

PRELIMINARY ASSESSMENT NARRATIVE

Manville Forest Products Corporation
10600 Evendale Drive
Sharonville, OH 45241
USEPA #OHD037493707

Manville Forest Products Corporation Plant (MFP) is located in an industrial area of Hamilton County. The site is east of Evendale Drive, west of the CSX railroad lines, north of the Maxwell Tank Lines, Inc. and one half mile south of Sharon Road. The facility produces printed cartons and utilizes various solvents. These solvents are stored in eight underground storage tanks (USTs). Because the process produces spent solvents and ink, the facility is a RCRA generator.

There have been several spills at the facility over the past few years. On May 21, 1986, a RCRA inspection revealed spillage from a slop drain. This spillage, outside the solvent room, appeared to have taken place over a long period of time. On January 28, 1988, MFP discovered a leak in a fitting to an underground tank used for storage of house blend solvent. This house blend solvent contains toluene, normal propyl acetate, and isopropyl acetate. While personnel from Ohio EPA's Division of Ground Water were investigating this spill, they became aware of four other spills:

1. A spill similar to the January 28, 1988 toluene spill occurred in July 1986. OEPA did not become aware of this until a meeting held on July 25, 1988. Manville said that the spill did not involve any chlorinated solvents. They removed some contaminated soil.
2. OEPA noted a paint-like substance splattered on the ground. It appeared that this release occurred on several occasions. Manville later identified this material as varnish and that it was a one time release due to pipeline pressure testing.
3. A 500 gallon spill in the tank farm on October 12, 1988. A toluene tank overflowed in the same cavity as the January 28, 1988 spill.
4. A tanker truck spilled a white liquid on November 7, 1988. Mark Bange, Division of Groundwater, witnessed the substance being rinsed off into a drainage ditch. Manville and the distributor claim it is a glue consisting of water, clay, and polyvinylalcohol. OEPA sampling of the run-off wash water showed it to contain concentrations of 1,1,1-Trichloroethane and 1,1-Dichloroethane.

Upon discovery of the January 28, 1988 spill, MFP shut down the solvent pump and notified the USEPA National Response Center. The initial estimate was 3500 gallons of the solvent were spilled. Soil removal began the following day; by the first week in February, 80 cubic yards of contaminated soil had been removed. S&ME (now known as Westinghouse

Environmental Engineering) was retained by MFP to conduct the initial investigation. Monitoring wells were put into place to determine if groundwater contamination was present. Results from monitoring well sampling (concentrations given in $\mu\text{g/L}$) were: Toluene (1,280,000); Normal Propyl Acetate (1,100,000); Isopropyl Acetate (1,160,000); Benzene (680); 1,1-Dichloroethane (88); Ethylbenzene (680); 1,1,1-Trichloroethane (3,910); Methylene Chloride (13,130); Chloroethane (8); 1,2-Dichloroethane (190); Acetone (187,000); Total Xylenes (169); and Methyl Isobutyl Ketone (8,620). In addition, samples from the 11/7/88 spill runoff showed 1,1-Dichloroethane (790) and 1,1,1-Trichloroethane (16,850).

Several remedial actions have taken place since the initial spill. Manville's consultant, Westinghouse, collected soil samples from three bore holes and performed a soil gas survey using an organic vapor analyzer; however, the results were never received by the OEPA. By October 1988, 20 wells were in place (monitoring and recovery). A soil vapor extraction system was implemented in October of 1989. MFP reported on August 28, 1990, that the system had removed approximately 5,200 gallons of spilled toluene. In their report they also stated that toluene is being recovered in low volumes from the shallow aquifer beneath the plant site. They stated that no detectable toluene is leaving the site in groundwater, whereas significant concentrations in low volumes are still being recovered from groundwater in the immediate area of the spill.

There are four major well fields within the three mile target area which serve 29,300 people and draw from the Mill Creek buried valley aquifer. The well fields are: Village of Glendale (serves 2,500), Lockland (4,300), the City of Reading (12,800), and the City of Wyoming (9,700). There are also several surface water routes in the target area: Mill Creek, West Fork Mill Creek, Sharon Creek, and Sharon Lake. Sharon Lake is part of Sharon Woods, a Hamilton County Park.

Due to the nature of the contaminants (highly toxic and persistent) and the large population potentially affected, a high priority for both FIT and state activity is recommended.

Prepared by:



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Date: 11/23/90

Reviewed by:



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Date: 11/23/90

PRELIMINARY ASSESSMENT NARRATIVE

Date: July 31, 1984
Company: MSD
I.D.#: OHD000720250
OHD980898621

Metropolitan Sewer District of Cincinnati (MSD) is a RCRA regulated TSD facility operated by the Hamilton County Board of Commissioners. The MSD site is located in a commercial-industrial-residential area. The facility is responsible for the treatment, storage and disposal of sewage and liquid hazardous waste.

MSD is divided into 2 facilities. The primary facility is the STP. It is managed under the NPDES permit system. The second facility is the hazardous waste incinerator and waste storage area. Behind that are the 2 lagoons used for the storage of ash and water generated from the 2 waste processes. Although Liquid/Fluid Incinerator (L/FI) is located on the same property as the WWTP, each facility is operated independently.

The concern is directed toward the L/FI facility and the two ash lagoons. The L/FI is comprised of a rotary kiln, cyclone furnace, final combustion chamber and auxiliaries for solvent waste disposal, WWTP grit and skimming disposal.

The L/FI is regulated by RCRA and Air Pollution guidelines. The LFI is a integrated facility for storing and incinerating liquid organic wastes with high BTU values. The wastes include a wide variety of substances such as printing ink waste, paint manufacturing sludges, methacrylate wastes, hydrocarbon solvents and chlorinated solvents. MSD also has the privilege of excluding specific waste such as peroxide, metal hydrides and waste containing mercury, arsenic, beryllium, cadmium, lead and selenium.

The attached portion of the Part A describes the various waste that are incinerated at MSD. Ash generated from both the hazardous waste facility and the WWTP is discharged to the two lagoons. By definition, the ash from the L/FI is hazardous. By the mixture rule, it defines the entire contents of the lagoons as hazardous. MSD is petitioning the USEPA to rule on delisting the ash from the L/FI thereby exempting these lagoons from regulations. As it currently stands, MSD is in violation of RCRA regulations for not implementing the ground water monitoring program mandated under RCRA for ground water monitoring of hazardous waste lagoons.

The L/FI has not been operating for the past two years. They were shut down for violating the ambient air quality standards for particulates. The permit was denied on the basis of the stack test. This test confirms under normal operating conditions, the LFI unit would exceed Ohio EPA particulate

emission standards. The 1st stack test on the L/FI was in late 1981. By February, 1982, MSD was notified of the violation in emission standards. Additional stack tests were performed in November, 1982 and July, 1983. These tests continued to demonstrate L/FI violation of the particulate emission standards during normal operations.

Analysis also exhibits a small percentage of lead in the particulate matter. The L/FI will remain closed until all violations are resolved.

The tank farm for the storage of the waste before incineration consist of 21 tanks with a total capacity of 300,000 gallons. One large tank contains 30,450 gallons of fuel oil. Nine tanks, along with the 4 holding tanks and 4 batch tanks are used for storage of liquid organic waste. A fire and explosion hazard may exist due to the nature of the waste stored in the tank farm. RCRA requires a facility to introduce inspection plans and emergency guidelines for accidental spills released to the environment. On the site visit, the daily inspection of the tank farms was reviewed. They were inspecting the valves, general fittings and the spill prevention system on a daily basis. The Cincinnati Fire Department also assured me that no major problems exist at MSD for a fire and explosion hazard. The contents of the tank is organic liquid waste. PCB and lead had been mixed with the waste but the concentration was minimal. The highest PCB concentration in one tank was valued at 25 ppm. All other tanks values were less than detectable limits. These concentrations are below the established levels set forth by 40 CFR 761 of the Toxic Substance Control Act (less than 50 ppm).

MSD major problems are the compliance status for particulate emission standards and the RCRA status of the L/FI Ash. Although, MSD has discontinued disposing of the ash from the L/FI into the lagoons, the lagoons are within RCRA guidelines for past disposal practices. Until the USEPA finalizes the status of the L/FI ash, the lagoons are hazardous by definition. A ground water monitoring program should be implemented.

Technically, MSD is violating RCRA guidelines for not installing a ground water monitoring system around the lagoons. The Ohio EPA and the USEPA has deferred action against MSD in expectation of a final delisting ruling on the two lagoons. Since all areas and activities at this facility are regulated by RCRA or the NPDES regulations, this is considered a low priority site. No FIT or State activity is warranted at this time. (Low priority FIT, low priority State)

PRELIMINARY ASSESSMENT NARRATIVE

North Bend Dump
200 W. North Bend Road
Cincinnati, Ohio 45216
Hamilton County

I.D. #OHD980510317

The North Bend Dump is located on West North Bend Road in Cincinnati, Ohio. The site lies adjacent to the Mill Creek and Congress Run Creek. The North Bend Dump operated from 1960 until 1974. There are no available records to indicate exactly what types and amounts of waste were disposed here. Frederick Steel Corporation is now located adjacent to, or very close to where the original location of the North Bend Dump is supposed to exist.

The dump is listed on the Comprehensive Environmental Response Compensation, and Liability Information System (CERCLIS) as being a potential hazardous waste site. The types of waste allegedly disposed at the site were foundry sand, demolition waste, heavy metals, organics and inorganics, but no known documentation is presently available as to the nature or quantity of this or other waste which may have been disposed of at the site.

The site overlies a portion of the Mill Creek Buried Valley Aquifer. Therefore, the quantities of hazardous waste, if any was disposed of at the site, create a potential for groundwater and surface water contamination.

The city of Wyoming, 2.1 miles to the northeast of the dump, has 6 wells. The city of Lockland, 2.3 miles to the northeast of the dump, has 4 wells. The city of Reading, 2.7 miles to the northeast also utilizes groundwater in the area for its water supply, and has 7 wells.. There is potential for surface water contamination because the Mill Creek and Congress Run Creek flow adjacent to the site and onward through Lockland, Wyoming and Reading.

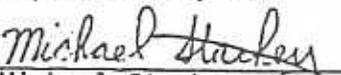
A low priority for the state, and a low priority for F.I.T. activity is recommended for the site.

Prepared by:



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OEPA - Southwest District Office
September 30, 1987

Reviewed by:



Michael Starkey
District Unregulated Sites, Group Leader
Division of Solid and Hazardous Waste Management

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PRELIMINARY ASSESSMENT NARRATIVE

Old Galbraith Road Landfill
Galbraith Road
Arlington Heights, Ohio 45215
Hamilton County

I.D.#: OHD980994412

The old Galbraith Road Landfill is located at Galbraith Road, east of Mill Creek in Arlington Heights. The site extends 200 yards on both the north and south side of Galbraith Road. The landfill operated from 1958 until 1965. There are no available records to indicate who operated the site. The site is now covered by buildings which have existed at the location for the last three years.

The landfill is listed on the Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) as being a potential hazardous waste site. The type(s) of waste disposed at the site was demolition waste, but no known documentation is presently available as to the nature or quantity of this or other waste which may have been disposed of at the site. The City of Arlington Heights stipulates that this site was once an old sand pit, which is now covered with 70 feet of soil.

The site overlies a portion of the Mill Creek Buried Valley Aquifer. Therefore, depending on the exact location, and quantities of hazardous waste, if any was disposed of at the site, there is a potential for groundwater and surface water contamination. The City of Lockland, 1.3 miles due north of the landfill, has 4 wells. The City of Reading, 1.0 miles to the northeast also utilizes groundwater in the area for its water supply, and has 7 wells. There is potential for surface water contamination because the Mill Creek flows directly adjacent to the site and onward through Lockland and Reading.

A low priority for the State, and a low priority for F.I.T. activity is recommended for the site because of the nature of the waste disposed here which apparently is limited to demolition materials but could possibly include some hazardous wastes.

Prepared by: Marc S. Hill
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OEPA - Southwest District
September 9, 1987

Reviewed by: Michael Starkey
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Division of Solid and Hazardous Waste Management

PHTHALCHEM, INC.
CINCINNATI
HAMILTON COUNTY

TE DESCRIPTION

This company is the only manufacturer in the western hemisphere of crude copper phthalocyanine blue, a pigment intermediary which is the basis of blue dye for all types of products.

The site borders Mill Creek, which was channelized with concrete by the U.S. Army Corps of Engineers in 1983.

ENVIRONMENTAL CONCERN

Releases of trichlorobenzene (TCB), dichlorobenzene (DCB), ammonia, copper, naphthalene, chlorobenzene and other chemicals to the environment have occurred at this facility. These releases have been to the air, surface water, ground water, and Cincinnati's combined storm/sanitary sewer. Other problems include spills in the company's process building and warehouse, a former unlined lagoon, contaminated ground water seepage into Mill Creek, and scrubber system discharges. These problems have been occurring since before 1980.

CURRENT STATUS

In August 1985 the company cleaned up TCB-contaminated sediment from the floor of Mill Creek, cleaned up downstream pools of TCB in Mill Creek and installed a pump in the Mill Creek sub-base to recover TCB from under the floor of Mill Creek. Reportedly, 4,400 gallons of TCB were recovered in 1985.

An order for a remedial investigation and feasibility study was issued by Ohio EPA in February 1987. The Attorney General's Office entered into a preliminary injunction in December 1989 to correct air emission violations, industrial discharge permitting violations, nonpermitted surface and ground water discharges and hazardous waste violations. As a result of this injunction the company is required to install monitor and recovery wells, surface water controls, and air emission controls as temporary measures.

Phthalchem was referred to the Attorney General's Office for negotiation of interim actions in 1991.

ACTIVITY	ACTION DATE	STATUS	FUNDING SOURCE	COMMENTS
CONSENT ORDER	2/87	C		
PHASE I RI	5/87	C	PRP	
PHASE II RI	5/88	U	PRP	
FS				
RD				
RA				
O & M				

PREMIUM FINISHES

The first task of the RI/FS is to prepare a description of the current situation at the site, to be presented in report form. This Project Status Summary Report presents the results of ERM-Midwest's RI/FS Task 1 activities. The report describes the background of the site, summarizes all relevant previous investigations, and will serve as a baseline for the remaining RI/FS tasks.

2.0 SUBTASK 1.1: SITE BACKGROUND REVIEW

2.1 Introduction

The purpose of this subtask is to compile, examine, and present in summary form existing information and data pertinent to the site. This information includes reports from the literature covering the regional area, pertinent site and boundary features, general area physiography, hydrology, and geology. Information concerning site history, facility operations, and other general information regarding the site and surrounding areas was obtained via discussions with the current facility technical director, Dr. Donald R. Montgomery.

2.2 Facility Description/History

Hunting owns and operates a specialty coating manufacturing facility located at 10448 Chester Road, Woodlawn, Ohio. Land usage in the vicinity of the site is predominantly commercial (industrial and manufacturing). The facility is located in an industrial subdivision which extends along the southeast side of Chester Road from Glendale-Milford Road to Oak Road (Figure 1). Plate 1, which is a map prepared based on U.S.G.S. maps, site observations, and discussions with Hunting, depicts the facility and its relationship to neighboring facilities.

The plant was built in 1961 and was first occupied by the Black Diamond Paint and Varnish Works (Black Diamond). Gloria and Dr. Ronald Savin purchased the facility in 1968 and it was renamed "Premium Finishes, Inc." (PFI). The Savins operated PFI as a specialty coatings manufacturing facility up until March of 1991, when it was purchased by Hunting. Based upon existing information, the basic nature, operations, and production process at the facility has remained constant from the purchase by PFI up until the present. Little information is available concerning the nature of the Black Diamond operations; it is presumed, however, that the basic nature of the facility operations was similar to PFI's.

The Black Diamond facility reportedly utilized an 11-tank underground storage tank (UST) farm for storage of raw materials. The USTs were of steel construction and had no cathodic protection. The presumed configuration of the Black Diamond facility and underground storage tank farm is shown in Figure 2. The Black Diamond underground storage tanks reportedly were used for storage of the following raw materials:

Tank 1 (6,000 gallon capacity)	Mineral Spirits
Tank 2 (1,000 gallon capacity)	VM & P Naptha
Tank 3 (1,000 gallon capacity)	Apco 467
Tank 4 (1,000 gallon capacity)	Kerosene
Tank 5 (1,000 gallon capacity)	Xylol
Tank 6 (2,000 gallon capacity)	60% Alkyd
Tank 7 (2,000 gallon capacity)	Quick Dry Alkyd
Tank 8 (2,000 gallon capacity)	70% Alkyd
Tank 9 (2,000 gallon capacity)	Z-2 Oil
Tank 10 (1,500 gallon capacity)	Aged Linseed Oil
Tank 11 (4,000 gallon capacity)	Latex

In July of 1989, toluene was discovered in a surface drainage located east of the facility. The product was subsequently traced to a leak in Tank #4 (Figure 3) at PFI. An environmental emergency response contractor (Environmental Enterprises Inc. of Cincinnati, Ohio) was retained initially by Ohio EPA Emergency Response and subsequently by PFI to contain the product and remove the tank. According to a February 1988 report by Environmental Assessment Services, Inc. (EAS), a consulting firm later retained by PFI, tank removal included removal of approximately three cubic yards of soil and the installation of two groundwater collection sumps. One sump was installed in the tank excavation pit. The second sump was installed in an excavation pit approximately fifty feet east of the tank excavation in the direction of the groundwater flow toward the storm sewer leading to the creek.

According to EAS (February 1989), a small hole was observed in the toluene tank cylinder following its removal. The cumulative period during which the product release (the volume of which is unknown but has been estimated by Hunting at 600 gallons) occurred was not known. From 1988 to 1990, PFI retained several consulting firms to assist with the assessment of the integrity of the tank farm, characterize conditions at the site, and to implement interim remedial actions. The following section of this report summarizes those studies.

2.3 Previous Studies

During the past three years, the following firms have been retained by PFI to characterize the extent of soil and groundwater contamination and perform remedial actions at the site:

August 15, 1990 Report (Appendix C), the direction of groundwater flow at the site is toward the southeast.

PET calculated the average hydraulic gradient at the site to be 0.06. PET noted that following periods of rainfall, a groundwater mounding effect occurs in the vicinity of the former tank pit. This is presumably because, with the exception of the backyard area of the site, most of the immediately vicinity is either paved or covered by structures, both of which essentially eliminate recharge by rainfall. Further, since the former tank pit is presumably filled mostly with permeable granular materials, it acts as an effective infiltration point for recharge.

Based upon slug tests performed on selected monitoring wells at the site, PET calculated the hydraulic conductivity of the glacial till water bearing zone to be 7.8×10^{-6} cm/sec.

3.0 CONTAMINANT NATURE AND EXTENT

3.1 Contaminant Nature

A significant amount of information has been collected to date concerning the nature of contaminant presence at the site. This includes analyses of soil samples collected from the tank pit by PET in April 1990 (Appendix B), analyses of groundwater samples collected from monitoring wells at the site by PET in June 1990 (Appendix C), as well as analyses of a number of water samples collected by PFI and Hunting from monitoring well #2, the tank pit sump, the interceptor trench sump, and the catch basin at the site (Appendix E). A summary of the maximum levels of constituents identified by media is presented in Table 1.

Table 1

Organic Constituents Identified in the Groundwater or Soil

CONSTITUENT	PHASE	MAXIMUM CONCENTRATION	
		Water(ug/l)	Soil(ug/kg)
1,1,1-Trichloroethane	Water and Soil	9.12	144
1,1,2,2-Tetrachloroethane	Soil	-	466
1,1,2-Trichloroethane	Water	1.55	-
1,1-Dichloroethane	Soil	-	484
Tetrachloroethylene	Water and Soil	3.56	2,490
2-Hexanone	Soil	-	5,928
Benzene	Water and Soil	3.6	81
Ethylbenzene	Soil	-	282,430
Toluene	Water and Soil	40,000	887,200
Total Xylene	Water and Soil	25,767	1,211,640
MEK	Water	67,000	-
MIBK	Water and Soil	58,000	375,975
Total Purged Hydrocarbons	Soil	-	2,370

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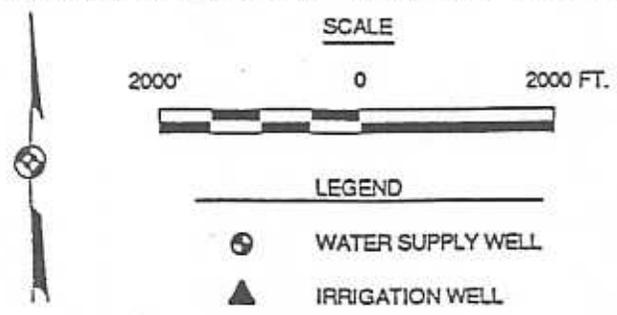
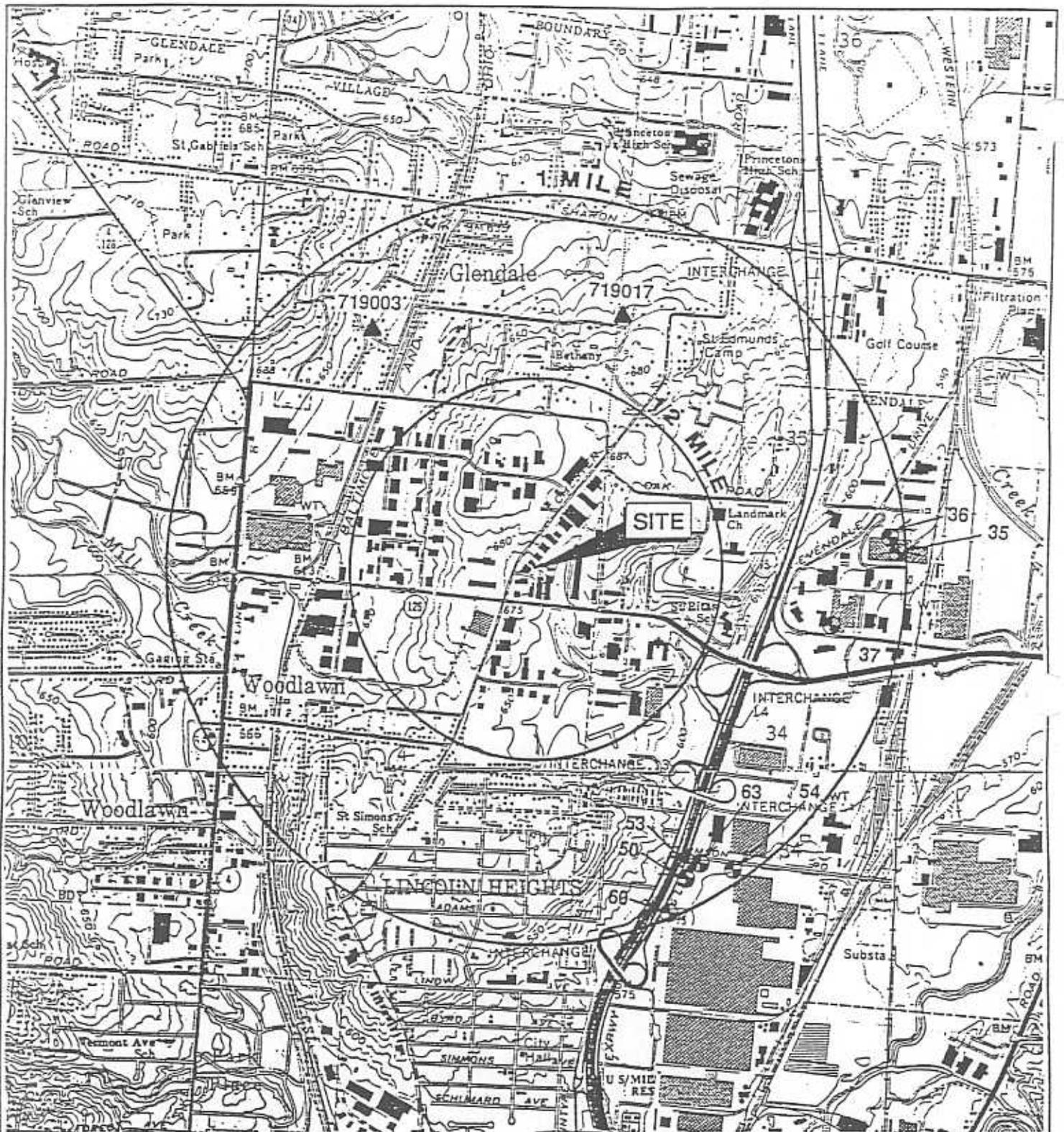
3.2 Contaminant Extent

3.2.1 Contaminant Extent in Soil

There is limited information available concerning the extent of contaminant presence in soil at the site. The PET analytical results from soil samples collected at the base of the tank pit excavation (Appendix B) in April 1990 indicate that the presence of organic constituents is probably ubiquitous in the former tank pit.

3.2.2 Contaminant Extent in Groundwater

The existing groundwater data presented herein indicates the presence of volatile organic constituents (VOCs) in groundwater at the site. The monitoring well located near the site property boundary and directly downgradient (southeast) of the former tank pit (MW-1) has historically exhibited the presence of significantly elevated levels of VOCs. As illustrated by Figure 9 of the August 15, 1990 PET report (Appendix C), MW-1 is the only well which indicated the presence of significant levels of VOCs during the June 26, 1990 sampling round. The proximity of well MW-1 to the site's southwestern property boundary indicates that a plume of VOC contaminants may have moved off-site towards the southeast.



WATER WELLS WITHIN 1 MILE RADIUS*
 HUNTING SPECIALTY PRODUCTS, INC.
 PFI-CINCINNATI, OHIO

FIGURE
 4

*BASED UPON CONR RECORDS
 RECALCULATED BY ERM-11/1985 FOR FINDALE AND CINCINNATI EAST QUADS

water, ground water and soil samples to characterize background levels and to help determine off-site risk to human health and the environment.

The Skinner property is comprised of approximately 78 acres of hilly terrain, bordered on the immediate south by the East Fork of Mill Creek. The landfill is bordered to the north by wooded land, to the east by a Consolidated Rail Corporation (Conrail) right-of-way, to the south across the East Fork of Mill Creek by agricultural and wooded land and to the west by Cincinnati-Dayton Road. A site topographic map is included as Figure 1.2. The principal residential area is west of the landfill; however, numerous residences are located within 2,000 feet of the landfill to the east, south and west.

1.2.2 SITE HISTORY AND CHRONOLOGY

The Skinner property, originally a sand and gravel operation, first became involved in landfill operations in 1934 with the disposal of general municipal refuse in abandoned sand and gravel pits. The precise location of these early fill areas is not known. It is unknown exactly what materials were deposited in the landfill from 1934 until the present.

In 1959, the landfill was used for the disposal of scrap metal and general trash from a paper manufacturing plant. In the spring of 1963, the Butler County Board of Health (BCBH) approved the use of the site as a sanitary landfill. In 1963, during the permitting procedure, local residents opposed the landfill, stating that chemical wastes were being dumped there.

It was revealed during a phone conversation on April 26, 1976 between Mr. Bill Kovacs of Chem-Dyne and Mr. Elmer Rehme, Chief of the Industrial Waste Section, Ohio EPA, SWDO, that Mr. Albert Skinner built and repaired tanks for C.D.C. (Chem-Dyne Company). This information was taken from a report to Mr. Ned Williams, Director, Ohio EPA, by Mr. Joe Moore, Ohio EPA.

Also in April of 1976, numerous citizen complaints and a fireman's observation, while fighting a fire at the Skinner Landfill, of a black, oily liquid in a waste lagoon on the site prompted the Ohio Environmental Protection Agency (OEPA) to investigate the Skinner Landfill. Representatives of BCBH, OEPA, the Southwestern Ohio Air Pollution Control Agency (SOAPCA) and the Butler County Sheriff's Department (BCSD), after being denied access on April 22, 1976, entered the Skinner Landfill with a search warrant on April 26, 1976. Bill Kovacs, owner/operator of Chem-Dyne, a Superfund site in

Hamilton, Ohio was also on-site at this time. According to the U.S. EPA's Regional Project Manager (RPM) responsible for this site investigation, Mr. Kovacs' role was as a consultant and advisor to the Skinners. During this site visit the waste lagoon area showed evidence of recent grading. Over one hundred 55-gallon drums marked "Chemical Waste" were observed. In verification of these observations, OEPA inspection of aerial photos taken in January and February of 1976 revealed a lagoon in the regraded area and several hundred drums scattered throughout the site.

The OEPA returned to the Skinner Landfill with a search warrant on May 4, 1976. The road leading to the waste lagoon was blocked by a bulldozer, claimed to be inoperable by Mr. Albert Skinner. When told that the OEPA would return with equipment to remove the bulldozer, Mr. Albert Skinner stated that the following materials were buried at the landfill: nerve gas, mustard gas, incendiary bombs, phosphorus, flame throwers, cyanide ash and explosive devices. At this time the OEPA withdrew from the site.

On May 11, 1976, representatives of the OEPA, the Army Special Unit and the BCSD entered the landfill to inspect and sample the waste lagoon area. Analysis of samples taken from a trench excavated at the lagoon site revealed pesticides, including chlordane intermediates, some volatile organic compounds and elevated concentrations of several heavy metals, as shown in Table 1.1. Appendix B contains the raw data as reported by the U.S. EPA.

In response to these discoveries, the Skinners retained H.C. Nutting Company in July 1976 to conduct a shallow geologic investigation. Records of five soil borings, drilled 9 to 16.5 feet deep in the area of the lagoon, show mixed soils consisting of sand, silt, clay and gravel with an occasional mention of "organics" and "odor detected." Copies of the boring logs are provided in Appendix A of this report.

The OEPA made a subsequent site inspection in July 1977. WESTON's Phase I Work Plan states that the OEPA found leachate seeping from near the buried lagoon and a faint chemical odor near the buried lagoon. From August 1977 until January 1979, OEPA attempted without success to obtain a court order to force the Skinners to remove the chemical waste. Subsequent appeals by the OEPA were unsuccessful. The court did, however, prohibit future disposal of industrial waste at this site except under legal permit. It was confirmed at this time that the Skinners had an agreement with Bill Kovacs to clean and maintain Chem-Dyne vehicles and tanks.

In early 1980, a Field Investigation Team (FIT) from CH2M Hill tried to enter the landfill to install monitoring wells and to take samples but was refused entry by Mrs. Elsa Skinner.

In July 1982, a Field Investigation Team (FIT) from CH2M Hill installed four ground water monitoring wells to characterize water quality beneath the buried lagoon area. Volatile organic compounds were detected in ground water collected from a monitoring well located southeast of the buried lagoon. In December 1982, as a result of the FIT investigation, the Skinner Landfill was placed on the National Priority List (NPL) with a ranking of 659. This action prompted the initiation of a RI/FS with Phase I activities commenced by Roy F. Weston, Inc. (WESTON) in September 1984.

In the Spring of 1986, WESTON initiated the field investigation for Phase I of the RI. This initial investigation included a geophysical survey, the installation of eighteen ground water monitoring wells, and the sampling of ground water, surface water, and soils. Additionally, a biological survey of the diversity of both fish and macroinvertebrate fauna collected from the East Fork of Mill Creek and Skinner Creek was performed.

A second round of ground water, surface water, and soil sampling was taken in the summer of 1986. Based upon the results of sampling during rounds I and II, an additional round of sampling was performed in July 1987 in accordance with the recommendations outlined in the Phase I Tech Memo, submitted by WWES in October, 1990. A soil gas survey was also performed in the vicinity of the buried lagoon in an attempt to define specific areas needing further exploration.

Since the time WWES began planning Phase II of the RI investigation and apparently also throughout Phase I activities, site access problems have occurred. Although eventually resolved, these situations served to delay the start-up of the Phase II activities. Ultimately an administrative order to permit access to the U.S. EPA and its subcontractors was issued in October 1987 to prevent future disruption in the work schedule. Additionally, the OEPA sought and achieved site closure to all landfilling activities.

associated with the breakdown of the waste lagoon pesticides. This well is screened just below the bedrock contact on the floor of the buried valley to the southeast of the lagoon.

6.4.3 SURFACE WATER, SEDIMENT, AND LEACHATE

The leachate seeps entering the East Fork of Mill Creek contained volatile organics, semi-volatile organics and pesticide compounds in the leachate water and sediment. The only significant organic compound detected in the leachate water from the Skinner Creek seep (LW-03) was the pesticide hexachlorobutadiene. This pesticide compound was also detected in a water sample from Trilobite Pond which suggests that the pond and the seep are in hydraulic communication. This suggestion is supported by pH and specific conductivity values. Petroleum odors, however, seem to link this seep to Diving Pond.

The set of compounds detected in LW-01 were also found in the ground water sample obtained from GW-20, located upgradient of the leachate seep and below the waste lagoon. This pattern suggests that the seep is a direct discharge point for ground water originating in, and impacted by, the waste lagoon. Discharge at LW-01 may be induced or aided by the drainage pipe while discharge at LW-02 appears to be controlled by lithology, as discussed in Section 4.4.4, and supported by the soil vapor screening, specific conductivity and pH measurements. The leachate sample LW-01 did not contain any of the contaminants seen in LW-02 but the corresponding sediment sample, LS-01, contained many of the same compounds as LS-02. The majority of detections in the sediments were semi-volatile compounds.

The laboratory analyses of surface water and sediment samples from the Skinner site showed the presence of volatile organic compounds, semi-volatile organic compounds, pesticides, PCB's and metals at low concentrations.

No significant surface water contamination of East Fork of Mill Creek was observed. A variety of semi-volatile organic compounds, pesticides, and PCB's were detected in sediment samples from the creek, however. Similar observations were made of Skinner Creek as no significant surface water contamination was observed, but volatile organic, semi-volatile organic and pesticide compounds were detected in Skinner Creek sediment samples in the vicinity of SM-20 and SM-21, near the buried pit and the main site access road.

Water samples from Duck Pond and Dump Creek did not reveal significant amounts of contamination. The sediments of Duck Pond were shown to be impacted by pesticides

while Dump Creek sediments contained detectable levels of volatile organics, semi-volatile organics and a single low level detection of a pesticide compound.

Water samples from Trilobite and Diving Ponds both contained low concentrations of pesticides. Semi-volatile organics were detected in water collected near the base of Trilobite Pond. Sediments from Diving Pond contained detectable levels of volatile organics, semi-volatile organics, PCB's and pesticides. The sediment samples from Trilobite Pond were relatively unimpacted, but have been recently disturbed and altered through dredging and excavating activities by the landfill operator.

The draft risk assessment submitted in December 1990 compared the results of the on-site surface water and sediment sampling on the Skinner site to background sample locations. This process of comparison will determine if the contamination encountered is attributable to the historic disposal process or attributable to off-site sources. The risk assessment will evaluate which, if any, of the compounds pose a threat to human health or the environment.

6.5 POTENTIAL OFF-SITE MIGRATION

The results of the Phase II Remedial Investigation indicate that there is limited potential for significant off-site migration of contaminants from the Skinner site. The only evidence of contaminants potentially leaving the site through ground water migration was a detection of ethylbenzene at 5 ug/l from the bedrock well GW-24 located across the East Fork of Mill Creek from the buried waste lagoon. This low concentration and the fact that only a single organic parameter was detected may indicate that the ethylbenzene detection was invalid.

The only other potential off-site migration route is through the East Fork of Mill Creek and Skinner Creek. The leachate seeps discharging into the East Fork of Mill Creek appear to originate within the buried waste lagoon. A variety of contaminants were detected in surface waters and sediments from the creeks at low concentrations? The Risk Assessment will evaluate the potential effects of the surface water and sediment contamination on human health and the aquatic environment.