jim Kane	Lab Number:	704-3704	Analyzed:	Apr 25, 1997
			Reported:	Apr 30, 1997

POLYNUCLEAR AROMATIC HYDROCARBONS (EPA 8310)

Analyte	Detection Limit ug/kg, Dry Weight	Sample Results ug/kg, Dry Weight
Acenaphthene	110	N.D.
Acenaphthylene	220	N.D.
Anthracene	0.56	N.D.
Benzo (a) anthracene	0.56	N.D.
Benzo (a) pyrene	0.26	N.D.
Benzo (b) fluoranthene	1.1	N.D.
Benzo (ghi) perylene	2.2	N.D.
Benzo (k) fluoranthene	0.56	N.D.
Chrysene	2.2	N.D.
Dibenzo (a,h) anthracene	1.1	N.D.
Fluoranthene	56	N.D.
Fluorene	5.6	N.D.
Indeno (1,2,3-cd) pyrene	22	N.D.
1-methyl Naphthalene	56	N.D.
2-methyl Naphthalene	56	N.D.
Naphthalene	5.6	N.D.
henanthrene	5.6	N.D.
rene	22	N.D.

Analytes reported as N.D. were not present above the stated limit of detection. Because matrix effects and/or other factors required additional sample dilution, detection limits for this sample have been raised.

GREAT LAKES ANALYTICAL

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7043688.ERW <20>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

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ERM - North Central, Inc.
11 E. Wisconsin Ave., Suite 560
'lwaukee, WI 53202
.tention: Jim Kane

Client Project ID: 97058JK, Simpson
Sample Descript: Soil: DG1
Lab Number: 704-3705

Sampled: Apr 21, 1997
Received: Apr 22, 1997
Analyzed: Apr 23-25, 1997
Revised report: May 1, 1997

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg, Dry Weight	Sample Results mg/kg, Dry Weight
Arsenic	3050/7060	2.7	3.6
Cadmium	3050/6010	0.53	0.99
Chromium	3050/6010	0.53	5.9
Copper	3050/6010	2.7	3.8
Lead	3050/7421	0.27	7.4
Mercury	7470	0.043	N.D.
Selenium	3050/7740	0.53	N.D.
Zinc	3050/6010	27	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

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'ıoratory Director

7043666.ERW <16>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

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ERM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 21, 1997
11 E. Wisconsin Ave., Suite 560	Sample Descript:	Soil: DG1	Received:	Apr 22, 1997
Milwaukee, WI 53202	Analysis Method:	EPA 8310	Extracted:	Apr 24, 1997
Attention: Jim Kane	Lab Number:	704-3705	Analyzed:	Apr 25, 1997
			Reported:	Apr 30, 1997

POLYNUCLEAR AROMATIC HYDROCARBONS (EPA 8310)

Analyte	Detection Limit ug/kg, Dry Weight	Sample Results ug/kg, Dry Weight
Acenaphthene	110	N.D.
Acenaphthylene	210	N.D.
Anthracene	0.53	4.3
Benzo (a) anthracene	0.53	9.5
Benzo (a) pyrene	0.24	13
Benzo (b) fluoranthene	1.1	13
Benzo (ghi) perylene	2.1	55
Benzo (k) fluoranthene	0.53	5.6
Chrysene	2.1	17
Dibenzo (a,h) anthracene	1.1	5.6
Fluoranthene	53	N.D.
Fluorene	5.3	N.D.
Indeno (1,2,3-cd) pyrene	21	N.D.
1-methyl Naphthalene	53	N.D.
2-methyl Naphthalene	53	N.D.
Naphthalene	5.3	17
henanthrene	5.3	24
rene	21	N.D.

Analytes reported as N.D. were not present above the stated limit of detection. Because matrix effects and/or other factors required additional sample dilution, detection limits for this sample have been raised.

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7043688.ERW <21>

Certifications: AALA-461.01; US Army Corps of Engineers: Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

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ERM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled: Apr 21, 1997
1 E. Wisconsin Ave., Suite 560	Sample Descript:	Soil: DG2	Received: Apr 22, 1997
waukee, WI 53202			
..ention: Jim Kane	Lab Number:	704-3706	Analyzed: Apr 23-25, 1997
			Revised report: May 1, 1997

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg, Dry Weight	Sample Results mg/kg, Dry Weight
Arsenic	3050/7060	2.6	4.4
Cadmium	3050/6010	0.53	1.1
Chromium	3050/6010	0.53	5.5
Copper	3050/6010	2.6	N.D.
Lead	3050/7421	0.26	32
Mercury	7470	0.042	0.049
Selenium	3050/7740	0.53	N.D.
Zinc	3050/6010	26	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

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'ratory Director

7043666.ERW <17>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

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ERM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 21, 1997
1 E. Wisconsin Ave., Suite 560	Sample Descript:	Soil: DG2	Received:	Apr 22, 1997
waukee, WI 53202	Analysis Method:	EPA 8310	Extracted:	Apr 24, 1997
Attention: Jim Kane	Lab Number:	704-3706	Analyzed:	Apr 25, 1997
			Reported:	Apr 30, 1997

POLYNUCLEAR AROMATIC HYDROCARBONS (EPA 8310)

Analyte	Detection Limit ug/kg, Dry Weight	Sample Results ug/kg, Dry Weight
Acenaphthene	110	N.D.
Acenaphthylene	210	N.D.
Anthracene	0.53	4.2
Benzo (a) anthracene	0.53	20
Benzo (a) pyrene	0.24	30
Benzo (b) fluoranthene	1.1	42
Benzo (ghi) perylene	2.1	59
Benzo (k) fluoranthene	0.53	15
Chrysene	2.1	19
Dibenzo (a,h) anthracene	1.1	4.5
Fluoranthene	53	N.D.
Fluorene	5.3	N.D.
Indeno (1,2,3-cd) pyrene	21	N.D.
1-methyl Naphthalene	53	N.D.
2-methyl Naphthalene	53	N.D.
Naphthalene	5.3	26
Phenanthrene	5.3	38
Pyrene	21	35

Analytes reported as N.D. were not present above the stated limit of detection. Because matrix effects and/or other factors required additional sample dilution, detection limits for this sample have been raised.

GREAT LAKES ANALYTICAL

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Laboratory Director

7043688.ERW <22>

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ERM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled: Apr 21, 1997
11 E. Wisconsin Ave., Suite 560	Sample Descript:	Soil: DG3	Received: Apr 22, 1997
Milwaukee, WI 53202			
Attention: Jim Kane	Lab Number:	704-3707	Analyzed: Apr 23-25, 1997
			Revised report: May 1, 1997

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg, Dry Weight	Sample Results mg/kg, Dry Weight
Arsenic	3050/7060	2.8	6.8
Cadmium	3050/6010	0.56	1.9
Chromium	3050/6010	0.56	11
Copper	3050/6010	2.8	120
Lead	3050/7421	0.28	140
Mercury	7470	0.045	5.6
Selenium	3050/7740	0.56	N.D.
Zinc	3050/6010	28	230

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

7043666.ERW <18>

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RM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 21, 1997
1 E. Wisconsin Ave., Suite 560	Sample Descript:	Soil: DG3	Received:	Apr 22, 1997
vaukee, WI 53202	Analysis Method:	EPA 8310	Extracted:	Apr 24, 1997
...ention: Jim Kane	Lab Number:	704-3707	Analyzed:	Apr 25, 1997
			Reported:	Apr 30, 1997

POLYNUCLEAR AROMATIC HYDROCARBONS (EPA 8310)

Analyte	Detection Limit ug/kg, Dry Weight	Sample Results ug/kg, Dry Weight
Acenaphthene	11,000	N.D.
Acenaphthylene	22,000	N.D.
Anthracene	56	N.D.
Benzo (a) anthracene	56	3,800
Benzo (a) pyrene	26	4,900
Benzo (b) fluoranthene	110	3,500
Benzo (ghi) perylene	220	7,800
Benzo (k) fluoranthene	56	2,000
Chrysene	220	8,100
Dibenzo (a,h) anthracene	110	900
Fluoranthene	5,600	N.D.
Fluorene	560	N.D.
Indeno (1,2,3-cd) pyrene	2,200	N.D.
1-methyl Naphthalene	5,600	N.D.
2-methyl Naphthalene	5,600	N.D.
Naphthalene	560	N.D.
...enanthrene	560	3,600
...ene	2,200	6,000

Analytes reported as N.D. were not present above the stated limit of detection. Because matrix effects and/or other factors required additional sample dilution, detection limits for this sample have been raised.

GREAT LAKES ANALYTICAL

...vin W. Keeley
...oratory Director

7043688.ERW <23>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

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ERM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled: Apr 21, 1997
11 E. Wisconsin Ave., Suite 560	Sample Descript:	Soil: DG4	Received: Apr 22, 1997
waukee, WI 53202			
Attention: Jim Kane	Lab Number:	704-3708	Analyzed: Apr 23-25, 1997
			Revised report: May 1, 1997

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg, Dry Weight	Sample Results mg/kg, Dry Weight
Arsenic	3050/7060	3.0	16
Cadmium	3050/6010	0.60	3.9
Chromium	3050/6010	0.60	28
Copper	3050/6010	3.0	220
Lead	3050/7421	0.30	990
Mercury	7470	0.048	1.1
Selenium	3050/7740	0.60	N.D.
Zinc	3050/6010	30	450

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

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7043666.ERW <19>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

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ERM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 21, 1997
11 E. Wisconsin Ave., Suite 560	Sample Descript:	Soil: DG4	Received:	Apr 22, 1997
'waukee, WI 53202	Analysis Method:	EPA 8310	Extracted:	Apr 24, 1997
.ıtention: Jim Kane	Lab Number:	704-3708	Analyzed:	Apr 25, 1997
			Reported:	Apr 30, 1997

POLYNUCLEAR AROMATIC HYDROCARBONS (EPA 8310)

Analyte	Detection Limit ug/kg, Dry Weight	Sample Results ug/kg, Dry Weight
Acenaphthene	12,000	N.D.
Acenaphthylene	24,000	N.D.
Anthracene	60	N.D.
Benzo (a) anthracene	60	470
Benzo (a) pyrene	28	580
Benzo (b) fluoranthene	120	480
Benzo (ghi) perylene	240	6,200
Benzo (k) fluoranthene	60	220
Chrysene	240	5,500
Dibenzo (a,h) anthracene	120	6,400
Fluoranthene	6,000	N.D.
Fluorene	600	N.D.
Indeno (1,2,3-cd) pyrene	2,400	N.D.
1-methyl Naphthalene	6,000	N.D.
2-methyl Naphthalene	6,000	N.D.
Naphthalene	600	N.D.
henanthrene	600	N.D.
·ene	2,400	N.D.

Analytes reported as N.D. were not present above the stated limit of detection. Because matrix effects and/or other factors required additional sample dilution, detection limits for this sample have been raised.

GREAT LAKES ANALYTICAL

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7043688.ERW <24>

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RM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled: Apr 21, 1997
1 E. Wisconsin Ave., Suite 560	Sample Descript:	Soil: DG5	Received: Apr 22, 1997
vaukee, WI 53202			
ttention: Jim Kane	Lab Number:	704-3709	Analyzed: Apr 23-25, 1997
			Revised report: May 1, 1997

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg, Dry Weight	Sample Results mg/kg, Dry Weight
Arsenic	3050/7060	2.7	N.D.
Cadmium	3050/6010	0.53	1.0
Chromium	3050/6010	0.53	6.3
Copper	3050/6010	2.7	5.0
Lead	3050/7421	0.27	11
Mercury	7470	0.043	N.D.
Selenium	3050/7740	0.53	N.D.
Zinc	3050/6010	27	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

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7043666.ERW <20>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

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RM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 21, 1997
1 E. Wisconsin Ave., Suite 560	Sample Descript:	Soil: DG5	Received:	Apr 22, 1997
waukee, WI 53202	Analysis Method:	EPA 8310	Extracted:	Apr 24, 1997
Attention: Jim Kane	Lab Number:	704-3709	Analyzed:	Apr 25, 1997
			Reported:	Apr 30, 1997

POLYNUCLEAR AROMATIC HYDROCARBONS (EPA 8310)

Analyte	Detection Limit ug/kg, Dry Weight	Sample Results ug/kg, Dry Weight
Acenaphthene	110	N.D.
Acenaphthylene	210	N.D.
Anthracene	0.53	4.3
Benzo (a) anthracene	0.53	13
Benzo (a) pyrene	0.24	20
Benzo (b) fluoranthene	1.1	34
Benzo (ghi) perylene	2.1	60
Benzo (k) fluoranthene	0.53	9.5
Chrysene	2.1	16
Dibenzo (a,h) anthracene	1.1	5.2
Fluoranthene	53	N.D.
Fluorene	5.3	N.D.
Indeno (1,2,3-cd) pyrene	21	N.D.
1-methyl Naphthalene	53	N.D.
2-methyl Naphthalene	53	N.D.
Naphthalene	5.3	8.8
henanthrene	5.3	28
rene	21	27

Analytes reported as N.D. were not present above the stated limit of detection. Because matrix effects and/or other factors required additional sample dilution, detection limits for this sample have been raised.

GREAT LAKES ANALYTICAL

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7043688.ERW <25>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

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RM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 21, 1997
1 E. Wisconsin Ave., Suite 560	Sample Descript:	Soil: SBA-1A	Received:	Apr 22, 1997
waukee, WI 53202	Analysis Method:	EPA 8260		
Attention: Jim Kane	Lab Number:	704-3710	Analyzed:	Apr 29, 1997
			Reported:	Apr 30, 1997

VOLATILE ORGANICS by GC/MS (EPA 8260)

Analyte	Detection Limit ug/kg, Dry Weight	Sample Results ug/kg, Dry Weight
Acetone	25	N.D.
Benzene	5.0	N.D.
Bromodichloromethane	5.0	N.D.
Bromoform	5.0	N.D.
Bromomethane	5.0	N.D.
2-Butanone	10	N.D.
Carbon disulfide	5.0	N.D.
Carbon tetrachloride	5.0	N.D.
Chlorobenzene	5.0	N.D.
Chlorodibromomethane	5.0	N.D.
Chloroethane	5.0	N.D.
2-Chloroethyl vinyl ether	10	N.D.
Chloroform	5.0	N.D.
Chloromethane	5.0	N.D.
1,1-Dichloroethane	5.0	N.D.
1,2-Dichloroethane	5.0	N.D.
1-Dichloroethene	5.0	N.D.
-1,2-Dichloroethene	5.0	N.D.
trans-1,2-Dichloroethene	5.0	N.D.
1,2-Dichloropropane	5.0	N.D.
cis 1,3-Dichloropropene	5.0	N.D.
trans 1,3-Dichloropropene	5.0	N.D.
Ethylbenzene	5.0	N.D.
2-Hexanone	10	N.D.
Methylene chloride	5.0	N.D.
4-Methyl-2-pentanone	10	N.D.
Styrene	5.0	N.D.
1,1,2,2-Tetrachloroethane	5.0	N.D.
Tetrachloroethene	5.0	N.D.
Toluene	**5.0**	**58**
1,1,1-Trichloroethane	5.0	N.D.
1,1,2-Trichloroethane	5.0	N.D.
Trichloroethene	5.0	N.D.
Trichlorofluoromethane	5.0	N.D.
Vinyl acetate	10	N.D.
Vinyl chloride	5.0	N.D.
Total Xylenes	5.0	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

evin W. Keeley
.boratory Director

7043688.ERW <12>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

IM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 21, 1997
E. Wisconsin Ave., Suite 560	Sample Descript:	Soil: SBA-1A	Received:	Apr 22, 1997
...waukee, WI 53202	Analysis Method:	EPA 8310	Extracted:	Apr 24, 1997
Attention: Jim Kane	Lab Number:	704-3710	Analyzed:	Apr 25, 1997
			Reported:	Apr 30, 1997

POLYNUCLEAR AROMATIC HYDROCARBONS (EPA 8310)

Analyte	Detection Limit ug/kg, Dry Weight	Sample Results ug/kg, Dry Weight
Acenaphthene	11,000	N.D.
Acenaphthylene	22,000	N.D.
Anthracene	55	290
Benzo (a) anthracene	55	730
Benzo (a) pyrene	25	900
Benzo (b) fluoranthene	110	19,000
Benzo (ghi) perylene	220	940
Benzo (k) fluoranthene	55	610
Chrysene	220	12,000
Dibenzo (a,h) anthracene	110	980
Fluoranthene	5,500	N.D.
Fluorene	550	N.D.
Indeno (1,2,3-cd) pyrene	2,200	N.D.
1-methyl Naphthalene	5,500	N.D.
2-methyl Naphthalene	5,500	N.D.
'aphthalene	550	N.D.
enanthrene	550	2,300
rene	2,200	N.D.

Analytes reported as N.D. were not present above the stated limit of detection. Because matrix effects and/or other factors required additional sample dilution, detection limits for this sample have been raised.

GREAT LAKES ANALYTICAL

vin W. Keeley
aboratory Director

7043688.ERW <26>

Certifications: AALA 461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

M - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 21, 1997
E. Wisconsin Ave., Suite 560	Sample Descript:	Soil: SBA-1C/D	Received:	Apr 22, 1997
Milwaukee, WI 53202	Analysis Method:	EPA 8260		
Attention: Jim Kane	Lab Number:	704-3711	Analyzed:	Apr 29, 1997
			Reported:	Apr 30, 1997

VOLATILE ORGANICS by GC/MS (EPA 8260)

Analyte	Detection Limit ug/kg, Dry Weight	Sample Results ug/kg, Dry Weight
Acetone	25	N.D.
Benzene	5.0	N.D.
Bromodichloromethane	5.0	N.D.
Bromoform	5.0	N.D.
Bromomethane	5.0	N.D.
2-Butanone	10	N.D.
Carbon disulfide	5.0	N.D.
Carbon tetrachloride	5.0	N.D.
Chlorobenzene	5.0	N.D.
Chlorodibromomethane	5.0	N.D.
Chloroethane	5.0	N.D.
2-Chloroethyl vinyl ether	10	N.D.
Chloroform	5.0	N.D.
Chloromethane	5.0	N.D.
1,1-Dichloroethane	5.0	N.D.
2-Dichloroethane	5.0	N.D.
Dichloroethene	5.0	N.D.
-1,2-Dichloroethene	5.0	N.D.
trans-1,2-Dichloroethene	5.0	N.D.
1,2-Dichloropropane	5.0	N.D.
cis 1,3-Dichloropropene	5.0	N.D.
trans 1,3-Dichloropropene	5.0	N.D.
Ethylbenzene	5.0	N.D.
2-Hexanone	10	N.D.
Methylene chloride	5.0	N.D.
4-Methyl-2-pentanone	10	N.D.
Styrene	5.0	N.D.
1,1,2,2-Tetrachloroethane	5.0	N.D.
Tetrachloroethene	5.0	N.D.
Toluene	5.0	N.D.
1,1,1-Trichloroethane	5.0	N.D.
1,1,2-Trichloroethane	5.0	N.D.
Trichloroethene	5.0	N.D.
Trichlorofluoromethane	5.0	N.D.
Vinyl acetate	10	N.D.
Vinyl chloride	5.0	N.D.
Total Xylenes	5.0	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

David W. Keeley
Laboratory Director

7043688.ERW <13>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

- North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 21, 1997
.. Wisconsin Ave., Suite 560	Sample Descript:	Soil: SBA-1C/D	Received:	Apr 22, 1997
Milwaukee, WI 53202	Analysis Method:	EPA 8310	Extracted:	Apr 24, 1997
Attention: Jim Kane	Lab Number:	704-3711	Analyzed:	Apr 25, 1997
			Reported:	Apr 30, 1997

POLYNUCLEAR AROMATIC HYDROCARBONS (EPA 8310)

Analyte	Detection Limit ug/kg, Dry Weight	Sample Results ug/kg, Dry Weight
Acenaphthene	110	N.D.
Acenaphthylene	210	N.D.
Anthracene	0.53	N.D.
Benzo (a) anthracene	0.53	N.D.
Benzo (a) pyrene	0.24	N.D.
Benzo (b) fluoranthene	1.1	N.D.
Benzo (ghi) perylene	2.1	N.D.
Benzo (k) fluoranthene	0.53	N.D.
Chrysene	2.1	N.D.
Dibenzo (a,h) anthracene	1.1	N.D.
Fluoranthene	53	N.D.
Fluorene	5.3	N.D.
Indeno (1,2,3-cd) pyrene	21	N.D.
1-methyl Naphthalene	53	N.D.
methyl Naphthalene	53	N.D.
phthalene	5.3	N.D.
nanthrene	5.3	N.D.
rene	21	N.D.

Analytes reported as N.D. were not present above the stated limit of detection. Because matrix effects and/or other factors required additional sample dilution, detection limits for this sample have been raised.

GREAT LAKES ANALYTICAL

vin W. Keeley
Laboratory Director

7043688.ERW <27>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

RM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 21, 1997
1 E. Wisconsin Ave., Suite 560	Sample Descript:	Soil: SBA-2A	Received:	Apr 22, 1997
waukee, WI 53202	Analysis Method:	EPA 8260		
Attention: Jim Kane	Lab Number:	704-3712	Analyzed:	Apr 29, 1997
			Reported:	Apr 30, 1997

VOLATILE ORGANICS by GC/MS (EPA 8260)

Analyte	Detection Limit ug/kg, Dry Weight	Sample Results ug/kg, Dry Weight
Acetone	25	N.D.
Benzene	5.0	N.D.
Bromodichloromethane	5.0	N.D.
Bromoform	5.0	N.D.
Bromomethane	5.0	N.D.
2-Butanone	10	N.D.
Carbon disulfide	5.0	N.D.
Carbon tetrachloride	5.0	N.D.
Chlorobenzene	5.0	N.D.
Chlorodibromomethane	5.0	N.D.
Chloroethane	5.0	N.D.
2-Chloroethyl vinyl ether	10	N.D.
Chloroform	5.0	N.D.
Chloromethane	5.0	N.D.
1,1-Dichloroethane	5.0	N.D.
2-Dichloroethane	5.0	N.D.
-Dichloroethene	5.0	N.D.
-1,2-Dichloroethene	5.0	N.D.
trans-1,2-Dichloroethene	5.0	N.D.
1,2-Dichloropropane	5.0	N.D.
cis 1,3-Dichloropropene	5.0	N.D.
trans 1,3-Dichloropropene	5.0	N.D.
Ethylbenzene	5.0	N.D.
2-Hexanone	10	N.D.
Methylene chloride	5.0	N.D.
4-Methyl-2-pentanone	10	N.D.
Styrene	5.0	N.D.
1,1,2,2-Tetrachloroethane	5.0	N.D.
Tetrachloroethene	5.0	N.D.
Toluene	5.0	67
1,1,1-Trichloroethane	5.0	N.D.
1,1,2-Trichloroethane	5.0	N.D.
Trichloroethene	5.0	N.D.
Trichlorofluoromethane	5.0	N.D.
Vinyl acetate	10	N.D.
Vinyl chloride	5.0	N.D.
Total Xylenes	5.0	12

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

vin W. Keeley
oratory Director

7043688.ERW <14>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

3M - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 21, 1997
1 E. Wisconsin Ave., Suite 560	Sample Descript:	Soil: SBA-2A	Received:	Apr 22, 1997
waukee, WI 53202	Analysis Method:	EPA 8310	Extracted:	Apr 24, 1997
Attention: Jim Kane	Lab Number:	704-3712	Analyzed:	Apr 25, 1997
			Reported:	Apr 30, 1997

POLYNUCLEAR AROMATIC HYDROCARBONS (EPA 8310)

Analyte	Detection Limit ug/kg, Dry Weight	Sample Results ug/kg, Dry Weight
Acenaphthene	11,000	N.D.
Acenaphthylene	22,000	N.D.
Anthracene	56	1,300
Benzo (a) anthracene	56	11,000
Benzo (a) pyrene	26	4,800
Benzo (b) fluoranthene	110	4,600
Benzo (ghi) perylene	220	4,300
Benzo (k) fluoranthene	56	2,800
Chrysene	220	24,000
Dibenzo (a,h) anthracene	110	4,400
Fluoranthene	5,600	N.D.
Fluorene	560	N.D.
Indeno (1,2,3-cd) pyrene	2,200	N.D.
1-methyl Naphthalene	5,600	N.D.
2-methyl Naphthalene	5,600	7,400
aphthalene	560	N.D.
enanthrene	560	15,000
rene	2,200	16,000

Analytes reported as N.D. were not present above the stated limit of detection. Because matrix effects and/or other factors required additional sample dilution, detection limits for this sample have been raised.

GREAT LAKES ANALYTICAL

vin W. Keeley
oratory Director

7043688.ERW <28>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

RM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 21, 1997
11 E. Wisconsin Ave., Suite 560	Sample Descript:	Soil: SBA-2D	Received:	Apr 22, 1997
Waukee, WI 53202	Analysis Method:	EPA 8260		
Attention: Jim Kane	Lab Number:	704-3713	Analyzed:	Apr 29, 1997
			Reported:	Apr 30, 1997

VOLATILE ORGANICS by GC/MS (EPA 8260)

Analyte	Detection Limit ug/kg, Dry Weight	Sample Results ug/kg, Dry Weight
Acetone	25	N.D.
Benzene	5.0	N.D.
Bromodichloromethane	5.0	N.D.
Bromoform	5.0	N.D.
Bromomethane	5.0	N.D.
2-Butanone	10	N.D.
Carbon disulfide	5.0	N.D.
Carbon tetrachloride	5.0	N.D.
Chlorobenzene	5.0	N.D.
Chlorodibromomethane	5.0	N.D.
Chloroethane	5.0	N.D.
2-Chloroethyl vinyl ether	10	N.D.
Chloroform	5.0	N.D.
Chloromethane	5.0	N.D.
1,1-Dichloroethane	5.0	N.D.
2-Dichloroethane	5.0	N.D.
1-Dichloroethene	5.0	N.D.
1,2-Dichloroethene	5.0	N.D.
trans-1,2-Dichloroethene	5.0	N.D.
1,2-Dichloropropane	5.0	N.D.
cis 1,3-Dichloropropene	5.0	N.D.
trans 1,3-Dichloropropene	5.0	N.D.
Ethylbenzene	5.0	N.D.
2-Hexanone	10	N.D.
Methylene chloride	5.0	N.D.
4-Methyl-2-pentanone	10	N.D.
Styrene	5.0	N.D.
1,1,2,2-Tetrachloroethane	5.0	N.D.
Tetrachloroethene	5.0	N.D.
Toluene	5.0	N.D.
1,1,1-Trichloroethane	5.0	N.D.
1,1,2-Trichloroethane	5.0	N.D.
Trichloroethene	5.0	N.D.
Trichlorofluoromethane	5.0	N.D.
Vinyl acetate	10	N.D.
Vinyl chloride	5.0	N.D.
Total Xylenes	5.0	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

'vin W. Keeley
oratory Director

7043688.ERW <15>

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GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

RM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 21, 1997
1 E. Wisconsin Ave., Suite 560	Sample Descript:	Soil: SBA-2D	Received:	Apr 22, 1997
waukee, WI 53202	Analysis Method:	EPA 8310	Extracted:	Apr 24, 1997
Attention: Jim Kane	Lab Number:	704-3713	Analyzed:	Apr 25, 1997
			Reported:	Apr 30, 1997

POLYNUCLEAR AROMATIC HYDROCARBONS (EPA 8310)

Analyte	Detection Limit ug/kg, Dry Weight	Sample Results ug/kg, Dry Weight
Acenaphthene	110	N.D.
Acenaphthylene	210	N.D.
Anthracene	0.53	N.D.
Benzo (a) anthracene	0.53	N.D.
Benzo (a) pyrene	0.24	N.D.
Benzo (b) fluoranthene	1.1	N.D.
Benzo (ghi) perylene	2.1	N.D.
Benzo (k) fluoranthene	0.53	N.D.
Chrysene	2.1	N.D.
Dibenzo (a,h) anthracene	1.1	N.D.
Fluoranthene	53	N.D.
Fluorene	5.3	N.D.
Indeno (1,2,3-cd) pyrene	21	N.D.
1-methyl Naphthalene	53	N.D.
2-methyl Naphthalene	53	N.D.
Naphthalene	5.3	N.D.
enanthrene	5.3	N.D.
rene	21	N.D.

Analytes reported as N.D. were not present above the stated limit of detection. Because matrix effects and/or other factors required additional sample dilution, detection limits for this sample have been raised.

GREAT LAKES ANALYTICAL

evin W. Keeley
oratory Director

7043713.ERW <1>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

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RM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 21, 1997
11 E. Wisconsin Ave., Suite 560	Sample Descript:	Soil	Received:	Apr 22, 1997
Iwaukee, WI 53202	Analysis for:	Lead, EPA 3050/7421		
Attention: Jim Kane	First Sample #:	704-3710	Analyzed:	Apr 23-25, 1997
			Revised report:	May 1, 1997

LABORATORY ANALYSIS FOR: Lead, EPA 3050/7421

Sample Number	Sample Description	Detection Limit mg/kg Dry Weight	Sample Result mg/kg Dry Weight
704-3710	SBA-1A	0.27	23
704-3711	SBA-1C/D	0.27	2.4
704-3712	SBA-2A	0.28	18
704-3713	SBA-2D	0.26	2.3

GREAT LAKES ANALYTICAL

vin W. Keeley
boratory Director

7043666.ERW <21>

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RM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 21, 1997
1 E. Wisconsin Ave., Suite 560	Sample Descript:	Soil: SBA-3A	Received:	Apr 23, 1997
Waukee, WI 53202	Analysis Method:	EPA 8260		
Attention: Jim Kane	Lab Number:	704-3749	Analyzed:	Apr 30, 1997
			Reported:	May 1, 1997

VOLATILE ORGANICS by GC/MS (EPA 8260)

Analyte	Detection Limit µg/kg, Dry Weight	Sample Results µg/kg, Dry Weight
Acetone	25	N.D.
Benzene	5.0	N.D.
Bromodichloromethane	5.0	N.D.
Bromoform	5.0	N.D.
Bromomethane	5.0	N.D.
2-Butanone	10	N.D.
Carbon disulfide	5.0	N.D.
Carbon tetrachloride	5.0	N.D.
Chlorobenzene	5.0	N.D.
Chlorodibromomethane	5.0	N.D.
Chloroethane	5.0	N.D.
2-Chloroethyl vinyl ether	10	N.D.
Chloroform	5.0	N.D.
Chloromethane	5.0	N.D.
1-Dichloroethane	5.0	N.D.
?-Dichloroethane	5.0	N.D.
-Dichloroethene	5.0	N.D.
cis-1,2-Dichloroethene	5.0	N.D.
trans-1,2-Dichloroethene	5.0	N.D.
1,2-Dichloropropane	5.0	N.D.
cis 1,3-Dichloropropene	5.0	N.D.
trans 1,3-Dichloropropene	5.0	N.D.
Ethylbenzene	5.0	N.D.
2-Hexanone	10	N.D.
Methylene chloride	5.0	N.D.
4-Methyl-2-pentanone	10	N.D.
Styrene	5.0	N.D.
1,1,2,2-Tetrachloroethane	5.0	N.D.
Tetrachloroethene	5.0	520
Toluene	5.0	N.D.
1,1,1-Trichloroethane	5.0	N.D.
1,1,2-Trichloroethane	5.0	N.D.
Trichloroethene	5.0	N.D.
Trichlorofluoromethane	5.0	N.D.
Vinyl acetate	10	N.D.
Vinyl chloride	5.0	N.D.
Total Xylenes	5.0	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

7043740.ERW <20>

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GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

- North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 21, 1997
E. Wisconsin Ave., Suite 560	Sample Descript:	Soil: SBA-3A	Received:	Apr 23, 1997
Milwaukee, WI 53202	Analysis Method:	EPA 8310	Extracted:	Apr 25, 1997
Attention: Jim Kane	Lab Number:	704-3749	Analyzed:	Apr 25, 1997
			Reported:	May 1, 1997

POLYNUCLEAR AROMATIC HYDROCARBONS (EPA 8310)

Analyte	Detection Limit µg/kg, Dry Weight	Sample Results µg/kg, Dry Weight
Acenaphthene	2,200	N.D.
Acenaphthylene	4,400	N.D.
Anthracene	11	56
Benzo (a) anthracene	11	61
Benzo (a) pyrene	5.1	68
Benzo (b) fluoranthene	22	110
Benzo (ghi) perylene	44	400
Benzo (k) fluoranthene	11	36
Chrysene	44	98
Dibenzo (a,h) anthracene	22	420
Fluoranthene	1,100	N.D.
Fluorene	110	N.D.
Indeno (1,2,3-cd) pyrene	440	N.D.
methyl Naphthalene	1,100	N.D.
methyl Naphthalene	1,100	N.D.
phthalene	110	320
Phenanthrene	110	500
Pyrene	440	N.D.

Analytes reported as N.D. were not present above the stated limit of detection. Because matrix effects and/or other factors required additional sample dilution, detection limits for this sample have been raised.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

7043754.ERW <5>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

RM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 21, 1997
1 E. Wisconsin Ave., Suite 560	Sample Descript:	Soil: SBA-3F	Received:	Apr 23, 1997
..lwaukee, WI 53202	Analysis Method:	EPA 8260		
Attention: Jim Kane	Lab Number:	704-3748	Analyzed:	Apr 30, 1997
			Reported:	May 1, 1997

VOLATILE ORGANICS by GC/MS (EPA 8260)

Analyte	Detection Limit µg/kg, Dry Weight	Sample Results µg/kg, Dry Weight
Acetone	25	N.D.
Benzene	5.0	N.D.
Bromodichloromethane	5.0	N.D.
Bromoform	5.0	N.D.
Bromomethane	5.0	N.D.
2-Butanone	10	N.D.
Carbon disulfide	5.0	N.D.
Carbon tetrachloride	5.0	N.D.
Chlorobenzene	5.0	N.D.
Chlorodibromomethane	5.0	N.D.
Chloroethane	5.0	N.D.
2-Chloroethyl vinyl ether	10	N.D.
Chloroform	5.0	N.D.
Chloromethane	5.0	N.D.
1-Dichloroethane	5.0	N.D.
⁻-Dichloroethane	5.0	N.D.
,-Dichloroethene	5.0	N.D.
cis-1,2-Dichloroethene	5.0	N.D.
trans-1,2-Dichloroethene	5.0	N.D.
1,2-Dichloropropane	5.0	N.D.
cis 1,3-Dichloropropene	5.0	N.D.
trans 1,3-Dichloropropene	5.0	N.D.
Ethylbenzene	5.0	N.D.
2-Hexanone	10	N.D.
Methylene chloride	5.0	N.D.
4-Methyl-2-pentanone	10	N.D.
Styrene	5.0	N.D.
1,1,2,2-Tetrachloroethane	5.0	N.D.
Tetrachloroethene	5.0	N.D.
Toluene	5.0	N.D.
1,1,1-Trichloroethane	5.0	N.D.
1,1,2-Trichloroethane	5.0	N.D.
Trichloroethene	5.0	N.D.
Trichlorofluoromethane	5.0	N.D.
Vinyl acetate	10	N.D.
Vinyl chloride	5.0	N.D.
Total Xylenes	5.0	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

7043740.ERW <19>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

' - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 21, 1997
E. Wisconsin Ave., Suite 560	Sample Descript:	Soil: SBA-3F	Received:	Apr 23, 1997
Milwaukee, WI 53202	Analysis Method:	EPA 8310	Extracted:	Apr 25, 1997
Attention: Jim Kane	Lab Number:	704-3748	Analyzed:	Apr 25, 1997
			Reported:	May 1, 1997

POLYNUCLEAR AROMATIC HYDROCARBONS (EPA 8310)

Analyte	Detection Limit µg/kg, Dry Weight	Sample Results µg/kg, Dry Weight
Acenaphthene	100	N.D.
Acenaphthylene	210	N.D.
Anthracene	0.52	N.D.
Benzo (a) anthracene	0.52	N.D.
Benzo (a) pyrene	0.24	N.D.
Benzo (b) fluoranthene	1.0	N.D.
Benzo (ghi) perylene	2.1	N.D.
Benzo (k) fluoranthene	0.52	N.D.
Chrysene	2.1	N.D.
Dibenzo (a,h) anthracene	1.0	N.D.
Fluoranthene	52	N.D.
Fluorene	5.2	N.D.
Indeno (1,2,3-cd) pyrene	21	N.D.
methyl Naphthalene	52	N.D.
methyl Naphthalene	52	N.D.
phthalene	5.2	N.D.
Phenanthrene	5.2	N.D.
Pyrene	21	N.D.

Analytes reported as N.D. were not present above the stated limit of detection. Because matrix effects and/or other factors required additional sample dilution, detection limits for this sample have been raised.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

7043754.ERW <4>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

RM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 21, 1997
1 E. Wisconsin Ave., Suite 560	Sample Descript:	Soil: SBA-4B	Received:	Apr 23, 1997
.waukee, WI 53202	Analysis Method:	EPA 8260		
Attention: Jim Kane	Lab Number:	704-3750	Analyzed:	Apr 30, 1997
			Reported:	May 1, 1997

VOLATILE ORGANICS by GC/MS (EPA 8260)

Analyte	Detection Limit µg/kg, Dry Weight	Sample Results µg/kg, Dry Weight
Acetone	25	N.D.
Benzene	5.0	N.D.
Bromodichloromethane	5.0	N.D.
Bromoform	5.0	N.D.
Bromomethane	5.0	N.D.
2-Butanone	10	N.D.
Carbon disulfide	5.0	N.D.
Carbon tetrachloride	5.0	N.D.
Chlorobenzene	5.0	N.D.
Chlorodibromomethane	5.0	N.D.
Chloroethane	5.0	N.D.
2-Chloroethyl vinyl ether	10	N.D.
Chloroform	5.0	N.D.
Chloromethane	5.0	N.D.
,1-Dichloroethane	5.0	N.D.
?-Dichloroethane	5.0	N.D.
,-Dichloroethene	5.0	N.D.
cis-1,2-Dichloroethene	5.0	N.D.
trans-1,2-Dichloroethene	5.0	N.D.
1,2-Dichloropropane	5.0	N.D.
cis 1,3-Dichloropropene	5.0	N.D.
trans 1,3-Dichloropropene	5.0	N.D.
Ethylbenzene	5.0	N.D.
2-Hexanone	10	N.D.
Methylene chloride	5.0	N.D.
4-Methyl-2-pentanone	10	N.D.
Styrene	5.0	N.D.
1,1,2,2-Tetrachloroethane	5.0	N.D.
Tetrachloroethene	5.0	N.D.
Toluene	5.0	6.1
1,1,1-Trichloroethane	5.0	N.D.
1,1,2-Trichloroethane	5.0	N.D.
Trichloroethene	5.0	N.D.
Trichlorofluoromethane	5.0	N.D.
Vinyl acetate	10	N.D.
Vinyl chloride	5.0	N.D.
Total Xylenes	5.0	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

7043740.ERW <21>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

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'M - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 21, 1997
E. Wisconsin Ave., Suite 560	Sample Descript:	Soil: SBA-4B	Received:	Apr 23, 1997
Milwaukee, WI 53202	Analysis Method:	EPA 8310	Extracted:	Apr 25, 1997
Attention: Jim Kane	Lab Number:	704-3750	Analyzed:	Apr 25, 1997
			Reported:	May 1, 1997

POLYNUCLEAR AROMATIC HYDROCARBONS (EPA 8310)

Analyte	Detection Limit µg/kg, Dry Weight	Sample Results µg/kg, Dry Weight
Acenaphthene	11,000	N.D.
Acenaphthylene	22,000	N.D.
Anthracene	55	74
Benzo (a) anthracene	55	170
Benzo (a) pyrene	25	270
Benzo (b) fluoranthene	110	600
Benzo (ghi) perylene	220	1,900
Benzo (k) fluoranthene	55	210
Chrysene	220	N.D.
Dibenzo (a,h) anthracene	110	560
Fluoranthene	5,500	N.D.
Fluorene	550	N.D.
Indeno (1,2,3-cd) pyrene	2,200	N.D.
-methyl Naphthalene	5,500	N.D.
methyl Naphthalene	5,500	N.D.
phthalene	550	600
Phenanthrene	550	920
Pyrene	2,200	N.D.

Analytes reported as N.D. were not present above the stated limit of detection. Because matrix effects and/or other factors required additional sample dilution, detection limits for this sample have been raised.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

7043754.ERW <6>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

RM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 21, 1997
1 E. Wisconsin Ave., Suite 560	Sample Descript:	Soil: SBA-4C/D	Received:	Apr 23, 1997
...ilwaukee, WI 53202	Analysis Method:	EPA 8260		
Attention: Jim Kane	Lab Number:	704-3746	Analyzed:	Apr 30, 1997
			Reported:	May 1, 1997

VOLATILE ORGANICS by GC/MS (EPA 8260)

Analyte	Detection Limit µg/kg, Dry Weight	Sample Results µg/kg, Dry Weight
Acetone	25	N.D.
Benzene	5.0	N.D.
Bromodichloromethane	5.0	N.D.
Bromoform	5.0	N.D.
Bromomethane	5.0	N.D.
2-Butanone	10	N.D.
Carbon disulfide	5.0	N.D.
Carbon tetrachloride	5.0	N.D.
Chlorobenzene	5.0	N.D.
Chlorodibromomethane	5.0	N.D.
Chloroethane	5.0	N.D.
2-Chloroethyl vinyl ether	10	N.D.
Chloroform	5.0	N.D.
Chloromethane	5.0	N.D.
,1-Dichloroethane	5.0	N.D.
?-Dichloroethane	5.0	N.D.
.,1-Dichloroethene	5.0	N.D.
cis-1,2-Dichloroethene	5.0	N.D.
trans-1,2-Dichloroethene	5.0	N.D.
1,2-Dichloropropane	5.0	N.D.
cis 1,3-Dichloropropene	5.0	N.D.
trans 1,3-Dichloropropene	5.0	N.D.
Ethylbenzene	5.0	N.D.
2-Hexanone	10	N.D.
Methylene chloride	5.0	N.D.
4-Methyl-2-pentanone	10	N.D.
Styrene	5.0	N.D.
1,1,2,2-Tetrachloroethane	5.0	N.D.
Tetrachloroethene	5.0	N.D.
Toluene	5.0	N.D.
1,1,1-Trichloroethane	5.0	N.D.
1,1,2-Trichloroethane	5.0	N.D.
Trichloroethene	5.0	N.D.
Trichlorofluoromethane	5.0	N.D.
Vinyl acetate	10	N.D.
Vinyl chloride	5.0	N.D.
Total Xylenes	5.0	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

7043740.ERW <17>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

RM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 21, 1997
1 E. Wisconsin Ave., Suite 560	Sample Descript:	Soil: SBA-4C/D	Received:	Apr 23, 1997
..iwaukee, WI 53202	Analysis Method:	EPA 8310	Extracted:	Apr 25, 1997
Attention: Jim Kane	Lab Number:	704-3746	Analyzed:	Apr 25, 1997
			Reported:	May 1, 1997

POLYNUCLEAR AROMATIC HYDROCARBONS (EPA 8310)

Analyte	Detection Limit µg/kg, Dry Weight	Sample Results µg/kg, Dry Weight
Acenaphthene	100	N.D.
Acenaphthylene	210	N.D.
Anthracene	0.52	1.9
Benzo (a) anthracene	0.52	8.3
Benzo (a) pyrene	0.24	10
Benzo (b) fluoranthene	1.0	9.3
Benzo (ghi) perylene	2.1	18
Benzo (k) fluoranthene	0.52	5.0
Chrysene	2.1	16
Dibenzo (a,h) anthracene	1.0	9.3
Fluoranthene	52	N.D.
Fluorene	5.2	N.D.
Indeno (1,2,3-cd) pyrene	21	N.D.
1-methyl Naphthalene	52	N.D.
-methyl Naphthalene	52	N.D.
..phthalene	5.2	N.D.
..enanthrene	5.2	7.0
Pyrene	21	N.D.

Analytes reported as N.D. were not present above the stated limit of detection. Because matrix effects and/or other factors required additional sample dilution, detection limits for this sample have been raised.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

7043754.ERW <2>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

RM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled: Apr 21, 1997
1 E. Wisconsin Ave., Suite 560	Sample Descript:	Soil: SBA-5A	Received: Apr 23, 1997
ıwaukee, WI 53202	Analysis Method:	EPA 8260	
Attention: Jim Kane	Lab Number:	704-3745	Analyzed: May 1, 1997
			Reported: May 1, 1997

VOLATILE ORGANICS by GC/MS (EPA 8260)

Analyte	Detection Limit µg/kg, Dry Weight	Sample Results µg/kg, Dry Weight
Acetone	25	N.D.
Benzene	5.0	N.D.
Bromodichloromethane	5.0	N.D.
Bromoform	5.0	N.D.
Bromomethane	5.0	N.D.
2-Butanone	10	N.D.
Carbon disulfide	5.0	N.D.
Carbon tetrachloride	5.0	N.D.
Chlorobenzene	5.0	N.D.
Chlorodibromomethane	5.0	N.D.
Chloroethane	5.0	N.D.
2-Chloroethyl vinyl ether	10	N.D.
Chloroform	5.0	N.D.
Chloromethane	5.0	N.D.
1-Dichloroethane	5.0	N.D.
2-Dichloroethane	5.0	N.D.
-Dichloroethene	5.0	N.D.
cis-1,2-Dichloroethene	5.0	N.D.
trans-1,2-Dichloroethene	5.0	N.D.
1,2-Dichloropropane	5.0	N.D.
cis 1,3-Dichloropropene	5.0	N.D.
trans 1,3-Dichloropropene	5.0	N.D.
Ethylbenzene	5.0	N.D.
2-Hexanone	10	N.D.
Methylene chloride	5.0	N.D.
4-Methyl-2-pentanone	10	N.D.
Styrene	5.0	N.D.
1,1,2,2-Tetrachloroethane	5.0	N.D.
Tetrachloroethene	5.0	N.D.
Toluene	**5.0**	**9.0**
1,1,1-Trichloroethane	5.0	N.D.
1,1,2-Trichloroethane	5.0	N.D.
Trichloroethene	5.0	N.D.
Trichlorofluoromethane	5.0	N.D.
Vinyl acetate	10	N.D.
Vinyl chloride	5.0	N.D.
Total Xylenes	5.0	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

7043740.ERW <16>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

RM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 21, 1997
1 E. Wisconsin Ave., Suite 560	Sample Descript:	Soil: SBA-5A	Received:	Apr 23, 1997
waukee, WI 53202	Analysis Method:	EPA 8310	Extracted:	Apr 25, 1997
Attention: Jim Kane	Lab Number:	704-3745	Analyzed:	Apr 25, 1997
			Reported:	May 1, 1997

POLYNUCLEAR AROMATIC HYDROCARBONS (EPA 8310)

Analyte	Detection Limit µg/kg, Dry Weight	Sample Results µg/kg, Dry Weight
Acenaphthene	13,000	N.D.
Acenaphthylene	26,000	N.D.
Anthracene	65	130
Benzo (a) anthracene	65	520
Benzo (a) pyrene	30	870
Benzo (b) fluoranthene	130	1,300
Benzo (ghi) perylene	260	2,600
Benzo (k) fluoranthene	65	560
Chrysene	260	2,500
Dibenzo (a,h) anthracene	130	480
Fluoranthene	6,500	N.D.
Fluorene	650	N.D.
Indeno (1,2,3-cd) pyrene	2,600	N.D.
1-methyl Naphthalene	6,500	N.D.
methyl Naphthalene	6,500	N.D.
phthalene	650	720
enanthrene	650	1,500
Pyrene	2,600	N.D.

Analytes reported as N.D. were not present above the stated limit of detection. Because matrix effects and/or other factors required additional sample dilution, detection limits for this sample have been raised.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

7043754.ERW <1>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

RM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 21, 1997
' E. Wisconsin Ave., Suite 560	Sample Descript:	Soil: SBA-5F	Received:	Apr 23, 1997
...ilwaukee, WI 53202	Analysis Method:	EPA 8260		
Attention: Jim Kane	Lab Number:	704-3747	Analyzed:	Apr 30, 1997
			Reported:	May 1, 1997

VOLATILE ORGANICS by GC/MS (EPA 8260)

Analyte	Detection Limit µg/kg, Dry Weight	Sample Results µg/kg, Dry Weight
Acetone	25	N.D.
Benzene	5.0	N.D.
Bromodichloromethane	5.0	N.D.
Bromoform	5.0	N.D.
Bromomethane	5.0	N.D.
2-Butanone	10	N.D.
Carbon disulfide	5.0	N.D.
Carbon tetrachloride	5.0	N.D.
Chlorobenzene	5.0	N.D.
Chlorodibromomethane	5.0	N.D.
Chloroethane	5.0	N.D.
2-Chloroethyl vinyl ether	10	N.D.
Chloroform	5.0	N.D.
Chloromethane	5.0	N.D.
,1-Dichloroethane	5.0	N.D.
?-Dichloroethane	5.0	N.D.
.,1-Dichloroethene	5.0	N.D.
cis-1,2-Dichloroethene	5.0	N.D.
trans-1,2-Dichloroethene	5.0	N.D.
1,2-Dichloropropane	5.0	N.D.
cis 1,3-Dichloropropene	5.0	N.D.
trans 1,3-Dichloropropene	5.0	N.D.
Ethylbenzene	5.0	N.D.
2-Hexanone	10	N.D.
Methylene chloride	5.0	N.D.
4-Methyl-2-pentanone	10	N.D.
Styrene	5.0	N.D.
1,1,2,2-Tetrachloroethane	5.0	N.D.
Tetrachloroethene	5.0	N.D.
Toluene	5.0	N.D.
1,1,1-Trichloroethane	5.0	N.D.
1,1,2-Trichloroethane	5.0	N.D.
Trichloroethene	5.0	N.D.
Trichlorofluoromethane	5.0	N.D.
Vinyl acetate	10	N.D.
Vinyl chloride	5.0	N.D.
Total Xylenes	5.0	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

7043740.ERW <18>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

RM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 21, 1997
1 E. Wisconsin Ave., Suite 560	Sample Descript:	Soil: SBA-5F	Received:	Apr 23, 1997
waukee, WI 53202	Analysis Method:	EPA 8310	Extracted:	Apr 25, 1997
Attention: Jim Kane	Lab Number:	704-3747	Analyzed:	Apr 25, 1997
			Reported:	May 1, 1997

POLYNUCLEAR AROMATIC HYDROCARBONS (EPA 8310)

Analyte	Detection Limit µg/kg, Dry Weight	Sample Results µg/kg, Dry Weight
Acenaphthene	120	N.D.
Acenaphthylene	240	N.D.
Anthracene	0.60	N.D.
Benzo (a) anthracene	0.60	N.D.
Benzo (a) pyrene	0.28	N.D.
Benzo (b) fluoranthene	1.2	N.D.
Benzo (ghi) perylene	2.4	N.D.
Benzo (k) fluoranthene	0.60	N.D.
Chrysene	2.4	N.D.
Dibenzo (a,h) anthracene	1.2	N.D.
Fluoranthene	60	N.D.
Fluorene	6.0	N.D.
Indeno (1,2,3-cd) pyrene	24	N.D.
1-methyl Naphthalene	60	N.D.
methyl Naphthalene	60	N.D.
phthalene	6.0	N.D.
enanthrene	6.0	N.D.
Pyrene	24	N.D.

Analytes reported as N.D. were not present above the stated limit of detection. Because matrix effects and/or other factors required additional sample dilution, detection limits for this sample have been raised.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

7043754.ERW <3>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

M - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 21, 1997
E. Wisconsin Ave., Suite 560	Sample Descript:	Soil	Received:	Apr 23, 1997
Milwaukee, WI 53202	Analysis for:	Lead, EPA 3050/7421		
Attention: Jim Kane	First Sample #:	704-3745	Analyzed:	Apr 25, 1997
			Reported:	May 1, 1997

LABORATORY ANALYSIS FOR: Lead, EPA 3050/7421

Sample Number	Sample Description	Detection Limit mg/kg Dry Weight	Sample Result mg/kg Dry Weight
704-3745	SBA-5A	0.32	51
704-3746	SBA-4C/D	0.26	1.9
704-3747	SBA-5F	0.29	2.1
704-3748	SBA-3F	0.26	3.0
704-3749	SBA-3A	0.28	23
704-3750	SBA-4B	0.27	20
704-3751	SBG-1A/B	0.27	200
704-3752	SBG-1C/D	0.27	4.1

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

7043740.ERW <15>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

RM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 21, 1997
11 E. Wisconsin Ave., Suite 560	Sample Descript:	Water: SGWA-1	Received:	Apr 22, 1997
Waukee, WI 53202	Analysis Method:	5030/8260		
Attention: Jim Kane	Lab Number:	704-3482	Analyzed:	Apr 25, 1997
			Reported:	Apr 29, 1997

VOLATILE ORGANIC COMPOUNDS (5030/8260)

Analyte	Detection Limit µg/L	Sample Results µg/L
Benzene	0.50	N.D.
Bromobenzene	0.50	N.D.
Bromodichloromethane	0.50	N.D.
n-Butylbenzene	0.50	N.D.
sec-Butylbenzene	0.50	N.D.
tert-Butylbenzene	0.50	N.D.
Carbon tetrachloride	0.50	N.D.
Chlorobenzene	0.50	N.D.
Chloroethane	0.50	N.D.
Chloroform	0.50	N.D.
Chloromethane	0.50	N.D.
2-Chlorotoluene	0.50	N.D.
4-Chlorotoluene	0.50	N.D.
Dibromochloromethane	0.50	N.D.
1,2-Dibromo-3-chloropropane	1.0	N.D.
2-Dibromoethane	0.50	N.D.
2-Dichlorobenzene	0.50	N.D.
1,3-Dichlorobenzene	0.50	N.D.
1,4-Dichlorobenzene	0.50	N.D.
Dichlorodifluoromethane	0.50	N.D.
1,1-Dichloroethane	0.50	N.D.
1,2-Dichloroethane	0.50	N.D.
1,1-Dichloroethene	0.50	N.D.
cis-1,2-Dichloroethene	0.50	N.D.
trans-1,2-Dichloroethene	0.50	N.D.
1,2-Dichloropropane	0.50	N.D.
1,3-Dichloropropane	0.50	N.D.
2,2-Dichloropropane	0.50	N.D.
Di-Isopropyl-Ether	5.0	N.D.
Ethyl Benzene	0.50	N.D.
Hexachlorobutadiene	5.0	N.D.
Isopropylbenzene	0.50	N.D.
p-Isopropyltoluene	0.50	N.D.
Methylene chloride	0.50	N.D.
Methyl-tert-Butylether	5.0	N.D.

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

RM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 21, 1997
1 E. Wisconsin Ave., Suite 560	Sample Descript:	Water: SGWA-1	Received:	Apr 22, 1997
waukee, WI 53202	Analysis Method:	5030/8260		
Attention: Jim Kane	Lab Number:	704-3482	Analyzed:	Apr 25, 1997
			Reported:	Apr 29, 1997

VOLATILE ORGANIC COMPOUNDS (5030/8260)

Analyte	Detection Limit µg/L	Sample Results µg/L
Naphthalene	8.0	N.D.
n-Propylbenzene	0.50	N.D.
1,1,2,2-Tetrachloroethane	0.50	N.D.
Tetrachloroethene	0.50	N.D.
Toluene	0.50	N.D.
1,2,3-Trichlorobenzene	2.0	N.D.
1,2,4-Trichlorobenzene	2.0	N.D.
1,1,1-Trichloroethane	0.50	N.D.
1,1,2-Trichloroethane	0.50	N.D.
Trichloroethene	0.50	N.D.
Trichlorofluoromethane	0.50	N.D.
1,2,4-Trimethylbenzene	1.0	N.D.
1,3,5-Trimethylbenzene	1.0	N.D.
Vinyl chloride	0.20	N.D.
Total Xylenes	0.50	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

7043482.ERW <3>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

RM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 21, 1997
1 E. Wisconsin Ave., Suite 560	Sample Descript:	Water: SGWA-1	Received:	Apr 22, 1997
.waukee, WI 53202	Analysis Method:	EPA 8310	Extracted:	Apr 22, 1997
Attention: Jim Kane	Lab Number:	704-3482	Analyzed:	Apr 22, 1997
			Reported:	Apr 29, 1997

POLYNUCLEAR AROMATIC HYDROCARBONS (EPA 8310)

Analyte	Detection Limit µg/L	Sample Results µg/L
Acenaphthene	5.0	N.D.
Acenaphthylene	4.0	N.D.
Anthracene	0.20	N.D.
Benzo (a) anthracene	0.010	N.D.
Benzo (a) pyrene	0.0040	N.D.
Benzo (b) fluoranthene	0.020	N.D.
Benzo (ghi) perylene	0.060	N.D.
Benzo (k) fluoranthene	0.010	N.D.
Chrysene	0.050	N.D.
Dibenzo (a,h) anthracene	0.020	N.D.
Fluoranthene	1.0	N.D.
Fluorene	1.0	N.D.
Indeno (1,2,3-cd) pyrene	0.40	N.D.
1-methyl Naphthalene	3.0	N.D.
·methyl Naphthalene	3.0	N.D.
·phthalene	3.0	N.D.
ananthrene	0.30	N.D.
Pyrene	1.0	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

7043482.ERW <8>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

RM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 21, 1997
1 E. Wisconsin Ave., Suite 560	Sample Descript:	Water: SGWA-2	Received:	Apr 22, 1997
Milwaukee, WI 53202	Analysis Method:	5030/8260		
Attention: Jim Kane	Lab Number:	704-3483	Analyzed:	Apr 25, 1997
			Reported:	Apr 29, 1997

VOLATILE ORGANIC COMPOUNDS (5030/8260)

Analyte	Detection Limit µg/L	Sample Results µg/L
Benzene	0.50	N.D.
Bromobenzene	0.50	N.D.
Bromodichloromethane	0.50	N.D.
n-Butylbenzene	0.50	N.D.
sec-Butylbenzene	0.50	N.D.
tert-Butylbenzene	0.50	N.D.
Carbon tetrachloride	0.50	N.D.
Chlorobenzene	0.50	N.D.
Chloroethane	0.50	N.D.
Chloroform	0.50	N.D.
Chloromethane	0.50	N.D.
2-Chlorotoluene	0.50	N.D.
4-Chlorotoluene	0.50	N.D.
Dibromochloromethane	0.50	N.D.
2-Dibromo-3-chloropropane	1.0	N.D.
2-Dibromoethane	0.50	N.D.
2-Dichlorobenzene	0.50	N.D.
1,3-Dichlorobenzene	0.50	N.D.
1,4-Dichlorobenzene	0.50	N.D.
Dichlorodifluoromethane	0.50	N.D.
1,1-Dichloroethane	0.50	N.D.
1,2-Dichloroethane	0.50	N.D.
1,1-Dichloroethene	0.50	N.D.
cis-1,2-Dichloroethene	0.50	N.D.
trans-1,2-Dichloroethene	0.50	N.D.
1,2-Dichloropropane	0.50	N.D.
1,3-Dichloropropane	0.50	N.D.
2,2-Dichloropropane	0.50	N.D.
Di-Isopropyl-Ether	5.0	N.D.
Ethyl Benzene	0.50	N.D.
Hexachlorobutadiene	5.0	N.D.
Isopropylbenzene	0.50	N.D.
p-Isopropyltoluene	0.50	N.D.
Methylene chloride	0.50	N.D.
Methyl-tert-Butylether	5.0	N.D.

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

:RM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 21, 1997
'11 E. Wisconsin Ave., Suite 560	Sample Descript:	Water: SGWA-2	Received:	Apr 22, 1997
,ilwaukee, WI 53202	Analysis Method:	5030/8260		
Attention: Jim Kane	Lab Number:	704-3483	Analyzed:	Apr 25, 1997
			Reported:	Apr 29, 1997

VOLATILE ORGANIC COMPOUNDS (5030/8260)

Analyte	Detection Limit µg/L	Sample Results µg/L
Naphthalene	8.0	N.D.
n-Propylbenzene	0.50	N.D.
1,1,2,2-Tetrachloroethane	0.50	N.D.
Tetrachloroethene	0.50	N.D.
Toluene	0.50	N.D.
1,2,3-Trichlorobenzene	2.0	N.D.
1,2,4-Trichlorobenzene	2.0	N.D.
1,1,1-Trichloroethane	0.50	N.D.
1,1,2-Trichloroethane	0.50	N.D.
Trichloroethene	0.50	N.D.
Trichlorofluoromethane	0.50	N.D.
1,2,4-Trimethylbenzene	1.0	N.D.
1,3,5-Trimethylbenzene	1.0	N.D.
Vinyl chloride	0.20	N.D.
'otal Xylenes	0.50	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

7043482.ERW <5>

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GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

RM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 21, 1997
1 E. Wisconsin Ave., Suite 560	Sample Descript:	Water: SGWA-2	Received:	Apr 22, 1997
..lwaukee, WI 53202	Analysis Method:	EPA 8310	Extracted:	Apr 22, 1997
Attention: Jim Kane	Lab Number:	704-3483	Analyzed:	Apr 22, 1997
			Reported:	Apr 29, 1997

POLYNUCLEAR AROMATIC HYDROCARBONS (EPA 8310)

Analyte	Detection Limit µg/L	Sample Results µg/L
Acenaphthene	5.0	N.D.
Acenaphthylene	4.0	N.D.
Anthracene	0.20	N.D.
Benzo (a) anthracene	0.010	N.D.
Benzo (a) pyrene	0.0040	N.D.
Benzo (b) fluoranthene	0.020	N.D.
Benzo (ghi) perylene	0.060	N.D.
Benzo (k) fluoranthene	0.010	N.D.
Chrysene	0.050	N.D.
Dibenzo (a,h) anthracene	0.020	N.D.
Fluoranthene	1.0	N.D.
Fluorene	1.0	N.D.
Indeno (1,2,3-cd) pyrene	0.40	N.D.
1-methyl Naphthalene	3.0	N.D.
-methyl Naphthalene	3.0	N.D.
ıphthalene	3.0	N.D.
.ıenanthrene	0.30	N.D.
Pyrene	1.0	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

7043482.ERW <9>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-99991716O

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RM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 21, 1997
11 E. Wisconsin Ave., Suite 560	Sample Descript:	Water: SGWA-3	Received:	Apr 22, 1997
Jwaukee, WI 53202	Analysis Method:	5030/8260		
Attention: Jim Kane	Lab Number:	704-3484	Analyzed:	Apr 28, 1997
			Reported:	Apr 29, 1997

VOLATILE ORGANIC COMPOUNDS (5030/8260)

Analyte	Detection Limit µg/L	Sample Results µg/L
Benzene	0.50	N.D.
Bromobenzene	0.50	N.D.
Bromodichloromethane	0.50	N.D.
n-Butylbenzene	0.50	N.D.
sec-Butylbenzene	0.50	N.D.
tert-Butylbenzene	0.50	N.D.
Carbon tetrachloride	0.50	N.D.
Chlorobenzene	0.50	N.D.
Chloroethane	0.50	N.D.
Chloroform	0.50	N.D.
Chloromethane	0.50	N.D.
2-Chlorotoluene	0.50	N.D.
4-Chlorotoluene	0.50	N.D.
Dibromochloromethane	0.50	N.D.
2-Dibromo-3-chloropropane	1.0	N.D.
2-Dibromoethane	0.50	N.D.
2-Dichlorobenzene	0.50	N.D.
1,3-Dichlorobenzene	0.50	N.D.
1,4-Dichlorobenzene	0.50	N.D.
Dichlorodifluoromethane	0.50	N.D.
1,1-Dichloroethane	0.50	N.D.
1,2-Dichloroethane	0.50	N.D.
1,1-Dichloroethene	0.50	N.D.
cis-1,2-Dichloroethene	0.50	N.D.
trans-1,2-Dichloroethene	0.50	N.D.
1,2-Dichloropropane	0.50	N.D.
1,3-Dichloropropane	0.50	N.D.
2,2-Dichloropropane	0.50	N.D.
Di-Isopropyl-Ether	5.0	N.D.
Ethyl Benzene	0.50	N.D.
Hexachlorobutadiene	5.0	N.D.
Isopropylbenzene	0.50	N.D.
p-Isopropyltoluene	0.50	N.D.
Methylene chloride	0.50	N.D.
Methyl-tert-Butylether	5.0	N.D.

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

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RM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 21, 1997
1 E. Wisconsin Ave., Suite 560	Sample Descript:	Water: SGWA-3	Received:	Apr 22, 1997
ilwaukee, WI 53202	Analysis Method:	5030/8260		
Attention: Jim Kane	Lab Number:	704-3484	Analyzed:	Apr 28, 1997
			Reported:	Apr 29, 1997

VOLATILE ORGANIC COMPOUNDS (5030/8260)

Analyte	Detection Limit µg/L	Sample Results µg/L
Naphthalene	8.0	N.D.
n-Propylbenzene	0.50	N.D.
1,1,2,2-Tetrachloroethane	0.50	N.D.
Tetrachloroethene	0.50	N.D.
Toluene	0.50	N.D.
1,2,3-Trichlorobenzene	2.0	N.D.
1,2,4-Trichlorobenzene	2.0	N.D.
1,1,1-Trichloroethane	0.50	N.D.
1,1,2-Trichloroethane	0.50	N.D.
Trichloroethene	0.50	N.D.
Trichlorofluoromethane	0.50	N.D.
1,2,4-Trimethylbenzene	1.0	N.D.
1,3,5-Trimethylbenzene	1.0	N.D.
Vinyl chloride	0.20	N.D.
Total Xylenes	0.50	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

7043482.ERW <7>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

RM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 21, 1997
1 E. Wisconsin Ave., Suite 560	Sample Descript:	Water: SGWA-3	Received:	Apr 22, 1997
ilwaukee, WI 53202	Analysis Method:	EPA 8310	Extracted:	Apr 22, 1997
Attention: Jim Kane	Lab Number:	704-3484	Analyzed:	Apr 22, 1997
			Reported:	Apr 29, 1997

POLYNUCLEAR AROMATIC HYDROCARBONS (EPA 8310)

Analyte	Detection Limit µg/L	Sample Results µg/L
Acenaphthene	5.0	N.D.
Acenaphthylene	4.0	N.D.
Anthracene	0.20	N.D.
Benzo (a) anthracene	0.010	N.D.
Benzo (a) pyrene	0.0040	N.D.
Benzo (b) fluoranthene	0.020	N.D.
Benzo (ghl) perylene	0.060	N.D.
Benzo (k) fluoranthene	0.010	N.D.
Chrysene	0.050	N.D.
Dibenzo (a,h) anthracene	0.020	N.D.
Fluoranthene	1.0	N.D.
Fluorene	1.0	N.D.
Indeno (1,2,3-cd) pyrene	0.40	N.D.
1-methyl Naphthalene	3.0	N.D.
-methyl Naphthalene	3.0	N.D.
aphthalene	3.0	N.D.
enanthrene	0.30	N.D.
Pyrene	1.0	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

7043482.ERW <10>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

RM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 21, 1997
1 E. Wisconsin Ave., Suite 560	Sample Descript:	Water	Received:	Apr 22, 1997
...ilwaukee, WI 53202	Analysis for:	Dissolved Lead, 3015/7421		
Attention: Jim Kane	First Sample #:	704-3482	Analyzed:	Apr 23, 1997
			Reported:	Apr 29, 1997

LABORATORY ANALYSIS FOR: Dissolved Lead, 3015/7421

Sample Number	Sample Description	Detection Limit mg/L	Sample Result mg/L
704-3482	SGWA-1	0.0050	N.D.
704-3483	SGWA-2	0.0050	N.D.
704-3484	SGWA-3	0.0050	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

7043482.ERW <1>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

RM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 22, 1997
1 E. Wisconsin Ave., Suite 560	Sample Descript:	Water: SGWA-4	Received:	Apr 23, 1997
waukee, WI 53202	Analysis Method:	EPA 8260		
Attention: Jim Kane	Lab Number:	704-3753	Analyzed:	Apr 30, 1997
			Reported:	May 1, 1997

VOLATILE ORGANICS by GC/MS (EPA 8260)

Analyte	Detection Limit µg/L	Sample Results µg/L
Acetone	10	N.D.
Benzene	2.0	N.D.
Bromodichloromethane	2.0	N.D.
Bromoform	2.0	N.D.
Bromomethane	2.0	N.D.
2-Butanone	10	N.D.
Carbon disulfide	2.0	N.D.
Carbon tetrachloride	2.0	N.D.
Chlorobenzene	2.0	N.D.
Chlorodibromomethane	2.0	N.D.
Chloroethane	2.0	N.D.
2-Chloroethyl vinyl ether	10	N.D.
Chloroform	2.0	N.D.
Chloromethane	2.0	N.D.
1-Dichloroethane	2.0	N.D.
?-Dichloroethane	2.0	N.D.
-Dichloroethene	2.0	N.D.
cis 1,2-Dichloroethene	2.0	N.D.
trans 1,2-Dichloroethene	2.0	N.D.
1,2-Dichloropropane	2.0	N.D.
cis 1,3-Dichloropropene	2.0	N.D.
trans 1,3-Dichloropropene	2.0	N.D.
Ethylbenzene	2.0	N.D.
2-Hexanone	10	N.D.
Methylene chloride	2.0	N.D.
4-Methyl-2-pentanone	10	N.D.
Styrene	2.0	N.D.
1,1,2,2-Tetrachloroethane	2.0	N.D.
Tetrachloroethene	2.0	N.D.
Toluene	2.0	N.D.
1,1,1-Trichloroethane	2.0	N.D.
1,1,2-Trichloroethane	2.0	N.D.
Trichloroethene	2.0	N.D.
Trichlorofluoromethane	2.0	N.D.
Vinyl acetate	2.0	N.D.
Vinyl chloride	2.0	N.D.
Total Xylenes	2.0	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

7043740.ERW <24>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

RM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 22, 1997
1 E. Wisconsin Ave., Suite 560	Sample Descript:	Water: SGWA-4	Received:	Apr 23, 1997
waukee, WI 53202	Analysis Method:	EPA 8310	Extracted:	Apr 24, 1997
Attention: Jim Kane	Lab Number:	704-3753	Analyzed:	Apr 24, 1997
			Reported:	May 1, 1997

POLYNUCLEAR AROMATIC HYDROCARBONS (EPA 8310)

Analyte	Detection Limit µg/L	Sample Results µg/L
Acenaphthene	5.0	N.D.
Acenaphthylene	4.0	N.D.
Anthracene	0.20	N.D.
Benzo (a) anthracene	0.010	N.D.
Benzo (a) pyrene	0.0040	N.D.
Benzo (b) fluoranthene	0.020	N.D.
Benzo (ghi) perylene	0.060	N.D.
Benzo (k) fluoranthene	0.010	N.D.
Chrysene	0.050	N.D.
Dibenzo (a,h) anthracene	0.020	N.D.
Fluoranthene	1.0	N.D.
Fluorene	1.0	N.D.
Indeno (1,2,3-cd) pyrene	0.40	N.D.
1-methyl Naphthalene	3.0	N.D.
-methyl Naphthalene	3.0	N.D.
phthalene	3.0	N.D.
enanthrene	0.30	N.D.
Pyrene	1.0	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

7043754.ERW <9>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

RM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled: Apr 22, 1997
1 E. Wisconsin Ave., Suite 560	Sample Descript:	Water: SGWA-4	Received: Apr 23, 1997
...lwaukee, WI 53202			
Attention: Jim Kane	Lab Number:	704-3753	Analyzed: Apr 25-30 , 1997
			Reported: May 1, 1997

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/L	Sample Results mg/L
Arsenic	3015/7060	0.050	N.D.
Cadmium	3015/6010	0.010	N.D.
Chromium	3015/6010	0.010	0.012
Copper	3015/6010	0.050	N.D.
Lead	3015/7421	0.0050	N.D.
Mercury	7470	0.0010	N.D.
Selenium	3015/7740	0.010	N.D.
Zinc	3015/6010	0.50	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

7043740.ERW <8>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

RM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 22, 1997
1 E. Wisconsin Ave., Suite 560	Sample Descript:	Water: SGWA-5	Received:	Apr 23, 1997
...lwaukee, WI 53202	Analysis Method:	EPA 8260		
Attention: Jim Kane	Lab Number:	704-3754	Analyzed:	Apr 30, 1997
			Reported:	May 1, 1997

VOLATILE ORGANICS by GC/MS (EPA 8260)

Analyte	Detection Limit µg/L	Sample Results µg/L
Acetone	10	N.D.
Benzene	2.0	N.D.
Bromodichloromethane	2.0	N.D.
Bromoform	2.0	N.D.
Bromomethane	2.0	N.D.
2-Butanone	10	N.D.
Carbon disulfide	2.0	N.D.
Carbon tetrachloride	2.0	N.D.
Chlorobenzene	2.0	N.D.
Chlorodibromomethane	2.0	N.D.
Chloroethane	2.0	N.D.
2-Chloroethyl vinyl ether	10	N.D.
Chloroform	2.0	N.D.
Chloromethane	2.0	N.D.
1-Dichloroethane	2.0	N.D.
-Dichloroethane	2.0	N.D.
1-Dichloroethene	2.0	N.D.
cis 1,2-Dichloroethene	2.0	N.D.
trans 1,2-Dichloroethene	2.0	N.D.
1,2-Dichloropropane	2.0	N.D.
cis 1,3-Dichloropropene	2.0	N.D.
trans 1,3-Dichloropropene	2.0	N.D.
Ethylbenzene	2.0	N.D.
2-Hexanone	10	N.D.
Methylene chloride	2.0	N.D.
4-Methyl-2-pentanone	10	N.D.
Styrene	2.0	N.D.
1,1,2,2-Tetrachloroethane	2.0	N.D.
Tetrachloroethene	2.0	N.D.
Toluene	2.0	N.D.
1,1,1-Trichloroethane	2.0	N.D.
1,1,2-Trichloroethane	2.0	N.D.
Trichloroethene	2.0	N.D.
Trichlorofluoromethane	2.0	N.D.
Vinyl acetate	2.0	N.D.
Vinyl chloride	2.0	N.D.
Total Xylenes	2.0	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

7043740.ERW <25>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

RM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 22, 1997
1 E. Wisconsin Ave., Suite 560	Sample Descript:	Water: SGWA-5	Received:	Apr 23, 1997
..lwaukee, WI 53202	Analysis Method:	EPA 8310	Extracted:	Apr 24, 1997
Attention: Jim Kane	Lab Number:	704-3754	Analyzed:	Apr 24, 1997
			Reported:	May 1, 1997

POLYNUCLEAR AROMATIC HYDROCARBONS (EPA 8310)

Analyte	Detection Limit µg/L	Sample Results µg/L
Acenaphthene	5.0	N.D.
Acenaphthylene	4.0	N.D.
Anthracene	0.20	N.D.
Benzo (a) anthracene	0.010	N.D.
Benzo (a) pyrene	0.0040	N.D.
Benzo (b) fluoranthene	0.020	N.D.
Benzo (ghi) perylene	0.060	N.D.
Benzo (k) fluoranthene	0.010	N.D.
Chrysene	0.050	N.D.
Dibenzo (a,h) anthracene	0.020	N.D.
Fluoranthene	1.0	N.D.
Fluorene	1.0	N.D.
Indeno (1,2,3-cd) pyrene	0.40	N.D.
1-methyl Naphthalene	3.0	N.D.
`-methyl Naphthalene	3.0	N.D.
`aphthalene	3.0	N.D.
.enanthrene	0.30	N.D.
Pyrene	1.0	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

7043754.ERW <10>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

RM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled: Apr 22, 1997
E. Wisconsin Ave., Suite 560	Sample Descript:	Water: SGWA-5	Received: Apr 23, 1997
...waukee, WI 53202			
Attention: Jim Kane	Lab Number:	704-3754	Analyzed: Apr 25-30, 1997
			Reported: May 1, 1997

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/L	Sample Results mg/L
Arsenic	3015/7060	0.050	N.D.
Cadmium	3015/6010	0.010	N.D.
Chromium	3015/6010	0.010	0.016
Copper	3015/6010	0.050	N.D.
Lead	3015/7421	0.0050	N.D.
Mercury	7470	0.0010	N.D.
Selenium	3015/7740	0.010	N.D.
Zinc	3015/6010	0.50	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

7043740.ERW <9>

Certifications: AALA-461.01; US Army Corps of Engineers: Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

RM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 21, 1997
1 E. Wisconsin Ave., Suite 560	Sample Descript:	Soil: SBA-1A/B	Received:	Apr 23, 1997
.lwaukee, WI 53202	Analysis Method:	EPA 8260		
Attention: Jim Kane	Lab Number:	704-3751	Analyzed:	Apr 30, 1997
			Reported:	May 1, 1997

VOLATILE ORGANICS by GC/MS (EPA 8260)

Analyte	Detection Limit µg/kg, Dry Weight	Sample Results µg/kg, Dry Weight
Acetone	25	N.D.
Benzene	5.0	N.D.
Bromodichloromethane	5.0	N.D.
Bromoform	5.0	N.D.
Bromomethane	5.0	N.D.
2-Butanone	10	N.D.
Carbon disulfide	5.0	N.D.
Carbon tetrachloride	5.0	N.D.
Chlorobenzene	5.0	N.D.
Chlorodibromomethane	5.0	N.D.
Chloroethane	5.0	N.D.
2-Chloroethyl vinyl ether	10	N.D.
Chloroform	5.0	N.D.
Chloromethane	5.0	N.D.
1-Dichloroethane	5.0	N.D.
?-Dichloroethane	5.0	N.D.
.-Dichloroethene	5.0	N.D.
cis-1,2-Dichloroethene	5.0	N.D.
trans-1,2-Dichloroethene	5.0	N.D.
1,2-Dichloropropane	5.0	N.D.
cis 1,3-Dichloropropene	5.0	N.D.
trans 1,3-Dichloropropene	5.0	N.D.
Ethylbenzene	5.0	N.D.
2-Hexanone	10	N.D.
Methylene chloride	5.0	N.D.
4-Methyl-2-pentanone	10	N.D.
Styrene	5.0	N.D.
1,1,2,2-Tetrachloroethane	5.0	N.D.
Tetrachloroethene	5.0	N.D.
Toluene	5.0	N.D.
1,1,1-Trichloroethane	5.0	N.D.
1,1,2-Trichloroethane	5.0	N.D.
Trichloroethene	5.0	N.D.
Trichlorofluoromethane	5.0	N.D.
Vinyl acetate	10	N.D.
Vinyl chloride	5.0	N.D.
Total Xylenes	5.0	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

7043740.ERW <22>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

RM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 21, 1997
1 E. Wisconsin Ave., Suite 560	Sample Descript:	Soil: SBG-1A/B	Received:	Apr 23, 1997
waukee, WI 53202	Analysis Method:	EPA 8310	Extracted:	Apr 25, 1997
Attention: Jim Kane	Lab Number:	704-3751	Analyzed:	Apr 25, 1997
			Reported:	May 1, 1997

POLYNUCLEAR AROMATIC HYDROCARBONS (EPA 8310)

Analyte	Detection Limit ug/kg, Dry Weight	Sample Results ug/kg, Dry Weight
Acenaphthene	2,200	N.D.
Acenaphthylene	4,400	N.D.
Anthracene	11	52
Benzo (a) anthracene	11	230
Benzo (a) pyrene	5.1	300
Benzo (b) fluoranthene	22	240
Benzo (ghi) perylene	44	590
Benzo (k) fluoranthene	11	140
Chrysene	44	480
Dibenzo (a,h) anthracene	22	73
Fluoranthene	1,100	N.D.
Fluorene	110	N.D.
Indeno (1,2,3-cd) pyrene	440	N.D.
1-methyl Naphthalene	1,100	N.D.
2-methyl Naphthalene	1,100	N.D.
Naphthalene	110	N.D.
Phenanthrene	110	370
Pyrene	440	500

Analytes reported as N.D. were not present above the stated limit of detection. Because matrix effects and/or other factors required additional sample dilution, detection limits for this sample have been raised.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

7043745.ERW <7>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

RM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 21, 1997
' E. Wisconsin Ave., Suite 560	Sample Descript:	Soil: SBA-1C/D	Received:	Apr 23, 1997
...waukee, WI 53202	Analysis Method:	EPA 8260		
Attention: Jim Kane	Lab Number:	704-3752	Analyzed:	Apr 30, 1997
			Reported:	May 1, 1997

VOLATILE ORGANICS by GC/MS (EPA 8260)

Analyte	Detection Limit µg/kg, Dry Weight	Sample Results µg/kg, Dry Weight
Acetone	25	N.D.
Benzene	5.0	N.D.
Bromodichloromethane	5.0	N.D.
Bromoform	5.0	N.D.
Bromomethane	5.0	N.D.
2-Butanone	10	N.D.
Carbon disulfide	5.0	N.D.
Carbon tetrachloride	5.0	N.D.
Chlorobenzene	5.0	N.D.
Chlorodibromomethane	5.0	N.D.
Chloroethane	5.0	N.D.
2-Chloroethyl vinyl ether	10	N.D.
Chloroform	5.0	N.D.
Chloromethane	5.0	N.D.
,1-Dichloroethane	5.0	N.D.
`-Dichloroethane	5.0	N.D.
,-Dichloroethene	5.0	N.D.
cis-1,2-Dichloroethene	5.0	N.D.
trans-1,2-Dichloroethene	5.0	N.D.
1,2-Dichloropropane	5.0	N.D.
cis 1,3-Dichloropropene	5.0	N.D.
trans 1,3-Dichloropropene	5.0	N.D.
Ethylbenzene	5.0	N.D.
2-Hexanone	10	N.D.
Methylene chloride	5.0	N.D.
4-Methyl-2-pentanone	10	N.D.
Styrene	5.0	N.D.
1,1,2,2-Tetrachloroethane	5.0	N.D.
Tetrachloroethene	5.0	N.D.
Toluene	5.0	5.3
1,1,1-Trichloroethane	5.0	N.D.
1,1,2-Trichloroethane	5.0	N.D.
Trichloroethene	5.0	N.D.
Trichlorofluoromethane	5.0	N.D.
Vinyl acetate	10	N.D.
Vinyl chloride	5.0	N.D.
Total Xylenes	5.0	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

7043740.ERW <23>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

RM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 21, 1997
1 E. Wisconsin Ave., Suite 560	Sample Descript:	Soil: SBG-1C/D	Received:	Apr 23, 1997
..lwaukee, WI 53202	Analysis Method:	EPA 8310	Extracted:	Apr 25, 1997
Attention: Jim Kane	Lab Number:	704-3752	Analyzed:	Apr 25, 1997
			Reported:	May 1, 1997

POLYNUCLEAR AROMATIC HYDROCARBONS (EPA 8310)

Analyte	Detection Limit ug/kg, Dry Weight	Sample Results ug/kg, Dry Weight
Acenaphthene	110	N.D.
Acenaphthylene	220	N.D.
Anthracene	0.55	0.82
Benzo (a) anthracene	0.55	1.6
Benzo (a) pyrene	0.25	2.4
Benzo (b) fluoranthene	1.1	3.1
Benzo (ghi) perylene	2.2	N.D.
Benzo (k) fluoranthene	0.55	N.D.
Chrysene	2.2	3.1
Dibenzo (a,h) anthracene	1.1	3.6
Fluoranthene	55	N.D.
Fluorene	5.5	N.D.
Indeno (1,2,3-cd) pyrene	22	N.D.
1-methyl Naphthalene	55	N.D.
2-methyl Naphthalene	55	N.D.
'aphthalene	5.5	N.D.
'enanthrene	5.5	9.5
,rene	22	N.D.

Analytes reported as N.D. were not present above the stated limit of detection. Because matrix effects and/or other factors required additional sample dilution, detection limits for this sample have been raised.

GREAT LAKES ANALYTICAL

'in W. Keeley
.oratory Director

7043745.ERW <8>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

:RM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 22, 1997
11 E. Wisconsin Ave., Suite 560	Sample Descript:	Water: SGWG-1	Received:	Apr 23, 1997
.ilwaukee, WI 53202	Analysis Method:	EPA 8260		
Attention: Jim Kane	Lab Number:	704-3756	Analyzed:	Apr 30, 1997
			Reported:	May 1, 1997

VOLATILE ORGANICS by GC/MS (EPA 8260)

Analyte	Detection Limit µg/L	Sample Results µg/L
Acetone	10	N.D.
Benzene	2.0	N.D.
Bromodichloromethane	2.0	N.D.
Bromoform	2.0	N.D.
Bromomethane	2.0	N.D.
2-Butanone	10	N.D.
Carbon disulfide	2.0	N.D.
Carbon tetrachloride	2.0	N.D.
Chlorobenzene	2.0	N.D.
Chlorodibromomethane	2.0	N.D.
Chloroethane	2.0	N.D.
2-Chloroethyl vinyl ether	10	N.D.
Chloroform	2.0	N.D.
Chloromethane	2.0	N.D.
,1-Dichloroethane	2.0	N.D.
2-Dichloroethane	2.0	N.D.
1-Dichloroethene	2.0	N.D.
cis 1,2-Dichloroethene	2.0	N.D.
trans 1,2-Dichloroethene	2.0	N.D.
1,2-Dichloropropane	2.0	N.D.
cis 1,3-Dichloropropene	2.0	N.D.
trans 1,3-Dichloropropene	2.0	N.D.
Ethylbenzene	2.0	N.D.
2-Hexanone	10	N.D.
Methylene chloride	2.0	N.D.
4-Methyl-2-pentanone	10	N.D.
Styrene	2.0	N.D.
1,1,2,2-Tetrachloroethane	2.0	N.D.
Tetrachloroethene	2.0	N.D.
Toluene	2.0	N.D.
1,1,1-Trichloroethane	2.0	N.D.
1,1,2-Trichloroethane	2.0	N.D.
Trichloroethene	2.0	N.D.
Trichlorofluoromethane	2.0	N.D.
Vinyl acetate	2.0	N.D.
Vinyl chloride	2.0	N.D.
Total Xylenes	2.0	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

7043740.ERW <27>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

RM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 22, 1997
1 E. Wisconsin Ave., Suite 560	Sample Descript:	Water: SGWG-1	Received:	Apr 23, 1997
...ilwaukee, WI 53202	Analysis Method:	EPA 8310	Extracted:	Apr 24, 1997
Attention: Jim Kane	Lab Number:	704-3756	Analyzed:	Apr 24, 1997
			Reported:	May 1, 1997

POLYNUCLEAR AROMATIC HYDROCARBONS (EPA 8310)

Analyte	Detection Limit µg/L	Sample Results µg/L
Acenaphthene	5.0	N.D.
Acenaphthylene	4.0	N.D.
Anthracene	0.20	N.D.
Benzo (a) anthracene	0.010	N.D.
Benzo (a) pyrene	0.0040	N.D.
Benzo (b) fluoranthene	0.020	N.D.
Benzo (ghi) perylene	0.060	N.D.
Benzo (k) fluoranthene	0.010	N.D.
Chrysene	0.050	N.D.
Dibenzo (a,h) anthracene	0.020	N.D.
Fluoranthene	1.0	N.D.
Fluorene	1.0	N.D.
Indeno (1,2,3-cd) pyrene	0.40	N.D.
1-methyl Naphthalene	3.0	N.D.
-methyl Naphthalene	3.0	N.D.
phthalene	3.0	N.D.
...enanthrene	0.30	N.D.
Pyrene	1.0	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

7043754.ERW <12>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

M - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled: Apr 22, 1997
E. Wisconsin Ave., Suite 560	Sample Descript:	Water: SGWG-1	Received: Apr 23, 1997
Milwaukee, WI 53202			
Attention: Jim Kane	Lab Number:	704-3756	Analyzed: Apr 25-30 , 1997
			Reported: May 1, 1997

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/L	Sample Results mg/L
Arsenic	3015/7060	0.050	N.D.
Cadmium	3015/6010	0.010	N.D.
Chromium	3015/6010	0.010	0.014
Copper	3015/6010	0.050	N.D.
Lead	3015/7421	0.0050	N.D.
Mercury	7470	0.0010	N.D.
Selenium	3015/7740	0.010	N.D.
Zinc	3015/6010	0.50	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

7043740.ERW <11>

Certifications: AALA-461.01; US Army Corps of Engineers: Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

RM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 22, 1997
11 E. Wisconsin Ave., Suite 560	Sample Descript:	Water: SGWK-1	Received:	Apr 23, 1997
Milwaukee, WI 53202	Analysis Method:	EPA 8260		
Attention: Jim Kane	Lab Number:	704-3734	Analyzed:	Apr 30, 1997
			Reported:	May 1, 1997

VOLATILE ORGANICS by GC/MS (EPA 8260)

Analyte	Detection Limit µg/L	Sample Results µg/L
Acetone	10	N.D.
Benzene	2.0	N.D.
Bromodichloromethane	2.0	N.D.
Bromoform	2.0	N.D.
Bromomethane	2.0	N.D.
2-Butanone	10	N.D.
Carbon disulfide	2.0	N.D.
Carbon tetrachloride	2.0	N.D.
Chlorobenzene	2.0	N.D.
Chlorodibromomethane	2.0	N.D.
Chloroethane	2.0	N.D.
2-Chloroethyl vinyl ether	10	N.D.
Chloroform	2.0	N.D.
Chloromethane	2.0	N.D.
1,1-Dichloroethane	2.0	N.D.
1,2-Dichloroethane	2.0	N.D.
1,1-Dichloroethene	2.0	N.D.
cis 1,2-Dichloroethene	2.0	N.D.
trans 1,2-Dichloroethene	2.0	N.D.
1,2-Dichloropropane	2.0	N.D.
cis 1,3-Dichloropropene	2.0	N.D.
trans 1,3-Dichloropropene	2.0	N.D.
Ethylbenzene	2.0	N.D.
2-Hexanone	10	N.D.
Methylene chloride	2.0	N.D.
4-Methyl-2-pentanone	10	N.D.
Styrene	2.0	N.D.
1,1,2,2-Tetrachloroethane	2.0	N.D.
Tetrachloroethene	2.0	N.D.
Toluene	2.0	N.D.
1,1,1-Trichloroethane	2.0	N.D.
1,1,2-Trichloroethane	2.0	N.D.
Trichloroethene	2.0	N.D.
Trichlorofluoromethane	2.0	N.D.
Vinyl acetate	2.0	N.D.
Vinyl chloride	2.0	N.D.
Total Xylenes	2.0	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

7043733.ERW <9>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

ERM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 22, 1997
11 E. Wisconsin Ave., Suite 560	Sample Descript:	Water: SGWK-1	Received:	Apr 23, 1997
lwaukee, WI 53202	Analysis Method:	EPA 8310	Extracted:	Apr 24, 1997
Attention: Jim Kane	Lab Number:	704-3734	Analyzed:	Apr 24, 1997
			Reported:	May 1, 1997

POLYNUCLEAR AROMATIC HYDROCARBONS (EPA 8310)

Analyte	Detection Limit µg/L	Sample Results µg/L
Acenaphthene	5.0	N.D.
Acenaphthylene	4.0	N.D.
Anthracene	0.20	N.D.
Benzo (a) anthracene	0.010	N.D.
Benzo (a) pyrene	0.0040	N.D.
Benzo (b) fluoranthene	0.020	N.D.
Benzo (ghi) perylene	0.060	N.D.
Benzo (k) fluoranthene	0.010	N.D.
Chrysene	0.050	N.D.
Dibenzo (a,h) anthracene	0.020	N.D.
Fluoranthene	1.0	N.D.
Fluorene	1.0	N.D.
Indeno (1,2,3-cd) pyrene	0.40	N.D.
1-methyl Naphthalene	3.0	N.D.
2-methyl Naphthalene	3.0	N.D.
laphthalene	3.0	N.D.
enanthrene	0.30	N.D.
yrene	1.0	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

7043733.ERW <16>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

ERM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled: Apr 22, 1997
111 E. Wisconsin Ave., Suite 560	Sample Descript:	Water: SGWK-1	Received: Apr 23, 1997
Milwaukee, WI 53202			
Attention: Jim Kane	Lab Number:	704-3734	Analyzed: Apr 25-30 , 1997
			Reported: May 1, 1997

LABORATORY ANALYSIS: DISSOLVED METALS

Analyte	EPA Method	Detection Limit mg/L	Sample Results mg/L
Arsenic	3015/7060	0.050	N.D.
Cadmium	3015/6010	0.010	N.D.
Chromium	3015/6010	0.010	0.012
Copper	3015/6010	0.050	N.D.
Lead	3015/7421	0.0050	N.D.
Mercury	7470	0.0010	N.D.
Selenium	3015/7740	0.010	N.D.
Zinc	3015/6010	0.50	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

7043733.ERW <2>

Certifications: AALA-461.01; US Army Corps of Engineers: Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

RM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 22, 1997
1 E. Wisconsin Ave., Suite 560	Sample Descript:	Soil: BK1	Received:	Apr 23, 1997
..ilwaukee, WI 53202				
Attention: Jim Kane	Lab Number:	704-3740	Analyzed:	Apr 25-30 , 1997
			Reported:	May 1, 1997

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg, Dry Weight	Sample Results mg/kg, Dry Weight
Arsenic	3050/7060	2.7	N.D.
Cadmium	3050/6010	0.53	1.3
Chromium	3050/6010	0.53	12
Copper	3050/6010	2.7	N.D.
Lead	3050/7421	0.27	3.1
Mercury	7470	0.043	N.D.
Selenium	3050/7740	0.53	N.D.
Zinc	3050/6010	27	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

7043740.ERW <3>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

RM - North Central, Inc.
1 E. Wisconsin Ave., Suite 560
.waukee, WI 53202
Attention: Jim Kane

Client Project ID: 97058JK, Simpson
Sample Descript: Soil: BK2
Lab Number: 704-3741

Sampled: Apr 22, 1997
Received: Apr 23, 1997
Analyzed: Apr 25-30, 1997
Reported: May 1, 1997

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg, Dry Weight	Sample Results mg/kg, Dry Weight
Arsenic	3050/7060	2.7	N.D.
Cadmium	3050/6010	0.53	0.95
Chromium	3050/6010	0.53	5.1
Copper	3050/6010	2.7	N.D.
Lead	3050/7421	0.27	7.8
Mercury	7470	0.043	N.D.
Selenium	3050/7740	0.53	N.D.
Zinc	3050/6010	27	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

'in W. Keeley
oratory Director

7043740.ERW <4>

Certifications: AALA-461.01; US Army Corps of Engineers: Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

RM - North Central, Inc.
1 E. Wisconsin Ave., Suite 560
.waukee, WI 53202
Attention: Jim Kane

Client Project ID: 97058JK, Simpson
Sample Descript: Soil: BK3
Lab Number: 704-3742

Sampled: Apr 22, 1997
Received: Apr 23, 1997
Analyzed: Apr 25-30, 1997
Reported: May 1, 1997

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg, Dry Weight	Sample Results mg/kg, Dry Weight
Arsenic	3050/7060	2.7	N.D.
Cadmium	3050/6010	0.54	1.1
Chromium	3050/6010	0.54	6.1
Copper	3050/6010	2.7	4.8
Lead	3050/7421	0.27	31
Mercury	7470	0.043	0.099
Selenium	3050/7740	0.54	N.D.
Zinc	3050/6010	27	29

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

vin W. Keeley
oratory Director

7043740.ERW <5>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

RM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled: Apr 22, 1997
E. Wisconsin Ave., Suite 560	Sample Descript:	Soil: BK4	Received: Apr 23, 1997
...waukee, WI 53202			
Attention: Jim Kane	Lab Number:	704-3743	Analyzed: Apr 25-30, 1997
			Reported: May 1, 1997

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg, Dry Weight	Sample Results mg/kg, Dry Weight
Arsenic	3050/7060	2.7	2.9
Cadmium	3050/6010	0.55	1.1
Chromium	3050/6010	0.55	5.4
Copper	3050/6010	2.7	6.4
Lead	3050/7421	0.27	32
Mercury	7470	0.044	N.D.
Selenium	3050/7740	0.55	N.D.
Zinc	3050/6010	27	36

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

/in W. Keeley
..oratory Director

7043740.ERW <6>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

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RM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled: Apr 22, 1997
1 E. Wisconsin Ave., Suite 560	Sample Descript:	Soil: BK5	Received: Apr 23, 1997
...waukee, WI 53202			
Attention: Jim Kane	Lab Number:	704-3744	Analyzed: Apr 25-30, 1997
			Reported: May 1, 1997

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg, Dry Weight	Sample Results mg/kg, Dry Weight
Arsenic	3050/7060	2.7	11
Cadmium	3050/6010	0.55	1.8
Chromium	3050/6010	0.55	15
Copper	3050/6010	2.7	19
Lead	3050/7421	0.27	53
Mercury	7470	0.044	0.34
Selenium	3050/7740	0.53	N.D.
Zinc	3050/6010	27	74

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

vin W. Keeley
.oratory Director

7043740.ERW <7>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

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RM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 22, 1997
E. Wisconsin Ave., Suite 560	Sample Descript:	Water: SGWB-1	Received:	Apr 23, 1997
...ilwaukee, WI 53202	Analysis Method:	EPA 8260		
Attention: Jim Kane	Lab Number:	704-3757	Analyzed:	Apr 30, 1997
			Reported:	May 1, 1997

VOLATILE ORGANICS by GC/MS (EPA 8260)

Analyte	Detection Limit µg/L	Sample Results µg/L
Acetone	10	N.D.
Benzene	2.0	N.D.
Bromodichloromethane	2.0	N.D.
Bromoform	2.0	N.D.
Bromomethane	2.0	N.D.
2-Butanone	10	N.D.
Carbon disulfide	2.0	N.D.
Carbon tetrachloride	2.0	N.D.
Chlorobenzene	2.0	N.D.
Chlorodibromomethane	2.0	N.D.
Chloroethane	2.0	N.D.
2-Chloroethyl vinyl ether	10	N.D.
Chloroform	2.0	N.D.
Chloromethane	2.0	N.D.
,1-Dichloroethane	2.0	N.D.
-Dichloroethane	2.0	N.D.
,1-Dichloroethene	2.0	N.D.
cis 1,2-Dichloroethene	2.0	N.D.
trans 1,2-Dichloroethene	2.0	N.D.
1,2-Dichloropropane	2.0	N.D.
cis 1,3-Dichloropropene	2.0	N.D.
trans 1,3-Dichloropropene	2.0	N.D.
Ethylbenzene	2.0	N.D.
2-Hexanone	10	N.D.
Methylene chloride	2.0	N.D.
4-Methyl-2-pentanone	10	N.D.
Styrene	2.0	N.D.
1,1,2,2-Tetrachloroethane	2.0	N.D.
Tetrachloroethene	2.0	N.D.
Toluene	2.0	N.D.
1,1,1-Trichloroethane	2.0	N.D.
1,1,2-Trichloroethane	2.0	N.D.
Trichloroethene	2.0	N.D.
Trichlorofluoromethane	2.0	N.D.
Vinyl acetate	2.0	N.D.
Vinyl chloride	2.0	N.D.
Total Xylenes	2.0	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

7043740.ERW <28>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

3M - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 22, 1997
E. Wisconsin Ave., Suite 560	Sample Descript:	Water: SGWB-1	Received:	Apr 23, 1997
Milwaukee, WI 53202	Analysis Method:	EPA 8310	Extracted:	Apr 24, 1997
Attention: Jim Kane	Lab Number:	704-3757	Analyzed:	Apr 24, 1997
			Reported:	May 1, 1997

POLYNUCLEAR AROMATIC HYDROCARBONS (EPA 8310)

Analyte	Detection Limit µg/L	Sample Results µg/L
Acenaphthene	5.0	N.D.
Acenaphthylene	4.0	N.D.
Anthracene	0.20	N.D.
Benzo (a) anthracene	0.010	N.D.
Benzo (a) pyrene	0.0040	N.D.
Benzo (b) fluoranthene	0.020	N.D.
Benzo (ghi) perylene	0.060	N.D.
Benzo (k) fluoranthene	0.010	N.D.
Chrysene	0.050	N.D.
Dibenzo (a,h) anthracene	0.020	N.D.
Fluoranthene	1.0	N.D.
Fluorene	1.0	N.D.
Indeno (1,2,3-cd) pyrene	0.40	N.D.
1-methyl Naphthalene	3.0	N.D.
-methyl Naphthalene	3.0	N.D.
phthalene	3.0	N.D.
enanthrene	0.30	N.D.
Pyrene	1.0	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

7043754.ERW <13>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

1 - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled: Apr 22, 1997
. E. Wisconsin Ave., Suite 560	Sample Descript:	Water: SGWB-1	Received: Apr 23, 1997
Milwaukee, WI 53202			
Attention: Jim Kane	Lab Number:	704-3757	Analyzed: Apr 25-30 , 1997
			Reported: May 1, 1997

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/L	Sample Results mg/L
Arsenic	3015/7060	0.050	N.D.
Cadmium	3015/6010	0.010	N.D.
Chromium	3015/6010	0.010	0.013
Copper	3015/6010	0.050	N.D.
Lead	3015/7421	0.0050	N.D.
Mercury	7470	0.0010	N.D.
Selenium	3015/7740	0.010	N.D.
Zinc	3015/6010	0.50	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

7043740.ERW <12>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DER 68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

3M - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 22, 1997
E. Wisconsin Ave., Suite 560	Sample Descript:	Water: SGWB-2	Received:	Apr 23, 1997
Milwaukee, WI 53202	Analysis Method:	EPA 8260		
Attention: Jim Kane	Lab Number:	704-3755	Analyzed:	Apr 30, 1997
			Reported:	May 1, 1997

VOLATILE ORGANICS by GC/MS (EPA 8260)

Analyte	Detection Limit µg/L	Sample Results µg/L
Acetone	10	N.D.
Benzene	2.0	N.D.
Bromodichloromethane	2.0	N.D.
Bromoform	2.0	N.D.
Bromomethane	2.0	N.D.
2-Butanone	10	N.D.
Carbon disulfide	2.0	N.D.
Carbon tetrachloride	2.0	N.D.
Chlorobenzene	2.0	N.D.
Chlorodibromomethane	2.0	N.D.
Chloroethane	2.0	N.D.
2-Chloroethyl vinyl ether	10	N.D.
Chloroform	2.0	N.D.
Chloromethane	2.0	N.D.
1,1-Dichloroethane	2.0	N.D.
1,2-Dichloroethane	2.0	N.D.
1,1-Dichloroethene	2.0	N.D.
cis 1,2-Dichloroethene	2.0	N.D.
trans 1,2-Dichloroethene	2.0	N.D.
1,2-Dichloropropane	2.0	N.D.
cis 1,3-Dichloropropene	2.0	N.D.
trans 1,3-Dichloropropene	2.0	N.D.
Ethylbenzene	2.0	N.D.
2-Hexanone	10	N.D.
Methylene chloride	2.0	N.D.
4-Methyl-2-pentanone	10	N.D.
Styrene	2.0	N.D.
1,1,2,2-Tetrachloroethane	2.0	N.D.
Tetrachloroethene	2.0	N.D.
Toluene	2.0	N.D.
1,1,1-Trichloroethane	2.0	N.D.
1,1,2-Trichloroethane	2.0	N.D.
Trichloroethene	2.0	N.D.
Trichlorofluoromethane	2.0	N.D.
Vinyl acetate	2.0	N.D.
Vinyl chloride	2.0	N.D.
Total Xylenes	2.0	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

7043740.ERW <26>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

RM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 22, 1997
1 E. Wisconsin Ave., Suite 560	Sample Descript:	Water: SGWB-2	Received:	Apr 23, 1997
..ilwaukee, WI 53202	Analysis Method:	EPA 8310	Extracted:	Apr 24, 1997
Attention: Jim Kane	Lab Number:	704-3755	Analyzed:	Apr 24, 1997
			Reported:	May 1, 1997

POLYNUCLEAR AROMATIC HYDROCARBONS (EPA 8310)

Analyte	Detection Limit µg/L	Sample Results µg/L
Acenaphthene	5.0	N.D.
Acenaphthylene	4.0	N.D.
Anthracene	0.20	N.D.
Benzo (a) anthracene	0.010	N.D.
Benzo (a) pyrene	0.0040	N.D.
Benzo (b) fluoranthene	0.020	N.D.
Benzo (ghi) perylene	0.060	N.D.
Benzo (k) fluoranthene	0.010	N.D.
Chrysene	0.050	N.D.
Dibenzo (a,h) anthracene	0.020	N.D.
Fluoranthene	1.0	N.D.
Fluorene	1.0	N.D.
Indeno (1,2,3-cd) pyrene	0.40	N.D.
1-methyl Naphthalene	3.0	N.D.
-methyl Naphthalene	3.0	N.D.
phthalene	3.0	N.D.
enanthrene	0.30	N.D.
Pyrene	1.0	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

7043754.ERW <11>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

- North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled: Apr 22, 1997
E. Wisconsin Ave., Suite 560	Sample Descript:	Water: SGWB-2	Received: Apr 23, 1997
Milwaukee, WI 53202			
Attention: Jim Kane	Lab Number:	704-3755	Analyzed: Apr 25-30 , 1997
			Reported: May 1, 1997

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/L	Sample Results mg/L
Arsenic	3015/7060	0.050	N.D.
Cadmium	3015/6010	0.010	N.D.
Chromium	3015/6010	0.010	0.012
Copper	3015/6010	0.050	N.D.
Lead	3015/7421	0.0050	N.D.
Mercury	7470	0.0010	N.D.
Selenium	3015/7740	0.010	N.D.
Zinc	3015/6010	0.50	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

7043740.ERW <10>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

M - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 22, 1997
E. Wisconsin Ave., Suite 560	Sample Descript:	Water: SGWB-3	Received:	Apr 23, 1997
waukee, WI 53202	Analysis Method:	EPA 8260		
Attention: Jim Kane	Lab Number:	704-3759	Analyzed:	Apr 30, 1997
			Reported:	May 1, 1997

VOLATILE ORGANICS by GC/MS (EPA 8260)

Analyte	Detection Limit µg/L	Sample Results µg/L
Acetone	10	N.D.
Benzene	2.0	N.D.
Bromodichloromethane	2.0	N.D.
Bromoform	2.0	N.D.
Bromomethane	2.0	N.D.
2-Butanone	10	N.D.
Carbon disulfide	2.0	N.D.
Carbon tetrachloride	2.0	N.D.
Chlorobenzene	2.0	N.D.
Chlorodibromomethane	2.0	N.D.
Chloroethane	2.0	N.D.
2-Chloroethyl vinyl ether	10	N.D.
Chloroform	2.0	N.D.
Chloromethane	2.0	N.D.
1-Dichloroethane	2.0	N.D.
-Dichloroethane	2.0	N.D.
-Dichloroethene	2.0	N.D.
cis 1,2-Dichloroethene	2.0	N.D.
trans 1,2-Dichloroethene	2.0	N.D.
1,2-Dichloropropane	2.0	N.D.
cis 1,3-Dichloropropene	2.0	N.D.
trans 1,3-Dichloropropene	2.0	N.D.
Ethylbenzene	2.0	N.D.
2-Hexanone	10	N.D.
Methylene chloride	2.0	N.D.
4-Methyl-2-pentanone	10	N.D.
Styrene	2.0	N.D.
1,1,2,2-Tetrachloroethane	2.0	N.D.
Tetrachloroethene	2.0	N.D.
Toluene	2.0	N.D.
1,1,1-Trichloroethane	2.0	N.D.
1,1,2-Trichloroethane	2.0	N.D.
Trichloroethene	2.0	N.D.
Trichlorofluoromethane	2.0	N.D.
Vinyl acetate	2.0	N.D.
Vinyl chloride	2.0	N.D.
Total Xylenes	2.0	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

7043740.ERW <30>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

.M - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 22, 1997
E. Wisconsin Ave., Suite 560	Sample Descript:	Water: SGWB-3	Received:	Apr 23, 1997
...waukee, WI 53202	Analysis Method:	EPA 8310	Extracted:	Apr 24, 1997
Attention: Jim Kane	Lab Number:	704-3759	Analyzed:	Apr 24, 1997
			Reported:	May 1, 1997

POLYNUCLEAR AROMATIC HYDROCARBONS (EPA 8310)

Analyte	Detection Limit µg/L	Sample Results µg/L
Acenaphthene	5.0	N.D.
Acenaphthylene	4.0	N.D.
Anthracene	0.20	N.D.
Benzo (a) anthracene	0.010	N.D.
Benzo (a) pyrene	0.0040	N.D.
Benzo (b) fluoranthene	0.020	N.D.
Benzo (ghi) perylene	0.060	N.D.
Benzo (k) fluoranthene	0.010	N.D.
Chrysene	0.050	N.D.
Dibenzo (a,h) anthracene	0.020	N.D.
Fluoranthene	1.0	N.D.
Fluorene	1.0	N.D.
Indeno (1,2,3-cd) pyrene	0.40	N.D.
1-methyl Naphthalene	3.0	N.D.
methyl Naphthalene	3.0	N.D.
ohthalene	3.0	N.D.
enanthrene	0.30	N.D.
Pyrene	1.0	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

7043754.ERW <14>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-99991716O

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

M - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled: Apr 22, 1997
E. Wisconsin Ave., Suite 560	Sample Descript:	Water: SGWB-3	Received: Apr 23, 1997
Milwaukee, WI 53202			
Attention: Jim Kane	Lab Number:	704-3759	Analyzed: Apr 25-30, 1997
			Reported: May 1, 1997

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/L	Sample Results mg/L
Arsenic	3015/7060	0.050	N.D.
Cadmium	3015/6010	0.010	N.D.
Chromium	3015/6010	0.010	0.015
Copper	3015/6010	0.050	N.D.
Lead	3015/7421	0.0050	N.D.
Mercury	7470	0.0010	N.D.
Selenium	3015/7740	0.010	N.D.
Zinc	3015/6010	0.50	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

7043740.ERW <13>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

IM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled: Apr 22, 1997
E. Wisconsin Ave., Suite 560	Sample Descript:	Water: SGWB-4	Received: Apr 23, 1997
...lwaukee, WI 53202	Analysis Method:	EPA 8260	
Attention: Jim Kane	Lab Number:	704-3760	Analyzed: Apr 30, 1997
			Reported: May 1, 1997

VOLATILE ORGANICS by GC/MS (EPA 8260)

Analyte	Detection Limit µg/L	Sample Results µg/L
Acetone	10	N.D.
Benzene	2.0	N.D.
Bromodichloromethane	2.0	N.D.
Bromoform	2.0	N.D.
Bromomethane	2.0	N.D.
2-Butanone	10	N.D.
Carbon disulfide	2.0	N.D.
Carbon tetrachloride	2.0	N.D.
Chlorobenzene	2.0	N.D.
Chlorodibromomethane	2.0	N.D.
Chloroethane	2.0	N.D.
2-Chloroethyl vinyl ether	10	N.D.
Chloroform	2.0	N.D.
Chloromethane	2.0	N.D.
1-Dichloroethane	2.0	N.D.
'-Dichloroethane	2.0	N.D.
,1-Dichloroethene	2.0	N.D.
cis 1,2-Dichloroethene	2.0	N.D.
trans 1,2-Dichloroethene	2.0	N.D.
1,2-Dichloropropane	2.0	N.D.
cis 1,3-Dichloropropene	2.0	N.D.
trans 1,3-Dichloropropene	2.0	N.D.
Ethylbenzene	2.0	N.D.
2-Hexanone	10	N.D.
Methylene chloride	2.0	N.D.
4-Methyl-2-pentanone	10	N.D.
Styrene	2.0	N.D.
1,1,2,2-Tetrachloroethane	2.0	N.D.
Tetrachloroethene	2.0	N.D.
Toluene	2.0	N.D.
1,1,1-Trichloroethane	2.0	N.D.
1,1,2-Trichloroethane	2.0	N.D.
Trichloroethene	2.0	N.D.
Trichlorofluoromethane	2.0	N.D.
Vinyl acetate	2.0	N.D.
Vinyl chloride	2.0	N.D.
Total Xylenes	2.0	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

7043740.ERW <31>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

- North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 22, 1997
. Wisconsin Ave., Suite 560	Sample Descript:	Water: SGWB-4	Received:	Apr 23, 1997
Milwaukee, WI 53202	Analysis Method:	EPA 8310	Extracted:	Apr 24, 1997
Attention: Jim Kane	Lab Number:	704-3760	Analyzed:	Apr 24, 1997
			Reported:	May 1, 1997

POLYNUCLEAR AROMATIC HYDROCARBONS (EPA 8310)

Analyte	Detection Limit ug/L	Sample Results ug/L
Acenaphthene	5.0	N.D.
Acenaphthylene	4.0	N.D.
Anthracene	0.20	N.D.
Benzo (a) anthracene	0.010	N.D.
Benzo (a) pyrene	0.0040	N.D.
Benzo (b) fluoranthene	0.020	N.D.
Benzo (ghi) perylene	0.060	N.D.
Benzo (k) fluoranthene	0.010	N.D.
Chrysene	0.050	N.D.
Dibenzo (a,h) anthracene	0.020	N.D.
Fluoranthene	1.0	N.D.
Fluorene	1.0	N.D.
Indeno (1,2,3-cd) pyrene	0.40	N.D.
1-methyl Naphthalene	3.0	N.D.
2-methyl Naphthalene	3.0	N.D.
aphthalene	3.0	N.D.
enanthrene	0.30	N.D.
yrene	1.0	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

avin W. Keeley
Laboratory Director

7043745.ERW <15>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

1 - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled: Apr 22, 1997
E. Wisconsin Ave., Suite 560	Sample Descript:	Water: SGWB-4	Received: Apr 23, 1997
Milwaukee, WI 53202			
Attention: Jim Kane	Lab Number:	704-3760	Analyzed: Apr 25-30 , 1997
			Reported: May 1, 1997

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/L	Sample Results mg/L
Arsenic	3015/7060	0.050	N.D.
Cadmium	3015/6010	0.010	N.D.
Chromium	3015/6010	0.010	0.013
Copper	3015/6010	0.050	N.D.
Lead	3015/7421	0.0050	N.D.
Mercury	7470	0.0010	N.D.
Selenium	3015/7740	0.010	N.D.
Zinc	3015/6010	0.50	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

7043740.ERW <14>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

RM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 22, 1997
E. Wisconsin Ave., Suite 560	Sample Descript:	Water: SGWB-5	Received:	Apr 23, 1997
waukee, WI 53202	Analysis Method:	EPA 8260		
Attention: Jim Kane	Lab Number:	704-3733	Analyzed:	Apr 30, 1997
			Reported:	May 1, 1997

VOLATILE ORGANICS by GC/MS (EPA 8260)

Analyte	Detection Limit µg/L	Sample Results µg/L
Acetone	10	N.D.
Benzene	2.0	N.D.
Bromodichloromethane	2.0	N.D.
Bromoform	2.0	N.D.
Bromomethane	2.0	N.D.
2-Butanone	10	N.D.
Carbon disulfide	2.0	N.D.
Carbon tetrachloride	2.0	N.D.
Chlorobenzene	2.0	N.D.
Chlorodibromomethane	2.0	N.D.
Chloroethane	2.0	N.D.
2-Chloroethyl vinyl ether	10	N.D.
Chloroform	2.0	N.D.
Chloromethane	2.0	N.D.
1-Dichloroethane	2.0	N.D.
2-Dichloroethane	2.0	N.D.
1-Dichloroethene	2.0	N.D.
cis 1,2-Dichloroethene	2.0	N.D.
trans 1,2-Dichloroethene	2.0	N.D.
1,2-Dichloropropane	2.0	N.D.
cis 1,3-Dichloropropene	2.0	N.D.
trans 1,3-Dichloropropene	2.0	N.D.
Ethylbenzene	2.0	N.D.
2-Hexanone	10	N.D.
Methylene chloride	2.0	N.D.
4-Methyl-2-pentanone	10	N.D.
Styrene	2.0	N.D.
1,1,2,2-Tetrachloroethane	2.0	N.D.
Tetrachloroethene	2.0	N.D.
Toluene	2.0	N.D.
1,1,1-Trichloroethane	2.0	N.D.
1,1,2-Trichloroethane	2.0	N.D.
Trichloroethene	2.0	N.D.
Trichlorofluoromethane	2.0	N.D.
Vinyl acetate	2.0	N.D.
Vinyl chloride	2.0	N.D.
Total Xylenes	2.0	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

7043733.ERW <8>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

1 - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 22, 1997
E. Wisconsin Ave., Suite 560	Sample Descript:	Water: SGWB-5	Received:	Apr 23, 1997
Milwaukee, WI 53202	Analysis Method:	EPA 8310	Extracted:	Apr 24, 1997
Attention: Jim Kane	Lab Number:	704-3733	Analyzed:	Apr 24, 1997
			Reported:	May 1, 1997

POLYNUCLEAR AROMATIC HYDROCARBONS (EPA 8310)

Analyte	Detection Limit µg/L	Sample Results µg/L
Acenaphthene	5.0	N.D.
Acenaphthylene	4.0	N.D.
Anthracene	0.20	N.D.
Benzo (a) anthracene	0.010	N.D.
Benzo (a) pyrene	0.0040	N.D.
Benzo (b) fluoranthene	0.020	N.D.
Benzo (ghi) perylene	0.060	N.D.
Benzo (k) fluoranthene	0.010	N.D.
Chrysene	0.050	N.D.
Dibenzo (a,h) anthracene	0.020	N.D.
Fluoranthene	1.0	N.D.
Fluorene	1.0	N.D.
Indeno (1,2,3-cd) pyrene	0.40	N.D.
methyl Naphthalene	3.0	N.D.
methyl Naphthalene	3.0	N.D.
phthalene	3.0	N.D.
Phenanthrene	0.30	N.D.
Pyrene	1.0	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

7043733.ERW <15>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

- North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled: Apr 22, 1997
E. Wisconsin Ave., Suite 560	Sample Descript:	Water: SGWB-5	Received: Apr 23, 1997
Milwaukee, WI 53202			
Attention: Jim Kane	Lab Number:	704-3733	Analyzed: Apr 25-30 , 1997
			Reported: May 1, 1997

LABORATORY ANALYSIS: DISSOLVED METALS

Analyte	EPA Method	Detection Limit mg/L	Sample Results mg/L
Arsenic	3015/7060	0.050	N.D.
Cadmium	3015/6010	0.010	N.D.
Chromium	3015/6010	0.010	0.014
Copper	3015/6010	0.050	N.D.
Lead	3015/7421	0.0050	N.D.
Mercury	7470	0.0010	N.D.
Selenium	3015/7740	0.010	N.D.
Zinc	3015/6010	0.50	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

7043733.ERW <1>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

M - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled: Apr 22, 1997
E. Wisconsin Ave., Suite 560	Sample Descript:	Water: SGWB-6	Received: Apr 23, 1997
Milwaukee, WI 53202	Analysis Method:	EPA 8260	
Attention: Jim Kane	Lab Number:	704-3735	Analyzed: Apr 30, 1997
			Reported: May 1, 1997

VOLATILE ORGANICS by GC/MS (EPA 8260)

Analyte	Detection Limit µg/L	Sample Results µg/L
Acetone	10	N.D.
Benzene	2.0	N.D.
Bromodichloromethane	2.0	N.D.
Bromoform	2.0	N.D.
Bromomethane	2.0	N.D.
2-Butanone	10	N.D.
Carbon disulfide	2.0	N.D.
Carbon tetrachloride	2.0	N.D.
Chlorobenzene	2.0	N.D.
Chlorodibromomethane	2.0	N.D.
Chloroethane	2.0	N.D.
2-Chloroethyl vinyl ether	10	N.D.
Chloroform	2.0	N.D.
Chloromethane	2.0	N.D.
1-Dichloroethane	2.0	N.D.
-Dichloroethane	2.0	N.D.
,1-Dichloroethene	2.0	N.D.
cis 1,2-Dichloroethene	2.0	N.D.
trans 1,2-Dichloroethene	2.0	N.D.
1,2-Dichloropropane	2.0	N.D.
cis 1,3-Dichloropropene	2.0	N.D.
trans 1,3-Dichloropropene	2.0	N.D.
Ethylbenzene	2.0	N.D.
2-Hexanone	10	N.D.
Methylene chloride	2.0	N.D.
4-Methyl-2-pentanone	10	N.D.
Styrene	2.0	N.D.
1,1,2,2-Tetrachloroethane	2.0	N.D.
Tetrachloroethene	2.0	N.D.
Toluene	2.0	N.D.
1,1,1-Trichloroethane	2.0	N.D.
1,1,2-Trichloroethane	2.0	N.D.
Trichloroethene	2.0	N.D.
Trichlorofluoromethane	2.0	N.D.
Vinyl acetate	2.0	N.D.
Vinyl chloride	2.0	N.D.
Total Xylenes	2.0	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

7043733.ERW <10>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

1 - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 22, 1997
E. Wisconsin Ave., Suite 560	Sample Descript:	Water: SGWB-6	Received:	Apr 23, 1997
Milwaukee, WI 53202	Analysis Method:	EPA 8310	Extracted:	Apr 24, 1997
Attention: Jim Kane	Lab Number:	704-3735	Analyzed:	Apr 24, 1997
			Reported:	May 1, 1997

POLYNUCLEAR AROMATIC HYDROCARBONS (EPA 8310)

Analyte	Detection Limit µg/L	Sample Results µg/L
Acenaphthene	5.0	N.D.
Acenaphthylene	4.0	N.D.
Anthracene	0.20	N.D.
Benzo (a) anthracene	0.010	N.D.
Benzo (a) pyrene	0.0040	N.D.
Benzo (b) fluoranthene	0.020	N.D.
Benzo (ghi) perylene	0.060	N.D.
Benzo (k) fluoranthene	0.010	N.D.
Chrysene	0.050	N.D.
Dibenzo (a,h) anthracene	0.020	N.D.
Fluoranthene	1.0	N.D.
Fluorene	1.0	N.D.
Indeno (1,2,3-cd) pyrene	0.40	N.D.
methyl Naphthalene	3.0	N.D.
methyl Naphthalene	3.0	N.D.
phthalene	3.0	N.D.
Phenanthrene	0.30	N.D.
Pyrene	1.0	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

7043733.ERW <17>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

RM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled: Apr 22, 1997
E. Wisconsin Ave., Suite 560	Sample Descript:	Water: SGWB-6	Received: Apr 23, 1997
Milwaukee, WI 53202			
Attention: Jim Kane	Lab Number:	704-3735	Analyzed: Apr 25-30, 1997
			Reported: May 1, 1997

LABORATORY ANALYSIS: DISSOLVED METALS

Analyte	EPA Method	Detection Limit mg/L	Sample Results mg/L
Arsenic	3015/7060	0.050	N.D.
Cadmium	3015/6010	0.010	0.011
Chromium	3015/6010	0.010	0.011
Copper	3015/6010	0.050	N.D.
Lead	3015/7421	0.0050	N.D.
Mercury	7470	0.0010	N.D.
Selenium	3015/7740	0.010	N.D.
Zinc	3015/6010	0.50	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

7043733.ERW <3>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

RM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled: Apr 22, 1997
1 E. Wisconsin Ave., Suite 560	Sample Descript:	Water: SGWB-7	Received: Apr 23, 1997
Milwaukee, WI 53202	Analysis Method:	EPA 8260	
Attention: Jim Kane	Lab Number:	704-3736	Analyzed: Apr 30, 1997
			Reported: May 1, 1997

VOLATILE ORGANICS by GC/MS (EPA 8260)

Analyte	Detection Limit µg/L	Sample Results µg/L
Acetone	10	N.D.
Benzene	2.0	N.D.
Bromodichloromethane	2.0	N.D.
Bromoform	2.0	N.D.
Bromomethane	2.0	N.D.
2-Butanone	10	N.D.
Carbon disulfide	2.0	N.D.
Carbon tetrachloride	2.0	N.D.
Chlorobenzene	2.0	N.D.
Chlorodibromomethane	2.0	N.D.
Chloroethane	2.0	N.D.
2-Chloroethyl vinyl ether	10	N.D.
Chloroform	2.0	N.D.
Chloromethane	2.0	N.D.
1-Dichloroethane	2.0	N.D.
2-Dichloroethane	2.0	N.D.
1,1-Dichloroethene	2.0	N.D.
cis 1,2-Dichloroethene	2.0	N.D.
trans 1,2-Dichloroethene	2.0	N.D.
1,2-Dichloropropane	2.0	N.D.
cis 1,3-Dichloropropene	2.0	N.D.
trans 1,3-Dichloropropene	2.0	N.D.
Ethylbenzene	2.0	N.D.
2-Hexanone	10	N.D.
Methylene chloride	2.0	N.D.
4-Methyl-2-pentanone	10	N.D.
Styrene	2.0	N.D.
1,1,2,2-Tetrachloroethane	2.0	N.D.
Tetrachloroethene	2.0	N.D.
Toluene	2.0	N.D.
1,1,1-Trichloroethane	2.0	N.D.
1,1,2-Trichloroethane	2.0	N.D.
Trichloroethene	2.0	N.D.
Trichlorofluoromethane	2.0	N.D.
Vinyl acetate	2.0	N.D.
Vinyl chloride	2.0	N.D.
Total Xylenes	2.0	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

7043733.ERW <11>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

RM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 22, 1997
1 E. Wisconsin Ave., Suite 560	Sample Descript:	Water: SGWB-7	Received:	Apr 23, 1997
Milwaukee, WI 53202	Analysis Method:	EPA 8310	Extracted:	Apr 24, 1997
Attention: Jim Kane	Lab Number:	704-3736	Analyzed:	Apr 24, 1997
			Reported:	May 1, 1997

POLYNUCLEAR AROMATIC HYDROCARBONS (EPA 8310)

Analyte	Detection Limit µg/L	Sample Results µg/L
Acenaphthene	5.0	N.D.
Acenaphthylene	4.0	N.D.
Anthracene	0.20	N.D.
Benzo (a) anthracene	0.010	0.18
Benzo (a) pyrene	0.0040	0.20
Benzo (b) fluoranthene	0.020	0.16
Benzo (ghi) perylene	0.060	0.34
Benzo (k) fluoranthene	0.010	0.080
Chrysene	0.050	0.49
Dibenzo (a,h) anthracene	0.020	0.090
Fluoranthene	1.0	1.1
Fluorene	1.0	N.D.
Indeno (1,2,3-cd) pyrene	0.40	N.D.
1-methyl Naphthalene	3.0	N.D.
-methyl Naphthalene	3.0	N.D.
aphthalene	3.0	N.D.
Phenanthrene	0.30	N.D.
Pyrene	1.0	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

7043733.ERW <18>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

1 - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled: Apr 22, 1997
1 E. Wisconsin Ave., Suite 560	Sample Descript:	Water: SGWB-7	Received: Apr 23, 1997
Milwaukee, WI 53202			
Attention: Jim Kane	Lab Number:	704-3736	Analyzed: Apr 25-30, 1997
			Reported: May 1, 1997

LABORATORY ANALYSIS: DISSOLVED METALS

Analyte	EPA Method	Detection Limit mg/L	Sample Results mg/L
Arsenic	3015/7060	0.050	N.D.
Cadmium	3015/6010	0.010	N.D.
Chromium	3015/6010	0.010	0.014
Copper	3015/6010	0.050	N.D.
Lead	3015/7421	0.0050	N.D.
Mercury	7470	0.0010	N.D.
Selenium	3015/7740	0.010	N.D.
Zinc	3015/6010	0.50	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

7043733.ERW <4>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; [illegible] DEP 68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

M - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 22, 1997
E. Wisconsin Ave., Suite 560	Sample Descript:	Water: SGWB-8	Received:	Apr 23, 1997
Milwaukee, WI 53202	Analysis Method:	EPA 8260		
Attention: Jim Kane	Lab Number:	704-3737	Analyzed:	Apr 30, 1997
			Reported:	May 1, 1997

VOLATILE ORGANICS by GC/MS (EPA 8260)

Analyte	Detection Limit µg/L	Sample Results µg/L
Acetone	10	N.D.
Benzene	2.0	N.D.
Bromodichloromethane	2.0	N.D.
Bromoform	2.0	N.D.
Bromomethane	2.0	N.D.
2-Butanone	10	N.D.
Carbon disulfide	2.0	N.D.
Carbon tetrachloride	2.0	N.D.
Chlorobenzene	2.0	N.D.
Chlorodibromomethane	2.0	N.D.
Chloroethane	2.0	N.D.
2-Chloroethyl vinyl ether	10	N.D.
Chloroform	2.0	N.D.
Chloromethane	2.0	N.D.
1-Dichloroethane	2.0	N.D.
-Dichloroethane	2.0	N.D.
1,1-Dichloroethene	2.0	N.D.
cis 1,2-Dichloroethene	2.0	N.D.
trans 1,2-Dichloroethene	2.0	N.D.
1,2-Dichloropropane	2.0	N.D.
cis 1,3-Dichloropropene	2.0	N.D.
trans 1,3-Dichloropropene	2.0	N.D.
Ethylbenzene	2.0	N.D.
2-Hexanone	10	N.D.
Methylene chloride	2.0	N.D.
4-Methyl-2-pentanone	10	N.D.
Styrene	2.0	N.D.
1,1,2,2-Tetrachloroethane	2.0	N.D.
Tetrachloroethene	2.0	N.D.
Toluene	2.0	N.D.
1,1,1-Trichloroethane	2.0	N.D.
1,1,2-Trichloroethane	2.0	N.D.
Trichloroethene	2.0	N.D.
Trichlorofluoromethane	2.0	N.D.
Vinyl acetate	2.0	N.D.
Vinyl chloride	2.0	N.D.
Total Xylenes	2.0	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

7043733.ERW <12>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP 68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

1 - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 22, 1997
E. Wisconsin Ave., Suite 560	Sample Descript:	Water: SGWB-8	Received:	Apr 23, 1997
Milwaukee, WI 53202	Analysis Method:	EPA 8310	Extracted:	Apr 24, 1997
Attention: Jim Kane	Lab Number:	704-3737	Analyzed:	Apr 24, 1997
			Reported:	May 1, 1997

POLYNUCLEAR AROMATIC HYDROCARBONS (EPA 8310)

Analyte	Detection Limit µg/L	Sample Results µg/L
Acenaphthene	5.0	N.D.
Acenaphthylene	4.0	N.D.
Anthracene	0.20	N.D.
Benzo (a) anthracene	0.010	N.D.
Benzo (a) pyrene	0.0040	N.D.
Benzo (b) fluoranthene	0.020	N.D.
Benzo (ghi) perylene	0.060	N.D.
Benzo (k) fluoranthene	0.010	N.D.
Chrysene	0.050	N.D.
Dibenzo (a,h) anthracene	0.020	N.D.
Fluoranthene	1.0	N.D.
Fluorene	1.0	N.D.
Indeno (1,2,3-cd) pyrene	0.40	N.D.
methyl Naphthalene	3.0	N.D.
methyl Naphthalene	3.0	N.D.
phthalene	3.0	N.D.
Phenanthrene	0.30	N.D.
Pyrene	1.0	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

7043733.ERW <19>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Tennessee DOH 02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

1 - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled: Apr 22, 1997
. . E. Wisconsin Ave., Suite 560	Sample Descript:	Water: SGWB-8	Received: Apr 23, 1997
Milwaukee, WI 53202			
Attention: Jim Kane	Lab Number:	704-3737	Analyzed: Apr 25-30 , 1997
			Reported: May 1, 1997

LABORATORY ANALYSIS: DISSOLVED METALS

Analyte	EPA Method	Detection Limit mg/L	Sample Results mg/L
Arsenic	3015/7060	0.050	N.D.
Cadmium	3015/6010	0.010	N.D.
Chromium	3015/6010	0.010	0.014
Copper	3015/6010	0.050	N.D.
Lead	3015/7421	0.0050	N.D.
Mercury	7470	0.0010	N.D.
Selenium	3015/7740	0.010	N.D.
Zinc	3015/6010	0.50	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

7043733.ERW <5>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Tennessee DOH 02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

RM - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 22, 1997
1 E. Wisconsin Ave., Suite 560	Sample Descript:	Water: SGWB-9	Received:	Apr 23, 1997
Milwaukee, WI 53202	Analysis Method:	EPA 8260		
Attention: Jim Kane	Lab Number:	704-3738	Analyzed:	Apr 30, 1997
			Reported:	May 1, 1997

VOLATILE ORGANICS by GC/MS (EPA 8260)

Analyte	Detection Limit µg/L	Sample Results µg/L
Acetone	10	N.D.
Benzene	2.0	N.D.
Bromodichloromethane	2.0	N.D.
Bromoform	2.0	N.D.
Bromomethane	2.0	N.D.
2-Butanone	10	N.D.
Carbon disulfide	2.0	N.D.
Carbon tetrachloride	2.0	N.D.
Chlorobenzene	2.0	N.D.
Chlorodibromomethane	2.0	N.D.
Chloroethane	2.0	N.D.
2-Chloroethyl vinyl ether	10	N.D.
Chloroform	2.0	N.D.
Chloromethane	2.0	N.D.
1-Dichloroethane	2.0	N.D.
2-Dichloroethane	2.0	N.D.
1,1-Dichloroethene	2.0	N.D.
cis 1,2-Dichloroethene	2.0	N.D.
trans 1,2-Dichloroethene	2.0	N.D.
1,2-Dichloropropane	2.0	N.D.
cis 1,3-Dichloropropene	2.0	N.D.
trans 1,3-Dichloropropene	2.0	N.D.
Ethylbenzene	2.0	N.D.
2-Hexanone	10	N.D.
Methylene chloride	2.0	N.D.
4-Methyl-2-pentanone	10	N.D.
Styrene	2.0	N.D.
1,1,2,2-Tetrachloroethane	2.0	N.D.
Tetrachloroethene	2.0	N.D.
Toluene	2.0	N.D.
1,1,1-Trichloroethane	2.0	N.D.
1,1,2-Trichloroethane	2.0	N.D.
Trichloroethene	2.0	N.D.
Trichlorofluoromethane	2.0	N.D.
Vinyl acetate	2.0	N.D.
Vinyl chloride	2.0	N.D.
Total Xylenes	2.0	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

7043733.ERW <13>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DER 68-509; Tennessee DOH 02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

I - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 22, 1997
1 E. Wisconsin Ave., Suite 560	Sample Descript:	Water: SGWB-9	Received:	Apr 23, 1997
Milwaukee, WI 53202	Analysis Method:	EPA 8310	Extracted:	Apr 24, 1997
Attention: Jim Kane	Lab Number:	704-3738	Analyzed:	Apr 24, 1997
			Reported:	May 1, 1997

POLYNUCLEAR AROMATIC HYDROCARBONS (EPA 8310)

Analyte	Detection Limit µg/L	Sample Results µg/L
Acenaphthene	5.0	N.D.
Acenaphthylene	4.0	N.D.
Anthracene	0.20	N.D.
Benzo (a) anthracene	0.010	N.D.
Benzo (a) pyrene	0.0040	N.D.
Benzo (b) fluoranthene	0.020	N.D.
Benzo (ghi) perylene	0.060	N.D.
Benzo (k) fluoranthene	0.010	N.D.
Chrysene	0.050	N.D.
Dibenzo (a,h) anthracene	0.020	N.D.
Fluoranthene	1.0	N.D.
Fluorene	1.0	N.D.
Indeno (1,2,3-cd) pyrene	0.40	N.D.
-methyl Naphthalene	3.0	N.D.
nethyl Naphthalene	3.0	N.D.
aphthalene	3.0	N.D.
Phenanthrene	0.30	N.D.
Pyrene	1.0	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

7043733.ERW <20>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

- North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled: Apr 22, 1997
6.. E. Wisconsin Ave., Suite 560	Sample Descript:	Water: SGWB-9	Received: Apr 23, 1997
Milwaukee, WI 53202			
Attention: Jim Kane	Lab Number:	704-3738	Analyzed: Apr 25-30 , 1997
			Reported: May 1, 1997

LABORATORY ANALYSIS: DISSOLVED METALS

Analyte	EPA Method	Detection Limit mg/L	Sample Results mg/L
Arsenic	3015/7060	0.050	N.D.
Cadmium	3015/6010	0.010	N.D.
Chromium	3015/6010	0.010	0.013
Copper	3015/6010	0.050	N.D.
Lead	3015/7421	0.0050	N.D.
Mercury	7470	0.0010	N.D.
Selenium	3015/7740	0.010	N.D.
Zinc	3015/6010	0.50	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

7043733.ERW <6>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; [illegible] DOH 02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

'l - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 22, 1997
E. Wisconsin Ave., Suite 560	Sample Descript:	Water: SGWB-10	Received:	Apr 23, 1997
Milwaukee, WI 53202	Analysis Method:	EPA 8260		
Attention: Jim Kane	Lab Number:	704-3739	Analyzed:	Apr 30, 1997
			Reported:	May 1, 1997

VOLATILE ORGANICS by GC/MS (EPA 8260)

Analyte	Detection Limit µg/L	Sample Results µg/L
Acetone	10	N.D.
Benzene	2.0	N.D.
Bromodichloromethane	2.0	N.D.
Bromoform	2.0	N.D.
Bromomethane	2.0	N.D.
2-Butanone	10	N.D.
Carbon disulfide	2.0	N.D.
Carbon tetrachloride	2.0	N.D.
Chlorobenzene	2.0	N.D.
Chlorodibromomethane	2.0	N.D.
Chloroethane	2.0	N.D.
2-Chloroethyl vinyl ether	10	N.D.
Chloroform	2.0	N.D.
'hloromethane	2.0	N.D.
1-Dichloroethane	2.0	N.D.
-Dichloroethane	2.0	N.D.
1,1-Dichloroethene	2.0	N.D.
cis 1,2-Dichloroethene	2.0	N.D.
trans 1,2-Dichloroethene	2.0	N.D.
1,2-Dichloropropane	2.0	N.D.
cis 1,3-Dichloropropene	2.0	N.D.
trans 1,3-Dichloropropene	2.0	N.D.
Ethylbenzene	2.0	N.D.
2-Hexanone	10	N.D.
Methylene chloride	2.0	N.D.
4-Methyl-2-pentanone	10	N.D.
Styrene	2.0	N.D.
1,1,2,2-Tetrachloroethane	2.0	N.D.
Tetrachloroethene	2.0	N.D.
Toluene	2.0	N.D.
1,1,1-Trichloroethane	2.0	N.D.
1,1,2-Trichloroethane	2.0	N.D.
Trichloroethene	2.0	N.D.
Trichlorofluoromethane	2.0	N.D.
Vinyl acetate	2.0	N.D.
Vinyl chloride	2.0	N.D.
Total Xylenes	2.0	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

7043733.ERW <14>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

- North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 22, 1997
6 E. Wisconsin Ave., Suite 560	Sample Descript:	Water: SGWB-10	Received:	Apr 23, 1997
Milwaukee, WI 53202	Analysis Method:	EPA 8310	Extracted:	Apr 24, 1997
Attention: Jim Kane	Lab Number:	704-3739	Analyzed:	Apr 24, 1997
			Reported:	May 1, 1997

POLYNUCLEAR AROMATIC HYDROCARBONS (EPA 8310)

Analyte	Detection Limit µg/L	Sample Results µg/L
Acenaphthene	5.0	N.D.
Acenaphthylene	4.0	N.D.
Anthracene	0.20	N.D.
Benzo (a) anthracene	0.010	N.D.
Benzo (a) pyrene	0.0040	N.D.
Benzo (b) fluoranthene	0.020	N.D.
Benzo (ghl) perylene	0.060	N.D.
Benzo (k) fluoranthene	0.010	N.D.
Chrysene	0.050	N.D.
Dibenzo (a,h) anthracene	0.020	N.D.
Fluoranthene	1.0	N.D.
Fluorene	1.0	N.D.
Indeno (1,2,3-cd) pyrene	0.40	N.D.
methyl Naphthalene	3.0	N.D.
methyl Naphthalene	3.0	N.D.
Naphthalene	3.0	N.D.
Phenanthrene	0.30	N.D.
Pyrene	1.0	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

7043733.ERW <21>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; [illegible] DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

- North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled: Apr 22, 1997
. . E. Wisconsin Ave., Suite 560	Sample Descript:	Water: SGWB-10	Received: Apr 23, 1997
Milwaukee, WI 53202			
Attention: Jim Kane	Lab Number:	704-3739	Analyzed: Apr 25-30 , 1997
			Reported: May 1, 1997

LABORATORY ANALYSIS: DISSOLVED METALS

Analyte	EPA Method	Detection Limit mg/L	Sample Results mg/L
Arsenic	3015/7060	0.050	N.D.
Cadmium	3015/6010	0.010	N.D.
Chromium	3015/6010	0.010	0.015
Copper	3015/6010	0.050	N.D.
Lead	3015/6010	0.0050	N.D.
Mercury	7470	0.0010	N.D.
Selenium	3015/7740	0.010	N.D.
Zinc	3015/6010	0.50	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

7043733.ERW <7>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; [illegible] DSB 68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

1 - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 22, 1997
, E. Wisconsin Ave., Suite 560	Sample Descript:	Water: TB-1	Received:	Apr 23, 1997
Milwaukee, WI 53202	Analysis Method:	EPA 8260		
Attention: Jim Kane	Lab Number:	704-3758	Analyzed:	Apr 30, 1997
			Reported:	May 1, 1997

VOLATILE ORGANICS by GC/MS (EPA 8260)

Analyte	Detection Limit µg/L	Sample Results µg/L
Acetone	10	N.D.
Benzene	2.0	N.D.
Bromodichloromethane	2.0	N.D.
Bromoform	2.0	N.D.
Bromomethane	2.0	N.D.
2-Butanone	10	N.D.
Carbon disulfide	2.0	N.D.
Carbon tetrachloride	2.0	N.D.
Chlorobenzene	2.0	N.D.
Chlorodibromomethane	2.0	N.D.
Chloroethane	2.0	N.D.
2-Chloroethyl vinyl ether	10	N.D.
Chloroform	2.0	N.D.
hloromethane	2.0	N.D.
1-Dichloroethane	2.0	N.D.
,2-Dichloroethane	2.0	N.D.
1,1-Dichloroethene	2.0	N.D.
cis 1,2-Dichloroethene	2.0	N.D.
trans 1,2-Dichloroethene	2.0	N.D.
1,2-Dichloropropane	2.0	N.D.
cis 1,3-Dichloropropene	2.0	N.D.
trans 1,3-Dichloropropene	2.0	N.D.
Ethylbenzene	2.0	N.D.
2-Hexanone	10	N.D.
Methylene chloride	2.0	N.D.
4-Methyl-2-pentanone	10	N.D.
Styrene	2.0	N.D.
1,1,2,2-Tetrachloroethane	2.0	N.D.
Tetrachloroethene	2.0	N.D.
Toluene	2.0	N.D.
1,1,1-Trichloroethane	2.0	N.D.
1,1,2-Trichloroethane	2.0	N.D.
Trichloroethene	2.0	N.D.
Trichlorofluoromethane	2.0	N.D.
Vinyl acetate	2.0	N.D.
Vinyl chloride	2.0	N.D.
Total Xylenes	2.0	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

7043740.ERW <29>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487;

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

I - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled: Apr 21, 1997
6.. E. Wisconsin Ave., Suite 560	Sample Descript:	Soil	Received: Apr 22, 1997
Milwaukee, WI 53202	Analysis for:	Percent Solids, EPA 7.3.3.1.5	
Attention: Jim Kane	First Sample #:	704-3666	Analyzed: Apr 28, 1997
			Reported: Apr 30, 1997

LABORATORY ANALYSIS FOR: Percent Solids, EPA 7.3.3.1.5

Sample Number	Sample Description	Detection Limit %	Sample Result %
704-3666	Lagoon 1A	0.10	29
704-3667	Lagoon 1B	0.10	73
704-3668	Lagoon 2A	0.10	90
704-3669	Lagoon 2B	0.10	88
704-3670	Lagoon 3A	0.10	61
704-3671	Lagoon 3B	0.10	89
704-3672	Lagoon 4A	0.10	79
704-3673	Lagoon 4B	0.10	81
704-3699	SCSB-1	0.10	95
704-3700	SCSB-2A	0.10	85
704-3702	SCSB-3	0.10	93
704-3703	SCSB-4	0.10	95

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

7043666.ERW <1>

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

- North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 21, 1997
E. Wisconsin Ave., Suite 560	Sample Descript:	Soil	Received:	Apr 22, 1997
Milwaukee, WI 53202	Analysis for:	Percent Solids, EPA 7.3.3.1.5		
Attention: Jim Kane	First Sample #:	704-3704	Analyzed:	Apr 28, 1997
			Reported:	Apr 30, 1997

LABORATORY ANALYSIS FOR: Percent Solids, EPA 7.3.3.1.5

Sample Number	Sample Description	Detection Limit %	Sample Result %
704-3704	SCSB-5	0.10	89
704-3705	DG1	0.10	94
704-3706	DG2	0.10	95
704-3707	DG3	0.10	89
704-3708	DG4	0.10	83
704-3709	DG5	0.10	94
704-3710	SBA-1A	0.10	92
704-3711	SBA-1C/D	0.10	94
704-3712	SBA-2A	0.10	89
704-3713	SBA-2D	0.10	95

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

7043666.ERW <2>

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

- North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled: Apr 21-22, 1997
6.. E. Wisconsin Ave., Suite 560	Sample Descript:	Soil	Received: Apr 23, 1997
Milwaukee, WI 53202	Analysis for:	Percent Solids, EPA 7.3.3.1.5	
Attention: Jim Kane	First Sample #:	704-3740	Analyzed: Apr 28, 1997
			Reported: May 1, 1997

LABORATORY ANALYSIS FOR: Percent Solids, EPA 7.3.3.1.5

Sample Number	Sample Description	Detection Limit %	Sample Result %
704-3740	BK1	0.10	94
704-3741	BK2	0.10	94
704-3742	BK3	0.10	92
704-3743	BK4	0.10	91
704-3744	BK5	0.10	91
704-3745	SBA-5A	0.10	79
704-3746	SBA-4C/D	0.10	96
704-3747	SBA-5F	0.10	86
704-3748	SBA-3F	0.10	97
704-3749	SBA-3A	0.10	90
704-3750	SBA-4B	0.10	91

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

7043740.ERW <1>

Certifications: AALA-461.01; US Army Corps of Engineers: Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; [illegible] DOH 02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL 1380 Busch Parkway • Buffalo Grove, Illinois 60089 (847) 808-7766 FAX (847) 808-7772

1 - North Central, Inc.	Client Project ID:	97058JK, Simpson	Sampled:	Apr 22, 1997
E. Wisconsin Ave., Suite 560	Sample Descript:	Soil	Received:	Apr 23, 1997
Milwaukee, WI 53202	Analysis for:	Percent Solids, EPA 7.3.3.1.5		
Attention: Jim Kane	First Sample #:	704-3751	Analyzed:	Apr 28, 1997
			Reported:	May 1, 1997

LABORATORY ANALYSIS FOR: Percent Solids, EPA 7.3.3.1.5

Sample Number	Sample Description	Detection Limit %	Sample Result %
704-3751	SBG-1A/B	0.10	91
704-3752	SBG-1C/D	0.10	93

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

7043740.ERW <2>

Certifications: AALA-461.01; US Army Corps of Engineers; Delaware HSS-IL069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; Virginia DGS-00164; Wisconsin DNR-999917160

ERM-North Central, Inc.

SAMPLE CHAIN OF CUSTODY

W.O.No.: 97058JK | Project Name: SIMPSON

Sampler: BRIAN MEINEN, CORY HENCHSEN

ERM Sample Number	Date	Time	COMP	GRAB	Station Location		Number of Containers	METALS	PCB'S				Remarks
													Metals: As, Cd, Cr, Cu, Pb, Hg, Se, Zn. per Jim Kane @ ERM. ICK 4/23/97
LAGOON 1A	4/21/97	940		X	LAGOON 1	S	1	1					7043666
LAGOON 1B		1000		X	"	S	1	1					7043667
LAGOON 2A		1010		X	LAGOON 2	S	1	1					7043668
LAGOON 2B		1025		X	"	S	1	1					7043669
LAGOON 3A		1035		X	LAGOON 3	S	1	1					7043670
LAGOON 3B		1045		X	"	S	1	1					7043671
LAGOON 4A		1055		X	LAGOON 4	S	1	1					7043672
LAGOON 4B		1105		X	"	S	1	1					7043673
EIN		1204		X	ELEVATOR #1	W	1		1				7043674
EIB		1208		X	"		1		1				7043675
EIS		1200		X	"		1		1				7043676
EIW		1202		X	"		1		1				7043677
EIE		1206		X	"		1		1				7043678

Sample Relinquished by:	Date	Time	Sample Received by:	Date	Time	Reason for Transfer
[signature]	4/21/97	1700	K. Knull	4/22/97	1000	

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ERM-North Central, Inc.

SAMPLE CHAIN OF CUSTODY

W.O.No.: 97058JK

Project Name: SIMPSON

Sampler: BRIAN MEINEN, CORY HENCHSEN

ERM Sample Number	Date	Time	COMP	GRAB	Station Location	Number of Containers	PCB's					Remarks
E5W	4/21/97	1219		✓	ELEVATOR #5	1	✓					7043679
E5B		1223		✓	"	1	✓					7043680
E5S		1217		✓	"	1	✓					7043681
E5N		1215		✓	"	1	✓					7043682
E5E		1221		✓	"	1	✓					7043683
E2W		1231		✓	ELEVATOR #2	1	✓					7043684
E2B		1235		✓	"	1	✓					7043685
E2N		1227		✓	"	1	✓					7043686
E2E		1233		✓	"	1	✓					7043687
E2S		1229		✓	"	1	✓					7043688
E7E		1243		✓	ELEVATOR #7	1	✓					7043689
E7B		1245		✓	"	1	✓					7043690
E7N		1237		✓	"	1	✓					7043691

Sample Relinquished by:	Date	Time	Sample Received by:	Date	Time	Reason for Transfer
[illegible]	4/21/97	1700	K. Kuell	4/22	1000	

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ERM-North Central, Inc.

SAMPLE CHAIN OF CUSTODY

W.O.No.: 97058JK

Project Name: SIMPSON

Samplers: BRIAN MEINEN, CORY HENCHSEN

ERM Sample Number	Date	Time	COMP	GRAB	Station Location	Number of Containers	PCBs	METALS-~~[illegible]~~	PAH-83CO			Remarks Metals: As, Cd, Cr, Cu, Pb, Hg, Se, Zn
E7S	4/21/97	1239		✓	ELEVATOR #7 W	1	1					7043692
E7W		1241		✓	"	1	1					7043693
E6E		1253		✓	ELEVATOR #6	1	1					7043694
E6S		1249		✓	"	1	1					7043695
E6N		1247		✓	"	1	1					7043696
E6W		1251		✓	"	1	1					7043697
E6B		1255		✓	"	1	1					7043698
SCSB-1		953		✓	COAL PILE S	1		1	1			7043699
SCSB-2A		1002		✓	"	1		1	1			7043700
SCSB-2B		1023		✓	"	1		1	1			HOLD 7043701
SCSB-3		1036		✓	"	1		1	1			7043702
SCSB-4		1053		✓	"	1		1	1			7043703
SCSB-5		1106		✓	"	1		1	1			7043704

Sample Relinquished by:	Date	Time	Sample Received by:	Date	Time	Reason for Transfer
[signature]	4/21/97	1760	K. Kuell	4/22/97		

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ERM-North Central, Inc.

SAMPLE CHAIN OF CUSTODY

W.O.No.: 97058JK

Project Name: SIMPSON

Sampler: BRIAN MEINER, CORY HENCHSEN

ERM Sample Number	Date	Time	COMP	GRAB	Station Location	Number of Containers	METALS	PAH - 8310	VOC - 8260	LEAD			Remarks Metals: As, Cd, Cr, Cu, Pb, Hg, Se, Zn
DG1	4/21/97	1425		✓	DOWN GRADIENT CONC	1	1	1					7043705
DG2		1426		✓	"	1	1	1					7043706
DG3		1431		✓	"	1	1	1					7043707
DG4		1451		✓	"	1	1	1					7043708
DG5		1500		✓	"	1	1	1					7043709
SBA-1A		1143		✓	~~200 gal~~ #6 FUEL OIL	2	2	1	1	1			7043710
SBA-1CD		1159		✓	#6 FUEL OIL AST	2	2	1	1	1			7043711
SBA-2A		1305		✓	"	2	2	1	1	1			7043712
SBA-2D		1314		✓	"	2	2	1	1	1			7043713

Sample Relinquished by:	Date	Time	Sample Received by:	Date	Time	Reason for Transfer
[signature]	4/21/97	1700	K. Kull	4/22/97	1000	

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ERM-North Central, Inc.

SAMPLE CHAIN OF CUSTODY

W.O.No.: 97058JR

Project Name: SIMPSON

Sampler: BRIAN MEINEN / CORY HENSCHEN / DEBBIE PARS

ERM Sample Number	Date	Time	COMP	GRAB	Station Location	Number of Containers	METALS	VOC	PAH + Pb			Remarks Metal: As, Cd, Cr, Cu, Pb, Hg, Se, Zn
BK1	4-22-97	10:30		✓	BACKGROUND	1	1	0	0			7043740
BK2		10:25		✓		1	1	0	0			7043741
BK3		10:20		✓		1	1	0	0			7043742
BK4		10:15		✓		1	1	0	0			7043743
BK5		10:05		✓		1	1	0	0			7043744
SBA-5A	4-21-97	17:35		✓	#6 Fuel Oil AST	2	0	1	1			7043745
SBA-4C/D		16:28		✓		2	0	1	1			7043746
SBA-5F		18:11		✓		2	0	1	1			7043747
SBA-3F		15:29		✓		2	0	1	1			7043748
SBA-3A		15:19		✓		2	0	1	1			7043749
SBA-4B		16:24		✓		2	0	1	1			7043750
SBG-1A/B	4-22-97	08:30		✓	GASOLINE UST	2	0	1	1			7043751
SBG-1C/D		08:30		✓		2	0	1	1			7043752

Sample Relinquished by:	Date	Time	Sample Received by:	Date	Time	Reason for Transfer
CBH	4-23-97	10:00	K. Kull	4/23	1000	

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ERM-North Central, Inc.

SAMPLE CHAIN OF CUSTODY

W.O.No.: 97058 JK

Project Name: SIMPSON

Sampler: DEBBIE PARKS

ERM Sample Number	Date	Time	COMP	GRAB	Station Location	Number of Containers	VOC	Dissolved ~~Pb~~ Metals	PAH			Remarks (KK 4/23) Metals: As, Cd, Cr, Cu, Pb, Hg, Se, Zn
SGWA-4	4-21-97	17:00		✓	#6 Fuel Oil AST	5	3	1	1			Dissolved ~~Pb~~ Metals to be filtered and preserved by lab 7043753
SGWA5	↓	18:45		✓	↓	5	3	1	1			7043754
SGWB-2	4-22-97	10:55		✓	BACKGROUND	5	3	1	1			7043755
SGWG-1	4-22-97	09:10		✓	GASOLINE UST	5	3	1	1			7043756
SGWB-1	4-22-97	10:20		✓	BACKGROUND	4	2	1	1			7043757
TB-1	4-22-97	11:15			TRIP BLANK	2	2	0	0			7043758
SGWB-3	4-22-97	11:40		✓	BACKGROUND	5	3	1	1			Dissolved ~~Pb~~ Metals to be filtered and preserved by lab 7043759
SGWB-4	4-22-97	12:15		✓	BACKGROUND	5	3	1	1			7043760

Sample Relinquished by:	Date	Time	Sample Received by:	Date	Time	Reason for Transfer
CBH	4-23-97	10:00	K. Kundl	4/23	1000	

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ERM-North Central, Inc.

SAMPLE CHAIN OF CUSTODY

W.O.No.: 97058 JK

Project Name: SIMPSON

Sampler: DEBBIE PARKS

ERM Sample Number	Date	Time	COMP	GRAB	Station Location	Number of Containers	VOA	PAH	Dissolved Pb Metals			Remarks
												FR 4/23 Metals: As, Cd, Cr, Cu, Pb, Hg, Se, Zn-
SGWB-5	4-22-97	12:51		✓	BACKGROUND	5	3	1	1			Metals 7043733 Dissolved Pb will be filtered & preserved by lab
SGWK-1		13:28		✓	KEROSENE TANK	5	3	1	1			7043734
SGWB-6		14:07		✓	BACKGROUND	5	3	1	1			7043735
SGWB-7		14:40		✓	BACKGROUND	5	3	1	1			7043736
SGWB-8		1515		✓	BACKGROUND	5	3	1	1			7043737
SGWB-9		1545		✓	BACKGROUND	~~5~~ 4	~~3~~ 2	1	1			7043738
SGWB-10		1621		✓	BACKGROUND	~~5~~ 4	~~3~~ 2	1	1			7043739

Sample Relinquished by:	Date	Time	Sample Received by:	Date	Time	Reason for Transfer
CBH	4-23-97	10:00	K. Knell	4/23	1000	

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ERM-North Central, Inc.

SAMPLE CHAIN OF CUSTODY

W.O.No.: 97058JK

Project Name: SIMPSON

Sampler: VICTIE OSTER, DEBBIE PARKS

ERM Sample Number	Date	Time	COMP	GRAB	Station Location	Number of Containers	VOC-8260	PAH-8310	Diss. LEAD			Remarks
SGWA-1	4/21/97	1230		X	#6 FUEL OIL AST 7043482	5	3	1	1			SAMPLE COOLED AT 4°C w/ICE
SGWA-2	✓	1339		X	17043483	5	3	1	1			
SGWA-3	✓	1557		X	17043484	5	3	1	1			-LAB NEEDS TO PRESERVE
												AND FILTER LEAD SAMPLES
												Fed Ex 9582046117

Sample Relinquished by:	Date	Time	Sample Received by:	Date	Time	Reason for Transfer
[signature]	4/21/97	1700	K. Kuell	4/22/97	1000	

[illegible] accompany sample shipment to laboratory. Yellow copy retained by laboratory. White returned to ERM for files. Pink copy retained by sampler. Gold copy extra copy as need

SUMMARY OF METALS ANALYSIS (1,2)
SIMPSON PAPER
PLAINWELL, MICHIGAN

		Metal						
		Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Zinc
Background	mean	3.6	1.3	8.7	6.6	25.4	0.10	33
	CI	5.2	0.4	5.6	9.0	25.2	0.17	31
Lagoons	mean	4.7	1.3	7.7	14.8	12.6	0.06	58
	CI	2.2	0.3	1.9	9.2	7.6	0.03	30
Coal Pile	mean	2.4	1.1	5.9	3.9	15.7	0.04	24
	CI	2.9	0.1	2.4	4.9	32.4	0.04	30
Downgradient of Coal Piles	mean	6.4	1.8	11.1	70.0	236.1	1.36	144
	CI	7.1	1.6	12.1	121.5	527.5	3.00	242
#6 Fuel Oil AST	mean	NA	NA	NA	NA	14.7	NA	NA
	CI	NA	NA	NA	NA	11.3	NA	NA
Gasoline UST	mean	NA	NA	NA	NA	102.0	NA	NA
	CI	NA	NA	NA	NA	1244.6	NA	NA

Notes:
(1) For sample results reported as "Non Detect," the value of one-half the detection limit was used for calculating the mean and confidence interval.
(2) Table shows the 95% confidence interval using Student's t-test.

Key:
NA = Not applicable.
CI = Confidence interval.

BACKGROUND

	Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Selenium	Zinc
Sample results (mg/kg)	1.35	1.3	12	1.35	3.1	0.0215	0.265	13.5
	1.35	0.95	5.1	1.35	7.8	0.0215	0.265	13.5
	1.35	1.1	6.1	4.8	31	0.099	0.27	29
	2.9	1.1	5.4	6.4	32	0.022	0.275	36
	11	1.8	15	19	53	0.34	0.265	74
Mean	3.59	1.25	8.7	6.58	25.4	0.1008	0.268	33.2
Standard Deviation	4.20	0.33	4.5	7.28	20.3	0.1378	0.004	24.8
Number of Samples	5	5	5	5	5	5	5	5
t-value	2.776	2.776	2.776	2.776	2.776	2.776	2.776	2.776
Confidence Interval	5.21	0.41	5.6	9.04	25.2	0.1711	0.006	30.8

Arsenic

	Lagoon 1	Lagoon 2	Lagoon 3	Lagoon 4	All Lagoon Samples	Coal Pile	Downgradient of Coal Piles
Sample results (mg/kg	4.3	1.4	9.0	5.2		1.3	3.6
	7.0	1.4	5.1	3.9		6.5	4.4
						1.35	6.8
						1.3	16
						1.4	1.35
Mean	5.7	1.4	7.1	4.6	4.7	2.37	6.43
Standard Deviation	1.91	0.00	2.76	0.92	2.58	2.31	5.69
Number of Samples	2	2	2	2	8	5	5
t-value	12.706	12.706	12.706	12.706	2.365	2.776	2.776
Confidence Interval	17.2	0.0	24.8	8.3	2.2	2.87	7.07

Cadmium

	Lagoon 1	Lagoon 2	Lagoon 3	Lagoon 4	All Lagoon Samples	Coal Pile	Downgradient of Coal Piles
Sample results (mg/kg	1.9	0.95	1.3	1.3		1.2	0.99
	1.3	0.97	1.9	1.1		1.2	1.1
						1.1	1.9
						1.0	3.9
						1.1	1.0
Mean	1.6	0.96	1.6	1.2	1.3	1.1	1.78
Standard Deviation	0.42	0.01	0.42	0.14	0.37	0.08	1.25
Number of Samples	2	2	2	2	8	5	5
t-value	12.706	12.706	12.706	12.706	2.365	2.776	2.776
Confidence Interval	3.8	0.13	3.8	1.3	0.3	0.1	1.55

Chromium

	Lagoon 1	Lagoon 2	Lagoon 3	Lagoon 4	All Lagoon Samples	Coal Pile	Downgradient of Coal Piles
Sample results (mg/kg	8.6	4.1	10	8.7		5.5	5.9
	8.9	4.2	8.7	8.6		9.2	5.5
						4.7	11
						5.6	28
						4.3	5.0
Mean	8.8	4.2	9.4	8.7	7.7	5.9	11.1
Standard Deviation	0.21	0.07	0.92	0.07	2.25	1.94	9.76
Number of Samples	2	2	2	2	8	5	5
t-value	12.706	12.706	12.706	12.706	2.365	2.776	2.776
Confidence Interval	1.9	0.6	8.3	0.6	1.9	2.4	12.1

Copper

	Lagoon 1	Lagoon 2	Lagoon 3	Lagoon 4	All Lagoon Samples	Coal Pile	Downgradient of Coal Piles
Sample results (mg/kg	25	3.2	22	16		1.0	3.8
	16	3.8	1.4	31		10	1.3
						5.6	120
						1.3	220
						1.4	5.0
Mean	21	3.5	11.7	24	14.8	3.9	70.0
Standard Deviation	6.36	0.42	14.57	10.61	11.06	3.92	97.89
Number of Samples	2	2	2	2	8	5	5
t-value	12.706	12.706	12.706	12.706	2.365	2.776	2.776
Confidence Interval	57	3.8	130.9	95	9.2	4.9	121.5

Lead

	Lagoon 1	Lagoon 2	Lagoon 3	Lagoon 4	All Lagoon Samples	Coal Pile Downgradient of Coal Piles	#6 Fuel Oil AST	Gasoline UST	
Sample results (mg/kg	9.7	2.1	15	14		2.8	7.4	23	200
	9.7	2.2	18	30		62	32	2.4	4.1
						9.6	140	18	
						2.0	990	2.3	
						2.1	11	51	
								1.9	
								2.1	
								3.0	
								23	
								20	
Mean	9.7	2.2	17	22	12.6	15.7	236.1	14.7	102
Standard Deviation	0.00	0.07	2.1	11.3	9.06	26.08	424.92	15.84	138.5
Number of Samples	2	2	2	2	8	5	5	10	2
t-value	12.706	12.706	12.706	12.706	2.365	2.776	2.776	2.262	12.706
Confidence Interval	0.0	0.6	19	102	7.6	32.4	527.5	11.3	1244.6

Mercury

	Lagoon 1	Lagoon 2	Lagoon 3	Lagoon 4	All Lagoon Samples	Coal Pile Downgradient of Coal Piles	
Sample results (mg/kg	0.07	0.022	0.12	0.069		0.021	0.0215
	0.0275	0.0225	0.063	0.10		0.10	0.049
						0.0215	5.6
						0.021	1.1
						0.0225	0.0215
Mean	0.049	0.022	0.092	0.085	0.062	0.0372	1.36
Standard Deviation	0.03	0.00	0.04	0.02	0.04	0.035	2.4
Number of Samples	2	2	2	2	8	5	5
t-value	12.706	12.706	12.706	12.706	2.365	2.776	2.776
Confidence Interval	0.270	0.003	0.362	0.197	0.030	0.0436	3.00

Zinc

	Lagoon 1	Lagoon 2	Lagoon 3	Lagoon 4	All Lagoon Samples	Coal Pile	Downgradient of Coal Piles
Sample results (mg/kg	43	14	79	60		13	13.5
	69	40	29	130		68	13
						13.5	230
						13	450
						14	13.5
Mean	56	27	54	95	58	24.3	144.0
Standard Deviation	18.38	18.38	35.36	49.50	36.01	24.43	195.10
Number of Samples	2	2	2	2	8	5	5
t-value	12.706	12.706	12.706	12.706	2.365	2.776	2.776
Confidence Interval	165	165	318	445	30	30.3	242.2

Layne NORTHERN COMPANY
Incorporated
INDIANAPOLIS • MISHAWAKA • LANSING

☒ TEST
☐ PERMANENT

Job No. M15846

WELL LOG No. 67B CITY Plainwell County Allegan
Owner Weyerhaeuser Company Township Gun Plaines
1N-11W Section 30 NE¼
Location Proposed Fire Well site State Michigan
From Land Description Approx. 80' SE of Bldg. #17
From Street or Road Approx. 300' N. of Allegan St. and 50' SW of Race ↖7

FORMATION FOUND — DESCRIBE FULLY	FROM NATURAL GROUND LEVEL			
	Depth to Top of Stratum	Depth to Bottom of Stratum	Thickness of Stratum	Static Water Level
Fill	0	3	3	
Muddy Sand and Gravel	3	5	2	
Coarse Sand & Gravel & Boulders	5	30	25	13'
Coarse Sand some gravel	30	51	21	13
Grey Clay	51	55	4	

X Cable Tool ____ Rotary ____ Jetting
8 " Dia. Hole Drilled by ____ Reverse Circulation ____ Bucket ____ Auger

ADDED INFO. BY DRILLER, ITEM NO. 1¼ " Casing From 18 " above ground to 47 ft. below ground

CORRECTED BY: 1¼ " Screen Set From 47 to 50 ft. Type Gauze Slot .060

ADDITION BY: Pumping Test ____ GPM at ____ ft. Pumping level After ____ hours

MAR 28 1987

Date Completed 3/16/67 Driller Beehler Keiser

Co.

Layne NORTHERN COMPANY
Incorporated
INDIANAPOLIS • MISHAWAKA • LANSING

IN — HW

M

☐ TEST
☒ PERMANENT

30'

Job No. 15867

WELL LOG No. 6 CITY Plainwell County Allegan

Owner Weyerhaeuser Co. Township Gun Plains

Fire Well Section 30

NW SE NE

Location State Michigan

From Land Description Approx. 80' NE of Bldg. #17

From Street or Road Approx. 300' N. of Allegan St. and 50' SW of Race

FORMATION FOUND — DESCRIBE FULLY	FROM NATURAL GROUND LEVEL			
	Depth to Top of Stratum	Depth to Bottom of Stratum	Thickness of Stratum	Static Water Level
Fill	3	3	3	
Muddy Sand and Gravel	3	5	2	
Coarse Gravel some sand	5	40	35	14
Coarse sand with some gravel	40	50	10	14
Gray Clay	50			

AUG 1967 RECEIVED Dept. of Nat. Resources Division of Water

elev ≈ 122'

30 " Dia. Hole Drilled by ____ Cable Tool ____ Rotary ____ Jetting ____ Reverse Circulation ____ Bucket ____ Auger

18 " Casing From 4 " above ground to 30' ft. below ground

18 " Screen Set From 30 to 50 ft. Type Shutter Slot .155

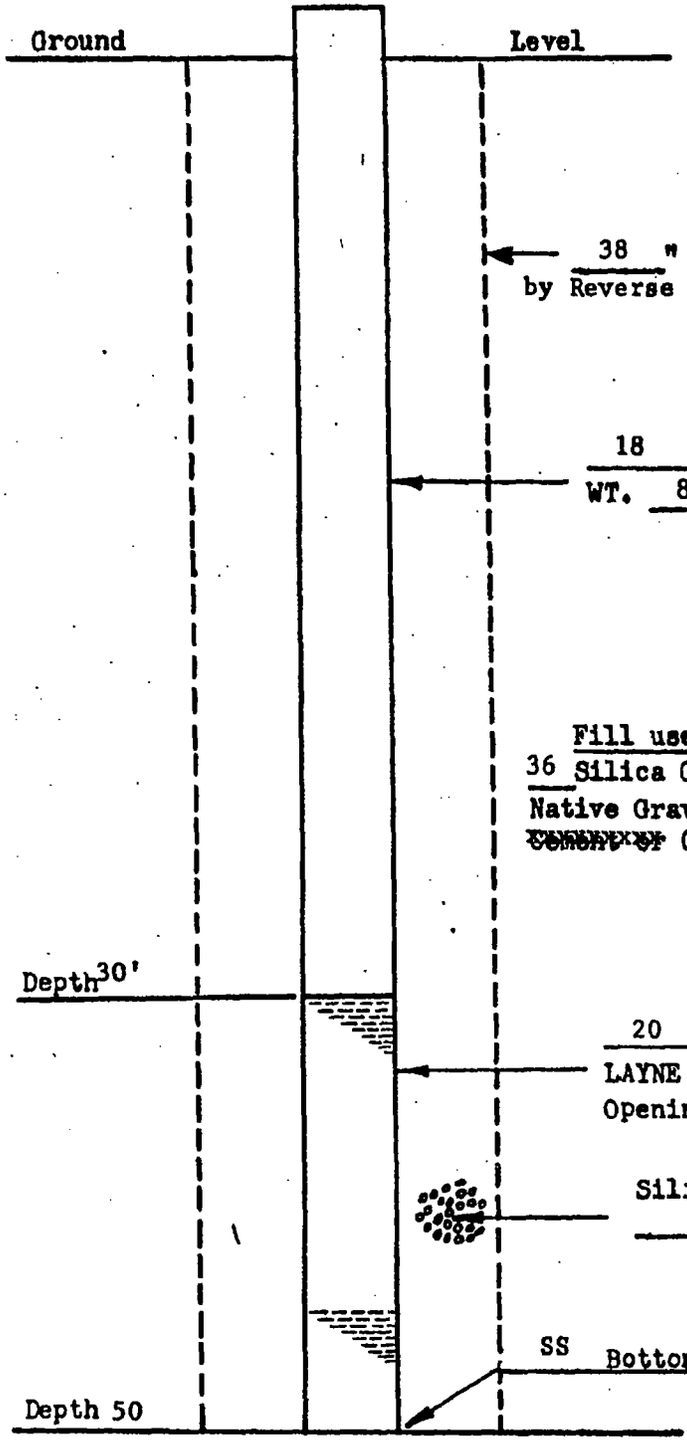
Pumping Test 2250 GPM at 20 ft. Pumping level After 8 hours

Date Completed May 21, 1967 Driller P. Wyatt

Pipe extends 0 feet above ground level

Job No. M15867

Location:
80' SE of Bldg. #17 - 300' W
of Allegan St. 50' SW of Race



Pipe Tally	Welded ~~Threaded~~
Bottom	26' 7"
	4'

Fill used from Bottom Up:

36 Silica Gravel	50	to	14	ft.
Native Gravel	14	to	3	ft.
~~Cement or~~ Clay	3	to	0	ft.

Static Level 14'
Pumped 2250 GPM
at 20' pumping level

Driller P. Wyatt
Date Finished 5-21-67

Not drawn to scale
All depths measured from Ground Level

FIRE WELL

LAYNE GRAVEL WALL WELL NO. 6
for
WEYERHAEUSER COMPANY
PLAINWELL, MICH.

LAYNE NORTHERN CO. INC.
MISHAWAKA, INDIANA

DRAWN BY	DRAWING No.
APPROVED BY	
DATE	

GEOLOGICAL SURVEY SAMPLE No.

WATER WELL RECORD

ACT 294 PA 1965

MICHIGAN DEPARTMENT OF PUBLIC HEALTH

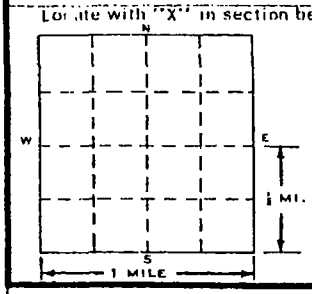
1 LOCATION OF WELL

County	Township Name	Fraction	Section Number	Town Number	Range Number
Allegan	Gun Plains	¼ SE ¼ NE ¼	30	1 N/S.	11 E/W.

Distance And Direction from Road Intersections: 200' N. of Allegan St. and 20' E. of Scott St.

Street address & City of Well Location

Locate with "X" in section below — Sketch Map:



3 OWNER OF WELL: Plainwell Paper Company

Address: Plainwell, Michigan

4 WELL DEPTH: (completed) 38' ft. Date of Completion: June 17, 1974

5 ☐ Cable tool ☐ Rotary ☐ Driven ☐ Dug ☐ Hollow rod ☐ Jetted ☐ Bored ☒ RC

6 USE: ☐ Domestic ☐ Public Supply ☒ Industry ☐ Irrigation ☐ Air Conditioning ☐ Commercial ☐ Test Well ☐

7 CASING: Threaded ☐ Welded ☒ Diam. 16 in. to 23 ft. Depth; ___ in. to ___ ft. Depth

Height: Above/Below Surface 1 ft. Weight 62.5 lbs./ft. Drive Shoe? Yes ☐ No ☒

2 FORMATION

FORMATION	THICKNESS OF STRATUM	DEPTH TO BOTTOM OF STRATUM
Top Soil	1	1
Coarse Sand & Gravel with Boulders	17	18
Kalamazoo River Alluvium	20 ~~18~~	38
Clay	38	

USE A 2ND SHEET IF NEEDED

8 SCREEN: Johnson SS

Type: WW Dia.: 16"

Slot/Gauze .055 Length 15'

Set between 23 ft. and 38 ft.

Fittings:

9 STATIC WATER LEVEL 14 ft. below land surface

10 PUMPING LEVEL below land surface: 20 ft. after 8 hrs. pumping 1500 g.p.m.; ___ ft. after ___ hrs. pumping ___ g.p.m.

11 WATER QUALITY in Parts Per Million: Iron (Fe) ___ Chlorides (Cl) ___ Hardness ___ Other ___

12 WELL HEAD COMPLETION: ☐ In Approved Pit ☐ Pitless Adapter ☒ 12" Above Grade

13 Well Grouted? ☒ Yes ☐ No ☐ Neat Cement ☒ Bentonite ☐ ___

Depth: From 18 ft. to 38 ft.

14 Nearest Source of possible contamination: ___ feet ___ Direction ___ Type ___

Well disinfected upon completion? ☒ Yes ☐ No

15 PUMP: ☒ Not installed

Manufacturer's Name ___

Model Number ___ HP ___ Volts ___

Length of Drop Pipe ___ ft. capacity ___ G.P.M.

Type: ☐ Submersible ☐ Jet ☐ Reciprocating

16 Remarks, elevation, source of data, etc.

ADDED INFO BY DRILLER, ITEM NO.

*CORRECTED BY

**ADDED IN BY

ELEVATION

DEPTH TO ROCK

17 WATER WELL CONTRACTOR'S CERTIFICATION:

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

Peerless-Midwest, Inc. (REGISTERED BUSINESS NAME) 1250 (REGISTRATION NO.)

Address: Granger, Indiana

Signed: R. J. Williams (AUTHORIZED REPRESENTATIVE) Date: 8-23-74

D67d 100M (Rev. 12-68)

GEOLOGICAL SURVEY COPY

PEERLESS-MIDWEST, INC. *Water Supply Contractors*
51255 BITTERSWEET ROAD / GRANGER, INDIANA 46530 / 219 272-9050

TEST DRILLING REPORT

Well No. TW 88A City Plainwell County Allegan

Owner Plainwell Paper Company Township Gun Plaines

Section NW¼SE¼NE¼ of 30

Location State Michigan

50' South of Kalamazoo River and 300'± West of Large Water Tower,

600'± North of Allegan Street

GRADE ELEVATION ABOVE MEAN SEA LEVEL — 721'± 2'

FORMATION	Top of Formation	Bottom of Formation	Thickness	Static Water Level	50% SIZE
Black Sand, Gravel, Brick and Rubbish	0.0'	6.5'	6.5'	–	–
Brown Med. to Coarse Sand & Gravel	6.5'	11.0'	4.5'	9'	.045
Brown Coarse to Med. Gravel & Sand, Some Very Coarse and Some Stones	11.0'	29.0'	18.0'	9'	.150
Brown Coarse to Very Coarse Gravel & Stones with Sand	29.0'	33.0'	4.0'	9'	.300
Hard Gray Clay, Some Gravel	33.0'	38.0'	5.0'	–	–
Gray Very Dense Silt w/Very Fine Sand	38.0'	41.5'	3.5'	–	–
Hard Gray Clay, Some Gravel	41.5'	45.0'	3.5'	–	–

5-3/4" Dia. hole drilled by hollow-stem auger Date completed 1/12/88

None" casing set to ____' ____" screen set from ____' to ____'

____ft. of ____ screen recommended from ____' to ____'

Recommended screen slot size: Tubular well Not Recommended Gravel Pack well Not Recommended

Water analysis: Iron ____ PPM, hardness ____ GPG, PH ____

Site Geologist Joel A. Annable

Job No. 6904 Driller Jon Cook

PEERLESS-MIDWEST, INC. *Water Supply Contractors*
51255 BITTERSWEET ROAD / GRANGER, INDIANA 46530 / 219 272-9050

TEST DRILLING REPORT

Well No. TW 88B City Plainwell County Allegan

Owner Plainwell Paper Company Township Gun Plaines

Section NE¼SE¼NE¼ of 30

Location State Michigan

100'± South of Kalamazoo River & 100'± West of Mill Race; 15' North of Building #11 (#1 Beater Shop), and 20' East of Building #11A (Machine Shop)

GRADE ELEVATION ABOVE MEAN SEA LEVEL — 717'± 1'

FORMATION	Top of Formation	Bottom of Formation	Thickness	Static Water Level	50% SIZE
Black Sand, Gravel, Brick & Fill	0'	6'	6'	-	-
Brown Muddy Sand & Gravel	6'	11'	5'	7'±	-
Brown Medium to Coarse with Fine Gravel & Medium to Coarse Sand, Some Stones	11'	43'	32'	7'±	.150
Hard Gray Clay, Some Gravel	43'	45'	2'	-	-

5-3/4" Dia. hole drilled by hollow-stem auger Date completed 1/25/88

None" casing set to ', " screen set from ' to '

36" x 18" GWW with #4 Gravel

20 ft. of 18" screen recommended from 23' to 43'

Recommended screen slot size: Tubular well Not Recommended Gravel Pack well .155"

Water analysis: Iron PPM, hardness GPG, PH

Job No. 6904 Site Geologist Joel A. Annable

Driller Cook Well Drilling

GEOLOGICAL SURVEY NO. [ ]

MICHIGAN DEPARTMENT OF PUBLIC HEALTH

WATER WELL AND PUMP RECORD

PERMIT NUMBER [ ]

1 LOCATION OF WELL

County	Township Name	Fraction	Section Number	Town Number	Range Number
Allegan	Gun Plaines	NW ¼ SE ¼ NE ¼	30	/ (N/S)	/ E/W

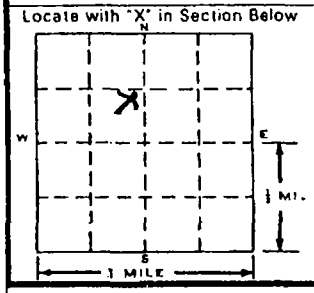
Distance And Direction From Road Intersection

50' South of Kalamazoo River and 300' ± West of Large Water Tower, 600' ± North of Allegan Street

Street Address & City of Well Location

Locate with "X" in Section Below

Sketch Map:



2 FORMATION DESCRIPTION

FORMATION DESCRIPTION	THICKNESS OF STRATUM	DEPTH TO BOTTOM OF STRATUM
Black Sand, Gravel, Brick and Rubbish	6.5	6.5
Brown Med. to Coarse Sand & Gravel	4.5	11.0
Brown Coarse to Med. Gravel & Sand, Some Very Coarse and Some Stones	18.0	29.0
Brown Coarse to Very Coarse Gravel & Stones with Sand	4.0	33.0
Hard Gray Clay, Some Gravel	5.0	38.0
Gray Very Dense Silt w/very Fine Sand	3.5	41.5
Hard Gray Clay, Some Gravel	3.5	45.0

USE A 2ND SHEET IF NEEDED

RECEIVED
Mich. Dept. of Public Health
JUL 28 1988
Bureau of Environmental and Occupational Health-CWOS

3 OWNER OF WELL:

PLAINWELL PAPER COMPANY

Address: Plainwell, MI

Address Same As Well Location? [ ] Yes [ ] No

4 WELL DEPTH: (completed)

ft.

Date of Completion: 1-12-88

5

[ ] Cable tool [ ] Rotary [ ] Driven [ ] Dug
[ ] Hollow rod [X] Auger [ ] Jetted [ ] ____

6 USE:

[ ] Domestic [ ] Type I Public [ ] Type III Public
[ ] Irrigation [ ] Type IIa Public [ ] Heat pump
[ ] Test Well [ ] Type IIb Public [ ] ____

7 CASING:

Diameter [ ] Steel [ ] Threaded [ ] Plastic [ ] Welded

____ in. to ____ ft. depth
____ in. to ____ ft. depth

Grouted Drill Hole Diameter
____ in. to ____ ft. depth
____ in. to ____ ft. depth

Height: Above/Below Surface ____ ft.
Weight ____ lbs./ft.
Drive Shoe [ ] Yes [ ] No

8 SCREEN:

[ ] Not Installed

Type ____ Diameter ____
Slot/Gauze ____ Length ____
Set between ____ ft. and ____ ft.
FITTINGS: [ ] K-Packer [ ] Lead Packer [ ] Bremer Check
[ ] Blank above screen ____ ft. Other ____

9 STATIC WATER LEVEL:

____ ft below land surface [ ] Flow

10 PUMPING LEVEL: below land surface

____ ft. after ____ hrs pumping at ____ G.P.M.
____ ft. after ____ hrs. pumping at ____ G.P.M.

11 WELL HEAD COMPLETION:

[ ] Pitless adapter [ ] 12" above grade
[ ] Basement offset [ ] Approved pit

12 WELL GROUTED?

[ ] No [ ] Yes From ____ to ____ ft.

[ ] Neat cement [ ] Bentonite [ ] Other ____

No. of bags of cement ____ Additives ____

13 Nearest source of possible contamination

Type ____ Distance ____ ft. Direction ____

Well disinfected upon completion? [ ] Yes [ ] No

14 PUMP:

[ ] Not Installed [ ] Pump Installation Only

Manufacturer's name ____
Model number ____ HP ____ Volts ____
Length of Drop Pipe ____ ft. capacity ____ G.P.M.
TYPE: [ ] Submersible [ ] Jet ____
PRESSURE TANK:
Manufacturer's name ____
Model number ____ Capacity ____ Gallons

15. Remarks, elevation, source of data, etc.

16. WATER WELL CONTRACTOR'S CERTIFICATION:

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

PEERLESS-MIDWEST, INC. — REGISTERED BUSINESS NAME
1250 — REGISTRATION NO.

Address: P.O. Box 26 - 51255 Bittersweet Rd.
Granger, IN 46530

Signed: R. J. Mullins — AUTHORIZED REPRESENTATIVE
Date: 5-12-88

D67d 2/84

Authority: Act 368 PA 1978
Completion: Required
Penalty: Conviction of a violation of any provision is a misdemeanor.

GEOLOGICAL SURVEY COPY

GEOLOGICAL SURVEY NO. [ ]

MICHIGAN DEPARTMENT OF PUBLIC HEALTH

WATER WELL AND PUMP RECORD

PERMIT NUMBER [ ]

1 LOCATION OF WELL

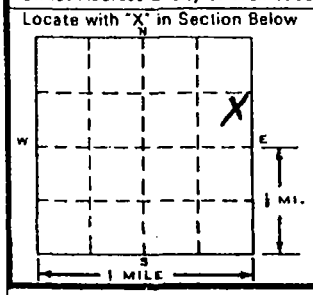
County	Township Name	Fraction	Section Number	Town Number	Range Number
Allegan	Gun Plaines	NE ¼ SE ¼ NE ¼	30	1 N/S	11 E/W

Distance And Direction From Road Intersection
100'± South of Kalamazoo River & 100'± West of Mill Race; 15' North of Building #11 (#1 Bearer Shop), and 20' East of Building #11A (Machine Shop)

Street Address & City of Well Location

Locate with "X" in Section Below

Sketch Map:



3 OWNER OF WELL: PLAINWELL PAPER COMPANY

Address: Plainwell, MI

Address Same As Well Location? ☐ Yes ☐ No

4 WELL DEPTH: (completed) 45 ft. | Date of Completion 1-25-88

5 ☐ Cable tool ☐ Rotary ☐ Driven ☐ Dug ☐ Hollow rod ☐ Auger ☐ Jetted ☐ ____

6 USE: ☐ Domestic ☐ Type I Public ☐ Type III Public ☐ Irrigation ☐ Type IIa Public ☐ Heat pump ☐ Test Well ☐ Type IIb Public ☐ ____

7 CASING: Diameter ☐ Steel ☐ Threaded ☐ Plastic ☐ Welded
____ in. to ____ ft. depth
____ in. to ____ ft. depth
Grouted Drill Hole Diameter
____ in. to ____ ft. depth
____ in. to ____ ft. depth

Height: Above/Below
Surface ____ ft.
Weight ____ lbs./ft.
Drive Shoe ☐ Yes ☐ No

2 FORMATION DESCRIPTION

FORMATION DESCRIPTION	THICKNESS OF STRATUM	DEPTH TO BOTTOM OF STRATUM
Black Sand, Gravel, Brick & Fill	6	6
Brown Muddy Sand & Gravel	5	11
Brown Medium to Coarse with Find Gravel & Medium to Coarse Sand, Some Stones	32	43
Hard Gray Clay, Some Gravel	2	45

USE A 2ND SHEET IF NEEDED

8 SCREEN: ☐ Not Installed
Type ____ Diameter ____
Slot/Gauze ____ Length ____
Set between ____ ft. and ____ ft.
FITTINGS: ☐ K-Packer ☐ Lead Packer ☐ Bremer Check
☐ Blank above screen ____ ft. Other ____

9 STATIC WATER LEVEL: 7 ft. below land surface ☐ Flow

10 PUMPING LEVEL: below land surface
____ ft. after ____ hrs. pumping at ____ G.P.M.
____ ft. after ____ hrs. pumping at ____ G.P.M.

11 WELL HEAD COMPLETION: ☐ Pitless adapter ☐ 12" above grade ☐ Basement offset ☐ Approved pit

12 WELL GROUTED? ☐ No ☐ Yes From ____ to ____ ft.
☐ Neat cement ☐ Bentonite ☐ Other ____
No. of bags of cement ____ Additives ____

13 Nearest source of possible contamination
Type ____ Distance ____ ft. Direction ____
Well disinfected upon completion? ☐ Yes ☐ No

14 PUMP: ☐ Not Installed ☐ Pump Installation Only
Manufacturer's name ____
Model number ____ HP ____ Volts ____
Length of Drop Pipe ____ ft. capacity ____ G.P.M.
TYPE: ☐ Submersible ☐ Jet ____
PRESSURE TANK:
Manufacturer's name ____
Model number ____ Capacity ____ Gallons

RECEIVED
Mich. Dept. of Public Health
JUL 28 1988
Bureau of Environmental and Occupational Health - EWQS

15. Remarks, elevation, source of data, etc.

16. WATER WELL CONTRACTOR'S CERTIFICATION:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

PEERLESS-MIDWEST, INC. 1250
REGISTERED BUSINESS NAME REGISTRATION NO.

Address P.O. Box 26-51255 Bittersweet Rd.
Granger, IN 46530

Signed ____ Date 5-13-88
AUTHORIZED REPRESENTATIVE

O67d 2/84

Authority: Act 368 PA 1978
Completion: Required
Penalty: Conviction of a violation of any provision is a misdemeanor.

GEOLOGICAL SURVEY COPY

GEOLOGICAL SURVEY NO.

MICHIGAN DEPARTMENT OF PUBLIC HEALTH

WATER WELL AND PUMP RECORD

PERMIT NUMBER

1 LOCATION OF WELL

County	Township Name	Fraction	Section Number	Town Number	Range Number
Allegan	Gun Plaines	¼ ¼ ¼	30	1 N/S	11 E/W

Distance And Direction From Road Intersection

115' South of River, 100' West of Mill Race, 10' North of Building #11.

Street Address & City of Well Location

Locate with "X" in Section Below

Sketch Map:

FIRE WELL

3 OWNER OF WELL:

Simpson Plainwell Paper Company

Address

Plainwell, MI

Address Same As Well Location? [X] Yes [ ] No

4 WELL DEPTH: 42 FT. Date Completed MO. 6 DAY 15 YEAR 88 [X] New Well [ ] Replacement Well

5 [ ] Cable tool [ ] Rotary [ ] Driven [ ] Dug [ ] Hollow rod [ ] Auger [ ] Jetted [X] RC

6 USE: [ ] Domestic [ ] Type I Public [ ] Type III Public [ ] Irrigation [ ] Type IIa Public [ ] Heat pump [ ] Test Well [ ] Type IIb Public [X] FIRE

7 CASING: Diameter [X] Steel [ ] Threaded [ ] Plastic [ ] Welded

18 in. to 22 ft. depth

____ in. to ____ ft. depth

Grouted Drill Hole Diameter

36 in. to 17 ft depth

____ in. to ____ ft. depth

Height: Above/~~Below~~

Surface 2 ft.

Weight ____ lbs./ft.

Drive Shoe [ ] Yes [X] No

2 FORMATION DESCRIPTION

	THICKNESS OF STRATUM	DEPTH TO BOTTOM OF STRATUM
Fill	0'	6'
Medium & Coarse Gravel & Boulders	6'	25'
Medium Gravel, Rocks	25'	33'
Medium Gravel, Rock & Some Sand	33'	42'
Clay	–	–
Stopped in Formation		

USE A 2ND SHEET IF NEEDED

8 SCREEN: [ ] Not Installed

Type SSWW Diameter 18"

Slot/Gauze .150 Length 20'

Set between 22' ft. and 42' ft.

FITTINGS: [ ] K-Packer [ ] Lead Packer [ ] Bremer Check

[ ] Blank above screen ____ ft. Other ____

9 STATIC WATER LEVEL:

9 ft. below land surface [ ] Flow

10 PUMPING LEVEL: below land surface

26.5 ft. after 8 hrs. pumping at 3006 G.P.M.

____ ft. after ____ hrs. pumping at ____ G.P.M.

11 WELL HEAD COMPLETION: [ ] Pitless adapter [X] 24" above grade [ ] Basement offset [ ] Approved pit

12 WELL GROUTED? [ ] No [X] Yes From 0' to 17 ft.

[ ] Neat cement [ ] Bentonite [ ] Other ____

No. of bags of cement ____ Additives ____

13 Nearest source of possible contamination

Type ____ Distance ____ ft. Direction ____

Well disinfected upon completion? [ ] Yes [ ] No

Was old well plugged? [ ] Yes [ ] No

14 PUMP: [ ] Not Installed [ ] Pump Installation Only

Manufacturer's name ____

Model number ____ HP ____ Volts ____

Length of Drop Pipe ____ ft. capacity ____ G.P.M.

TYPE: [ ] Submersible [ ] Jet ____

PRESSURE TANK:

Manufacturer's name ____

Model number ____ Capacity ____ Gallons

RECEIVED
Mich. Dept. of Public Health
DEC 12 1988
Bureau of Environmental & Occupational Health - GWOS

15. Remarks, elevation, source of data, etc.

Well Log Attached

16. WATER WELL CONTRACTOR'S CERTIFICATION:

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

Peerless-Midwest, Inc. 1250

REGISTERED BUSINESS NAME REGISTRATION NO.

Address 51255 Bittersweet Rd., Granger, IN 46530

Signed R. J. Williams Date 6/15/88

AUTHORIZED REPRESENTATIVE

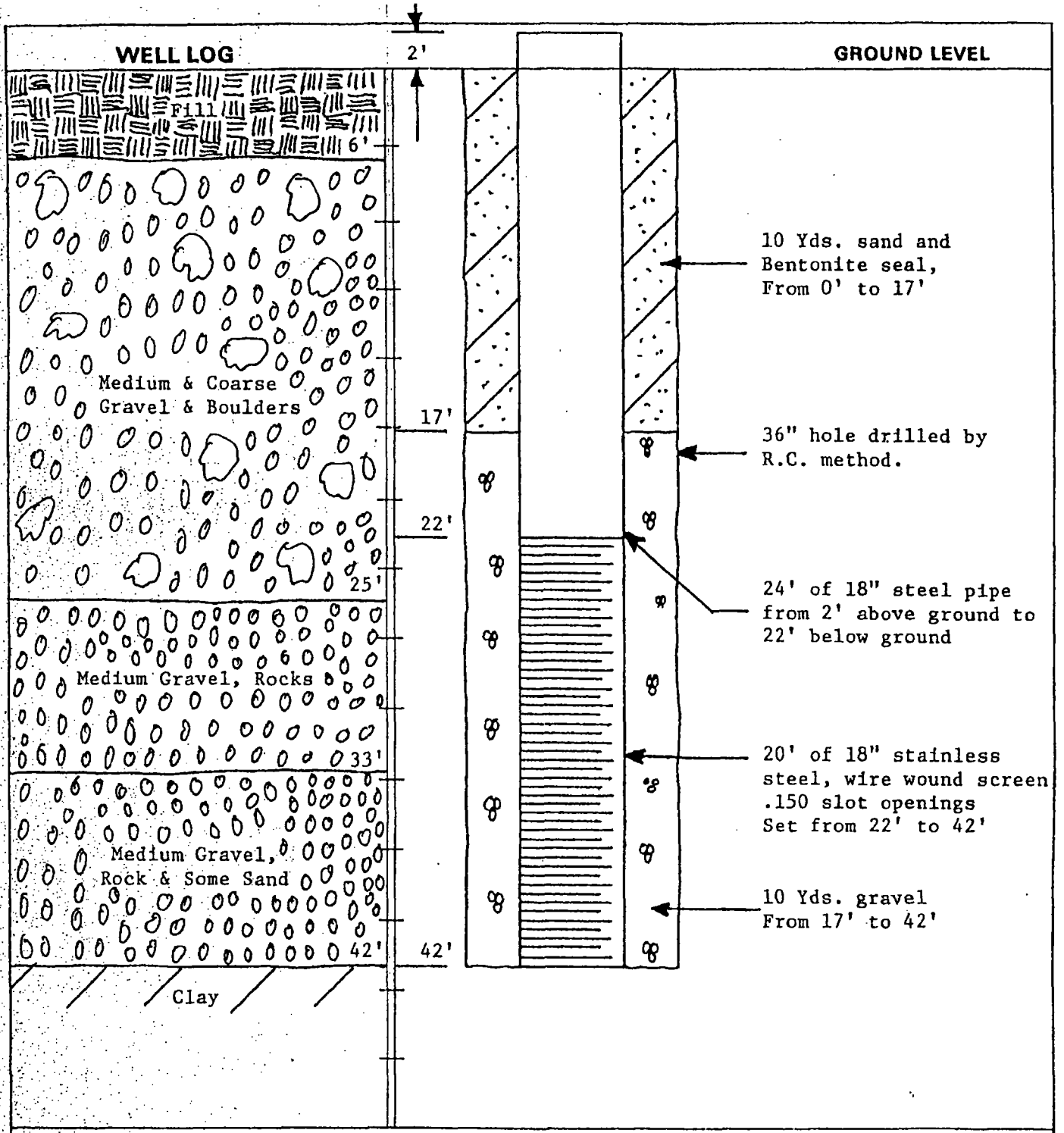
17. Rig Operator's Name:

Russell Jones

D67d 12/85

Authority: Act 368 PA 1978
Completion: Required
Penalty: Conviction of a violation of any provision is a misdemeanor.

GEOLOGICAL SURVEY COPY



City Plainwell State MI

Location 115' South of River, 100' West of Mill Race, 10' North of Building #11

County Allegan Twp. Gun Plaines Section 30

Test Capacity 3006 GPM. Static Water Level 9 ft. Pumping Level 26.5 ft.
Specific Capacity 171.1 GPM/Ft. D.D.
Date Drilled 6/15/88
Driller Rusty Jones
Job No. 7169

Well No. FIRE WELL

SIMPSON PLAINWELL PAPER COMPANY
PLAINWELL, MICHIGAN

PEERLESS-MIDWEST, INC.
Granger, Indiana

GEOLOGICAL SURVEY NO.

MICHIGAN DEPARTMENT OF PUBLIC HEALTH

WATER WELL AND PUMP RECORD

PERMIT NUMBER

NE

1 LOCATION OF WELL

County	Township Name	Fraction	Section Number	Town Number	Range Number
Allegan	Gun Plaines	¼ ¼ ¼	30	1 (N)/S	11 E/(W)

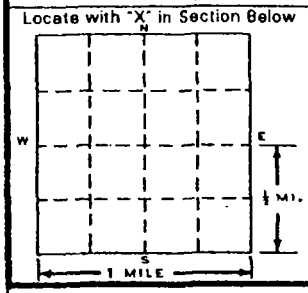
Distance And Direction From Road Intersection

West Yard - 220' North of Allegan St., Approx. 265' West of Building 23.

Street Address & City of Well Location

Locate with "X" in Section Below

Sketch Map:



WELL #5
RESCREENED

3 OWNER OF WELL:

Address: Simpson-Plainwell Paper Co.
200 Allegan Street
Plainwell, MI 49080

Address Same As Well Location? ☐ Yes ☐ No

4 WELL DEPTH: FT. | Date Completed MO. DAY YEAR | ☐ New Well ☐ Replacement Well

5 ☐ Cable tool ☐ Rotary ☐ Driven ☐ Dug ☐ Hollow rod ☐ Auger ☐ Jetted ☐ _____

6 USE: ☐ Domestic ☐ Type I Public ☐ Type III Public ☐ Irrigation ☐ Type IIa Public ☐ Heat pump ☐ Test Well ☐ Type IIb Public ☐ _____

7 CASING: Diameter ☐ Steel ☐ Threaded ☐ Plastic ☐ Welded
____ in. to ____ ft. depth
____ in. to ____ ft. depth
Grouted Drill Hole Diameter
____ in. to ____ ft. depth
____ in. to ____ ft. depth

Height: Above/Below
Surface ____ ft.
Weight ____ lbs./ft.
Drive Shoe ☐ Yes ☐ No

8 SCREEN: * ☐ Not Installed
Type Cook SSWW Diameter ____
Slot/Gauze .060 Length 20'
Set between 22 ft. and 42 ft.
FITTINGS: ☐ K-Packer ☐ Lead Packer ☐ Bremer Check
☐ Blank above screen ____ ft. Other *

9 STATIC WATER LEVEL: After Rescreening
15 ft. below land surface ☐ Flow

10 PUMPING LEVEL: below land surface After Rescreening
23 ft. after 8 hrs. pumping at 525 G.P.M.
____ ft. after ____ hrs. pumping at ____ G.P.M.

11 WELL HEAD COMPLETION: ☐ Pitless adapter ☐ 12" above grade ☐ Basement offset ☐ Approved pit

12 WELL GROUTED? ☐ No ☐ Yes From ____ to ____ ft.
☐ Neat cement ☐ Bentonite ☐ Other ____
No. of bags of cement ____ Additives ____

13 Nearest source of possible contamination
Type ____ Distance ____ ft. Direction ____
Well disinfected upon completion? ☐ Yes ☐ No
Was old well plugged? ☐ Yes ☐ No

14 PUMP: ☐ Not Installed ☐ Pump Installation Only
Manufacturer's name ____
Model number ____ HP ____ Volts ____
Length of Drop Pipe ____ ft. capacity ____ G.P.M.
TYPE: ☐ Submersible ☐ Jet ____
PRESSURE TANK:
Manufacturer's name ____
Model number ____ Capacity ____ Gallons

2 FORMATION DESCRIPTION	THICKNESS OF STRATUM	DEPTH TO BOTTOM OF STRATUM
Dirt & Cinder Fill	1'	1'
Boulders & Sand	3'	4'
Sand & Gravel with Boulders	38'	42'
Clay STOPPED IN FORMATION		
INFORMATION TAKEN FROM ORIGINAL DRILLER'S LOG		
IN 1964		

USE A 2ND SHEET IF NEEDED

15. Remarks, elevation, source of data, etc.

* 6" of zinc wrapped around top of screen.

OUR WELL LOG IS ATTACHED.

17. Rig Operator's Name:

16. WATER WELL CONTRACTOR'S CERTIFICATION:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

Peerless-Midwest, Inc. 1980
REGISTERED BUSINESS NAME REGISTRATION NO.

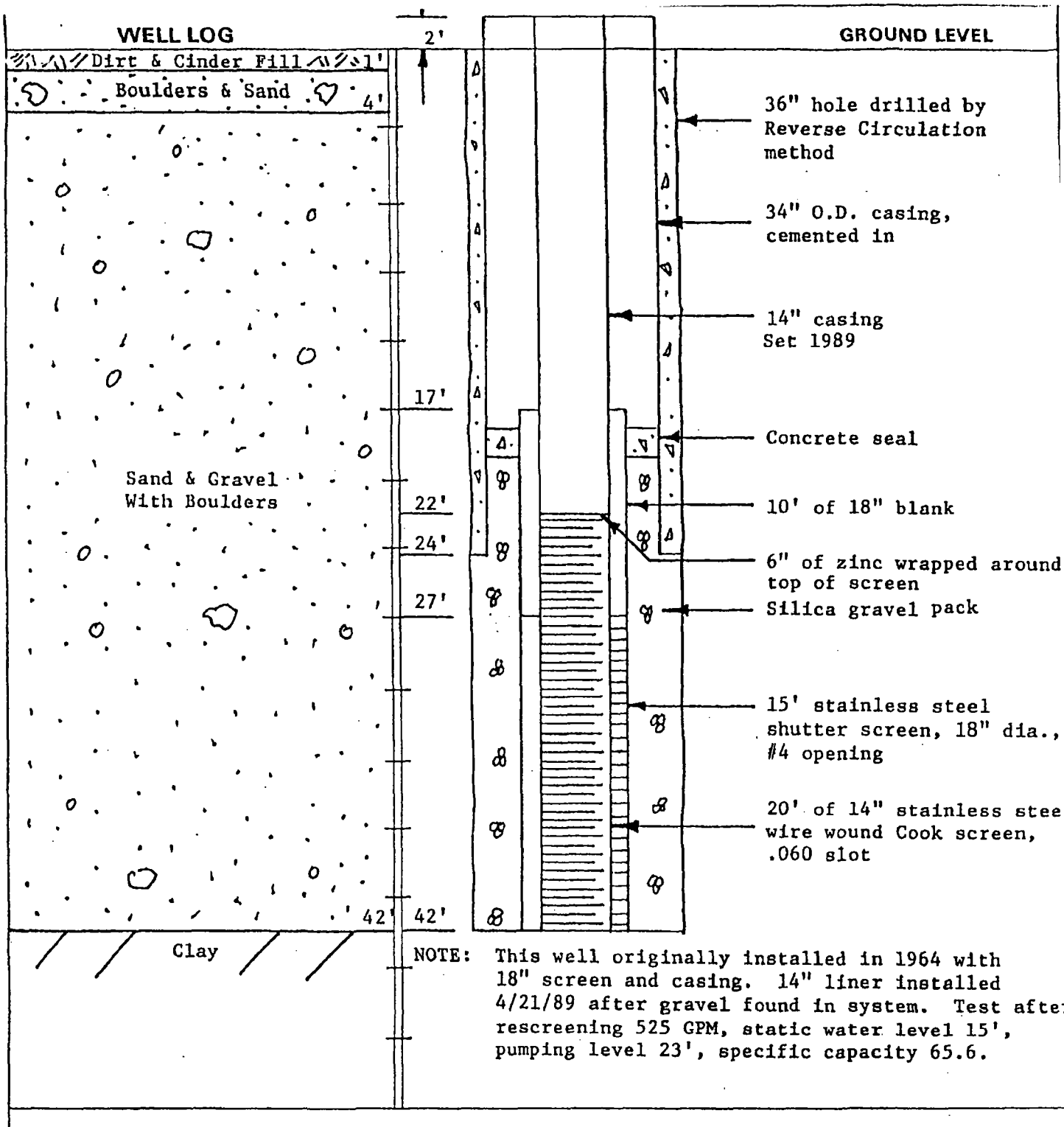
Address P.O. Box 26, Granger, IN 46530

Signed Michael J. Garage Date 6/26/89
AUTHORIZED REPRESENTATIVE

D87d 12/85

Authority: Act 368 PA 1978
Completion: Required
Penalty: Conviction of a violation of any provision is a misdemeanor.

GEOLOGICAL SURVEY COPY



City Plainwell State Michigan

Location West Yard - 220' North of Allegan St., Approx. 265' West of Bldg. 23

County Allegan Twp. Gun Plains Section

Test Capacity 1223 GPM. Static Water Level 18 ft. Pumping Level 23 ft.
Specific Capacity 244.6 GPM/Ft. D.D.
Date Drilled 1964
Driller By Others
Job No. -

Well No. 5
SIMPSON/PLAINWELL PAPER
PLAINWELL, MICHIGAN

PEERLESS-MIDWEST, INC.
Granger, Indiana

PEERLESS-MIDWEST, INC. *Water Supply Contractors*
51255 BITTERSWEET ROAD / GRANGER, INDIANA 46530 / 219 272-9050

TEST DRILLING REPORT

Well No. TW 89B City Plainwell County Allegan

Owner Simpson Plainwell Paper Company Township Gun Plaines

Section NE¼SE¼NE¼ of 30

Location State Michigan

63' East of TW 89A, 38' West of Center Maintenance Receiving Dock E Doors, 110' West of Fire Well & 85' South of Paw Paw River

GRADE ELEVATION ABOVE MEAN SEA LEVEL — 717' ± 1' Estimated

FORMATION	Top of Formation	Bottom of Formation	Thickness	Static Water Level	50% SIZE
Asphalt	0'	0.2'	0.2'	-	-
Brown Med. to Cs. Sand & Fine to Cs. Gravel Fill, Some Boulders & Concrete	0.2'	8'	7.8'	-	-
Wet Dark Brownish-Gray Muddy Fine to Cs. Gravel with Sones & Med. to Cs. Sand	8'	16.5'	8.5'	-	-
Wet Dark Gray Fine to Very Cs. Gravel & Cs. Sand, Some Stones, Some Silt & Clay	16.5'	23'	6.5'	7'	.100
Heaving Wet Brown Med. to Very Cs. Gravel & Cs. Sand with Stones	23'	38'	15'	7'	.150
Gray Silty Clay	38'	39'	1'	-	-

5-3/4" Dia. hole drilled by hollow-stem auger Date completed August 4, 1989

None" casing set to ____' ____" screen set from ____' to ____'

20 ft. of 18" screen recommended from 18' to 38'

Recommended screen slot size: Tubular well NOT RECOMMENDED Gravel Pack well 36"x18" w/.100" Slot

Water analysis: Iron ____ PPM. hardness ____ GPG, PH ____

Site Geologists: Joel Annable/John Barnhart

Job No. 7970 Driller Jon Cook

PEERLESS-MIDWEST, INC. *Water Supply Contractors*
51255 BITTERSWEET ROAD / GRANGER, INDIANA 46530 / 219 272-9050

TEST DRILLING REPORT

Well No. TW 89A City Plainwell County Allegan

Owner Simpson Plainwell Paper Company Township Gun Plaines

Section NE¼SE¼NE¼ of 30

Location State Michigan

Approximately 25' NW of Small Water Tank & 65' South of Paw Paw River, 173' West of Fire Well

GRADE ELEVATION ABOVE MEAN SEA LEVEL — 717' ± 1' Estimated

FORMATION	Top of Formation	Bottom of Formation	Thickness	Static Water Level	50% SIZE
Asphalt	0'	0.2'	0.2'	–	–
Brown Med. to Cs. Sand & Fine to Very Cs. Gravel Fill, Some Bricks & Concrete	0.2'	4'	3.8'	–	–
Brown Silty Med. to Cs. Sand & Fine to Very Cs. Gravel, Some Stones & Boulders	4'	8'	4'	–	–
Wet Dark Brownish-Gray Muddy Fine to Cs. Gravel & Med. to Cs. Sand	8'	16'	8'	–	–
Wet Dark Gray Muddy Fine to Very Cs. Gravel & Med. to Cs. Sand	16'	22.5'	6.5'	–	–
Wet Brown Med. to Very Cs. Gravel & Cs. Sand, Some Stones, Some Clay & Silt	22.5'	30.5'	8'	7'	.100
Wet Brown Gray Cs. to Med. Sand & Fine to Med. Gravel, Little Silt	30.5'	38'	7.5'	7'	.050
Dense Dry Gray Silty Clay, Occasional Gravel	38'	44'	6'	–	–

5-3/4" Dia. hole drilled by hollow-stem auger Date completed 8/4/89

None" casing set to ____' ____" screen set from ____' to ____'

____ft. of ____ screen recommended from ____' to ____'

Recommended screen slot size: Tubular well NOT RECOMMENDED Gravel Pack well NOT RECOMMENDED

Water analysis: Iron ____ PPM, hardness ____ GPG, PH ____

Site Geologists: Joel Annable/John Barnhart

Job No. 7970 Driller Jon Cook

GEOLOGICAL SURVEY NO.

MICHIGAN DEPARTMENT OF PUBLIC HEALTH

WATER WELL AND PUMP RECORD

PERMIT NUMBER

1 LOCATION OF WELL

County	Township Name	Fraction	Section Number	Town Number	Range Number
Allegan	Gun Plaines	NE ¼ SE ¼ NE ¼	30	1 (N)/S	1 (E)/W

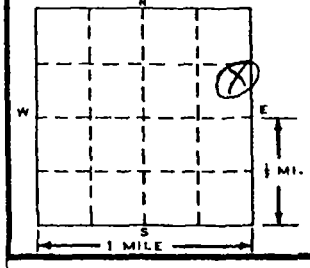
Distance And Direction From Road Intersection

63' East of TW 89A, 38' West of Center Maintenance Receiving Dock E Doors, 110' West of Fire Well & 85' South of Paw Paw River

Street Address & City of Well Location

Locate with "X" in Section Below

Sketch Map:



TEST WELL 89B

3 OWNER OF WELL:

Simpson Plainwell Paper Company

Address 200 Allegan Street
Plainwell, MI 49080

Address Same As Well Location? ☐ Yes ☒ No

4 WELL DEPTH: 39 FT. | Date Completed MO. 8 DAY 4 YEAR 89 | ☐ New Well ☐ Replacement Well

5 ☐ Cable tool ☐ Rotary ☐ Driven ☐ Dug ☐ Hollow rod ☒ Auger ☐ Jetted ☐ ____

6 USE: ☐ Domestic ☐ Type I Public ☐ Type III Public ☐ Irrigation ☐ Type IIa Public ☐ Heat pump ☒ Test Well ☐ Type IIb Public ☐ ____

7 CASING: Diameter NONE ☐ Steel ☐ Threaded ☐ Plastic ☐ Welded
____ in. to ____ ft. depth
____ in. to ____ ft. depth
Grouted Drill Hole Diameter
____ in. to ____ ft. depth
____ in. to ____ ft. depth

Height: Above/Below
Surface ____ ft.
Weight ____ lbs./ft.
Drive Shoe ☐ Yes ☐ No

8 SCREEN: NONE ☐ Not Installed
Type ____ Diameter ____
Slot/Gauze ____ Length ____
Set between ____ ft. and ____ ft.
FITTINGS: ☐ K-Packer ☐ Lead Packer ☐ Bremer Check
☐ Blank above screen ____ ft. Other ____

9 STATIC WATER LEVEL:
7' ft. below land surface ☐ Flow

10 PUMPING LEVEL: below land surface
____ ft. after ____ hrs. pumping at ____ G.P.M.
____ ft. after ____ hrs. pumping at ____ G.P.M.

11 WELL HEAD COMPLETION: ☐ Pitless adapter ☐ 12" above grade ☐ Basement offset ☐ Approved pit

12 WELL GROUTED? ☐ No ☐ Yes From ____ to ____ ft.
☐ Neat cement ☐ Bentonite ☐ Other ____
No. of bags of cement ____ Additives ____

13 Nearest source of possible contamination
Type ____ Distance ____ ft. Direction ____
Well disinfected upon completion? ☐ Yes ☐ No
Was old well plugged? ☐ Yes ☐ No

14 PUMP: ☐ Not Installed ☐ Pump Installation Only
Manufacturer's name ____
Model number ____ HP ____ Volts ____
Length of Drop Pipe ____ ft. capacity ____ G.P.M.
TYPE: ☐ Submersible ☐ Jet ____
PRESSURE TANK:
Manufacturer's name ____
Model number ____ Capacity ____ Gallons

2 FORMATION DESCRIPTION

FORMATION DESCRIPTION	THICKNESS OF STRATUM	DEPTH TO BOTTOM OF STRATUM
Asphalt	0.2'	0.2'
Brn. Med. to Cs. Sand & Fine to Cs. Gravel Fill, Some Bldgs. & Concrete	7.8'	8'
Wet Dark Brownish-Gray Muddy Fine to Cs. Gravel with Stones & Med. to Cs. Sand	8.5'	16.5'
Wet Dark Gray Fine to Very Cs. Gravel & Cs. Sand, Some Stones, Some Silt & Clay	6.5'	23'
Heaving Wet Brown Med. to Very Cs. Gravel & Cs. Sand with Stones	15'	38'
Gray Silty Clay	1'	39'

USE A 2ND SHEET IF NEEDED

RECEIVED
Mich. Dept. of Public Health
SEP 19 1989
Bureau of Environmental and Occupational Health - GWOS

15. Remarks, elevation, source of data, etc.

17. Rig Operator's Name: John Cook

16. WATER WELL CONTRACTOR'S CERTIFICATION:

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

Peerless Midwest, Inc. (REGISTERED BUSINESS NAME) 1980 (REGISTRATION NO.)

Address P. O. Box 25, Granger, IN 46530

Signed Michael J. Garage (AUTHORIZED REPRESENTATIVE) Date 8/31/89

D87d 12/85

Authority: Act 368 PA 1978
Completion: Required
Penalty: Conviction of a violation of any provision is a misdemeanor.

GEOLOGICAL SURVEY COPY

GEOLOGICAL SURVEY NO.

MICHIGAN DEPARTMENT OF PUBLIC HEALTH

WATER WELL AND PUMP RECORD

PERMIT NUMBER

1 LOCATION OF WELL

County	Township Name	Fraction	Section Number	Town Number	Range Number
Allegan	Gun Plaines	NE ¼ SE ¼ NE ¼	30	1 N/S	11 E/W

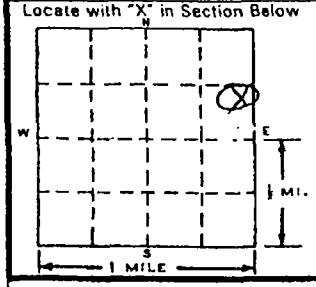
Distance And Direction From Road Intersection

Approximately 25' NW of Small Water Tank & 65' So of Paw Paw River, 173' West of Fire Well

Street Address & City of Well Location

Locate with "X" in Section Below

Sketch Map:



TEST WELL 89A

3 OWNER OF WELL:

Simpson Plainwell Paper Company

Address 200 Allegan Street
Plainwell, MI 49080

Address Same As Well Location? ☐ Yes ☒ No

4 WELL DEPTH: 44 FT. | Date Completed MO. 8 DAY 4 YEAR 89 | ☐ New Well ☐ Replacement Well

5 ☐ Cable tool ☐ Rotary ☐ Driven ☐ Dug ☐ Hollow rod ☒ Auger ☐ Jetted ☐ ____

6 USE: ☐ Domestic ☐ Type I Public ☐ Type III Public ☐ Irrigation ☐ Type IIa Public ☐ Heat pump ☒ Test Well ☐ Type IIb Public ☐ ____

7 CASING: Diameter NONE ☐ Steel ☐ Threaded ☐ Plastic ☐ Welded

____ in. to ____ ft. depth

____ in. to ____ ft. depth

Grouted Drill Hole Diameter

____ in. to ____ ft. depth

____ in. to ____ ft. depth

Height: Above/Below Surface ____ ft.

Weight ____ lbs./ft.

Drive Shoe ☐ Yes ☐ No

2 FORMATION DESCRIPTION

	THICKNESS OF STRATUM	DEPTH TO BOTTOM OF STRATUM
Asphalt	0.2'	0.2'
Brn. Med. to Cs. Sand & Fine to Very Cs. Gravel Fill, Some Bricks & Concrete	3.8'	4'
Brn Silty Med. to Cs. Sand & Fine to Very Cs. Gravel, Some Stones & Bldrs.	4'	8'
Wet Dark Brownish-Gray Muddy Fine to Cs. Gravel & Med. to Cs. Sand	8'	16'
Wet Dark Gray Muddy Fine to Very Cs. Gravel & Med. to Cs. Sand	6.5'	22.5'
Wet Brown Med. to Very Cs. Gravel & Cs. Sand, Some Stones, Some Clay & Silt	8'	30.5'
Wet Brown Gray Cs. to Med. Sand & Fine to Med. Gravel, Little Silt	7.5'	38'
Dense Dry Gray Silty Clay, Occasional Gravel	6'	44'

USE A 2ND SHEET IF NEEDED

8 SCREEN: NONE ☐ Not Installed

Type ____ Diameter ____

Slot/Gauze ____ Length ____

Set between ____ ft. and ____ ft.

FITTINGS: ☐ K-Packer ☐ Lead Packer ☐ Bremer Check

☐ Blank above screen ____ ft. Other ____

9 STATIC WATER LEVEL: 7 ft. below land surface ☐ Flow

10 PUMPING LEVEL: below land surface

____ ft. after ____ hrs. pumping at ____ G.P.M.

____ ft. after ____ hrs pumping at ____ G.P.M.

11 WELL HEAD COMPLETION: ☐ Pitless adapter ☐ 12" above grade ☐ Basement offset ☐ Approved pit

12 WELL GROUTED? ☐ No ☐ Yes From ____ to ____ ft.

☐ Neat cement ☐ Bentonite ☐ Other ____

No. of bags of cement ____ Additives ____

13 Nearest source of possible contamination

Type ____ Distance ____ ft. Direction ____

Well disinfected upon completion? ☐ Yes ☐ No

Was old well plugged? ☐ Yes ☐ No

14 PUMP: ☐ Not Installed ☐ Pump Installation Only

Manufacturer's name ____

Model number ____ HP ____ Volts ____

Length of Drop Pipe ____ ft. capacity ____ G.P.M.

TYPE: ☐ Submersible ☐ Jet ____

PRESSURE TANK:

Manufacturer's name ____

Model number ____ Capacity ____ Gallons

RECEIVED
Mich. Dept. of Public Health
SEP 1 9 1989
Bureau of Environmental and Occupational Health - GWQS

15. Remarks, elevation, source of data, etc.

16. WATER WELL CONTRACTOR'S CERTIFICATION:

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

Peerless-Midwest, Inc. 1980

REGISTERED BUSINESS NAME REGISTRATION NO.

Address P.O. Box 26, Granger, IN 46530

Signed Michael J. Garage Date 8/31/89

AUTHORIZED REPRESENTATIVE

17. Rig Operator's Name: John Cook

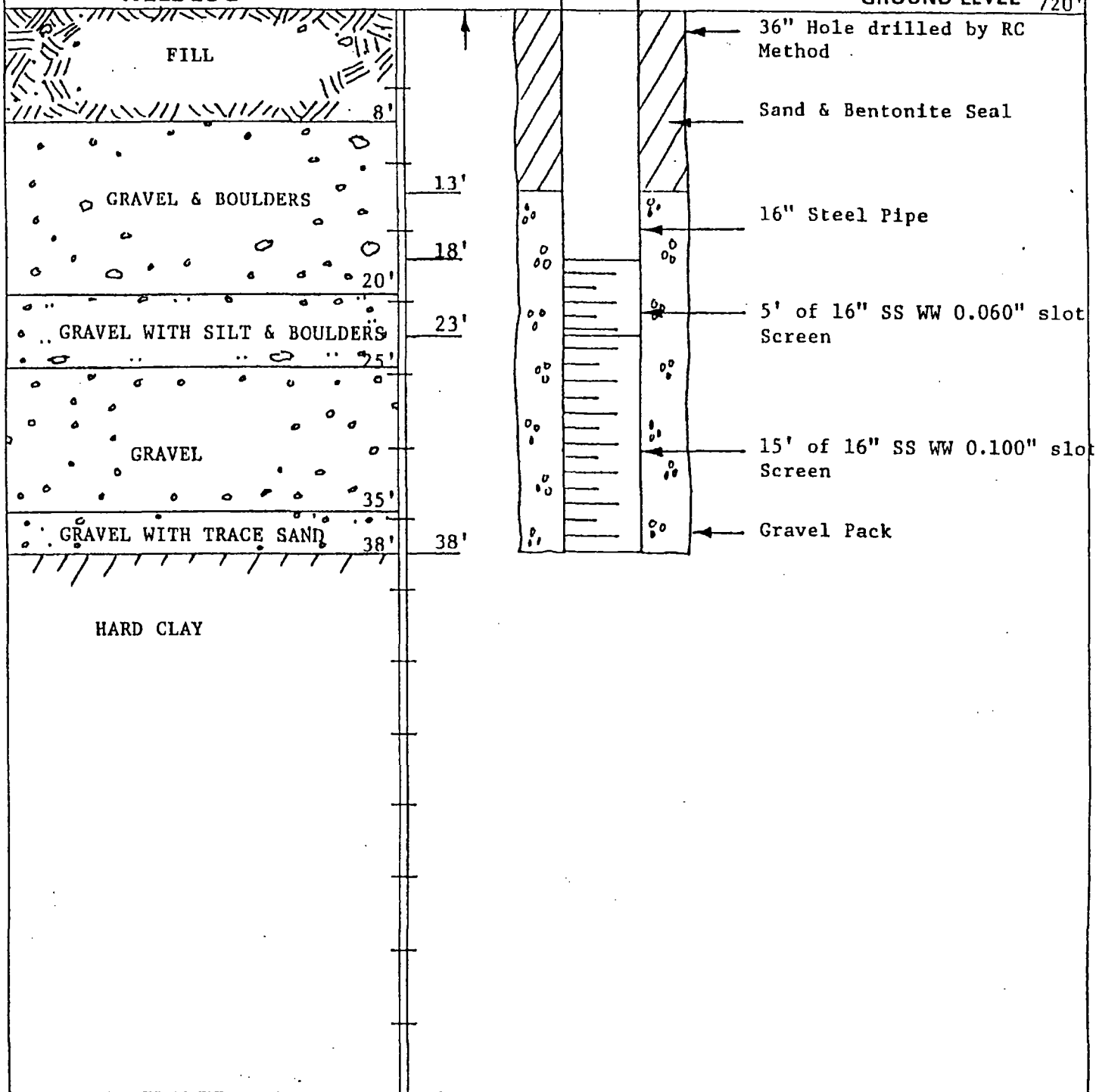
D67d 12/85

Authority: Act 368 PA 1978
Completion: Required
Penalty: Conviction of a violation of any provision is a misdemeanor.

GEOLOGICAL SURVEY COPY

WELL LOG

GROUND LEVEL 720'



City PLAINWELL State MICHIGAN

Location 110' W. of Fire Well & 85' S. of Kalamazoo River

County Allegan Twp. Gun Plains T1N R11W Section NE SE NE 30

Test Capacity 1515 GPM. Static Water Level 12 ft. Pumping Level 19 ft.
Specific Capacity 216 GPM/Ft. D.D.
Date Drilled 11-15-89
Driller Russell D. Jones
Job No. 8137

Well No. 8
SIMPSON/PLAINWELL PAPER COMPANY
PLAINWELL, MICHIGAN

PEERLESS-MIDWEST, INC.
Granger, Indiana

GEOLOGICAL SURVEY NO.

MICHIGAN DEPARTMENT OF PUBLIC HEALTH

WATER WELL AND PUMP RECORD

PERMIT NUMBER

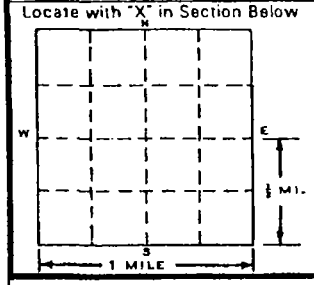
1 LOCATION OF WELL

County	Township Name	Fraction	Section Number	Town Number	Range Number
Allegan	Gun Plaines	NE ¼ SE ¼ NE ¼	30	1 N/S	11 E/W

Distance And Direction From Road Intersection: 110' West of Fire Well & 85' South of Kalamazoo River

Street Address & City of Well Location

Locate with "X" in Section Below — Sketch Map:



WELL #8

3 OWNER OF WELL: Simpson/Plainwell Paper Company

Address: 200 Allegan Street, Plainwell, MI 49080

Address Same As Well Location? ☐ Yes ☒ No

4 WELL DEPTH: 38 FT. — Date Completed: MO. 11 DAY 15 YEAR 89 — ☒ New Well ☐ Replacement Well

6 ☐ Cable tool ☐ Rotary ☐ Driven ☐ Dug ☐ Hollow rod ☐ Auger ☐ Jetted ☒ RC

6 USE: ☐ Domestic ☐ Type I Public ☐ Type III Public ☐ Irrigation ☒ Type IIa Public ☐ Heat pump ☐ Test Well ☐ Type IIb Public ☐

7 CASING: Diameter ☒ Steel ☐ Threaded ☐ Plastic ☐ Welded

16 in. to 18 ft. depth

in. to ft. depth

Grouted Drill Hole Diameter 36 in. to 13 ft. depth

in. to ft. depth

Height: Above/~~Below~~ XXXXX

Surface 2 ft

Weight lbs./ft.

Drive Shoe ☐ Yes ☒ No

2 FORMATION DESCRIPTION

FORMATION DESCRIPTION	THICKNESS OF STRATUM	DEPTH TO BOTTOM OF STRATUM
Fill	8'	8'
Gravel & Boulders	12'	20'
Gravel with Silt & Boulders	5'	25'
Gravel	10'	35'
Gravel with Trace Sand	3'	38'
Hard Clay		

8 SCREEN: ☐ Not Installed

Type SSWW Diameter 16"

Slot/Gauze .060/0.100 Length 5'/15'

Set between 18 ft. and 38 ft.

FITTINGS: ☐ K-Packer ☐ Lead Packer ☐ Bremer Check

☐ Blank above screen ft. Other

9 STATIC WATER LEVEL: 12 ft. below land surface ☐ Flow

10 PUMPING LEVEL: below land surface

19 ft. after 8 hrs. pumping at 1515 G.P.M.

ft. after hrs. pumping at G.P.M.

11 WELL HEAD COMPLETION: ☐ Pitless adapter ☒ 12" above grade ☐ Basement offset ☐ Approved pit

12 WELL GROUTED? ☐ No ☒ Yes From 0 to 13 ft.

☒ Neat cement ☒ Bentonite ☐ Other

No. of bags of cement Additives

13 Nearest source of possible contamination

Type Distance ft. Direction

Well disinfected upon completion? ☐ Yes ☐ No

Was old well plugged? ☐ Yes ☐ No

14 PUMP: ☐ Not Installed ☐ Pump Installation Only

Manufacturer's name

Model number HP Volts

Length of Drop Pipe ft. capacity G.P.M.

TYPE: ☐ Submersible ☐ Jet

PRESSURE TANK:

Manufacturer's name

Model number Capacity Gallons

RECEIVED
Mich. Dept. of Public Health
DEC 19 1989
BUREAU OF ENVIRONMENTAL AND OCCUPATIONAL HEALTH-GWQS

USE A 2ND SHEET IF NEEDED

15. Remarks, elevation, source of data, etc.

Well Log is Attached.

16. WATER WELL CONTRACTOR'S CERTIFICATION:

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

PEERLESS-MIDWEST, INC. 1980

REGISTERED BUSINESS NAME — REGISTRATION NO.

Address P. O. Box 26, Granger, IN 46530

Signed Michael J. Savage Date 12/1/89

AUTHORIZED REPRESENTATIVE

17. Rig Operator's Name: Russell D. Jones

D67d 2/89

Authority: Act 368 PA 1978
Completion: Required
Penalty: Conviction of a violation of any provision is a misdemeanor.

GEOLOGICAL SURVEY COPY

30-1N-11W

PEERLESS-MIDWEST, INC. *Water Supply Contractors*
51255 BITTERSWEET ROAD/GRANGER, INDIANA 46530 / (219) 272-9050
P.O. BOX 261 / IONIA, MICHIGAN 48864 / (616) 527-0050

WELL COMPLETION DATE 3/1/95
JOB NUMBER 11803

DRILLING REPORT

OWNER Simpson Plainwell Paper WELL NO. Test Boring 95A
CITY Plainwell STATE IN COUNTY Allegan
CIVIL TOWNSHIP Gun Plain T 1N R 11W SECTION NW ¼ SE ¼ NE ¼, 30
LOCATION 158' N of Centerline of Allegan St. + 10.5' E of W Fence Line (Fence with ~~Mined Tee. Fence)~~
GROUND ELEV. 730' ± 5' CASING HEIGHT ABOVE GRADE N/A STATIC LEVEL ~~XXXXX~~ Grade 10'

FORMATION ESTIMATED	50% SIZE	TOP	BOTTOM
		0'	1½'
Red-Brown, Loamy Fine-Medium Sand, Some Coarse Sand & Fine Gravel, Trace of Medium Gravel	0.013"	1½'	3'
Medium Brown, Slightly Loamy, Medium Sand, Some Coarse Sand & Medium Gravel	0.017"	3'	8½'
Coarse Sand & Fine Gravel, Some Med. Sand & Med. Gravel, Little Coarse Gravel	0.040"	8½'	10'
Coarse Sand & Fine Gravel w/Some Med. & Coarse Gravel	0.050"	10'	13'
Saturated, Fine Gravel to Coarse Sand, Some Med. Sand & Med. Gravel	0.047"	13'	28½'
Saturated Med. to Coarse Sand w/Some Fine Gravel & Med. Gravel	0.030"	28½'	30'
Saturated, Fine Gravel w/Coarse Sand, Some Med. Gravel, Little Med. to Fine Sand	0.047"	30'	39'
Gray Clay	-	39'	40'
BORING PLUGGED AND ABANDONED.			

7-7/8 " DIA. HOLE FOR test boring/formation analysis DRILLED BY hollow-stem auger METHOD
None " DIA. - CASING SET TO - '; None GRAVEL PACK SET FROM - 'TO - '
None " DIA. - SCREEN WITH - " SLOT SET FROM - 'TO - '
DRILLED TO 40 ' WELL TESTED BY N/A AT - GPM FOR - HOURS WITH - 'DRAWDOWN
- TYPE PUMP INSTALLED WITH TOTAL SETTING OF '
☐ WELL CASED AND GROUTED WITH FROM ' TO '
XX ☐ WELL ABANDONED AND SEALED WITH Native Cuttings "Hole Plug" Bentonite FROM 10' 0' TO 40' 10' '
SITE GEOLOGIST Stephen Geschke DRILLER Greg Nielson, Cook Drilling LICENSE NO. 977

I HEREBY SWEAR OR AFFIRM UNDER THE PENALTIES FOR PERJURY THAT THE INFORMATION SUBMITTED HEREWITH IS TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE AND COMPLETE.	SIGNATURE OF OWNER OR AUTHORIZED REPRESENTATIVE Michael J. Savage	DATE 3/1/95

TAX NO:

MICHIGAN DEPARTMENT OF PUBLIC HEALTH
WATER WELL AND PUMP RECORD

PERMIT NO:

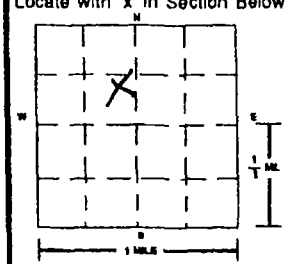
1. LOCATION OF WELL

County	Township Name	Fraction	Section No.	Town No.	Range No.
Allegan	Gun Plain	NW 1/4 SE 1/4 NE 1/4	30	1N	11W

Distance and Direction from Road Intersection
158' North of centerline of Allegan Street & 10.5' East of West Fence Lline (Fence with Mined Tec. Fence).

Street Address & City of Well Location

Locate with 'x' in Section Below — Sketch Map



TEST BORING 95A

3. OWNER OF WELL
Address Simpson Plainwell Paper Co.
200 Allegan Street
Plainwell, MI 49080
Address Same as Well Location [X] Yes [ ] No

4. WELL DEPTH: 40 ft. Date Completed 3 / 1 / 95 [ ] New Well [ ] Replacement Well

5. [ ] Cable Tool [ ] Rotary [ ] Driven [ ] Dug [ ] Hollow Rod [X] Auger/Bored [ ] Jetted [ ] ____

6. USE: [ ] Household [ ] Type I Public [ ] Type III Public [ ] Irrigation [ ] Type IIa Public [ ] Heat Pump [ ] Test Well [ ] Type IIb Public [X] Test Boring

7. CASING: [ ] Steel [ ] Threaded [ ] Plastic [ ] Welded [ ] Other ____
NONE
Diameter: ____ in. to ____ ft. depth
____ in. to ____ ft. depth
BORE HOLE:
Diameter: ____ in. to ____ ft. depth
____ in. to ____ ft. depth
Height: Above/Below Surface: ____ ft
Weight: ____ lbs./ft.
[ ] Drive Shoe
[ ] Shale Packer

2. FORMATION DESCRIPTION

	THICKNESS OF STRATUM	DEPTH TO BOTTOM OF STRATUM
	1½'	1½'
Red-Brown, Loamy Fine-Med. Sand, Some Coarse Sand & Fine Gravel, Trace of Med. Gravel	1½'	3'
Med. Brown, Slightly Loamy, Med. Sand, Some Coarse Sand & Med. Gravel	5½'	8½'
Coarse Sand & Fine Gravel, Some Med. Gravel, Little Coarse Gravel	1½'	10'
Coarse Sand ^Fine Gravel w/Some Med. & Coarse Gravel	3'	13'
Saturated, Fine Gravel to Coarse Sand, Some Med. Sand & Med. Gravel	15½'	28½'
Saturated Med. to Coarse Sand w/Some Fine Gravel & Med. Gravel	1½'	30'
Saturated, Fine Gravel w/Coarse Sand, Some Med. Gravel, Little Med. to Fine Sand	9'	39'
Gray Clay	1'	40'

USE A 2ND SHEET IF NEEDED

8. SCREEN: [X] Not Installed [ ] Gravel-Packed
Type ____ Diameter ____
Slot/Gauze ____ Length: ____
Set Between ____ ft. and ____ ft.
FITTINGS: [ ] K-Packer [ ] Bremer Check
[ ] Blank Above Screen ____ ft. Other ____

9. STATIC WATER LEVEL:
10 ft. Below Land Surface [ ] Flowing

10. PUMPING LEVEL: Below Land Surface
____ ft. After ____ hrs. Pumping at ____ G.P.M.
[ ] Plunger [ ] Bailer [ ] Air [ ] Test Pump

11. WELL HEAD COMPLETION:
[ ] Pitless Adapter [ ] 12" Above Grade
[ ] Basement Offset [ ] Well House

12. WELL GROUTED? [ ] No [ ] Yes From ____ to ____ ft.
[ ] Neat Cement [ ] Bentonite [ ] Other ____
No. of Bags ____ Additives ____

13. NEAREST SOURCE OF POSSIBLE CONTAMINATION:
Type ____ Distance ____ ft. Direction ____
Type ____ Distance ____ ft. Direction ____

14. PUMP: [ ] Not Installed [ ] Pump Installation Only
Manufacturer's Name ____
Model Number ____ HP ____ Volts ____
Length of Drop Pipe ____ ft. Capacity ____ G.P.M.
TYPE: [ ] Submersible [ ] Jet [ ] Other ____
PRESSURE TANK:
Manufacturer's Name ____
Model Number ____ Capacity ____ Gallons ____

15. ABANDONED WELL PLUGGED? [X] Yes [ ] No
Casing Diameter ____ in. Depth ____ ft.
PLUGGING MATERIAL: [ ] Neat Cement [X] Bentonite XXXX
[ ] Cement/Bentonite Slurry [ ] Concrete Grout [ ] Bentonite Chips
No. of Bags ____ Casing Removed? [ ] Yes [ ] No
"Hole Plug"

16. REMARKS: (Elevation, Source of Data, etc.)
A copy of our Drilling Report is attached.

17. DRILLING MACHINE OPERATOR:
[ ] Employee [X] Subcontractor
Name Greg Nielson
Cook Drilling

15. WATER WELL CONTRACTOR'S CERTIFICATION:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.
Peerless-MIDWEST, Inc. 1980
REGISTERED BUSINESS NAME REGISTRATION NO.
Address 51255 Bittersweet Road, Granger, IN 46530
Signed [signature] AUTHORIZED REPRESENTATIVE Date 3/24/95

GW-2-226 9/93

GEOLOGICAL SURVEY COPY

Authority: Act 368 PA 1978
Completion: Required
Penalty: Conviction of a violation of any provision is a misdemeanor.