SCREENING SITE INSPECTION REPORT FOR
CMX CORPORATION
YAKIMA, WASHINGTON

TDD F10-8901-012
PAN FWA0565SA

Report Prepared by: Ecology and Environment, Inc.
Date: January 1990

Submitted to: J.E. Osborn, Regional Project Officer
Field Operations and Technical Support Branch
U.S. Environmental Protection Agency
Region 10
Seattle, Washington

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SCREENING SITE INSPECTION REPORT
CMX CORPORATION
YAKIMA, WASHINGTON
TDD F10-8901-012
PAN FWA0565SA

Site Name/Address

CMX Corporation
206 W. Mead Avenue
Yakima, Washington 98902

Site Inspection Participants

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Principal Site Contacts

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Dates of Investigation

Site Reconnaissance: February 1, 1989
Sampling: March 27, 1989

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

ABSTRACT

Pursuant to United States Environmental Protection Agency (EPA) Contract Number 68-01-7347 and Technical Directive Document (TDD) Number F10-8901-012, a file review and Screening Site Inspection (SSI) of the CMX Corporation Site, located in Yakima, Washington, were conducted between February and June 1989. As a part of this inspection, a total of one sediment sample, three groundwater samples, and six soil samples were collected to evaluate the site's potential for inclusion on the National Priorities List (NPL). The samples were analyzed for volatile organic, semivolatile organic, pesticide/PCB compounds, and inorganic elements through the EPA's Contract Laboratory Program (CLP) and the EPA Region 10 Laboratory.

No elevated levels of inorganic or organic compounds were detected in the groundwater samples collected. Zinc was elevated in one on-site soil sample. On-site soils also contained a phthalate compound (common plasticizer). Possible natural breakdown products of organic material and oil were tentatively identified in all soil samples. The pesticides DDT, DDE, dieldren, and beta-endosulfan were found in the soils which may be residues of historic agricultural activities in the area. The sump sediment contained elevated levels of both inorganic and organic contaminants, notably chromium, lead, copper, silver, nickel, and cadmium. These exceeded concentrations found in the soil samples by ranges of approximately 7 to 1,075 times (nickel and chromium, respectively). Tetrachloroethylene (PCE) was detected in the sump sediment at 240 µg/kg.

Evidence obtained to date does not indicate that previous or current operations at the CMX site have adversely impacted the groundwater or soils in the area. However, the presence of PCE in the sump sediment and the location of the CMX site in an area of known PCE contamination may indicate that further research at this facility is warranted. The potential for human exposure to site wastes via surface water, groundwater, or air is low. There is a potential for direct contact with sump sediment by site workers.

1.0 INTRODUCTION

Pursuant to United States Environmental Protection Agency (EPA) Contract No. 68-01-7347 and Technical Directive Document (TDD) No. F10-8901-012, Ecology/and Environment, Inc. (E & E) conducted a Screening Site Inspection (SSI) of the CMX Corporation Site located in Yakima, Washington. The EPA Site Inspection process is intended to evaluate actual or potential environmental or public health hazards at a particular site relative to other sites across the nation for the purpose of identifying remedial action priorities. The Screening Site Inspection represents the initial phase of the SI process and is intended to collect sufficient data to enable evaluation of the site's potential for inclusion on the National Priorities List (NPL) and, for those sites determined to be NPL candidates, establish priorities for additional action. The SI process does not include extensive or complete site characterization, contaminant fate determination, or quantitative risk assessment.

This document presents a summary of the objectives, activities, and results of the CMX Corporation SSI. Included are descriptions of site background information (Section 2.0), sampling objectives and scope (Sections 3.0 and 4.0), analytical results of sampling (Section 5.0), and inspection conclusions (Section 6.0).

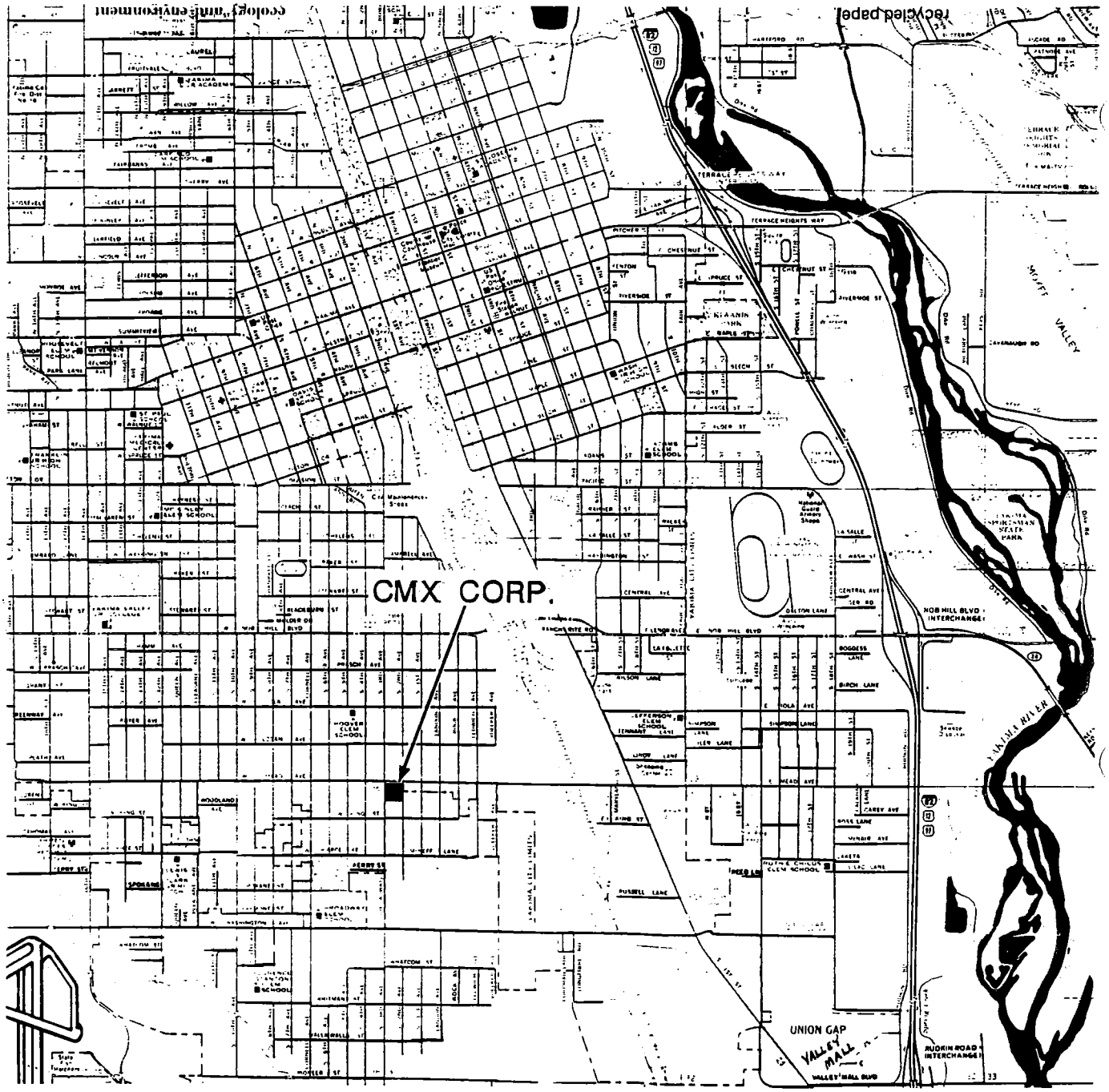
2.0 BACKGROUND

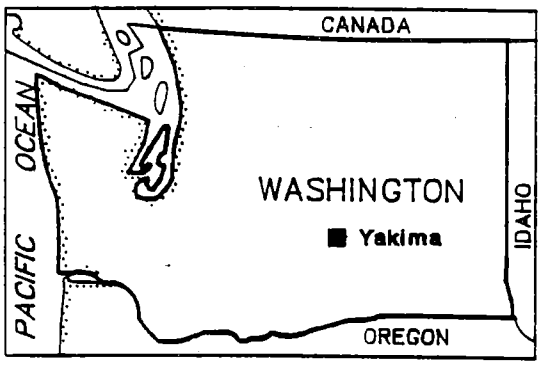
2.1 Site Location and Description

The CMX Corporation (Yakima Division) site is located at 206 W. Mead Avenue in Yakima, Washington, in section 31, Township 13 N., Range 19 E. (46°34'41" North latitude, 120°30'23" West longitude) (Figure 1) (USGS 1985). The site is situated in a mixed commercial/residential area, bordered on the north and south by residential units, and on the east and west by commercial facilities (E & E 1989a). A chain-link fence borders the site to the west, east, and south. Access to the site is through a locking gate in the northeast corner of the facility (Figure 2) (E & E 1989a).

Prior to 1984, the facility was owned by Darrell and Diana Hyatt and was used as a plumbing shop for an unknown period of time (E & E 1989a). The current CMX manager, Mr. Randy Cluff, believes that the site may also be the location of a former automotive service station. Since December 1984, the site has been owned and operated by the CMX Corporation of Seattle, Washington. The Yakima facility supplies photochemical solutions to local hospitals and clinics for x-ray units.

According to Mr. Cluff, CMX Yakima prepares solutions of x-ray developer and fixer, and distributes these solutions. The Yakima facility also distributes prepackaged, ready-to-use photochemicals and x-ray film, and services x-ray units. Material Safety Data Sheets provided by Mr. Cluff indicate that the developer solutions contain hydroquinone, sodium sulfite, potassium sulfite, and acetic acid (E.I. DuPont 1988). Fixer solutions contain ammonium thiosulfate, sodium





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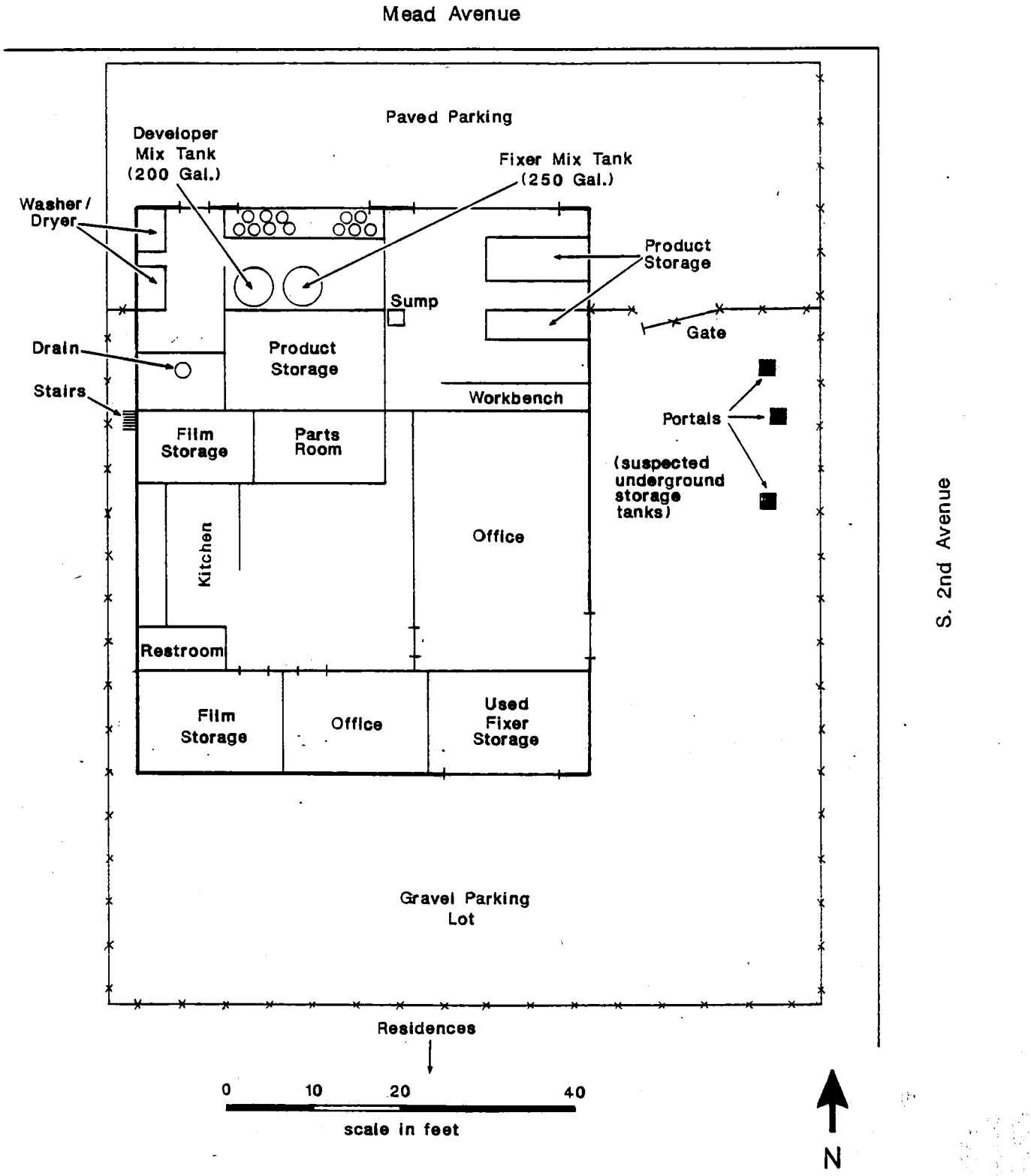
Drawn by: B.T.	Date: March 3, 1989

FIGURE 1
LOCATION MAP
CMX CORPORATION
Yakima, WA



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Job: F10-8901-012	Waste Site: WA 0565
Drawn by: B.T.	Date: Oct. 5, 1989

FIGURE 2
SITE MAP
CMX CORPORATION
Yakima, WA

sulfite, and acetic acid (Agfa-Gevaert 1985). In addition to the fixer and developer, a cleaning solution which contains sodium dichromate and sulfuric acid is used during x-ray unit servicing (Eastman Kodak 1984). Spent photochemical solutions are returned to CMX by clients and, after temporary storage on site, are sent to the Seattle CMX facility for recycling (E & E 1989a).

The site consists of a single cement-block building bordered on the north by a paved parking lot and on the east, south, and west by a graveled lot (Figure 2). What appeared to be three underground storage tank (UST) ports were observed in the graveled lot east of the building. CMX does not use underground storage tanks at this facility. It is unknown what purpose the tanks served in the past or what they may contain at this time. The site building includes office and film storage areas, a warehouse where photochemicals are mixed and stored prior to distribution, and a used photochemical storage area. These areas are further subdivided into office spaces, a kitchen, a lavatory, film storage, and a parts storage room (E & E 1989a). Access to the office and film storage areas is via a door on the east side of the building.

The warehouse section is not bermed and consists of product storage and mixing areas. Entrance to the warehouse is through a door in the office, or through two garage doors on the north side of the building. Ready-to-use medical diagnostic kits are stored along the southwest wall of the warehouse. Ready-to-use photochemicals, stored in plastic containers and cardboard boxes, are stored above the diagnostic kits on a wooden platform. Wooden stairs in the center of the room provide access to the platform. Mixed products ready for distribution are stored in plastic 5-gallon containers along the eastern wall of the room. The floor of the warehouse is concrete (E & E 1989a).

There are two mixing tanks located in the center of the warehouse. The fixer tank has a 250-gallon capacity and the developer tank has a 200-gallon capacity. The tanks are located on a wooden platform approximately 3 feet above the floor. During the E & E site inspection, a white, crusty material was observed on the concrete floor around the mixing tanks. Plastic 55-gallon drums of concentrated fixer and developer solutions are stored on a 3-foot high wooden platform along the north wall. Eight drums were observed at the time of the site inspection (E & E 1989a).

An eyewash station and water tap are located just east of the stairs. A floor sump, approximately 2 feet by 2 feet, is located immediately below the eyewash and water tap. The sump is covered by a metal grate. A dark liquid was observed in the sump during the initial site inspection, approximately 3 feet below the floor surface. A 4-inch pipe was observed to transect the opening approximately 1 foot below the floor surface. The metal grate and this pipe appeared to be rusty at the time of the site inspection (E & E 1989a).

A washing machine and dryer are located west of the mixing area. A container-rinsing area is located south of the appliances. This space, approximately 4 feet by 5 feet, has a water tap used for rinsing

returned containers. A drain in the floor accepts both rinse water from the water tap and water from the washing machine. This drain reportedly flows to a drainfield south of the building (Ecology 1989a).

A partial basement is located on the west side of the building; access is via concrete stairs on the outside of the building. This area, approximately 10 feet by 5 feet, houses a heating and air-conditioning unit. Condensation from the air conditioner apparently discharges via a pipe to a hole in the concrete floor (E & E 1989a).

According to Mr. Cluff, used (spent) photochemical solutions are stored in a separate room in the southeast corner of the facility. Access is via a locked garage door on the outside of the building. The floor of this area is approximately 3 feet above ground surface. No spill containment features were observed at the time of the site visit, other than the concrete floor (E & E 1989a).

2.2 Site Operations and Waste Characteristics

Past and current operations at the CMX Corporation site in Yakima include photochemical formulation, packaging photochemicals in reusable plastic containers, and container rinsing. According to Mr. Cluff, concentrated photochemical solutions are pumped directly into the chemical mixing tanks from the 55-gallon plastic drums. Water is added from the tap near the wooden stairs. The diluted chemicals are then decanted into 5-gallon plastic containers via spigots at the base of the tanks. Approximately 1,800 gallons of developer and 2,250 gallons of fixer are mixed monthly. The tanks are reportedly never rinsed out (E & E 1989a).

Approximately 270 gallons of water are currently used per month to rinse developer containers in the container rinsing area. Only 5-gallon developer containers are rinsed in the container-rinsing area, according to Mr. Cluff. However, previous reports indicate that this has not always been the case (see section 2.4). The sump below the eyewash station and the floor drain in the container-rinsing area appear to discharge to the drainfield, reportedly located below and south of the facility building. A summary of waste-related activities on site are provided in Table 1.

According to Mr. Cluff, the Yakima division of CMX collects used fixer from approximately 15 percent of their customers. At the time of the site visit, two 55-gallon plastic drums of spent fixer solution were observed in the used chemical storage area. The used fixer is returned to the Seattle CMX facility, where the silver is reclaimed from the spent solution. Approximately two 55-gallon drums of spent fixer are returned to Seattle every 2 weeks. The corporation maintains a Department of Transportation (DOT) permit (#177937) to ship the used fixer solution. The facility also stores spent systems cleaner (for cleaning x-ray systems) in the used chemical area. Approximately 10 gallons of this cleaner is shipped monthly to the CMX home office in Seattle for disposal (E & E 1989a).

Table 1

WASTE-RELATED ACTIVITIES ON SITE

Activity/Process	Dates	Waste(s) Produced	Storage/ Disposal Method(s)	Containment Features	Hazardous Constituents[1]
Potential automotive service station	Unknown	Unknown	Unknown	Potential underground storage tanks	Unknown
Plumbing shop activities	?-1984	Unknown	Unknown	Unknown	Unknown
Developer container rinsing	1984-Present	Developer rinsate	Underground drain field	None	Silver (D) Acids (A)
Fixer container rinsing	1984-1987	Fixer rinsate	Underground drain field	None	Silver (D) Acids (A)
Silver reclamation from fixer	1984-1985	Fixer rinsate	Underground drain field	None	Silver (D) Acids (A)

References:

1. (D) denotes the presence of constituent is documented through analytical testing.
   (A) denotes the presence of constituent is alleged.

The Yakima facility reportedly reclaimed silver from spent fixer for a short period of time when the facility originally opened in 1984. This practice was discontinued prior to April 1985 (Ecology 1989a).

2.3 Potential Contaminant Transport Pathways/Receptors

2.3.1 Surface Water

CMX Corporation is located approximately 1.5 miles north of Wide Hollow Creek and 2 miles west of the Yakima River. The intervening terrain between the site and these water bodies has an average slope of less than 1 percent (USGS 1985).

A storm drain is located near Mead Avenue and Second Avenue which could receive surface water runoff from the paved (north) portion of the CMX site (E & E 1989a). Surface water runoff from the unpaved portion of the site is likely to flow away from Mead Avenue to the south or southeast. Storm drains situated along Mead Avenue are believed to discharge to Wide Hollow Creek (Wick 1989).

Wide Hollow Creek is a natural water body which is used for irrigation and recreational fishing (Wick 1989). The creek has been stocked with trout for several years and, beginning in 1989, will be stocked with Coho salmon as part of a Washington Department of Fisheries project to restore the creek as a natural spawning habitat. The construction of a fish ladder at the junction of Wide Hollow Creek and the Yakima River is also included in this project (Colb 1989).

The Yakima River, which flows south, is used extensively for recreation but is not known to be used as a drinking water source (Yakima Chamber of Commerce 1989). It is a migratory route for steelhead trout. Other sport fish caught in the Yakima River include rainbow trout and whitefish (Washington Department of Wildlife 1988).

No surface water drainage routes from the site to the creek or river were identified. It is unlikely that runoff or spilled material from CMX would reach Wide Hollow Creek or the Yakima River over land due to the distance involved, the nearly level intervening terrain, and the arid Yakima Valley climate. However, runoff from the paved portion of the site could be introduced into the creek via the storm drainage system.

2.3.2 Groundwater

Groundwater in the vicinity of CMX is used for drinking water as well as industrial supply and processing (Ecology 1989b). Residents of Yakima receive drinking water from the city of Yakima water supply system, which originates as surface water from the Naches River (Falk 1989). CMX and nearby residents and businesses are outside the Yakima city limits and are generally beyond the service area of the city (although the service boundaries are uneven and difficult to predict). Many homes and businesses in this area have domestic or industrial wells; however, the CMX site is supplied by the city water system (Bates 1989). Site operators are not aware of any wells on the site property.

Approximately 10,500 people are believed to use groundwater as their source of drinking water within 3 miles of the site (Ecology 1989b).

The depth to water is less than 20 feet below ground surface (bgs) at some locations within 3 miles of the site (Ecology 1989b). Wells vary in depth from approximately 30 feet to over 700 feet, and are constructed in the highly permeable sands and gravels of the Yakima River flood plain (Washington Soil Conservation Service 1979). Wells up to 200 feet in depth are believed to be constructed in an unconfined upper aquifer. Deeper wells may be constructed either in the upper aquifer or in the deeper Ellensburg formation, depending on the location and depth of the well (USGS 1990). The closest well to the site is located at a residence immediately south of CMX. The owner did not know the depth of the well and a well log was not available (E & E 1989a).

2.3.3 Air

The Yakima area is characterized by a dry, mild climate, with an average annual temperature of about 50°F. The average annual precipitation for this area is 8 inches and the average lake evaporation is 31 inches, providing an average annual net precipitation of -23 inches (USDC 1979). The local one-year, 24-hour rainfall is approximately 0.9 inches (USDC 1973).

The possibility of a release to air from CMX appears to be limited to the reaction which would occur if the fixer and the x-ray unit cleaning solutions were mixed. In this reaction, the ammonium thiosulfate from the fixer and the sulfuric acid from the cleaner could combine to form ammonia gas (E & E 1989b). Neither the fixer nor the cleaner containers are rinsed on site, and both spent solutions are collected and stored in separate containers for shipment to Seattle. However, both solutions are stored in the used chemical room. It is unknown if mixing spent solutions would produce the same reaction as mixing fresh solutions.

2.4 Investigative/Regulatory History

In April 1985, the Washington Department of Ecology (Ecology) performed a RCRA/Dangerous Waste Regulations Compliance Inspection at CMX Corporation (Ecology 1989a). The inspection was performed in response to an anonymous complaint filed when CMX was installing a new septic system. The complainant thought CMX was going to dump x-ray chemicals into this system. The inspection notes indicate that a new 1,000-gallon septic tank was installed because the old 250-gallon tank was clogged. The septic tank reportedly received only sanitary waste. The exact location of the new septic system was not included in the inspection notes, but according to a sketch in the file, it is located near the southwest corner of the building (Ecology 1989c).

In July 1985, Ecology returned to the facility and collected samples of photochemical container rinsates. The fixer and developer rinsate samples were submitted for silver analysis and fish bioassay. They contained 4.4 µg/L and 4.3 µg/L of silver, respectively. At a concentration of 1,000 mg/L for each solution, the fish experienced a

3.3 percent mortality rate. This is below the mortality rate at which the waste is categorized as dangerous waste per WAC 173-303 (Ecology 1989a).

The narrative report of the two inspections performed by Ecology notes that rinsate was discharged to a drainfield below and south of the rinse station. The report does not identify the exact location of the rinse station, but a sketch in the site file indicates that its probable location is east of the mixing tank area (i.e., the current sump location). The drainfield is shown to be south of the building. Wastes generated at the facility reportedly included approximately 180 gallons of rinsate per week, including 100 gallons of fixer rinsate and 80 gallons of developer rinsate (Ecology 1989a). According to CMX manager Randy Cluff, fixer containers are not currently rinsed (E & E 1989a).

After the Ecology inspections, CMX applied to Ecology for an industrial/commercial waste discharge permit. A permit (#ST9046) was granted in September 1985 for subsurface discharge of approximately 100 gallons of wastewater per week (Poston 1989). According to Material Safety Data Sheets provided by Mr. Cluff during the initial site inspection, fixer solutions contain ammonium thiosulfate and acetic acid, and the cleaning solution contains sulfuric acid, all of which are listed hazardous substances under 40 CFR 302.4. These and other compounds associated with the photochemical solutions may have been released to the soil and/or groundwater.

In June 1988, E & E conducted a Preliminary Assessment (PA). Using a weekly discharge rate listed in the previously mentioned 1985 compliance report, it was estimated that approximately 30,000 gallons of contaminated water may have potentially been discharged to the subsurface via the drainfield between 1985 and the first half of 1988 (E & E 1988). It was determined during the PA that soil and groundwater contamination had potentially occurred as a result of the dissolved photochemicals in the wastewater, and further action was recommended to characterize the nature of site operations and determine the need for corrective measures (E & E 1988).

3.0 PROJECT DESCRIPTION

3.1 Sampling Objectives and Scope

As mentioned in Section 1.0, a Screening Site Inspection is primarily intended to gather sufficient data to enable evaluation of a site's potential for inclusion on the National Priorities List. Accordingly, the following sampling objectives were defined for the CMX Corporation SSI:

1. Determine if past waste disposal practices at the site have contaminated the shallow groundwater in the vicinity of the site.

2. Determine if the site's surface and subsurface soils contain hazardous constituents.

3. Determine if the sump liquid or sediment contain hazardous constituents.

To accomplish these objectives, the following general field activities were conducted:

- o Groundwater samples were collected from nearby domestic water wells constructed in the shallow aquifer.
- o Surface and subsurface soil samples were collected on site.
- o A sediment sample was collected from the sump.

A liquid sample was not collected from the sump because no liquid was present at the time of sampling.

3.2 Data Types, Uses, and Quality Requirements

The data types, intended data uses, and associated analytical quality requirements necessary to satisfy the above objectives are summarized in Table 2. Specific methods by which the necessary data were collected are described below.

4.0 SAMPLING PROGRAM

4.1 Sample Types, Numbers, Locations, and Rationale

Sample types, numbers, locations, and rationale are summarized in Table 3. Approximate on-site sample locations are shown in Figure 3. Approximate off-site sample locations are shown in Figure 4. A total of three shallow groundwater samples were collected at three off-site locations. Two of these groundwater wells are located downgradient of the reported groundwater flow direction (southeast). The third groundwater sample was collected northwest of the site to establish background concentrations.

A total of four soil samples were collected from two boreholes established on site. A surface (0-6") and a subsurface sample (13-23") were collected from each borehole. An additional set of surface and subsurface soil samples were collected from a borehole at an off-site location to establish background concentrations.

A sediment sample was collected from the sump located inside the site building. No liquid was present in the sump at the time of sampling.

4.2 Sampling Methods

Media-specific sampling procedures used during the CMX Corporation SSI are described in the project work plan (E & E 1989c). The procedures used are consistent with methodologies described in Sections 2.2.2, 3.2.1, 3.4.3, and 3.4.4 of EPA Characterization of Hazardous

Table 2

DATA TYPES, USES, AND QUALITY REQUIREMENTS

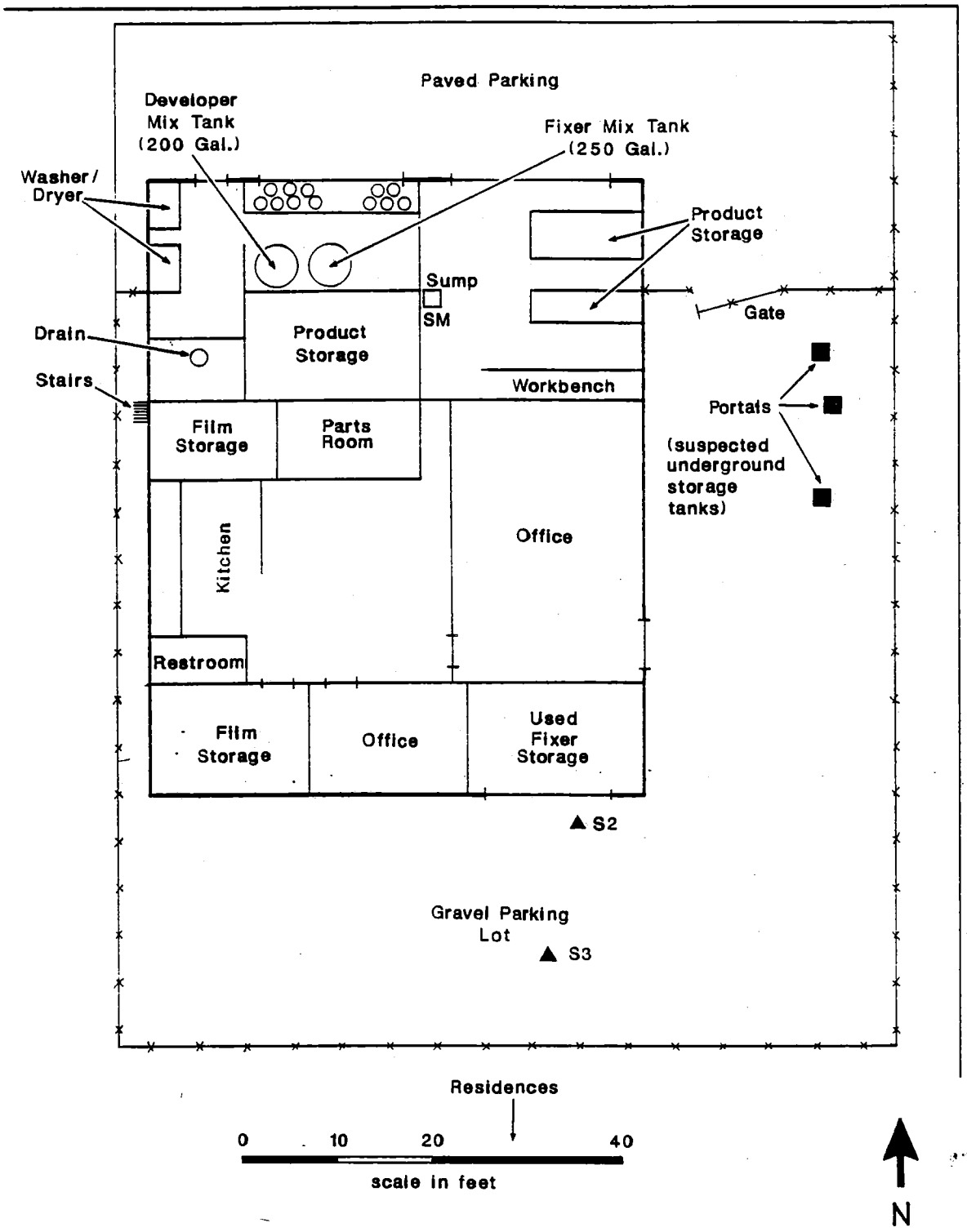
Objective Number[1]	Data Types Collected	Prioritized Data Uses	Contaminants of Concern	Levels of Concern[2]	Analytical Progam Used[3]
1	Chemical characteristics of groundwater	o HRS score o Public health evaluation	Volatile organics, semivolatile organics, inorganics	ppb	CLP, EPA Region 10 Laboratory
2	Chemical characteristics of surface and subsurface soils	o Site characterization	Volatile organics, semivolatile organics, inorganics	ppb	CLP, EPA Region 10 Laboratory
3	Chemical characteristics of sump solids	o HRS score o Site characterization	Volatile organics, semivolatile organics, inorganics	ppb	CLP, EPA Region 10 Laboratory

1. See Section 3.1.
2. Levels of concern reflect anticipated environmental conditions at time of work plan preparation and subsequent analytical detection limits.
3. Analytical program(s) were specified in accordance with anticipated data uses and levels of concern.

Table 3

SAMPLE TYPES, NUMBERS, LOCATIONS, AND RATIONALE

Sample Matrix	Number of Samples Collected	Sample Type	Sample Location	Rationale
Groundwater	2	Grab	Off-site domestic wells	o Determine if possible contaminants have migrated to shallow groundwater (10 to 20 feet below ground surface)
	1	Grab	Off-site domestic well	o Establish background conditions for shallow groundwater
Soil	2	Grab (VOCs) Composite (TCL except VOCs)	On site (0 to 6 inches)	o Determine if surface soils contain hazardous constituents
	2	Grab (VOCs) Composite (TCL except VOCs)	On site (13 to 23 inches)	o Determine if subsurface soils contain hazardous constituents
	1	Grab (VOCs) Composite (TCL except VOCs)	Off site (0 to 6 inches)	o Establish background concentrations for surface soil samples
	1	Grab (VOCs) Composite (TCL except VOCs)	Off site (6 to 13 inches)	o Establish background concentrations for subsurface soil samples
Sump Sediment	1	Grab	Sump	o Determine if sump sludge contains hazardous constituents
Water	1	Transfer blank	N/A	o Evaluate sample collection, transportation, and analytical procedures
TOTAL	11			



LEGEND

- Fence
- S2 ▲ Borehole Soil Sample
- SM □ Sediment Sample

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FIGURE 3
ON-SITE SAMPLE LOCATION MAP
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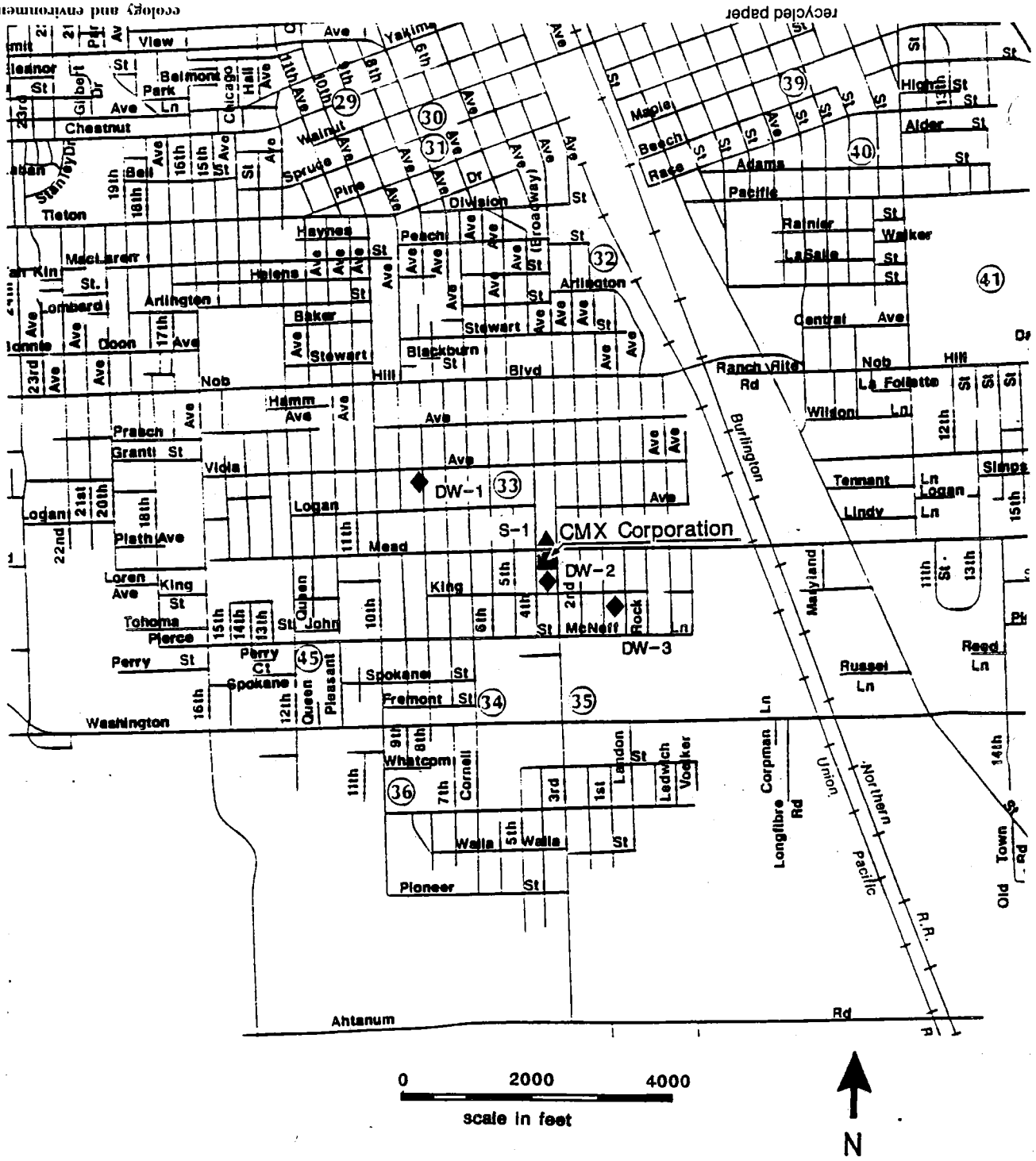
Yakima, WA



LEGEND

▲ Borehole Soil Sample

◆ Shallow Groundwater Sample

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Drawn by: CAC	Date: June 7, 1989

FIGURE 4
OFF - SITE SAMPLE
LOCATION MAP
CMX CORPORATION
Yakima, WA

Waste Sites--A Methods Manual--Volume II, Available Sampling Methods (EPA 1984), as well as those described in EPA's Compendium of Superfund Field Operations Methods (EPA 1987a).

4.3 Sample Analytical and Handling Requirements

Sample analytical requirements for the CMX Corporation SSI are summarized in Table 4. Included are descriptions of requested analytes, the analytical program(s) used, sample-preservation techniques, and maximum sample holding times. Analytical methods and bottle requirements for samples collected during this investigation are described in the EPA's User's Guide to the Contract Laboratory Program (EPA 1986). A copy of the EPA Target Compound List (TCL) appears in Appendix A.

Due to the potential evidentiary nature of the data collected, all samples intended for analysis through the CLP or EPA Region 10 Laboratory were handled and documented in accordance with procedures specified in EPA's User's Guide to the Contract Laboratory Program (EPA 1986), CLP Statements of Work (EPA 1987b, EPA 1987c), and National Enforcement Investigations Center Policies and Procedures (EPA 1985). Sample packaging conformed with applicable Department of Transportation Regulations (49 CFR 171-177) and/or International Air Transport Association guidelines (IATA 1987) and section 6.2 of the EPA Compendium of Superfund Field Operations Methods--Volume I (EPA 1987). Organic samples were shipped for analysis within 24 hours of collection and inorganic samples were shipped within 5 working days of collection, unless otherwise indicated in Table 4. Shipment was via an overnight delivery service or hand delivery by an E & E field team member.

Sample documentation information for the project is summarized in Appendix B. Included in Appendix B are project numbers, account numbers, sample names, laboratory numbers, and chain-of-custody numbers.

4.4 Equipment Decontamination

To the greatest extent possible, disposable and/or dedicated personal protection and sampling equipment was utilized to avoid cross-contamination of samples. Equipment decontamination, when necessary, was performed in accordance with procedures outlined in the project work plan (E & E 1989c).

Following completion of the field work, all equipment (including support vehicles) was cleaned using pressurized steam and/or a hot water wash with non-phosphate detergent. Sampling equipment was then rinsed with potable water, sealed in plastic bags, and transferred to the E & E base support facility for full decontamination prior to reuse.

5.2 Soil and Sediment Samples

Two samples were collected from each of the three soil sample locations established during this SSI. The sample locations are designated S-1, S-2, and S-3, and in each case, the surface sample (0-6") is labeled "A" and the subsurface sample (13-23") is labeled "B". Samples S-1A and S-1B represent the surface and subsurface background samples and were collected off-site (Figure 4). S-2A and S-2B were collected near the southeast corner of the CMX facility building, and S-3A and S-3B were collected approximately 20 feet south of S-2 (Figure 3). The sump sediment sample is designated SM, and was collected from the sump inside the facility building.

5.2.1 Inorganic Analysis Results

A summary of inorganic elements detected in the soil and sediment samples appears in Table 7. The sump sediment sample (SM) contained several heavy metals with concentrations exceeding those detected in other site soil samples. However, it should be noted that the sump sediment is not native material and may be more appropriately classified as a sample of waste material. Sump concentrations ranged between 7 times higher (nickel) and 1,075 times higher (chromium) than the maximum concentrations of elements detected in the soil samples. Excluding chromium, concentrations of metals detected in the sump sediment were 26 times higher on the average than those detected in soil samples S-1 through S-3.

The only element of concern detected in surface soil samples at an elevated level was zinc (2.5 times background) in S2-A. The only elements detected in subsurface soil samples at elevated levels were arsenic (2.5 times background), lead (2.6 times background), and mercury (estimated 16 times detection limit) in S2-B. It should be noted that the subsurface soil arsenic and lead values would not be considered elevated if compared to the surficial soil concentrations.

5.2.2 Volatile Organic, Semivolatile, and Pesticide/PCB Analysis Results

Table 8 provides data for TCL and TIC volatile organic compounds detected in the soil and sump sediment samples. All detected volatiles, primarily aliphatic and aromatic hydrocarbons, were present in the sump sediment, with the exception of trans-1,2-dichloroethene. Tetrachloroethylene, also known as perchlorethylene or PCE, was detected at 240 µg/kg in the sump sediment. S1-B contained trans-1,2-dichloroethene (0.7 J µg/L) and chloroform (0.3 J µg/L). No volatiles were detected in any other soil sample collected. No criteria exist for volatile compound concentrations in soil.

A similar trend was observed for the semivolatile compounds detected in the soil and sump sediment samples. Table 9 provides a summary of semivolatile analytical data. The sump sediment contained the greatest number of compounds (7) and the highest concentrations of these compounds. A phthalate compound, di-n-butylphthalate, was detected in samples S1-A (260 J µg/kg), S2-A (110 J µg/kg), and S3-B

Table 7

SUMMARY OF INORGANIC ANALYTICAL RESULTS FOR SOIL SAMPLES
CMX CORPORATION, YAKIMA, WASHINGTON
(mg/kg)

Analyte	S1-A Background	S1-B Background	S2-A	S2-B	S3-A	S3-B	SM Sump
Aluminum	11,800	16,500	10,800	14,100	10,700	13,200	8,830
Arsenic	33.1	16.3	43.2	41.3	17.2 J	24.7	35.2
Barium	106	129	121	144	85.3	107	560
Beryllium	0.79 J	0.88 J	0.66 J	0.95 J	0.75 J	0.86 J	1.3 U
Cadmium	4.4	5.7	3.4	4.9	3.4	4.2	61.1
Calcium	3,810	4,540	5,760	4,980	14,200	5,200	2,280
Chromium	21.3 U	16.7	20.3	17.7	13.8	13.2	14,200
Copper	19.0	21.8	36.0	23.8	22.4	22.0	1,480
Iron	5,040	3,160	11,000	3,120	2,480	2,740	27,700
Lead	274	75.3	375	196	281	108	1,970
Magnesium	3,480	4,460	3,720	4,610	4,740	4,210	2,980
Manganese	566	605	465	727	462	539	808
Mercury	0.11 UJ	0.10 UJ	0.09 UJ	1.6 J	0.07 UJ	0.10 UJ	0.99 J
Nickel	10.7	14.9	14.1	16.3	20.6	21.5	80.0
Potassium	2,290	2,250	2,960	2,120	1,560	1,850	1,930
Silver	23.6 U	46.5 U	41.2	24.3 U	21.6 U	44.8 U	373
Vanadium	56.5	66.5	54.3	68.1	55.7	63.7	20.1
Zinc	59.5	61.0	150	71.4	81.3	67.4	715

U - The material was analyzed for, but was not detected. The associated numerical value is a contractual quantitation limit, adjusted for sample weight/sample volume, extraction volume, percent solids, and sample dilution.

J - The associated numerical value is an estimated quantity because quality control criteria were not met or concentrations reported were less than the contract required quantitation limit.

UJ - The material was analyzed for, but was not detected. The associated numerical value is an estimated quantity.

(100 J µg/kg). In addition, 31 tentatively identified semivolatile compounds (TICs) were reported, many of which are hydrocarbons. The hydrocarbons may indicate the presence of petroleum products on site. These appear in Table 10.

A summary of detected pesticides and polychlorinated biphenyls (PCBs) is presented in Table 11. All soil samples contained 4,4'-DDT and its breakdown product, 4,4'-DDE. Sample S2-A also contained beta-endosulfan. Sample S3-A contained dieldrin. Pesticide/PCB analytes detected in the sump were only tentatively identified with estimated concentrations provided. Misidentification of analytes is highly likely given the complex composition of the sump sample.

6.0 SUMMARY AND CONCLUSIONS

6.1 Summary

The CMX Corporation is a formulator and distributor of x-ray photochemical solutions, with a facility located at 206 W. Mead Avenue in Yakima, Washington. The site consists of a single cement-block building bordered on the north by a paved parking lot and on the east, south, and west by a graveled lot. Previous site businesses include a plumbing shop and possibly an automotive service station (E & E 1989a). Previous CMX activities include the reclaiming of silver from spent photochemical solutions, a practice which was discontinued prior to April 1985 (Ecology 1989a).

Current CMX operations include the preparation of x-ray developer and fixer solutions, and the use of an x-ray unit cleaning solution. The x-ray developer contains hydroquinone, sodium sulfite, potassium sulfite, and acetic acid (E.I. DuPont 1988). Fixer solution contains ammonium thiosulfate, sodium sulfite, and acetic acid (Agfa-Gevaert 1985). The cleaning solution contains sodium dichromate and sulfuric acid (Eastman Kodak 1984). The x-ray developer containers are rinsed out prior to reuse or disposal. The rinsate enters a floor drain within the building and is discharged to a drainfield beneath the property.

A RCRA/Dangerous Waste Regulations Compliance Inspection was conducted at CMX by Ecology in April 1985. Samples of fixer and developer rinsate were collected and submitted for silver analysis and fish bioassay in July, 1985. The rinsates were determined not to be a dangerous waste per WAC 173-303 as a result of those tests (Ecology 1989a). An industrial/commercial waste discharge permit (#ST9046) was subsequently granted to CMX by Ecology (Poston 1989).

No elevated levels of inorganic or organic compounds were detected in the groundwater samples collected. Elevated levels of mercury and zinc were detected in the on-site soils. The soils also contained a phthalate compound (common plasticizer). Possible natural breakdown products of organic material and oil were tentatively identified in all soil samples. Pesticides found in the soils may be residues which reflect the high level of historic agricultural activities in the area. The sump sediment contained elevated levels of both inorganic and

Table 10

SUMMARY OF TENTATIVELY IDENTIFIED SEMIVOLATILE COMPOUNDS IN SOIL AND SEDIMENT SAMPLES
CMX CORPORATION, YAKIMA, WASHINGTON
(μg/kg)

Compound	CAS No.	S1-A Background	S1-B Background	S2-A	S2-B	S3-A	S3-B	SM Sump
3-Penten-2-One (or isomer)	625-33-2	2,900 J	3,400 J	2,500 J	1,100 J	4,300 J	1,200 J	--
4-Penten-2-One, 4-Methyl-	3744-02-3	1,300 J	--	--	--	2,400 J	--	--
3-Penten-2-One, 4-Methyl- (or isomer)	141-79-7	8,300 J	6,100 J	5,100 J	6,200 J	130,000 J	3,900 J	--
1,2-Benzenedicarboxylic Acid, Butyl 2-Methylpropyl Ester	17851-53-5	1,000 J	--	--	--	--	--	--
Hexadecanoic Acid, Methyl Ester	112-39-0	590 J	630 J	--	--	--	--	--
Hexadecanoic Acid	57-10-3	1,900 J	1,600 J	--	160,000 J	--	--	--
Nonacosane	630-03-5	5,400 J	3,500 J	--	--	--	1,400 J	--
2-Cyclohexen-1-One, 3,5-Dimethyl-	1123-09-7	1,100 J	1,400 J	1,100 J	420 J	740 J	450 J	--
3-Heptanone, 2,4-Dimethyl- (or isomer)	18641-71-9	3,600 J	2,700 J	1,800 J	1,400 J	1,900 J	2,800 J	--
Hydrocarbon (evidence of oil)	629-99-2	1,800 J	1,200 J	--	--	560 J	500 J	11,000 J
Hydrocarbon (evidence of oil)	1560-89-0	6,000 J	3,600 J	--	--	890 J	1,100 J	--
4-Penten-2-One, 3-Methyl-	758-87-2	--	870 J	--	--	--	--	--
2-Pentanone, 4-Methoxy-4-Methyl-	107-70-0	--	--	220 J	--	1,100 J	--	--
Hydrocarbon (evidence of oil)	72401-52-6	--	--	6,900 J	2,400 J	--	--	--
Hydrocarbon (evidence of oil)	50746-55-9	--	--	6,100 J	--	--	--	--
2(5H)-Furanone, 5,5-Dimethyl-	20019-64-1	--	--	--	510 J	--	380 J	--
Hydrocarbon (evidence of oil)	55401-65-5	--	--	--	2,000 J	2,800 J	--	--
2,5-Heptadien-4-One, 2,6-Dimethyl-	504-20-1	--	--	--	--	320 J	--	--
2-Pentenoic Acid, Methyl Ester	808-59-7	--	--	--	--	6,800 J	--	--
Hydrocarbon (evidence of oil)	54105-67-8	--	--	--	--	490 J	--	--
Hydrocarbon (evidence of oil)	630-01-3	--	--	--	--	580 J	--	--
Hydrocarbon (evidence of oil)	630-02-4	--	--	--	--	700 J	--	--
Hydrocarbon (evidence of oil)	646-31-1	--	--	--	--	540 J	--	--
Hydrocarbon (evidence of oil)	112-95-8	--	--	--	--	630 J	--	--
1,2-Benzenedicarboxylic Acid, Butyl Decyl Ester	89-19-0	--	--	--	--	--	340 J	--
Hexanedioic Acid, bis(2-Ethylhexyl) Ester	123-23-1	--	--	--	--	--	1,900 J	--
Hydrocarbon (evidence of oil)	62108-24-1	--	--	--	--	--	--	4,900 J
Hydrocarbon (evidence of oil)	544-76-3	--	--	--	--	--	--	9,300 J
Hydrocarbon (evidence of oil)	629-78-7	--	--	--	--	--	--	11,000 J
Hydrocarbon (evidence of oil)	31081-18-2	--	--	--	--	--	--	7,700 J
Hydrocarbon (evidence of oil)	62238-13-5	--	--	--	--	--	--	8,200 J

-- Not Detected.

J - The associated numerical value is an estimated quantity because quality control criteria were not met or concentrations reported were less than the contract required quantitation limit.

Table 11

SUMMARY OF DETECTED PESTICIDES AND PCBs IN SOIL AND SEDIMENT SAMPLES
CMX CORPORATION, YAKIMA, WASHINGTON
(µg/kg)

Analyte	S1-A Background	S1-B Background	S2-A	S2-B	S3-A	S3-B	SM Sump
4,4'-DDT	24	6.20	144	29	86	76	657 NJ
gamma-BHC (Lindane)	4.7 U	4.5 U	4.6 U	4.3 U	4.3 U	4.0 U	88 NJ
Dieldrin	4.7 U	4.5 U	4.6 U	4.3 U	6.4	4.0 U	315 NJ
Endrin	4.7 U	4.5 U	4.6 U	4.3 U	4.3 U	4.0 U	348 NJ
Methoxychlor	4.7 U	4.5 U	4.6 U	4.3 U	4.3 U	4.0 U	497 NJ
4,4'-DDE	42	13	25	8.3	53	58	550 NJ
Heptachlor	4.7 U	4.5 U	4.6 U	4.3 U	4.3 U	4.0 U	94 NJ
Aldrin	4.7 U	4.5 U	4.6 U	4.3 U	4.3 U	4.0 U	271 NJ
alpha-Endosulfan	4.7 U	4.5 U	4.6 U	4.3 U	4.3 U	4.0 U	208 NJ
Heptachlor Epoxide	4.7 U	4.5 U	4.6 U	4.3 U	4.3 U	4.0 U	376 NJ
Endrin Aldehyde	4.7 U	4.5 U	4.6 U	4.3 U	4.3 U	4.0 U	148 NJ
PCB 1254	120 U	110 U	110 U	110 U	110 U	100 U	4,200 NJ
beta-Endosulfan	4.7 U	4.5 U	20	4.3 U	4.3 U	4.0 U	174 NJ

U - The material was analyzed for, but was not detected. The associated numerical value is a contractual quantitation limit, adjusted for sample weight/sample volume, extraction volume, percent solids, and sample dilution.

J - The associated numerical value is an estimated quantity because quality control criteria were not met or concentrations reported were less than the contract required quantitation limit.

NJ - The material has been tentatively identified. The associated numerical value is an estimated quantity.

organic contaminants, notably chromium, lead, copper, silver, nickel, and cadmium. These exceeded concentrations found in the soil samples by ranges of approximately 7 to 1,075 times (nickel and chromium, respectively).

6.2 Conclusions

Evidence obtained to date does not indicate that previous or current operations at the CMX site have adversely impacted the groundwater or soils in the area. However, the sump, which appears to empty to a nearby drainfield, does contain elevated levels of both organic and inorganic contaminants. Most notably, tetrachloroethylene (PCE) was detected in the sump, and the CMX site is located in an area of known PCE contamination. Further research is necessary to determine if CMX has been or is currently a contributor to this regional problem. There is a potential for direct contact with sump sediment by site workers. The potential for human exposure to site wastes via surface water, groundwater, or air is believed to be very low.

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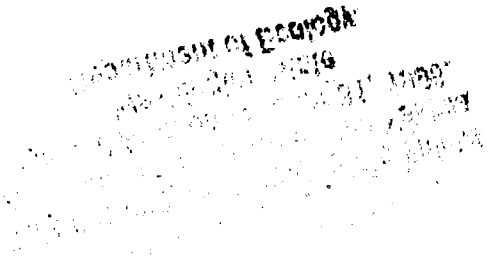
APPENDIX A

EPA TARGET COMPOUND LIST (TCL)



APPENDIX C

PHOTOGRAPHIC DOCUMENTATION

PHOTO IDENTIFICATION SHEET

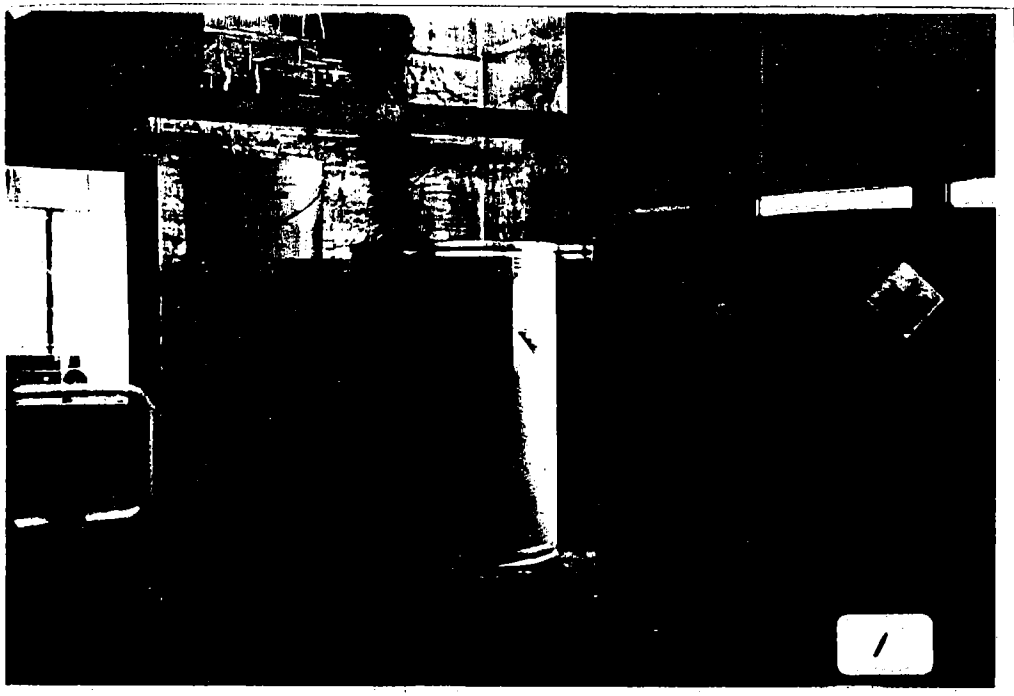
TYPE OF CAMERA: CANON AE-1/3289855

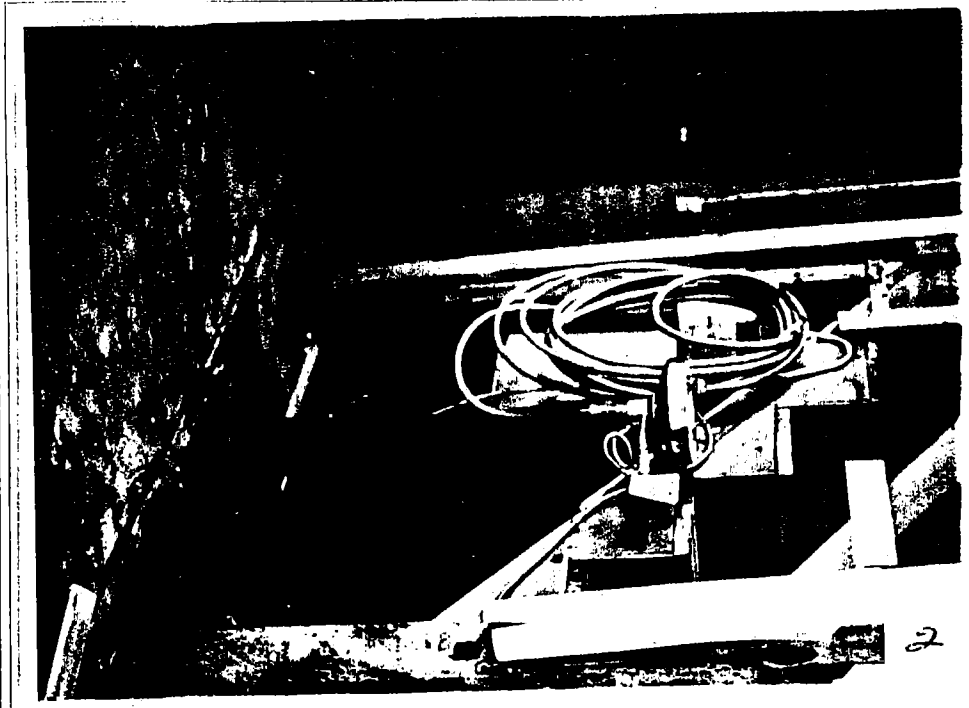
TDD and PAN NOS.: F10-8901012; FWA0565SA

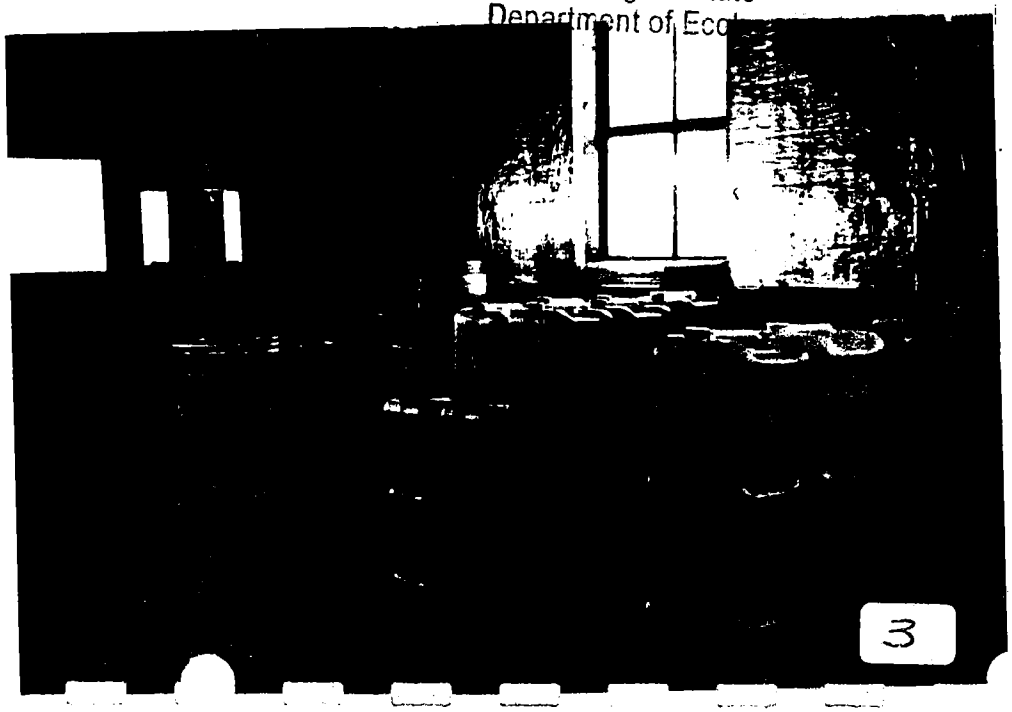
TYPE OF FILM: ED 135-20/KR 135-20

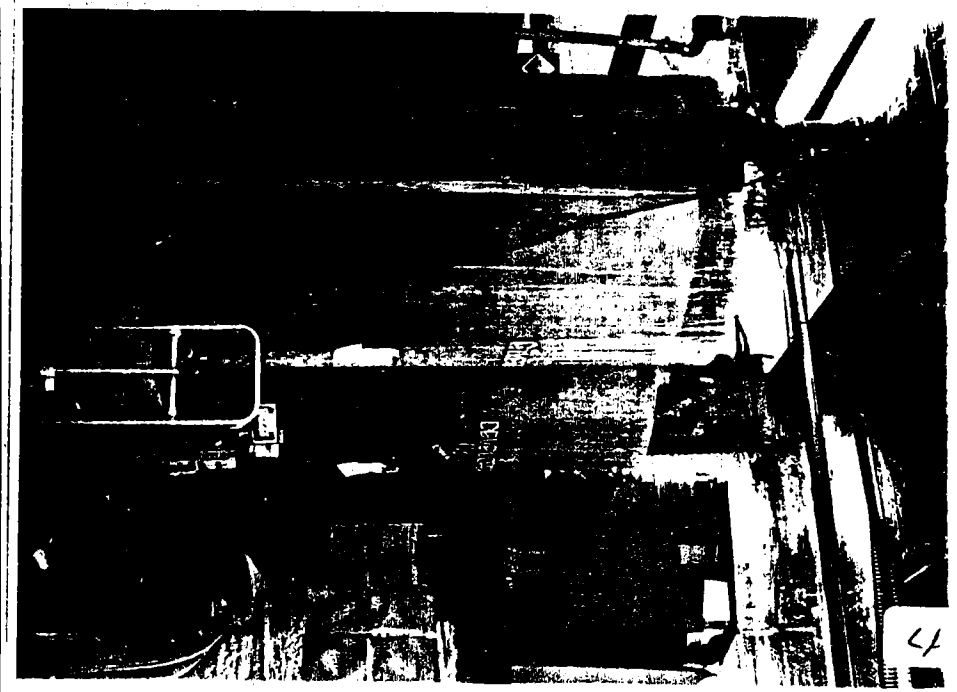
SITE NAME: CMX Corporation, Yakima, WA

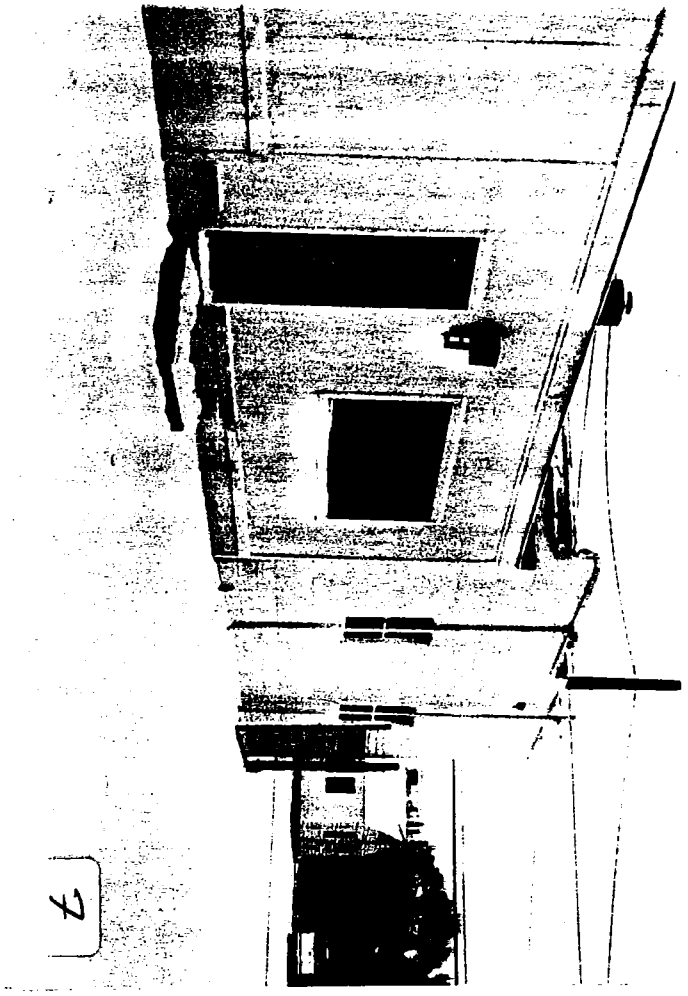
Frame No.	Roll No.	Date	Time	Taken By	Witnessed By	Description of Photo
1	1	02/01/89	1120	M. Bandrowski	S. Niemuth	Product drums in northwest corner of warehouse.
2	1	02/01/89	1120	M. Bandrowski	S. Niemuth	Floor drain and water tap in warehouse
3	1	02/01/89	1125	M. Bandrowski	S. Niemuth	Product containers in northeast corner of warehouse.
4	1	02/01/89	1125	M. Bandrowski	S. Niemuth	Mixing tanks in warehouse.
5	1	02/01/89	1130	M. Bandrowski	S. Niemuth	Floor drain in work room.
6	1	02/01/89	1045	M. Bandrowski	S. Niemuth	Back yard, facing west.
7	1	02/01/89	1045	M. Bandrowski	S. Niemuth	Office entrance, facing northeast.
8	1	02/01/89	1050	M. Bandrowski	S. Niemuth	Used product storage area, facing north.
9	2	03/16/89	1450	J. Lee	S. Niemuth	On-site soil sample locations, facing north.
10	2	03/16/89	1450	J. Lee	S. Niemuth	Potential UST port in CMX graveled lot.
11	2	03/16/89	1450	J. Lee	S. Niemuth	Potential UST ports in CMX graveled lot, facing north.

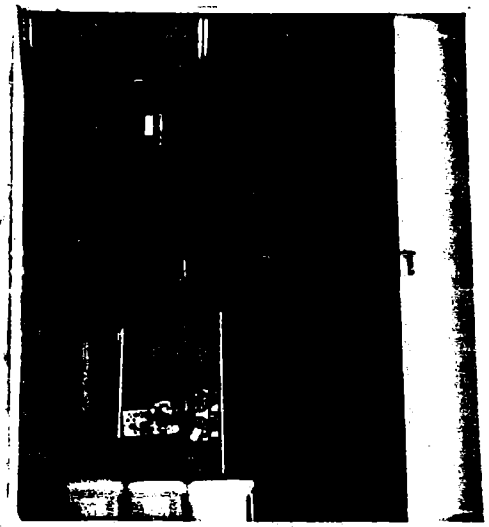


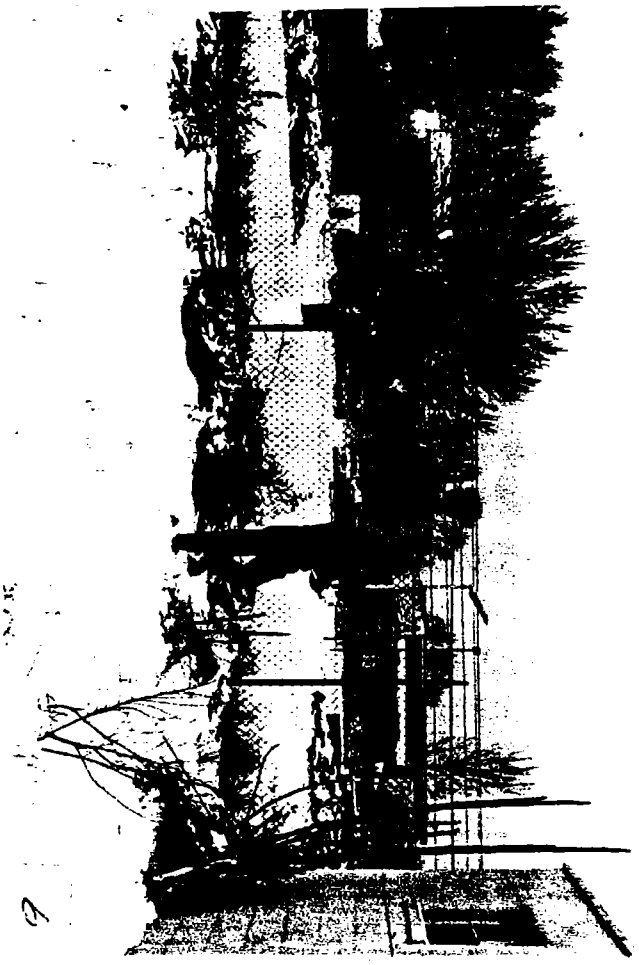




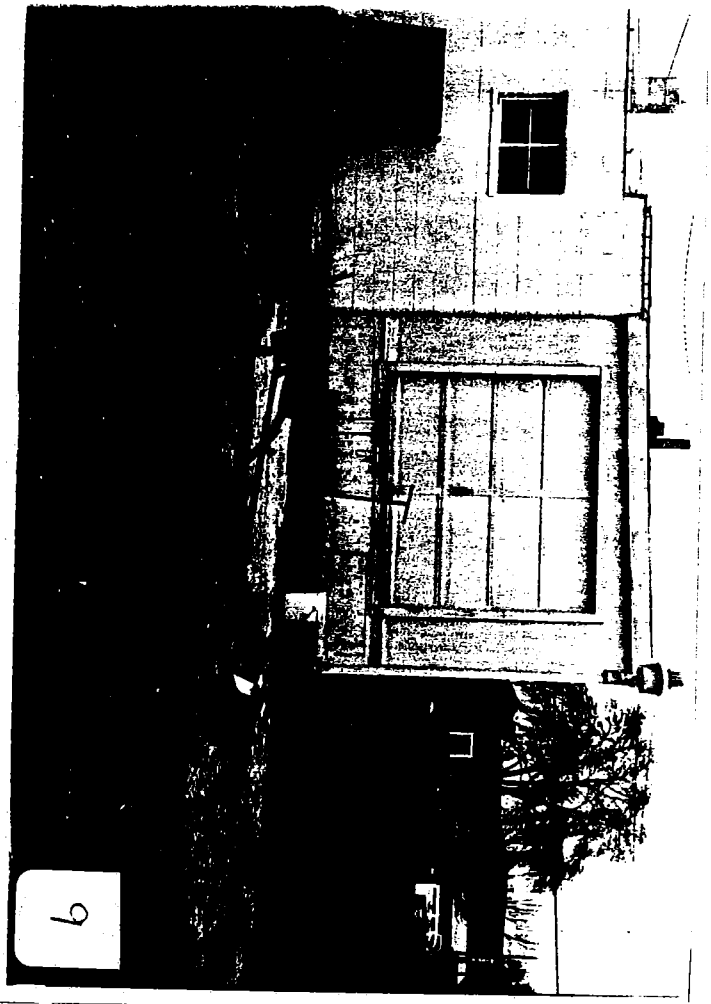








11



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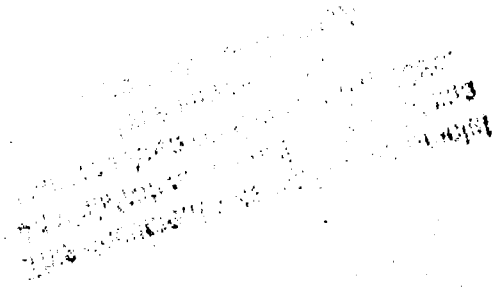
APPENDIX D

QUALITY ASSURANCE MEMORANDA



ecology and environment, inc.
101 YESLER WAY, SEATTLE, WASHINGTON, 98104, TEL. 206/624-9537
International Specialists in the Environment

MEMORANDUM

DATE: May 23, 1989

FOR: Rhonda Wreggelsworth, RSCC, USEPA, Region X

THRU: Jeffrey Villnow, FIT-OM, E & E, Seattle

FROM: Lila Accra, Chemist, E & E, Seattle
Tracy Yerian, Senior Chemist, E & E, Seattle

SUBJ: QA of Case 11641 (Inorganics)
CMX Corporation

REF: F10-8904-007
PAN F10Z094QAQ

CC: John Osborn, PO, USEPA, Region X
Bruce Woods, ESD, USEPA, Region X
Gerald Muth, DPO, USEPA, Region X
Debra Morey, DPO, USEPA, Region VII
Deborah Flood, HWD-SM, USEPA, Region X
Gloria Skinner, FIT-SM, E & E, Seattle

The Quality Assurance review of 11 samples, Case 11641, collected from CMX Corporation, has been completed. Four water and seven soil samples were analyzed at low level for TCL Inorganics by Wilson Laboratories of Salina, Kansas. The samples were numbered:

MJE 795 (water)	MJE 799 (soil)	MJE 803 (soil)
MJE 796 (water)	MJE 800 (soil)	MJE 804 (soil)
MJE 797 (water)	MJE 801 (soil)	MJE 805 (soil)
MJE 798 (water)	MJE 802 (soil)	

Samples MJE 796 (water) and MJE 801 (soil) underwent matrix spike and duplicate analysis.

Data Qualifications

The following comments refer to the laboratory performance in meeting the Quality Control specifications outlined in IFB WA-87K025-027.

1) Timeliness

Sample Number	Sample Date	Rec'd Date	ICP Anal.	AA Anal.	Hg Anal.
MJE 795	03/27/89	03/29/89	04/07/89	04/20/89	04/25/89
MJE 796	03/27/89	03/29/89	04/10/89	04/20/89	04/25/89
MJE 797	03/27/89	03/29/89	04/07/89	04/20/89	04/25/89
MJE 798	03/27/89	03/29/89	04/10/89	04/20/89	04/25/89
MJE 799	03/27/89	03/29/89	04/10/89	04/22/89	04/25/89
MJE 800	03/27/89	03/29/89	04/07/89	04/22/89	04/25/89
MJE 801	03/27/89	03/29/89	04/10/89	04/22/89	04/25/89
MJE 802	03/27/89	03/29/89	04/10/89	04/22/89	04/25/89
MJE 803	03/27/89	03/29/89	04/07/89	04/22/89	04/25/89
MJE 804	03/27/89	03/29/89	04/10/89	04/22/89	04/25/89
MJE 805	03/27/89	03/29/89	04/10/89	04/22/89	04/25/89

All samples met QC holding time criteria, except:

Sample No.	Matrix	Date Sampled	Date Analyzed (Hg)	Holding Time	QC Limit
MJE 795	water	03/27/89	04/25/89	29 days	28 days
MJE 796	water	03/27/89	04/25/89	29 days	28 days
MJE 797	water	03/27/89	04/25/89	29 days	28 days
MJE 798	water	03/27/89	04/25/89	29 days	28 days
MJE 799	soil	03/27/89	04/25/89	29 days	28 days
MJE 800	soil	03/27/89	04/25/89	29 days	28 days
MJE 801	soil	03/27/89	04/25/89	29 days	28 days
MJE 802	soil	03/27/89	04/25/89	29 days	28 days
MJE 803	soil	03/27/89	04/25/89	29 days	28 days
MJE 804	soil	03/27/89	04/25/89	29 days	28 days
MJE 805	soil	03/27/89	04/25/89	29 days	28 days

Positive results and detection limits for mercury analyses in all samples are flagged as estimated (J of UJ).

2) Initial Calibration

All ICP results fell within the control limits of 90 to 110 percent of the true values. Furnace AA results fell within the control limits of 90 to 110 percent of the true values for all analytes. Mercury results fell within the control limits of 80 to 120 percent of the true value.

3) Continuing Calibration

All ICP results fell within the control limits of 90 to 110 percent of the true values. Furnace and flame AA results fell within the control limits of 90 to 110 percent of the true values for all analytes. Mercury results fell within the control limits of 80 to 120 percent of the true value.

4) Instrument Detection Limits

All Instrument Detection Limits (IDL) for ICP, AA, and mercury analyses were equal to or less than the Contract Required Detection Limits (CRDL).

5) Blanks

The following blanks contained elemental contamination above the IDL but below CRDL:

Blank*	Element	Conc. µg/L	IDL µg/L	CRDL µg/L
ICB1	Cobalt	21.2	10.0	50.0
CCB1	Cobalt	35.2	10.0	50.0
CCB2	Vanadium	26.1	16.0	50.0
CCB3	Cobalt	18.0	10.0	50.0
CCB4	Cobalt	13.9	10.0	50.0
ICB2	Vanadium	28.4	16.0	50.0
PBW	Copper	17.2	17.0	25.0
	Nickel	30.2	16.0	40.0
	Zinc	16.1	9.0	20.0
PBS	Cobalt	15.6	10.0	50.0

* CCB = Continuing Calibration Blank; PB = Preparation Blank; ICB = Initial Calibration Blank.

Sample results below five times the highest analyte level reported in the blanks were flagged UJ (not detected, adjusted quantitation limit).

6) ICP Interference Check

All parameters for the Interference Check Sample were within the control limits of 80 to 120 percent of the true values.

7) Laboratory Control Sample

The Recoveries for all parameters for both ICP and AA analysis were within the control limits required by IFB WA-87K025-027.

8) Duplicate Sample Analysis

The Relative Percent Difference values (RPD) for the duplicate sample analysis were within QC criteria of less than 20 percent for sample values greater than five times the CRDL. For all sample values less than five times the CRDL, the RPD values were within ± the CRDL for water matrix or two times ± CRDL for soil matrix.

9) Spiked Sample Analysis

The Percent recoveries for Matrix Spike sample analysis were within the QC limits of 75 to 125 percent for all parameters, except:

Sample	Matrix	Element	% Recovery	QC Limits
MJE 796	water	Silver	168.4	75-125%
MJE 801	soil	Antimony	53.2	75-125%
MJE 801	soil	Thallium	0.0	75-125%

Positive results for silver in water samples were flagged as estimated (J). Positive results for antimony and thallium in soil samples were flagged as estimated (J). Detection limits for antimony in soil samples were flagged as estimated (UJ), while detection limits for thallium in soil samples were flagged as unusable (UR). A post-digestion soil spike was run for antimony, with 82.3 percent recovery.

10) ICP Serial Dilution

The Percent Difference (%D) values for ICP serial dilution analysis were within the QC limits of 10 percent for all parameters.

11) Furnace AA

All furnace AA results met QC criteria.

12) Mercury Analysis

All mercury analyses met QC criteria (except holding time). Raw data (strip charts) from mercury analyses were not provided by the laboratory.

13) Sample Analysis

A CRDL sample was run.

Sample results reported that were below CRDL and above IDL were flagged as estimated (J).

14) Laboratory Contact

The laboratory was contacted on May 10, 1989. See the attached Telephone Record Log.

Data Use

The usefulness of the data is based on the criteria outlined in the "Laboratory Data Validation Functional Guidelines for Evaluating Inorganic Analyses" (R-582-5-5-01).

Upon consideration of the above comments, the data is ACCEPTABLE for use except where flagged with data qualifiers which modify the usefulness of individual values.

This QA memorandum completes the series of QA reviews of CLP and/or EPA lab data for samples collected during the Site Inspection identified on the cover page under the heading CMX Corporation.

Data Qualifiers

U - The material was analyzed for, but was not detected. The associated numerical value is a contractual quantitation limit, adjusted for sample weight/sample volume, extraction volume, percent solids and sample dilution.

J - The associated numerical value is an estimated quantity because quality control criteria were not met or concentrations reported were less than the CRQL.

UJ - The material was analyzed for, but was not detected. The associated numerical value is an estimated sample quantitation limit.

R - Quality Control indicates that data are unusable (compound may or may not be present). Resampling and reanalysis are necessary for verification.

INO/11641

In Reference to Case No(s):

Contract Laboratory Program
REGIONAL/LABORATORY COMMUNICATION SYSTEM

Telephone Record Log

Date of Call:

Laboratory Name:

Lab Contact:

Region:

Regional Contact:

Call Initiated By: _____ Laboratory _____ Region

In reference to data for the following sample number(s):

Summary of Questions/Issues Discussed:

Summary of Resolution:

Signature

05-1-89
Date

Distribution: (1)Lab Copy, (2)Region Copy, (3)SMO Copy

U.S. EPA - CLP

EPA SAMPLE NO.

1

INORGANIC ANALYSIS DATA SHEET

MJE795

Lab Name: WILSON LABORATORIES Contract: 68-W8-0027

Lab Code: WILSON Case No.: 11641 SAS No.: SDG No.: MJE795

Matrix (soil/water): WATER Lab Sample ID: 89040048

Level (low/med): LOW Date Received: 03/29/89

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C
7429-90-5	Aluminum	160	U
7440-36-0	Antimony	43.0	U
7440-38-2	Arsenic	5.0	J
7440-39-3	Barium	54.0	U
7440-41-7	Beryllium	2.0	U
7440-43-9	Cadmium	4.0	U
7440-70-2	Calcium	45900	
7440-47-3	Chromium	9.0	U
7440-48-4	Cobalt	10.0	U
7440-50-8	Copper	78.3	U J
7439-89-6	Iron	47.0	U
7439-92-1	Lead	3.0	U
7439-95-4	Magnesium	13800	
7439-96-5	Manganese	7.0	U
7439-97-6	Mercury	0.20	U J
7440-02-0	Nickel	16.0	U
7440-09-7	Potassium	3310	J
7782-49-2	Selenium	4.6	U
7440-22-4	Silver	20.0	U
7440-23-5	Sodium	19100	
7440-28-0	Thallium	8.0	U
7440-62-2	Vanadium	16.0	U
7440-66-6	Zinc	65.9	U J
	Cyanide		

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:
DUE TO INTERFERENCES, THE SILVER ANALYSIS WAS DILUTED BY TWO.

U.S. EPA - CLP

EPA SAMPLE NC

1

INORGANIC ANALYSIS DATA SHEET

MJE796

Lab Name: WILSON LABORATORIES Contract: 68-W8-0027

Lab Code: WILSON Case No.: 11641 SAS No.: SDG No.: MJE79

Matrix (soil/water): WATER Lab Sample ID: 89040049

Level (low/med): LOW Date Received: 03/29/89

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C
7429-90-5	Aluminum	160	U
7440-36-0	Antimony	43.0	U
7440-38-2	Arsenic	5.0	U
7440-39-3	Barium	54.0	U
7440-41-7	Beryllium	2.0	U
7440-43-9	Cadmium	4.0	U
7440-70-2	Calcium	38000	
7440-47-3	Chromium	9.0	U
7440-48-4	Cobalt	10.0	U
7440-50-8	Copper	40.0	U J
7439-89-6	Iron	47.0	U
7439-92-1	Lead	3.0	U
7439-95-4	Magnesium	10300	
7439-96-5	Manganese	7.0	U
7439-97-6	Mercury	0.20	U J
7440-02-0	Nickel	16.0	U
7440-09-7	Potassium	3670	J
7782-49-2	Selenium	4.6	U
7440-22-4	Silver	10.0	U
7440-23-5	Sodium	11300	
7440-28-0	Thallium	8.0	U
7440-62-2	Vanadium	16.0	U
7440-66-6	Zinc	47.5	U J
	Cyanide		

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

U.S. EPA - CLP

EPA SAMPLE NO.

1

INORGANIC ANALYSIS DATA SHEET

MJE797

Lab Name: WILSON LABORATORIES Contract: 68-W8-0027

Lab Code: WILSON Case No.: 11641 SAS No.: SDG No.: MJE795

Matrix (soil/water): WATER Lab Sample ID: 89040052

Level (low/med): LOW Date Received: 03/29/89

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C
7429-90-5	Aluminum	160	U
7440-36-0	Antimony	43.0	U
7440-38-2	Arsenic	5.0	U
7440-39-3	Barium	54.0	U
7440-41-7	Beryllium	2.0	U
7440-43-9	Cadmium	4.0	U
7440-70-2	Calcium	38500	
7440-47-3	Chromium	9.0	U
7440-48-4	Cobalt	12.6	UJ
7440-50-8	Copper	33.2	UJ
7439-89-6	Iron	47.0	U
7439-92-1	Lead	3.0	U
7439-95-4	Magnesium	10100	
7439-96-5	Manganese	7.0	U
7439-97-6	Mercury	0.20	UJ
7440-02-0	Nickel	16.0	U
7440-09-7	Potassium	4020	J
7782-49-2	Selenium	4.6	U
7440-22-4	Silver	10.0	U
7440-23-5	Sodium	10900	
7440-28-0	Thallium	8.0	U
7440-62-2	Vanadium	16.0	U
7440-66-6	Zinc	16.6	UJ
	Cyanide		

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO

MJE798

Lab Name: WILSON LABORATORIES Contract: 68-W8-0027

Lab Code: WILSON Case No.: 11641 SAS No.: SDG No.: MJE79

Matrix (soil/water): WATER Lab Sample ID: 89040053

Level (low/med): LOW Date Received: 03/29/89

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	
7429-90-5	Aluminum	160	U	
7440-36-0	Antimony	43.0	U	
7440-38-2	Arsenic	5.0	U	
7440-39-3	Barium	54.0	U	
7440-41-7	Beryllium	2.0	U	
7440-43-9	Cadmium	4.0	U	
7440-70-2	Calcium	3640	U	
7440-47-3	Chromium	9.0	U	
7440-48-4	Cobalt	13.8	U	J
7440-50-8	Copper	17.0	U	
7439-89-6	Iron	47.0	U	
7439-92-1	Lead	3.0	U	
7439-95-4	Magnesium	4760	U	
7439-96-5	Manganese	7.0	U	
7439-97-6	Mercury	0.20	U	J
7440-02-0	Nickel	16.0	U	
7440-09-7	Potassium	2500	U	
7782-49-2	Selenium	4.6	U	
7440-22-4	Silver	10.0	U	
7440-23-5	Sodium	2250	U	
7440-28-0	Thallium	8.0	U	
7440-62-2	Vanadium	16.0	U	
7440-66-6	Zinc	9.0	U	
	Cyanide			

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

U.S. EPA - CLP

EPA SAMPLE NO.

1

INORGANIC ANALYSIS DATA SHEET

MJE799

Lab Name: WILSON LABORATORIES Contract: 68-W8-0027

Lab Code: WILSON Case No.: 11641 SAS No.: SDG No.: MJE795

Matrix (soil/water): SOIL Lab Sample ID: 89040054

Level (low/med): LOW Date Received: 03/29/89

% Solids: 84.7

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	
7429-90-5	Aluminum	11800		
7440-36-0	Antimony	10.2	U	J
7440-38-2	Arsenic	33.1		
7440-39-3	Barium	106		
7440-41-7	Beryllium	0.79	U	
7440-43-9	Cadmium	4.4		
7440-70-2	Calcium	3810		
7440-47-3	Chromium	21.3	U	
7440-48-4	Cobalt	14.0	U	
7440-50-8	Copper	19.0		
7439-89-6	Iron	5040		
7439-92-1	Lead	274		
7439-95-4	Magnesium	3480		
7439-96-5	Manganese	566		
7439-97-6	Mercury	0.11	U	
7440-02-0	Nickel	10.7		
7440-09-7	Potassium	2290		
7782-49-2	Selenium	1.1	U	
7440-22-4	Silver	23.6	U	
7440-23-5	Sodium	531	U	
7440-28-0	Thallium	1.9	U	R
7440-62-2	Vanadium	56.5		
7440-66-6	Zinc	59.5		
	Cyanide			

Color Before: BROWN Clarity Before: Texture: FINE

Color After: BROWN Clarity After: Artifacts:

Comments:

DUE TO INTERFERENCES, THE SILVER AND CHROMIUM ANALYSES WERE DILUTED BY TEN.

U.S. EPA - CLP

EPA SAMPLE NO

1

INORGANIC ANALYSIS DATA SHEET

MJE800

Lab Name: WILSON LABORATORIES Contract: 68-W8-0027

Lab Code: WILSON Case No.: 11641 SAS No.: SDG No.: MJE79

Matrix (soil/water): SOIL Lab Sample ID: 89040055

Level (low/med): LOW Date Received: 03/29/89

% Solids: 86.1

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C
7429-90-5	Aluminum	16500	
7440-36-0	Antimony	10.0	U J
7440-38-2	Arsenic	~~16.3~~ *70.0	
7440-39-3	Barium	129	
7440-41-7	Beryllium	0.88	J
7440-43-9	Cadmium	5.7	
7440-70-2	Calcium	4540	
7440-47-3	Chromium	16.7	
7440-48-4	Cobalt	15.4	U J
7440-50-8	Copper	21.8	
7439-89-6	Iron	3160	
7439-92-1	Lead	75.3	
7439-95-4	Magnesium	4460	
7439-96-5	Manganese	605	
7439-97-6	Mercury	0.10	U J
7440-02-0	Nickel	14.9	
7440-09-7	Potassium	2250	
7782-49-2	Selenium	1.1	U
7440-22-4	Silver	46.5	U
7440-23-5	Sodium	523	U
7440-28-0	Thallium	18.6	U R
7440-62-2	Vanadium	66.5	
7440-66-6	Zinc	61.0	
	Cyanide		

* Corrected as per conversation with Jason Ruckman of Wilson Laboratories 5-11-89 la

Color Before: BROWN Clarity Before: Texture: FINE

Color After: BROWN Clarity After: Artifacts: YES

Comments:

MJE800 CONTAINS ORGANIC MATTER.
DUE TO INTERFERENCES, THE SILVER ANALYSIS WAS DILUTED BY TWENTY, AND THE THALLIUM ANALYSIS WAS DILUTED BY TEN.

U.S. EPA - CLP

EPA SAMPLE NO

1

INORGANIC ANALYSIS DATA SHEET

MJE801 (

Lab Name: WILSON LABORATORIES Contract: 68-W8-0027

Lab Code: WILSON Case No.: 11641 SAS No.: SDG No.: MJE79

Matrix (soil/water): SOIL Lab Sample ID: 89040056

Level (low/med): LOW Date Received: 03/29/89

% Solids: 88.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C
7429-90-5	Aluminum	10800	
7440-36-0	Antimony	9.8	U J
7440-38-2	Arsenic	43.2	
7440-39-3	Barium	121	
7440-41-7	Beryllium	0.66	J
7440-43-9	Cadmium	3.4	
7440-70-2	Calcium	5760	
7440-47-3	Chromium	20.3	
7440-48-4	Cobalt	12.5	U J
7440-50-8	Copper	36.0	
7439-89-6	Iron	11000	
7439-92-1	Lead	375	
7439-95-4	Magnesium	3720	
7439-96-5	Manganese	465	
7439-97-6	Mercury	0.09	U J
7440-02-0	Nickel	14.1	
7440-09-7	Potassium	2960	
7782-49-2	Selenium	1.0	U
7440-22-4	Silver	41.2	
7440-23-5	Sodium	511	U
7440-28-0	Thallium	1.8	U R
7440-62-2	Vanadium	54.3	
7440-66-6	Zinc	150	
	Cyanide		

Color Before: BROWN Clarity Before: Texture: FINE

Color After: BROWN Clarity After: Artifacts:

Comments:

U.S. EPA - CLP

EPA SAMPLE NO

1

INORGANIC ANALYSIS DATA SHEET

MJE802

Lab Name: WILSON LABORATORIES Contract: 68-W8-0027

Lab Code: WILSON Case No.: 11641 SAS No.: SDG No.: MJE79

Matrix (soil/water): SOIL Lab Sample ID: 89040059

Level (low/med): LOW Date Received: 03/29/89

% Solids: 82.4

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C
7429-90-5	Aluminum	14100	
7440-36-0	Antimony	10.4	U J
7440-38-2	Arsenic	41.3	
7440-39-3	Barium	144	
7440-41-7	Beryllium	0.95	J
7440-43-9	Cadmium	4.9	
7440-70-2	Calcium	4980	
7440-47-3	Chromium	17.7	
7440-48-4	Cobalt	17.4	U J
7440-50-8	Copper	23.8	
7439-89-6	Iron	3120	
7439-92-1	Lead	196	
7439-95-4	Magnesium	4610	
7439-96-5	Manganese	727	
7439-97-6	Mercury	1.6	J
7440-02-0	Nickel	16.3	
7440-09-7	Potassium	2120	
7782-49-2	Selenium	1.1	U
7440-22-4	Silver	24.3	U
7440-23-5	Sodium	546	U
7440-28-0	Thallium	1.9	U R
7440-62-2	Vanadium	68.1	
7440-66-6	Zinc	71.4	
	Cyanide		

Color Before: BROWN Clarity Before: Texture: FINE

Color After: BROWN Clarity After: Artifacts:

Comments:
DUE TO INTERFERENCES, THE SILVER ANALYSIS WAS DILUTED BY TEN.

U.S. EPA - CLP

EPA SAMPLE NO.

1

INORGANIC ANALYSIS DATA SHEET

MJE803

Lab Name: WILSON LABORATORIES Contract: 68-W8-0027

Lab Code: WILSON Case No.: 11641 SAS No.: SDG No.: MJE795

Matrix (soil/water): SOIL Lab Sample ID: 89040060

Level (low/med): LOW Date Received: 03/29/89

% Solids: 92.8

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C
7429-90-5	Aluminum	10700	
7440-36-0	Antimony	9.3	U J
7440-38-2	Arsenic	17.2	J
7440-39-3	Barium	85.3	
7440-41-7	Beryllium	0.75	J
7440-43-9	Cadmium	3.4	
7440-70-2	Calcium	14200	
7440-47-3	Chromium	13.8	
7440-48-4	Cobalt	14.1	J
7440-50-8	Copper	22.4	
7439-89-6	Iron	2480	
7439-92-1	Lead	281	
7439-95-4	Magnesium	4740	
7439-96-5	Manganese	462	
7439-97-6	Mercury	0.07	U J
7440-02-0	Nickel	20.6	
7440-09-7	Potassium	1560	
7782-49-2	Selenium	0.99	U
7440-22-4	Silver	21.6	U
7440-23-5	Sodium	485	U
7440-28-0	Thallium	1.7	U R
7440-62-2	Vanadium	55.7	
7440-66-6	Zinc	81.3	
	Cyanide		

Color Before: BROWN Clarity Before: Texture: COARSE

Color After: BROWN Clarity After: Artifacts: YES

Comments:
MJE803 CONTAINS LARGE STONES.
DUE TO INTERFERENCES, THE SILVER ANALYSIS WAS DILUTED BY TEN.

U.S. EPA - CLP

EPA SAMPLE NO

1

INORGANIC ANALYSIS DATA SHEET

MJE804

Lab Name: WILSON LABORATORIES Contract: 68-W8-0027

Lab Code: WILSON Case No.: 11641 SAS No.: SDG No.: MJE79

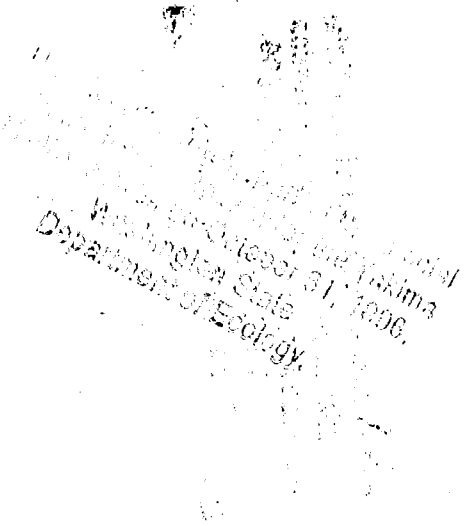
Matrix (soil/water): SOIL Lab Sample ID: 89040061

Level (low/med): LOW Date Received: 03/29/89

% Solids: 89.2

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C
7429-90-5	Aluminum	13200	
7440-36-0	Antimony	9.6	U J
7440-38-2	Arsenic	24.7	
7440-39-3	Barium	107	
7440-41-7	Beryllium	0.86	J
7440-43-9	Cadmium	4.2	
7440-70-2	Calcium	5200	
7440-47-3	Chromium	13.2	
7440-48-4	Cobalt	14.2	U J
7440-50-8	Copper	22.0	
7439-89-6	Iron	2740	
7439-92-1	Lead	108	
7439-95-4	Magnesium	4210	
7439-96-5	Manganese	539	
7439-97-6	Mercury	0.10	U J
7440-02-0	Nickel	21.5	
7440-09-7	Potassium	1850	
7782-49-2	Selenium	1.0	U
7440-22-4	Silver	44.8	U
7440-23-5	Sodium	504	U
7440-28-0	Thallium	1.8	U R
7440-62-2	Vanadium	63.7	
7440-66-6	Zinc	67.4	
	Cyanide		



Color Before: BROWN Clarity Before: Texture: FINE

Color After: BROWN Clarity After: Artifacts:

Comments:

DUE TO INTERFERENCES, THE SILVER ANALYSIS WAS DILUTED BY TWENTY, AND THE CADMIUM ANALYSIS WAS DILUTED BY TWO.

U.S. EPA - CLP

EPA SAMPLE NO

1

INORGANIC ANALYSIS DATA SHEET

MJE805 (

Lab Name: WILSON LABORATORIES Contract: 68-W8-0027

Lab Code: WILSON Case No.: 11641 SAS No.: SDG No.: MJE79

Matrix (soil/water): SOIL Lab Sample ID: 89040062

Level (low/med): LOW Date Received: 03/29/89

% Solids: 31.9

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	
7429-90-5	Aluminum	8830		
7440-36-0	Antimony	27.0	U	J
7440-38-2	Arsenic	~~56.2~~ 35.2*		
7440-39-3	Barium	560		
7440-41-7	Beryllium	1.3	U	
7440-43-9	Cadmium	61.1		
7440-70-2	Calcium	2280	U	
7440-47-3	Chromium	14200		
7440-48-4	Cobalt	23.9		J
7440-50-8	Copper	1480		
7439-89-6	Iron	27700		
7439-92-1	Lead	1970		
7439-95-4	Magnesium	2980	U	
7439-96-5	Manganese	808		
7439-97-6	Mercury	0.99		J
7440-02-0	Nickel	80.0		
7440-09-7	Potassium	1930	U	
7782-49-2	Selenium	2.9	U	
7440-22-4	Silver	373		
7440-23-5	Sodium	1410	U	
7440-28-0	Thallium	5.0	U	R
7440-62-2	Vanadium	20.1	U	
7440-66-6	Zinc	715		
	Cyanide			

* Corrected as per phone conversation with Jason Ruckman of Wilson Laboratories 5-11-89 JA

Color Before: BROWN Clarity Before: Texture: COARSE

Color After: BROWN Clarity After: Artifacts: YES

Comments:

MJE805 CONTAINS STONES AND ORGANIC MATTER.
DUE TO INTERFERENCES, THE VANADIUM ANALYSIS WAS DILUTED BY TWO.

ANALYTICAL PROTOCOLS

The standardized organic analytical methods are based on Federal Register Methods 625 (Base/Neutral/Acid), 608 (Pesticide), 624 (Volatile Organic Analytes), EPA Methods for Chemical Analysis of Water and Wastes (MCAWW), and Test Methods for Evaluating Solid Wastes (SW-846) modified for CLP use in the analysis of both water and soil samples.

Table A-1

ORGANICS ANALYSES

	Volatile Compounds	Contract Required Quantitation Limits * Low Concentration Water[a] (µg/L)	Low Concentration Soil/Sediment[b] (µg/kg)
1.	Chloromethane	10	10
2.	Bromomethane	10	10
3.	Vinyl Chloride	10	10
4.	Chloroethane	10	10
5.	Methylene Chloride	5	5
6.	Acetone	10	10
7.	Carbon Disulfide	5	5
8.	1,1-Dichloroethene	5	5
9.	1,1-Dichloroethane	5	5
10.	trans-1,2-Dichloroethene	5	5
11.	Chloroform	5	5
12.	1,2-Dichloroethane	5	5
13.	2-Butanone	10	10
14.	1,1,1-Trichloroethane	5	5
15.	Carbon Tetrachloride	5	5
16.	Vinyl Acetate	10	10
17.	Bromodichloromethane	5	5
18.	1,2-Dichloropropane	5	5
19.	trans-1,3-Dichloropropene	5	5
20.	Trichloroethene	5	5
21.	Dibromochloromethane	5	5
22.	1,1,2-Trichloroethane	5	5
23.	Benzene	5	5
24.	cis-1,3-Dichloropropene	5	5
25.	2-Chloroethylvinylether	10	10
26.	Bromoform	5	5
27.	2-Hexanone	10	10
28.	4-Methyl-2-Pentanone	10	10
29.	Tetrachloroethene	5	5
30.	1,1,2,2-Tetrachloroethane	5	5
31.	Toluene	5	5
32.	Chlorobenzene	5	5
33.	Ethyl Benzene	5	5
34.	Styrene	5	5
35.	Total Xylenes	5	5

Table A-1 (Cont.)

	Semivolatile Compounds	Contract Required Quantitation Limits * Low Concentration Water[c] (µg/L)	Low Concentration Soil/Sediment[d] (µg/kg)
1.	Phenol	10	330
2.	bis(-2-Chloroethyl)Ether	10	330
3.	2-Chlorophenol	10	330
4.	1,3-Dichlorobenzene	10	330
5.	1,4-Dichlorobenzene	10	330
6.	Benzyl Alcohol	10	330
7.	1,2-Dichlorobenzene	10	330
8.	2-Methylphenol	10	330
9.	bis(2-Chloroisopropyl)Ether	10	330
10.	4-Methylphenol	10	330
11.	N-Nitroso-Di-n-propylamine	10	330
12.	Hexachloroethane	10	330
13.	Nitrobenzene	10	330
14.	Isophorone	10	330
15.	2-Nitrophenol	10	330
16.	2,4-Dimethylphenol	10	330
17.	Benzoic Acid	50	1,600
18.	bis(2-Chloroethoxy)Methane	10	330
19.	2,4-Dichlorophenol	10	330
20.	1,2,4-Trichlorobenzene	10	330
21.	Naphthalene	10	330
22.	4-Chloroanaline	10	330
23.	Hexachlorobutadiene	10	330
24.	4-Chloro-3-Methylphenol	10	330
25.	2-Methylnaphthalene	10	330
26.	Hexachlorocyclopentadiene	10	330
27.	2,4,6-Trichlorophenol	10	330
28.	2,4,5-Trichlorophenol	50	1,600
29.	2-Chloronaphthalene	10	330
30.	2-Nitroanaline	50	1,600
31.	Dimethyl Phthalate	10	330
32.	Acenaphthylene	10	330
33.	3-Nitroaniline	50	1,600
34.	Acenaphthene	10	330
35.	2,4-Dinitrophenol	50	1,600

Table A-1 (Cont.)

	Semivolatile Compounds	Contract Required Quantitation Limits * Low Concentration Water[c] (µg/L)	Low Concentration Soil/Sediment[d] (µg/kg)
36.	4-Nitrophenol	50	1,600
37.	Dibenzofuran	10	330
38.	2,4-Dinitrotoluene	10	330
39.	2,6-Dinitrotoluene	10	330
40.	Diethylphthalate	10	330
41.	4-Chlorophenyl-phenylether	10	330
42.	Fluorene	10	330
43.	4-Nitroaniline	50	1,600
44.	4,6-Dinitro-2-Methylphenol	50	1,600
45.	N-Nitrosodiphenylamine	10	330
46.	4-Bromophenyl-phenylether	10	330
47.	Hexachlorobenzene	10	330
48.	Pentachlorophenol	50	1,600
49.	Phenathrene	10	330
50.	Anthracene	10	330
51.	Di-n-Butylphthalate	10	330
52.	Fluoranthene	10	330
53.	Pyrene	10	330
54.	Butylbenzylphthalate	10	330
55.	3,3'-Dichlorobenzidine	20	660
56.	Benzo(a)Anthracene	10	330
57.	bis(2-Ethylhexyl)Phthalate	10	330
58.	Chrysene	10	330
59.	Di-n-Octyl Phthalate	10	330
60.	Benzo(b)Fluoranthene	10	330
61.	Benzo(k)Fluoranthene	10	330
62.	Benzo(a)Pyrene	10	330
63.	Indeno(1,2,3-cd)Pyrene	10	330
64.	Dibenz(a,h)Anthracene	10	330
65.	Benzo(g,h,i)Perylene	10	330

Table A-1 (Cont.)

	Pesticide/ Polychlorinated Biphenyl Compounds	Contract Required Quantitation Limits * Low Concentration Water[e] (µg/L)	Low Concentration Soil/Sediment[f] (µg/kg)
1.	Alpha-BHC	.05	8
2.	Beta-BHC	.05	8
3.	Delta-BHC	.05	8
4.	Gamma-BHC (Lindane)	.05	8
5.	Heptachlor	.05	8
6.	Aldrin	.05	8
7.	Heptachlor Epoxide	.05	8
8.	Endosulfan I	.05	8
9.	Dieldrin	.1	16
10.	4,4'-DDE	.1	16
11.	Endrin	.1	16
12.	Endosulfan II	.1	16
13.	4,4'-DDD	.1	16
14.	Endosulfan Sulfate	.1	16
15.	4,4'-DDT	.1	16
16.	Methoxychlor	.5	80
17.	Endrin Ketone	.1	16
18.	Chlordane	.5	80
19.	Toxaphene	1.0	160
20.	AROCLOR-1016	.5	80
21.	AROCLOR-1221	.5	80
22.	AROCLOR-1232	.5	80
23.	AROCLOR-1242	.5	80
24.	AROCLOR-1248	.5	80
25.	AROCLOR-1254	1.0	160
26.	AROCLOR-1260	1.0	160

* Specific quantitation limits are highly matrix dependent. The quantitation limits listed herein are provided for guidance and may not always be achievable.

a Medium Water Contract Required Quantitation Limits (CRQL) for Volatile Target Compound List (TCL) Compounds are 100 times the individual Low Water CRQL.

Table A-1 (Cont.)

b Medium Soil/Sediment Contract Required Quantitation Limits (CRQL) for Volatile TCL Compounds are 100 times the individual Low Soil/Sediment CRQL.

c Medium Water Contract Required Quantitation Limits (CRQL) for Semi-volatile TCL Compounds are 100 times the individual Low Water (CRQL).

d Medium Soil/Sediment Contract Required Quantitation Limits (CRQL) for Semivolatile TCL Compounds are 60 times the individual Low Soil/ Sediment (CRQL).

e Medium Water Contract Required Quantitation Limits (CRQL) for Pesti-cide/PCB TCL Compounds are 100 times the individual Low Water (CRQL).

f Medium Soil/Sediment Contract Required Quantitation Limits (CRQL) for Pesticide/PCB TCL Compounds are 60 times the individual Low Soil/ Sediment (CRQL).

APPENDIX B

SAMPLE DOCUMENTATION RECORD

File

U.S. ENVIRONMENTAL PROTECTION AGENCY

Environmental Services Assistance Team – Zone II

ICF Technology, Inc.

NSI Technology Services, Corp.

The Bionetics Corp.

ESAT Region X
The Bionetics Corp.
7411 Beach Drive East
Port Orchard, WA 98366
(206) 442-1189

Memorandum

Date: June 8, 1989

To: Rhonda Wreglesworth, RSSC, USEPA, Region 10

For: File

Thru: Bill Scheidler, ETM, ESAT, Region 10 WS

From: Jim Miller, Organic Chemist, ESAT, Region 10 JM

Subj: CMX samples

cc: Deborah Flood, HWD, USEPA, Region 10
Barry Towns, QA Officer, USEPA, Region 10
Gerry Muth, DPO, USEPA, Region 10
Steve Pope, USEPA, Region 10

We have completed our review of the CMX sample analysis preformed at the Manchester Lab. This review covered the following water samples;

89134610 89134611
89134612 89134613

Analysis Reviewed: Volatile Organics in Water

I Holding times: Acceptable. Maximum holding time is 14 days.

Sample #	Collection date	Analysis date	Days to Analysis
89134625	3/27/89	4/7/89	11
89134626	3/27/89	4/7/89	11
89134627	3/27/89	4/7/89	11
89134628	3/27/89	4/7/89	11

II GC/MS Tune, mass assignment and abundance: Acceptable.

III Initial calibration: The initial calibration was performed 4/3/89. All average relative response factors were greater than 0.05. Percent relative standard deviations of all analytes were less than 30% except trichlorofluoromethane. Positive results for trichlorofluoromethane should be flagged J. The following compounds were not analyzed in the initial or continuing calibrations; Acetone, Carbon Disulfide, 2-Butanone, 2-Hexanone, and 4-Methyl-2-Pentanone. For these, positive values should be estimated based on historical quantitation, and should be qualified with a J. Non-detects should be qualified UJ.

IV Continuing Calibration: The continuing calibration standard was acquired on 4/7/89. All compounds had response factors greater than the minimum required 0.05. Positive results for Trichlorofluoromethane, the only compound with percent deviation greater than 25%, should be flagged J.

V Blanks: Low levels of the common lab contaminants Methylene Chloride, and Acetone were found. For these positive results within the ten times rule should be qualifified UJ.

VI Surrogate Recovery: Acceptable. Surrogate recoveries were within QA/QC limits.

VII Matrix spike/Matrix spike duplicate: Matrix spike recoveries were within QA/QC limits for all compounds except for 2-Butanone. No qualifiers were added to the data on the basis of matrix spikes.

VII Data qualification: The usefulness of the data is based on the criteria outlined in the "Laboratory Data Validation Functional Guidelines for Evaluation of Organic and Pesticide/PCB Analysis" (R-582-5-5-010).

Based on initial calibration positive results for the following compounds should be flagged J; Carbon Disulfide 2-Butanone 2-Hexanone 4-Methyl-2-Pentanone

Based on initial calibration positive results for Trichlorofluoromethane should be flagged J.

Based on method blanks results for Methylene chloride, Acetone, Chloromethane, Bromomethane, and Ethylbenzene should be flagged UJ.

Based on initial calibration positive results for the following compounds should be flagged J; Carbon Disulfide 2-Butanone 2-Hexanone 4-Methyl-2-Pentanone

Based on initial calibration positive results for Trichlorofluoromethane should be flagged J.

Based on method blanks results for Methylene chloride, Acetone, Chloromethane, Bromomethane, and Ethylbenzene should be flagged UJ.

Sample Number
89134610

ORGANICS ANALYSIS DATA SHEET
(Page 1)

Laboratory Name: MANCHESTER LAB
Case No: TEC-449A/1011
Lab Sample ID No:
QC Report No:
Sample Matrix: WATER
Contract No: FA10PUZZ
Data Release Authorized By:
Date Sample Received: 03/29/89

VOLATILE COMPOUNDS

Concentration: LOW
Date Extracted/Prepared:
Date Analyzed: 04/07/89
Conc/Dil Factor: 1. pH
Percent Moisture: (Not Decanted)

CAS Number		UG/L		CAS Number		UG/L	
74-87-3	Chloromethane	10.4 BJU		108-10-1	4-Methyl-2-Pentanone	10	U
75-71-8	Dichlorodifluoromethane	10	U	127-18-4	Tetrachloroethene	5	U
74-83-9	Bromomethane	10 BJU		79-34-5	1,1,2,2-Tetrachloroethane	5	U
75-01-4	Vinyl Chloride	10	U	630-20-6	1,1,1,2-Tetrachloroethane	5	U
75-00-3	Chloroethane	10	U	108-88-3	Toluene	0.2J	5
75-69-4	Trichlorofluoromethane	5	U	108-90-7	Chlorobenzene	5	U
75-09-2	Methylene Chloride	5.1 BJU		100-41-4	Ethylbenzene	5	0.3BJU
67-64-1	Acetone	10 BJU		100-42-5	Styrene	5	U
75-15-0	Carbon Disulfide	5	U	108-86-1	Bromobenzene	5	U
75-35-4	1,1-Dichloroethene	5	U	96-18-4	1,2,3-Trichloropropane	5	U
75-34-3	1,1-Dichloroethane	5	U	95-49-8	2-Chlorotoluene	5	U
156-60-5	Trans-1,2-Dichloroethene	5	U	106-43-4	4-Chlorotoluene	5	U
156-59-2	Cis-1,2-Dichloroethene	5	U	1330-20-7	Total Xylenes	5	U
590-20-7	2,2-Dichloropropane	5	U	95-63-6	1,2,4-Trimethylbenzene	5	U
67-66-3	Chloroform	0.6J NJ		98-06-6	Tert-Butylbenzene	5	U
107-06-2	1,2-Dichloroethane	0.4J NJ		108-67-8	1,3,5-Trimethylbenzene	5	U
78-93-3	2-Butanone	10	U	135-98-8	Sec-Butylbenzene	5	U
71-55-6	1,1,1-Trichloroethane	5	U	99-87-6	p-Isopropyltoluene	5	U
56-23-5	Carbon Tetrachloride	5	U	104-51-8	Butylbenzene	5	U
563-58-6	1,1-Dichloropropene	5	U	96-12-8	1,2-Dibromo-3-chloropropane	5	U
108-05-4	Vinyl Acetate	10	U	87-61-6	1,2,3-Trichlorobenzene	5	U
75-27-4	Bromodichloromethane	5	U	98-82-8	Isopropylbenzene	5	U
78-87-5	1,2-Dichloropropane	5	U	103-65-1	Propylbenzene	5	U
74-95-3	Dibromomethane	5	U		Total Xylenes	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U	541-73-1	1,3-Dichlorobenzene	10	0.5J 5
79-01-6	Trichloroethene	5	U	106-46-7	1,4-Dichlorobenzene	10	0.5J 5
124-48-1	Dibromochloromethane	5	U	95-50-1	1,2-Dichlorobenzene	10	U
106-93-4	1,2-Dibromoethane	10	U	120-82-1	1,2,4-Trichlorobenzene	10	U
79-00-5	1,1,2-Trichloroethane	5	U	91-20-3	Naphthalene	10	U
142-28-9	1,3-Dichloropropane	5	U	87-68-3	Hexachlorobutadiene	10	U
71-43-2	Benzene	5	U		Toluene-d8	99%	50 B
10061-01-5	cis-1,3-Dichloropropene	5	U		BFB	96%	48 B
75-25-2	Bromoform	5	U		1,2-Dichloroethane-d4	93%	47 B
591-78-6	2-Hexanone	10	U				

B - Compound was detected in the QC blank.
J - Reported value is less than the detection limit.
U - Compound analyzed for but not detected. The reported value is the minimum attainable detection limit for the sample.

See page 1A for complete definitions of the data reporting qualifiers.

06070830.01

Sample Number
89134611

ORGANICS ANALYSIS DATA SHEET
(Page 1)

Laboratory Name: MANCHESTER LAB
Lab Sample ID No:
Sample Matrix: WATER
Data Release Authorized By:

Case No: TEC-449A/1011
QC Report No:
Contract No: FA10PUZZ
Date Sample Received: 03/29/89

VOLATILE COMPOUNDS

Concentration: LOW
Date Extracted/Prepared:
Date Analyzed: 04/07/89
Conc/Dil Factor: 1. pH
Percent Moisture: (Not Decanted)

CAS Number		UG/L		CAS Number		UG/L	
74-87-3	Chloromethane	~~100.9B~~ 10	U	108-10-1	4-Methyl-2-Pentanone	10	U
75-71-8	Dichlorodifluoromethane	10	U	127-18-4	Tetrachloroethene	5	U
74-83-9	Bromomethane	~~100.4B~~ 10	U	79-34-5	1,1,2,2-Tetrachloroethane	5	U
75-01-4	Vinyl Chloride	10	U	630-20-6	1,1,1,2-Tetrachloroethane	5	U
75-00-3	Chloroethane	10	U	108-88-3	Toluene	5	U
75-69-4	Trichlorofluoromethane	5	U	108-90-7	Chlorobenzene	5	U
75-09-2	Methylene Chloride	~~5+ B~~ 5	U	100-41-4	Ethylbenzene	5 ~~0.25J~~	U
67-64-1	Acetone	32 ~~B~~	U	100-42-5	Styrene	5	U
75-15-0	Carbon Disulfide	5	U	108-86-1	Bromobenzene	5	U
75-35-4	1,1-Dichloroethene	5	U	96-18-4	1,2,3-Trichloropropane	5	U
75-34-3	1,1-Dichloroethane	5	U	95-49-8	2-Chlorotoluene	5	U
156-60-5	Trans-1,2-Dichloroethene	5	U	106-43-4	4-Chlorotoluene	5	U
156-59-2	Cis-1,2-Dichloroethene	5	U	1330-20-7	Total Xylenes	5	U
590-20-7	2,2-Dichloropropane	5	U	95-63-6	1,2,4-Trimethylbenzene	5	U
67-66-3	Chloroform	0.3J	NJ	98-06-6	Tert-Butylbenzene	5	U
107-06-2	1,2-Dichloroethane	3	J	108-67-8	1,3,5-Trimethylbenzene	5	U
78-93-3	2-Butanone	10 ~~3 J~~	U	135-98-8	Sec-Butylbenzene	5	U
71-55-6	1,1,1-Trichloroethane	5	U	99-87-6	p-Isopropyltoluene	5	U
56-23-5	Carbon Tetrachloride	5	U	104-51-8	Butylbenzene	5	U
563-58-6	1,1-Dichloropropene	5	U	96-12-8	1,2-Dibromo-3-chloropropane	5	U
108-05-4	Vinyl Acetate	10	U	87-61-6	1,2,3-Trichlorobenzene	5	U
75-27-4	Bromodichloromethane	5	U	98-82-8	Isopropylbenzene	5	U
78-87-5	1,2-Dichloropropane	5	U	103-65-1	Propylbenzene	5	U
74-95-3	Dibromomethane	5	U		~~Total Xylenes~~	~~5~~	~~U~~
10061-02-6	Trans-1,3-Dichloropropene	5	U	541-73-1	1,3-Dichlorobenzene	10	U
79-01-6	Trichloroethene	5	U	106-46-7	1,4-Dichlorobenzene	10	U
124-48-1	Dibromochloromethane	5	U	95-50-1	1,2-Dichlorobenzene	10	U
106-93-4	1,2-Dibromoethane	10	U	120-82-1	1,2,4-Trichlorobenzene	10	U
79-00-5	1,1,2-Trichloroethane	5	U	91-20-3	Naphthalene	10	U
142-28-9	1,3-Dichloropropane	5	U	87-68-3	Hexachlorobutadiene	10	U
71-43-2	Benzene	5	U		Toluene-d8 97%	~~48~~	~~B~~
10061-01-5	cis-1,3-Dichloropropene	5	U		BFB 94%	~~47~~	~~B~~
75-25-2	Bromoform	5	U		1,2-Dichloroethane-d4 91%	~~46~~	~~B~~
591-78-6	2-Hexanone	10	U				

D.KP 11-16-89
06070830.02

B - Compound was detected in the QC blank.
J - Reported value is less than the detection limit.
U - Compound analyzed for but not detected. The reported value is the minimum attainable detection limit for the sample.

See page 1A for complete definitions of the data reporting qualifiers.

Sample Number
89134612

ORGANICS ANALYSIS DATA SHEET
(Page 1)

Laboratory Name: MANCHESTER LAB
Lab Sample ID No:
Sample Matrix: WATER
Data Release Authorized By:

Case No: TEC-449A/1011
QC Report No:
Contract No: FA10PUZZ
Date Sample Received: 03/29/89

VOLATILE COMPOUNDS

Concentration: LOW
Date Extracted/Prepared:
Date Analyzed: 04/07/89
Conc/Dil Factor: 1. pH
Percent Moisture: (Not Decanted)

CAS Number		UG/L	CAS Number		UG/L
74-87-3	Chloromethane	~~10 0.4B U~~	108-10-1	4-Methyl-2-Pentanone	10 U
75-71-8	Dichlorodifluoromethane	~~10 0.7J U~~	127-18-4	Tetrachloroethene	5 U
74-83-9	Bromomethane	~~10 0.8B U~~	79-34-5	1,1,2,2-Tetrachloroethane	5 U
75-01-4	Vinyl Chloride	10 U	630-20-6	1,1,1,2-Tetrachloroethane	5 U
75-00-3	Chloroethane	10 U	108-88-3	Toluene	0.5J NJ
75-69-4	Trichlorofluoromethane	0.2J NJ	108-90-7	Chlorobenzene	5 U
75-09-2	Methylene Chloride	6 B	100-41-4	Ethylbenzene	~~5 0.3B U~~
67-64-1	Acetone	~~10 8 B U~~	100-42-5	Styrene	5 U
75-15-0	Carbon Disulfide	5 U	108-86-1	Bromobenzene	5 U
75-35-4	1,1-Dichloroethene	5 U	96-18-4	1,2,3-Trichloropropane	5 U
75-34-3	1,1-Dichloroethane	5 U	95-49-8	2-Chlorotoluene	5 U
156-60-5	Trans-1,2-Dichloroethene	5 U	106-43-4	4-Chlorotoluene	5 U
156-59-2	Cis-1,2-Dichloroethene	5 U	1330-20-7	Total Xylenes	5 U
590-20-7	2,2-Dichloropropane	5 U	95-63-6	1,2,4-Trimethylbenzene	5 U
67-66-3	Chloroform	0.5J NJ	98-06-6	Tert-Butylbenzene	5 U
107-06-2	1,2-Dichloroethane	0.6J NJ	108-67-8	1,3,5-Trimethylbenzene	0.1J N
78-93-3	2-Butanone	2 J	135-98-8	Sec-Butylbenzene	5 U
71-55-6	1,1,1-Trichloroethane	5 U	99-87-6	p-Isopropyltoluene	5 U
56-23-5	Carbon Tetrachloride	5 U	104-51-8	Butylbenzene	5 U
563-58-6	1,1-Dichloropropene	5 U	96-12-8	1,2-Dibromo-3-chloropropane	5 U
108-05-4	Vinyl Acetate	10 U	87-61-6	1,2,3-Trichlorobenzene	5 U
75-27-4	Bromodichloromethane	5 U	98-82-8	Isopropylbenzene	5 U
78-87-5	1,2-Dichloropropane	5 U	103-65-1	Propylbenzene	5 U
74-95-3	Dibromomethane	5 U		Total Xylenes	5 U
10061-02-6	Trans-1,3-Dichloropropene	5 U	541-73-1	1,3-Dichlorobenzene	~~10 0.2J~~ U
79-01-6	Trichloroethene	5 U	106-46-7	1,4-Dichlorobenzene	10 U
124-48-1	Dibromochloromethane	5 U	95-50-1	1,2-Dichlorobenzene	10 U
106-93-4	1,2-Dibromoethane	10 U	120-82-1	1,2,4-Trichlorobenzene	10 U
79-00-5	1,1,2-Trichloroethane	5 U	91-20-3	Naphthalene	10 U
142-28-9	1,3-Dichloropropane	5 U	87-68-3	Hexachlorobutadiene	10 U
71-43-2	Benzene	5 U		Toluene-d8	96% ~~48 B~~
10061-01-5	cis-1,3-Dichloropropene	5 U		BFB	94% ~~47 B~~
75-25-2	Bromoform	5 U		1,2-Dichloroethane-d4	92% ~~46 B~~
591-78-6	2-Hexanone	10 U			

B - Compound was detected in the QC blank.
J - Reported value is less than the detection limit.
U - Compound analyzed for but not detected. The reported value is the minimum attainable detection limit for the sample.

See page 1A for complete definitions of the data reporting qualifiers.

DKH 11-16-9

06070830-03

File

U.S. ENVIRONMENTAL PROTECTION AGENCY

Environmental Services Assistance Team – Zone II

ICF Technology, Inc.

NSI Technology Services, Corp.

The Bionetics Corp.

ESAT Region X
The Bionetics Corp.
7411 Beach Drive East
Port Orchard, WA 98366
(206) 442-1189

Memorandum

Date: June 2, 1989

To: Rhonda Wregglesworth, RSSC, USEPA, Region 10

For: File

Thru: Bill Scheidler, ETM, ESAT, Region 10
Joseph Blazevich, GC/MS Chief, USEPA, Region 10

From: Jim Miller, Organic Chemist, ESAT, Region 10

Subj: CMX samples

cc: Deborah Flood, HWD, USEPA, Region 10
Barry Towns, QA Officer, USEPA, Region 10
Gerry Muth, DPO, USEPA, Region 10

We have completed our review of the CMX sample analysis performed at the Manchester Lab. This review covered the following water samples;

89134610	89134611
89134612	89134613

Analysis Reviewed: Base Neutral Acid extractables by GC/MS

I Holding times: Acceptable

				Maximums 7 days	40 days
sample#	collection date	extraction date	analysis date	days to extraction	days to analysis
89134610		3/30/89	4/12/89	1	13
89134611		3/30/89	4/12/89	1	13
89134612		3/30/89	4/13/89	1	14
89134613		3/30/89	4/13/89	1	14

Sample Number
89134613

ORGANICS ANALYSIS DATA SHEET
(Page 1)

Laboratory Name: MANCHESTER LAB
Lab Sample ID No:
Sample Matrix: WATER
Data Release Authorized By:

Case No: TEC-449A/1011
QC Report No:
Contract No: FA10PUZZ
Date Sample Received: 03/29/89

VOLATILE COMPOUNDS

Concentration: LOW
Date Extracted/Prepared:
Date Analyzed: 04/07/89
Conc/Dil Factor: 1. pH
Percent Moisture: (Not Decanted)

CAS Number		UG/L		CAS Number		UG/L	
74-87-3	Chloromethane	10	U	108-10-1	4-Methyl-2-Pentanone	10	U
75-71-8	Dichlorodifluoromethane	10	U	127-18-4	Tetrachloroethene	5	U
74-83-9	Bromomethane	10	U	79-34-5	1,1,2,2-Tetrachloroethane	5	U
75-01-4	Vinyl Chloride	10	U	630-20-6	1,1,1,2-Tetrachloroethane	5	U
75-00-3	Chloroethane	10	U	108-88-3	Toluene	5	U
75-69-4	Trichlorofluoromethane	5	U	108-90-7	Chlorobenzene	5	U
75-09-2	Methylene Chloride	5	U	100-41-4	Ethylbenzene	5	U
67-64-1	Acetone	10	U	100-42-5	Styrene	5	U
75-15-0	Carbon Disulfide	5	U	108-86-1	Bromobenzene	5	U
75-35-4	1,1-Dichloroethene	5	U	96-18-4	1,2,3-Trichloropropane	5	U
75-34-3	1,1-Dichloroethane	5	U	95-49-8	2-Chlorotoluene	5	U
156-60-5	Trans-1,2-Dichloroethene	5	U	106-43-4	4-Chlorotoluene	5	U
156-59-2	Cis-1,2-Dichloroethene	5	U	1330-20-7	Total Xylenes	5	U
590-20-7	2,2-Dichloropropane	5	U	95-63-6	1,2,4-Trimethylbenzene	5	U
67-66-3	Chloroform	5	U	98-06-6	Tert-Butylbenzene	5	U
107-06-2	1,2-Dichloroethane	5	U	108-67-8	1,3,5-Trimethylbenzene	5	U
78-93-3	2-Butanone	10	U	135-98-8	Sec-Butylbenzene	5	U
71-55-6	1,1,1-Trichloroethane	5	U	99-87-6	p-Isopropyltoluene	5	U
56-23-5	Carbon Tetrachloride	5	U	104-51-8	Butylbenzene	5	U
563-58-6	1,1-Dichloropropene	5	U	96-12-8	1,2-Dibromo-3-chloropropane	5	U
108-05-4	Vinyl Acetate	10	U	87-61-6	1,2,3-Trichlorobenzene	5	U
75-27-4	Bromodichloromethane	5	U	98-82-8	Isopropylbenzene	5	U
78-87-5	1,2-Dichloropropane	5	U	103-65-1	Propylbenzene	5	U
74-95-3	Dibromomethane	5	U		Total Xylenes	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U	541-73-1	1,3-Dichlorobenzene	10	U
79-01-6	Trichloroethene	5	U	106-46-7	1,4-Dichlorobenzene	10	U
124-48-1	Dibromochloromethane	5	U	95-50-1	1,2-Dichlorobenzene	10	U
106-93-4	1,2-Dibromoethane	10	U	120-82-1	1,2,4-Trichlorobenzene	10	U
79-00-5	1,1,2-Trichloroethane	5	U	91-20-3	Naphthalene	10	U
142-28-9	1,3-Dichloropropane	5	U	87-68-3	Hexachlorobutadiene	10	U
71-43-2	Benzene	5	U		Toluene-d8	97%	48 B
10061-01-5	cis-1,3-Dichloropropene	5	U		BFB	98%	49 B
75-25-2	Bromoform	5	U		1,2-Dichloroethane-d4	91%	46 B
591-78-6	2-Hexanone	10	U				

BAT 11-16-89

B - Compound was detected in the QC blank.
J - Reported value is less than the detection limit.
U - Compound analyzed for but not detected. The reported value is the minimum attainable detection limit for the sample.

See page 1A for complete definitions of the data reporting qualifiers.

II GC/MS Tune, mass assignment and abundance: Acceptable.

III Initial Calibration: The initial calibration was performed 2/24/89. All average response factors were greater than 0.05. Percent relative standard deviations were less than 30% for all analytes except the following;

Compound	%RSD	Compound	%RSD
Benzoic Acid	50.9	4-Chloroaniline	31.6
4-Nitrophenol	34.1	4,6-Dinitro-2-Methylphenol	41.5
Pentachlorophenol	30.4		

For these compounds positive and non-detect results are flagged J. 2-Nitroaniline, 3-Nitroaniline, and 4-Nitroaniline were not analyzed in the initial calibration, and these results are flagged R.

IV Continuing Calibration: Continuing calibration standards were acquired on 4/12 and 4/13 1989. Compounds with percent relative standard deviations greater than 25% are tabulated.

Compound	%RSD	4/12/89	4/13/89
Hexachloroethane		31.6	
Benzoic Acid		30.4	38.0
Nitrobenzene		47.9	
Isophorone		63.9	51.3
4-Chloroaniline		29.6	46.9
Hexachlorobutadiene		33.5	
Diethylphthalate		64.8	29.2
Di-n-butylphthalate		30.9	
Retene		53.2	52.7
2-Methylphenol		32.5	
bis(2-Chloroisopropyl)ether		44.3	49.5
n-Nitroso-di-n-propylamine		33.3	
4,6-Dinitro-2-methylphenol		25.3	
Butylbenzylphthalate		37.6	
bis(2-ethylhexl)phthalate		30.2	
di-n-Octylphthalate		34.3	
Hexachlorocyclopentadiene			44.5
2,4-Dinitrophenol			52.4

All positive and non-detect results determined on the respective days for these compounds are flagged J.

4/13/89: All compounds in the continuing standard had response factors greater than the minimum required 0.05 except the following;

Compound	Response
Benzyl Alcohol	-
Benzoic Acid	0.049
4-Chloroaniline	0.043

All positive results determined on 4/13/89 for these compounds are flagged J, and non-detects are flagged R based on continuing calibration.

V Blanks: Acceptable. The method blanks were free of contamination.

VI Surrogate recovery: Surrogate recoveries were acceptable except for the following samples;

Sample	2-Fluorobiphenyl 43-116 Limits	Nitrobenzene 35-114 Limits
89134613	36	
89134612	31	
89134611	31	26
89134610	34	31
WBW9089D	22	18
WBW9089	40	

Samples 89134610, 89134611 and WBW9089D each had two base neutral surrogates with low recoveries. For these samples results of all base neutral analytes are flagged J.

VII Matrix Spike/Matrix Spike Duplicate: Matrix spike recoveries were within Manchester 95% confidence limits for all compounds except the following:

Compound %R	MS	MSD		MS	MSD
Benzyl Alcohol	2	0	Benzoic Acid	10	0
Hexachlorobutadiene	85	91	2-Methylnaphthalene	49	51
2,6-Dinitrotoluene	0	0	Hexachlorocyclopentadiene	123	113
4-Nitrophenol	54	42			

No qualifiers were added to the data based on matrix spikes.

VII Data qualification: The usefulness of the data is based on the criteria outlined in the "Laboratory Data Validation Functional Guidelines for Evaluating Organics Analyses".

Based on Initial Calibration all results for the following compounds are flagged R.

Compound	
2-Nitroaniline	4-Nitroaniline
3-Nitroaniline	

Based on Initial Calibration all positive results for the following compounds are flagged J and all non-detects flagged R.

Compound	
4-Chloroaniline	Pentachlorophenol
Benzoic Acid	4,6-Dinitro-2-Methylphenol
4-Nitrophenol	

Based on Continuing Calibration all results for the following compounds are flagged J.

Compound	4/12/89	4/13/89
Hexachloroethane	X	
Benzoic Acid	X	X
Nitrobenzene	X	
Isophorone	X	X
4-Chloroaniline	X	X
Hexachlorobutadiene	X	
Diethylphthalate	X	X
Di-n-butylphthalate	X	
Retene	X	X
2-Methylphenol	X	
bis(2-Chloroisopropyl)ether	X	X
n-Nitroso-di-n-propylamine	X	
4,6-Dinitro-2-methylphenol	X	
Butylbenzylphthalate	X	
bis(2-ethylhexl)phthalate	X	
di-n-Octylphthalate	X	
Hexachlorocyclopentadiene		X
2,4-Dinitrophenol		X

Based on Surrogate Recovery results for all base neutrals are flagged J in samples;

89134610
89134611
WBN9089D

All compounds that do not contain the name phenol, acid, or Benzyl Alcohol are considered base neutrals.

Name: MANCHESTER LAB
TEC-449A/100

Sample Number
89134610

ORGANICS ANALYSIS DATA SHEET
(Page 2)

SEMIVOLATILE COMPOUNDS

oncentration: LOW
ate Extracted/Prepared: 03/30/89
Date Analyzed: 04/12/89
Conc Factor: 4.926108
ercent Moisture: (Decanted)

GPC Cleanup ___ Yes X No
Separatory Funnel Extraction ___ Yes
Continuous Liquid-Liquid Extraction ___ Yes

CAS Number		ug/L		CAS Number		ug/L	
08-95-2	Phenol	2	U	132-64-9	Dibenzofuran	2	U
11-44-4	bis(2-Chloroethyl)Ether	2	U	121-14-2	2,4-Dinitrotoluene	2	U
95-57-8	2-Chlorophenol	2	U	606-20-2	2,6-Dinitrotoluene	2	U
541-73-1	1,3-Dichlorobenzene	2	U	84-66-2	Diethylphthalate	2	U
06-46-7	1,4-Dichlorobenzene	2	U	7005-72-3	4-Chlorophenyl-phenylether	2	U
100-51-6	Benzyl Alcohol	2	U	86-73-7	Fluorene	2	U
95-50-1	1,2-Dichlorobenzene	2	U	100-01-6	4-Nitroaniline	~~10~~	~~U~~ R
5-48-7	2-Methylphenol	2	U	534-52-1	4,6-Dinitro-2-Methylphenol	10	U
9638-32-9	bis(2-Chloroisopropyl)Ether	2	U	86-30-6	N-Nitrosodiphenylamine (1)	2	U
106-44-5	4-Methylphenol	2	U	101-55-3	4-Bromophenyl-phenylether	2	U
21-64-7	N-Nitroso-Di-n-Propylamine	2	U	118-74-1	Hexachlorobenzene	2	U
7-72-1	Hexachloroethane	2	U	87-86-5	Pentachlorophenol	10	U
98-95-3	Nitrobenzene	2	U	85-01-8	Phenanthrene	2	U
78-59-1	Isophorone	2	U	120-12-7	Anthracene	2	U
8-75-5	2-Nitrophenol	2	U	86-74-8	9h-Carbazole	2	U
105-67-9	2,4-Dimethylphenol	2	U	84-74-2	Di-n-Butylphthalate	2	U
( )5-0	Benzoic Acid	10	U	206-44-0	Fluoranthene	2	U
11-91-1	bis(2-Chloroethoxy)Methane	2	U	129-00-0	Pyrene	2	U
20-83-2	2,4-Dichlorophenol	2	U	483-65-8	Retene	2	U
120-82-1	1,2,4-Trichlorobenzene	2	U	85-68-7	Butylbenzylphthalate	2	U
91-20-3	Naphthalene	2	U	91-94-1	3,3'-Dichlorobenzidine	4	U
06-47-8	4-Chloroaniline	~~2~~	~~U~~ R	56-55-3	Benzo(a)Anthracene	2	U
87-68-3	Hexachlorobutadiene	2	U	117-81-7	bis(2-Ethylhexyl)Phthalate	33	~~B~~
59-50-7	4-Chloro-3-Methylphenol	2	U	218-01-9	Chrysene	2	U
1-57-6	2-Methylnaphthalene	2	U	117-84-0	Di-n-Octyl Phthalate	2	U
0-12-0	1-Methylnaphthalene	2	U	205-99-2	Benzo(b)Fluoranthene	2	U
77-47-4	Hexachlorocyclopentadiene	2	U	207-08-9	Benzo(k)Fluoranthene	2	U
3-06-2	2,4,6-Trichlorophenol	2	U	50-32-8	Benzo(a)Pyrene	2	U
5-95-4	2,4,5-Trichlorophenol	10	U	193-39-5	Indeno(1,2,3-cd)Pyrene	2	U
91-58-7	2-Chloronaphthalene	2	U	53-70-3	Dibenz(a,h)Anthracene	2	U
88-74-4	2-Nitroaniline	~~10~~	~~U~~ R	191-24-2	Benzo(g,h,i)Perylene	2	U
31-11-3	Dimethyl Phthalate	2	U		Nitrobenzene-d5 (SS)	~~6~~	~~B~~ 31%
208-96-8	Acenaphthylene	2	U	11-11-111	2-Fluorobiphenyl (SS)	~~7~~	~~B~~ 34%
99-09-2	3-Nitroaniline	~~10~~	~~U~~ R		Terphenyl-d14 (SS)	~~15~~	~~B~~ 74%
3-32-9	Acenaphthene	2	U	200-00-1	Pyrene-D10 (SS)	~~13~~	~~B~~ 64%
1-28-5	2,4-Dinitrophenol	10	U		Phenol-d5 (SS)	~~3~~	~~B~~ 15%
100-02-7	4-Nitrophenol	10	U		2-Fluorophenol (SS)	~~8~~	~~B~~ 38%
					2,4,6-Tribromophenol (SS)		—

(1) - Cannot be separated from diphenylamine

Form I

DKY
11-16-89

	CAS Number	Compound Name	Fraction	Scan Num	Estimated Conc ug/L
1		C130 D4-1,4-DICHLOROBENZENE (IS-1)	BNA		~~16 J~~
2		C140 D8-NAPHTHALENE (IS-2)	BNA		~~16 J~~
3		C150 D10-ACENAPHTHENE (IS-3)	BNA		~~16 J~~
4		C160 D10-PHENANTHRENE (IS-4)	BNA		~~16 J~~
5		C170 D12-CHRYSENE (IS-5)	BNA		~~16 J~~
6		C175 D12-PERYLENE (IS-6)	BNA		~~16 J~~
7	103-23-1	HEXANEDIOIC ACID, BIS(2-ETHYLHEXYL) ESTER	BNA		~~16 J~~
8	123-42-2	4-HYDROXY-4-METHYLPENTAN-2-ONE	BNA		80 U ~~J~~
			BNA		86 U ~~J~~

No volatile compounds found.

DXY
11-16-89

See page 1A for complete definitions of the data reporting qualifiers.

Form I

05089901.01

MANCHESTER LAB
TEC-449A/10

Sample Number
89134611

ORGANICS ANALYSIS DATA SHEET
(Page 2)

SEMIVOLATILE COMPOUNDS

Concentration: LOW
Date Extracted/Prepared: 03/30/89
Date Analyzed: 04/12/89
Conc Factor: 4.761905
Percent Moisture: (Decanted) ____

GPC Cleanup ___ Yes X No
Separatory Funnel Extraction ___ Yes
Continuous Liquid-Liquid Extraction ___ Yes

CAS Number		ug/L		CAS Number		ug/L	
108-95-2	Phenol	2	U	132-64-9	Dibenzofuran	2	U
111-44-4	bis(2-Chloroethyl)Ether	2	U	121-14-2	2,4-Dinitrotoluene	2	U
95-57-8	2-Chlorophenol	2	U	606-20-2	2,6-Dinitrotoluene	2	U
541-73-1	1,3-Dichlorobenzene	2	U	84-66-2	Diethylphthalate	2	U
106-46-7	1,4-Dichlorobenzene	2	U	7005-72-3	4-Chlorophenyl-phenylether	2	U
100-51-6	Benzyl Alcohol	2	U	86-73-7	Fluorene	2	U
95-50-1	1,2-Dichlorobenzene	2	U	100-01-6	4-Nitroaniline	~~11~~	~~U~~ R
95-48-7	2-Methylphenol	2	U	534-52-1	4,6-Dinitro-2-Methylphenol	11	U
39638-32-9	bis(2-Chloroisopropyl)Ether	2	U	86-30-6	N-Nitrosodiphenylamine (1)	2	U
106-44-5	4-Methylphenol	2	U	101-55-3	4-Bromophenyl-phenylether	2	U
621-64-7	N-Nitroso-Di-n-Propylamine	2	U	118-74-1	Hexachlorobenzene	2	U
67-72-1	Hexachloroethane	2	U	87-86-5	Pentachlorophenol	11	U
98-95-3	Nitrobenzene	2	U	85-01-8	Phenanthrene	2	U
78-59-1	Isophorone	2	U	120-12-7	Anthracene	2	U
88-75-5	2-Nitrophenol	2	U	86-74-8	9h-Carbazole	2	U
105-67-9	2,4-Dimethylphenol	2	U	84-74-2	Di-n-Butylphthalate	2	U
65-85-0	Benzoic Acid	11	U	206-44-0	Fluoranthene	2	U
111-91-1	bis(2-Chloroethoxy)Methane	2	U	129-00-0	Pyrene	2	U
120-83-2	2,4-Dichlorophenol	2	U	483-65-8	Retene	2	U
120-82-1	1,2,4-Trichlorobenzene	2	U	85-68-7	Butylbenzylphthalate	2	U
91-20-3	Naphthalene	2	U	91-94-1	3,3'-Dichlorobenzidine	4	U
106-47-8	4-Chloroaniline	~~2~~	~~U~~ R	56-55-3	Benzo(a)Anthracene	2	U
87-68-3	Hexachlorobutadiene	2	U	117-81-7	bis(2-Ethylhexyl)Phthalate	3	~~B~~
59-50-7	4-Chloro-3-Methylphenol	2	U	218-01-9	Chrysene	2	U
91-57-6	2-Methylnaphthalene	2	U	117-84-0	Di-n-Octyl Phthalate	2	U
90-12-0	1-Methylnaphthalene	2	U	205-99-2	Benzo(b)Fluoranthene	2	U
77-47-4	Hexachlorocyclopentadiene	2	U	207-08-9	Benzo(k)Fluoranthene	2	U
88-06-2	2,4,6-Trichlorophenol	2	U	50-32-8	Benzo(a)Pyrene	2	U
95-95-4	2,4,5-Trichlorophenol	11	U	193-39-5	Indeno(1,2,3-cd)Pyrene	2	U
91-58-7	2-Chloronaphthalene	2	U	53-70-3	Dibenz(a,h)Anthracene	2	U
88-74-4	2-Nitroaniline	~~11~~	~~U~~ R	191-24-2	Benzo(g,h,i)Perylene	2	U
131-11-3	Dimethyl Phthalate	2	U		Nitrobenzene-d5 (SS)	~~5~~	~~B~~ 26%
208-96-8	Acenaphthylene	2	U	11-11-111	2-Fluorobiphenyl (SS)	~~7~~	~~B~~ 31%
99-09-2	3-Nitroaniline	~~11~~	~~U~~ R		Terphenyl-d14 (SS)	~~16~~	~~B~~ 74%
83-32-9	Acenaphthene	2	U	200-00-1	Pyrene-D10 (SS)	~~14~~	~~B~~ 67%
51-28-5	2,4-Dinitrophenol	11	U		Phenol-d5 (SS)	~~2~~	~~B~~ 10%
100-02-7	4-Nitrophenol	11	U		2-Fluorophenol (SS)	~~6~~	~~B~~ 28%
					2,4,6-Tribromophenol (SS)		

(1) - Cannot be separated from diphenylamine

Form I

DKP
11-16-

: MANCHESTER LAB
TEC-449A/10

Sample Number
89134611

ecology and environment

Recycled paper

TENTATIVELY IDENTIFIED COMPOUNDS
(Page 4)

	CAS Number	Compound Name	Fraction	Scan Num	Estimated Conc ug/L
1		C130 D4-1,4-DICHLOROBENZENE (IS-1)	BNA		~~17~~ J
2		C140 D8-NAPHTHALENE (IS-2)	BNA		~~17~~ J
3		C150 D10-ACENAPHTHENE (IS-3)	BNA		~~17~~ J
4		C160 D10-PHENANTHRENE (IS-4)	BNA		~~17~~ J
5		C170 D12-CHRYSENE (IS-5)	BNA		~~17~~ J
6		C175 D12-PERYLENE (IS-6)	BNA		~~17~~ J
7	123-42-2	4-HYDROXY-4-METHYLPENTAN-2-ONE	BNA		84 ~~J~~
8	103-23-1	HEXANEDIOIC ACID, BIS(2-ETHYLHEXYL) ESTER	BNA		7.5 ~~J~~

No volatile compounds found.

JBJ
11-16-89

See page 1A for complete definitions of the data reporting qualifiers.

Form I

05089901.02

Name: MANCHESTER LAB
TEC-449A/10

Sample Number
89134612

ORGANICS ANALYSIS DATA SHEET
(Page 2)

SEMIVOLATILE COMPOUNDS

oncentration: LOW
ate Extracted/Prepared: 03/30/89
Date Analyzed: 04/13/89
onc Factor: 4.830918
ercent Moisture: (Decanted)

GPC Cleanup ___ Yes X No
Separatory Funnel Extraction ___ Yes
Continuous Liquid-Liquid Extraction ___ Yes

CAS Number		ug/L		CAS Number		ug/L	
08-95-2	Phenol	2	U	132-64-9	Dibenzofuran	2	U
11-44-4	bis(2-Chloroethyl)Ether	2	U	121-14-2	2,4-Dinitrotoluene	2	U
95-57-8	2-Chlorophenol	2	U	606-20-2	2,6-Dinitrotoluene	2	U
41-73-1	1,3-Dichlorobenzene	2	U	84-66-2	Diethylphthalate	2	U J
06-46-7	1,4-Dichlorobenzene	2	U	7005-72-3	4-Chlorophenyl-phenylether	2	U
100-51-6	Benzyl Alcohol	2	U	86-73-7	Fluorene	2	U
5-50-1	1,2-Dichlorobenzene	2	U	100-01-6	4-Nitroaniline	~~10~~	U R
5-48-7	2-Methylphenol	2	U	534-52-1	4,6-Dinitro-2-Methylphenol	10	U J
39638-32-9	bis(2-Chloroisopropyl)Ether	2	U J	86-30-6	N-Nitrosodiphenylamine (1)	2	U
106-44-5	4-Methylphenol	2	U	101-55-3	4-Bromophenyl-phenylether	2	U
21-64-7	N-Nitroso-Di-n-Propylamine	2	U	118-74-1	Hexachlorobenzene	2	U
7-72-1	Hexachloroethane	2	U	87-86-5	Pentachlorophenol	10	U J
98-95-3	Nitrobenzene	2	U	85-01-8	Phenanthrene	2	U
8-59-1	Isophorone	2	U J	120-12-7	Anthracene	2	U
8-75-5	2-Nitrophenol	2	U	86-74-8	9h-Carbazole	2	U
-67-9	2,4-Dimethylphenol	2	U	84-74-2	Di-n-Butylphthalate	2	U
-85-0	Benzoic Acid	10	U J	206-44-0	Fluoranthene	2	U
11-91-1	bis(2-Chloroethoxy)Methane	2	U	129-00-0	Pyrene	2	U
120-83-2	2,4-Dichlorophenol	2	U	483-65-8	Retene	2	U J
120-82-1	1,2,4-Trichlorobenzene	2	U	85-68-7	Butylbenzylphthalate	2	U
1-20-3	Naphthalene	2	U	91-94-1	3,3'-Dichlorobenzidine	4	U
06-47-8	4-Chloroaniline	~~2~~	~~U~~ R	56-55-3	Benzo(a)Anthracene	2	U
87-68-3	Hexachlorobutadiene	2	U	117-81-7	bis(2-Ethylhexyl)Phthalate	10	~~B~~
9-50-7	4-Chloro-3-Methylphenol	2	U	218-01-9	Chrysene	2	U
1-57-6	2-Methylnaphthalene	2	U	117-84-0	Di-n-Octyl Phthalate	2	U
90-12-0	1-Methylnaphthalene	2	U	205-99-2	Benzo(b)Fluoranthene	2	U
77-47-4	Hexachlorocyclopentadiene	2	U J	207-08-9	Benzo(k)Fluoranthene	2	U
3-06-2	2,4,6-Trichlorophenol	2	U	50-32-8	Benzo(a)Pyrene	2	U
5-95-4	2,4,5-Trichlorophenol	10	U	193-39-5	Indeno(1,2,3-cd)Pyrene	2	U
91-58-7	2-Chloronaphthalene	2	U	53-70-3	Dibenz(a,h)Anthracene	2	U
3-74-4	2-Nitroaniline	~~10~~	~~U~~ R	191-24-2	Benzo(g,h,i)Perylene	2	U
31-11-3	Dimethyl Phthalate	2	U		Nitrobenzene-d5 (SS)	~~9~~	~~B~~ 46%
208-96-8	Acenaphthylene	2	U	11-11-111	2-Fluorobiphenyl (SS)	~~6~~	~~B~~ 31%
9-09-2	3-Nitroaniline	~~10~~	~~U~~ R		Terphenyl-d14 (SS)	~~18~~	~~B~~ 85%
3-32-9	Acenaphthene	2	U	200-00-1	Pyrene-D10 (SS)	~~16~~	~~B~~ 80%
51-28-5	2,4-Dinitrophenol	10	U J		Phenol-d5 (SS)	~~5~~	~~B~~ 23%
100-02-7	4-Nitrophenol	10	U J		2-Fluorophenol (SS)	~~12~~	~~B~~ 57%
					2,4,6-Tribromophenol (SS)		

(1) - Cannot be separated from diphenylamine

Form I

DKP
11-16-89

Name: MANCHESTER LAB
TEC-449A/10[illegible]

Sample Number
89134612

TENTATIVELY IDENTIFIED COMPOUNDS
(Page 4)

	CAS Number	Compound Name	Fraction	Scan Num	Estimated Conc ug/L
1		C130 D4-1,4-DICHLOROBENZENE (IS-1)	BNA		~~17 J~~
2		C140 D8-NAPHTHALENE (IS-2)	BNA		~~17 J~~
3		C150 D10-ACENAPHTHENE (IS-3)	BNA		~~17 J~~
4		C160 D10-PHENANTHRENE (IS-4)	BNA		~~17 J~~
5		C170 D12-CHRYSENE (IS-5)	BNA		~~17 J~~
6		C175 D12-PERYLENE (IS-6)	BNA		~~17 J~~
7	123-42-2	4-HYDROXY-4-METHYLPENTAN-2-ONE	BNA		~~17 J~~
8	103-23-1	HEXANEDIOIC ACID, BIS(2-ETHYLHEXYL) ESTER	BNA		82 U ~~J~~
			BNA		19 U ~~J~~

No volatile compounds found.

DKP
11-16-9

See page 1A for complete definitions of the data reporting qualifiers.

Form I

05089901.03

y Name: MANCHESTER LAB
TEC-449A/10

Sample Number
89134613

ORGANICS ANALYSIS DATA SHEET
(Page 2)

SEMIVOLATILE COMPOUNDS

Concentration: LOW
Date Extracted/Prepared: 03/30/89
Date Analyzed: 04/13/89
Conc Factor: 4.587156
Percent Moisture: (Decanted)

GPC Cleanup ___ Yes X No
Separatory Funnel Extraction ___ Yes
Continuous Liquid-Liquid Extraction ___ Yes

CAS Number		ug/L		CAS Number		ug/L	
108-95-2	Phenol	2	U	132-64-9	Dibenzofuran	2	U
111-44-4	bis(2-Chloroethyl)Ether	2	U	121-14-2	2,4-Dinitrotoluene	2	U
95-57-8	2-Chlorophenol	2	U	606-20-2	2,6-Dinitrotoluene	2	U
541-73-1	1,3-Dichlorobenzene	2	U	84-66-2	Diethylphthalate	2	U
106-46-7	1,4-Dichlorobenzene	2	U	7005-72-3	4-Chlorophenyl-phenylether	2	U
100-51-6	Benzyl Alcohol	2	U	86-73-7	Fluorene	2	U
95-50-1	1,2-Dichlorobenzene	2	U	100-01-6	4-Nitroaniline	~~11~~	~~U~~ R
95-48-7	2-Methylphenol	2	U	534-52-1	4,6-Dinitro-2-Methylphenol	11	U
39638-32-9	bis(2-Chloroisopropyl)Ether	2	U	86-30-6	N-Nitrosodiphenylamine (1)	2	U
106-44-5	4-Methylphenol	2	U	101-55-3	4-Bromophenyl-phenylether	2	U
621-64-7	N-Nitroso-Di-n-Propylamine	2	U	118-74-1	Hexachlorobenzene	2	U
67-72-1	Hexachloroethane	2	U	87-86-5	Pentachlorophenol	11	U
98-95-3	Nitrobenzene	2	U	85-01-8	Phenanthrene	2	U
78-59-1	Isophorone	2	U	120-12-7	Anthracene	2	U
88-75-5	2-Nitrophenol	2	U	86-74-8	9h-Carbazole	2	U
105-67-9	2,4-Dimethylphenol	2	U	84-74-2	Di-n-Butylphthalate	2	U
65-85-0	Benzoic Acid	11	U	206-44-0	Fluoranthene	2	U
111-91-1	bis(2-Chloroethoxy)Methane	2	U	129-00-0	Pyrene	2	U
120-83-2	2,4-Dichlorophenol	2	U	483-65-8	Retene	2	U
120-82-1	1,2,4-Trichlorobenzene	2	U	85-68-7	Butylbenzylphthalate	2	U
91-20-3	Naphthalene	2	U	91-94-1	3,3'-Dichlorobenzidine	4	U
106-47-8	4-Chloroaniline	~~2~~	~~U~~ R	56-55-3	Benzo(a)Anthracene	2	U
87-68-3	Hexachlorobutadiene	2	U	117-81-7	bis(2-Ethylhexyl)Phthalate	44	~~B~~
59-50-7	4-Chloro-3-Methylphenol	2	U	218-01-9	Chrysene	2	U
91-57-6	2-Methylnaphthalene	2	U	117-84-0	Di-n-Octyl Phthalate	2	~~J~~
90-12-0	1-Methylnaphthalene	2	U	205-99-2	Benzo(b)Fluoranthene	2	U
77-47-4	Hexachlorocyclopentadiene	2	U	207-08-9	Benzo(k)Fluoranthene	2	U
88-06-2	2,4,6-Trichlorophenol	2	U	50-32-8	Benzo(a)Pyrene	2	U
95-95-4	2,4,5-Trichlorophenol	11	U	193-39-5	Indeno(1,2,3-cd)Pyrene	2	U
91-58-7	2-Chloronaphthalene	2	U	53-70-3	Dibenz(a,h)Anthracene	2	U
88-74-4	2-Nitroaniline	~~11~~	~~U~~ R	191-24-2	Benzo(g,h,i)Perylene	2	U
131-11-3	Dimethyl Phthalate	2	U		Nitrobenzene-d5 (SS)	~~9~~	~~B~~ 40%
208-96-8	Acenaphthylene	2	U	11-11-111	2-Fluorobiphenyl (SS)	~~8~~	~~B~~ 36%
99-09-2	3-Nitroaniline	~~11~~	~~U~~ R		Terphenyl-d14 (SS)	~~16~~	~~B~~ 74%
83-32-9	Acenaphthene	2	U	200-00-1	Pyrene-D10 (SS)	~~15~~	~~B~~ 68%
51-28-5	2,4-Dinitrophenol	11	U		Phenol-d5 (SS)	~~4~~	~~B~~ 21%
100-02-7	4-Nitrophenol	11	U		2-Fluorophenol (SS)	~~12~~	~~B~~ 57%
					2,4,6-Tribromophenol (SS)		

(1) - Cannot be separated from diphenylamine

Form I

GBP
11-16-89

y Name: MANCHESTER LAB

TEC-449A/10

ecology and environment

Sample Number
89134613

recycled paper

TENTATIVELY IDENTIFIED COMPOUNDS
(Page 4)

	CAS Number	Compound Name	Fraction	Scan Num	Estimated Conc ug/L
1		C130 D4-1,4-DICHLOROBENZENE (IS-1)	BNA		~~17~~ J
2		C140 D8-NAPHTHALENE (IS-2)	BNA		~~17~~ J
3		C150 D10-ACENAPHTHENE (IS-3)	BNA		~~17~~ J
4		C160 D10-PHENANTHRENE (IS-4)	BNA		~~17~~ J
5		C170 D12-CHRYSENE (IS-5)	BNA		~~17~~ J
6		C175 D12-PERYLENE (IS-6)	BNA		~~17~~ J
7	123-42-2	4-HYDROXY-4-METHYLPENTAN-2-ONE	BNA		120 U ~~J~~
8	103-23-1	HEXANEDIOIC ACID, BIS(2-ETHYLHEXYL) ESTER	BNA		1400 U ~~J~~

No volatile compounds found.

DKP
11-16-89

See page 1A for complete definitions of the data reporting qualifiers.

Form I

050899O1·04

Project: TEC-449A CMX CORPORATION Officer: TET Account: FA10PUZZ

Laboratory: EPA, Manchester

Sample No: 89 134610 Description: CMX W1 Source: Well (General)

Begin Date: 89/03/27 :

End Date: 89/03/27 : Comp: Freq:

Pest/PCB - PP Scan *** Continued ***	Water-Total Result	Units
PCB - 1016	0.102U	ug/l
beta-Endosulfan	0.004U	ug/l
PCB - 1242	0.102U	ug/l
IntStd: Hexabromobenze+	91.0	% Recov
IntStd: 4,4-Dibromooct+	94.3	% Recov

Pest/PCB - PP Scan	Water-Total Result	Units
4,4'-DDT	0.004U	ug/l
Chlordane	0.004U	ug/l
gamma-BHC (Lindane)	0.009 *	ug/l
Dieldrin	0.004U	ug/l
Endrin	0.004U	ug/l
Methoxychlor	0.004U	ug/l
4,4'-DDD	0.004U	ug/l
4,4'-DDE	0.004U	ug/l
Heptachlor	0.004U	ug/l
Aldrin	0.004U	ug/l
alpha-BHC	0.004U	ug/l
beta-BHC	0.004U	ug/l
delta-BHC	0.004U	ug/l
alpha-Endosulfan	0.004U	ug/l
Heptachlor epoxide	0.004U	ug/l
Endosulfan sulfate	0.004U	ug/l
Endrin aldehyde	0.004U	ug/l
Toxaphene	0.406U	ug/l
PCB - 1260	0.102U	ug/l
PCB - 1254	0.102U	ug/l
PCB - 1221	0.102U	ug/l
PCB - 1232	0.102U	ug/l
PCB - 1248	0.102U	ug/l

(Sample Complete)

Project: TEC-449A CMX CORPORATION Officer: TET Account: FA10PUZZ

Laboratory: EPA, Manchester

Sample No: 89 134611 Description: CMX W2 Source: Well (General)

Begin Date: 89/03/27 :

End Date: 89/03/27 : Comp: Freq:

Comment: ONE 40ml CONTAINER ARRIVED BROKEN

Pest/PCB - PP Scan	Water-Total Result	Units
4,4'-DDT	0.004U	ug/l
Chlordane	0.004U	ug/l
gamma-BHC (Lindane)	0.004U	ug/l
Dieldrin	0.004U	ug/l
Endrin	0.004U	ug/l
Methoxychlor	0.004U	ug/l
4,4'-DDD	0.004U	ug/l
4,4'-DDE	0.004U	ug/l
Heptachlor	0.004U	ug/l
Aldrin	0.004U	ug/l
alpha-BHC	0.004U	ug/l
beta-BHC	0.004U	ug/l
delta-BHC	0.004U	ug/l
alpha-Endosulfan	0.004U	ug/l
Heptachlor epoxide	0.004U	ug/l
Endosulfan sulfate	0.004U	ug/l
Endrin aldehyde	0.004U	ug/l
Toxaphene	0.420U	ug/l
PCB - 1260	0.106U	ug/l
PCB - 1254	0.106U	ug/l
PCB - 1221	0.106U	ug/l
PCB - 1232	0.106U	ug/l
PCB - 1248	0.106U	ug/l
PCB - 1016	0.106U	ug/l
beta-Endosulfan	0.004U	ug/l
PCB - 1242	0.106U	ug/l
IntStd: Hexabromobenze+	91.0	% Recov
IntStd: 4,4-Dibromooct+	76.4	% Recov

Pest/PCB - PP Scan Matrix Spike #1	Water-Total Result	Units
4,4'-DDT	103.3	% Recov
Chlordane	NAR	% Recov
gamma-BHC (Lindane)	87.4	% Recov
Dieldrin	100.6	% Recov
Endrin	101.2	% Recov

Pest/PCB - PP Scan *** Continued *** Matrix Spike #1	Water-Total Result	Units
Methoxychlor	97.7	% Recov
4,4'-DDD	100.5	% Recov
4,4'-DDE	96.5	% Recov
Heptachlor	81.0	% Recov
Aldrin	79.7	% Recov
alpha-BHC	87.8	% Recov
beta-BHC	100.1	% Recov
delta-BHC	71.1	% Recov
alpha-Endosulfan	92.1	% Recov
Heptachlor epoxide	90.9	% Recov
Endosulfan sulfate	96.2	% Recov
Endrin aldehyde	99.8	% Recov
Toxaphene	NAR	% Recov
PCB - 1260	NAR	% Recov
PCB - 1254	NAR	% Recov
PCB - 1221	NAR	% Recov
PCB - 1232	NAR	% Recov
PCB - 1248	NAR	% Recov
PCB - 1016	NAR	% Recov
beta-Endosulfan	92.4	% Recov
PCB - 1242	NAR	% Recov
IntStd: Hexabromobenze+	95	% Recov
IntStd: 4,4-Dibromooct+	90	% Recov

Pest/PCB - PP Scan Matrix Spike #2	Water-Total Result	Units
4,4'-DDT	97.7	% Recov
Chlordane	NAR	% Recov
gamma-BHC (Lindane)	79.7	% Recov
Dieldrin	93.4	% Recov
Endrin	95.6	% Recov
Methoxychlor	104.2	% Recov
4,4'-DDD	97.5	% Recov
4,4'-DDE	94.7	% Recov
Heptachlor	69.8	% Recov
Aldrin	67.7	% Recov
alpha-BHC	76.0	% Recov
beta-BHC	95.6	% Recov
delta-BHC	64.7	% Recov
alpha-Endosulfan	86.0	% Recov
Heptachlor epoxide	83.1	% Recov
Endosulfan sulfate	101.9	% Recov

(Continued on next page)

Project: TEC-449A CMX.CORPORATION Officer: TET Account: FA10PUZZ

Laboratory: EPA, Manchester

Sample No: 89 134611 Description: CMX W2 Source: Well (General)

Begin Date: 89/03/27 :

End Date: 89/03/27 : Comp: Freq:

Comment: ONE 40ml CONTAINER ARRIVED BROKEN

Pest/PCB - PP Scan *** Continued *** Matrix Spike #2	Water-Total Result	Units
Endrin aldehyde	105.6	% Recov
Toxaphene	NAR	% Recov
PCB - 1260	NAR	% Recov
PCB - 1254	NAR	% Recov
PCB - 1221	NAR	% Recov
PCB - 1232	NAR	% Recov
PCB - 1248	NAR	% Recov
PCB - 1016	NAR	% Recov
beta-Endosulfan	88.2	% Recov
PCB - 1242	NAR	% Recov
IntStd: Hexabromobenze+	66	% Recov
IntStd: 4,4-Dibromooct+	57	% Recov

(Sample Complete)

Project: TEC-449A CMX CORPORATION Officer: TET Account: FA10PUZZ

Laboratory: EPA, Manchester

Sample No: 89 134612 Description: CMX W3 Source: Well (General)

Begin Date: 89/03/27 :

End Date: 89/03/27 : Comp: Freq:

	Pest/PCB - PP Scan *** Continued ***	Water-Total Result	Units
	PCB - 1016	0.104U	ug/l
	beta-Endosulfan	0.004U	ug/l
	PCB - 1242	0.104U	ug/l
ov	IntStd: Hexabromobenze+	90.8	% Recov
ov	IntStd: 4,4-Dibromooct+	93.9	% Recov
ov			
ov			
ov			
ov			

Pest/PCB - PP Scan	Water-Total Result	Units
4,4'-DDT	0.004U	ug/l
Chlordane	0.004U	ug/l
gamma-BHC (Lindane)	0.004U	ug/l
Dieldrin	0.004U	ug/l
Endrin	0.004U	ug/l
Methoxychlor	0.004U	ug/l
4,4'-DDD	0.004U	ug/l
4,4'-DDE	0.004U	ug/l
Heptachlor	0.004U	ug/l
Aldrin	0.004U	ug/l
alpha-BHC	0.004U	ug/l
beta-BHC	0.004U	ug/l
delta-BHC	0.004U	ug/l
alpha-Endosulfan	0.004U	ug/l
Heptachlor epoxide	0.004U	ug/l
Endosulfan sulfate	0.004U	ug/l
Endrin aldehyde	0.004U	ug/l
Toxaphene	0.414U	ug/l
PCB - 1260	0.104U	ug/l
PCB - 1254	0.104U	ug/l
PCB - 1221	0.104U	ug/l
PCB - 1232	0.104U	ug/l
PCB - 1248	0.104U	ug/l

(Sample Complete)

Environmental Services Assistance Team – Zone II

ICF Technology, Inc.

NSI Technology Services, Corp.

The Bionetics Corp.

ESAT Region X
The Bionetics Corp.
7411 Beach Drive East
Port Orchard, WA 98366
(206) 442-1189

MEMORANDUM

DATE: June 16, 1989

TO: Rhonda Wregglesworth, RSCC, USEPA, Region 10

FOR: File

THRU: William Scheidler, ETM, ESAT, Region 10
Joseph N. Blazevich, GC/MS Section Chief, USEPA, Region 10

FROM: John Alexander, Junior Organic Chemist, ESAT, Region 10

SUBJ: CMX Sediment Samples - VOA

CC: Gerald Muth, DPO, USEPA, Region 10
Deborah Flood, HWD-SM,USEPA, Region 10
Steve Pope, GC/MS Chemist, USEPA, Region 10
Jerry Lee, E & E Laboratory, Seattle

The following is a QA review of the CMX sediment sample VOA analysis performed at the Manchester Laboratory. This review covers the following samples:

89134614	89134619
89134615	89134620
89134616	89134616Y
89134617	89134616Z
89134618	

The project code for these samples is TEC-449A and the account number for these samples is FA10PUZZ.

Analysis reviewed: VOA sediments

Project: TEC-449A CMX CORPORATION

Officer: TET Account: FA10PUZZ

Laboratory: EPA, Manchester

Sample No: 89 134613 Description: CMX W4

Source: Well (General)

Begin Date: 89/03/27 :

End Date: 89/03/27 :

Comp: Freq:

Pest/PCB - PP Scan *** Continued ***	Water-Total Result	Units
PCB - 1016	0.110U	ug/l
beta-Endosulfan	0.004U	ug/l
PCB - 1242	0.110U	ug/l
IntStd: Hexabromobenze+	97.7	% Recov
IntStd: 4,4-Dibromooct+	93.8	% Recov

Pest/PCB - PP Scan	Water-Total Result	Units
4,4'-DDT	0.004U	ug/l
Chlordane	0.004U	ug/l
gamma-BHC (Lindane)	0.004U	ug/l
Dieldrin	0.004U	ug/l
Endrin	0.004U	ug/l
Methoxychlor	0.004U	ug/l
4,4'-DDD	0.004U	ug/l
4,4'-DDE	0.004U	ug/l
Heptachlor	0.004U	ug/l
Aldrin	0.004U	ug/l
alpha-BHC	0.004U	ug/l
beta-BHC	0.004U	ug/l
delta-BHC	0.004U	ug/l
alpha-Endosulfan	0.004U	ug/l
Heptachlor epoxide	0.004U	ug/l
Endosulfan sulfate	0.004U	ug/l
Endrin aldehyde	0.004U	ug/l
Toxaphene	0.436 *	ug/l
PCB - 1260	0.110U	ug/l
PCB - 1254	0.110U	ug/l
PCB - 1221	0.110U	ug/l
PCB - 1232	0.110U	ug/l
PCB - 1248	0.110U	ug/l

(Sample Complete)

I. Holding Times: Acceptable

Sample #	Collection Date	Analysis Date	Days to Analysis
89134614	3/29/89	4/10/89	12
89134615	3/29/89	4/10/89	12
89134616	3/29/89	4/10/89	12
89134617	3/29/89	4/10/89	12
89134618	3/29/89	4/10/89	12
89134619	3/29/89	4/10/89	12
89134620	3/29/89	4/10/89	12
89134616Y	3/29/89	4/12/89	14
89134616Z	3/29/89	4/12/89	14

There are currently no CLP specified guidelines for holding times of sediments for volatile analysis. However, holding times for this analysis do fall within the 14 day limit suggested by SW-846.

II. GC/MS Tuning: Acceptable

All peaks in the Bromofluorobenzene (BFB) tune were within functional guideline limits for percent ion abundance of the base peak.

III. Initial Calibration

Functional guideline criteria for initial instrument calibration requires that all average Relative Response Factors for TCL compounds must be $\geq$ 0.05 and all Percent Relative Standard Deviations (%RSD) of $\leq$ 30% for five response factors.

All compounds met minimum response factor criteria. One compound, Trichlorofluoromethane, had a 57% RSD. All positive results for this compound are qualified as estimates (J).

IV. Continuing Calibration

Functional guideline criteria for continuing instrument calibration requires that all average Relative Response Factors for TCL compounds must be $\geq$ 0.05 and continuing calibration average response factors must not exceed 25% Difference of initial response factors.

All compounds met minimum response factor criteria. The following compounds did not meet % Difference criteria:

DATE	COMPOUND	% Difference
4/10/89	Trichlorofluoromethane	68%
4/10/89	1,1,1 - Trichloroethane	37%
4/10/89	Carbon Tetrachloride	34%
4/12/89	Trichlorofluoromethane	82%

All positive results for Trichlorofluoromethane, 1,1,1 - Trichloroethane, and Carbon Tetrachloride in samples analyzed on 4/10/89 are qualified as estimates (J). All positive results for Trichlorofluoromethane in samples analyzed on 4/12/89 are qualified as estimates (J).

V. Blanks

Common laboratory contaminants were found in the blank run at low levels. No compound in the blank satisfied the 5x or 10x rule in any sample as stated in the functional guidelines. All compounds found in the blank are qualified as non-detected compounds in the samples.

VI. Surrogate Recovery

Sample number 89134620 had one surrogate, D8-Toluene, with a recovery of 124% which was outside of the specified QC limit of 117%. The surrogate recovery value was judged to be high due to a lower than acceptable area count in the associated internal standard (see Section VII below). Those target compounds associated with the internal standard D5-Chlorobenzene in sample 89134620 will be qualified (J) estimated quantity and negative values as (UJ).

VII. Matrix Spike and Matrix Spike Duplicate: Acceptable

VIII. Internal Standards Performance

Sample number 89134620 had one internal standard, D5-Chlorobenzene, with an area count 68% lower than that of the associated calibration standard. Guidelines allow area counts to vary a factor of two (- 50% to + 100%) of the internal standard in calibration. All positive values are qualified as estimates (J) and all non-detected compounds qualified as (UJ).

IX. TCL Compound Identification: Acceptable

X. Compound Quantitation and Reported Detection Limits: Acceptable

XI. Tentatively Identified Compounds: Acceptable

XII. System Performance: Acceptable

XIII. Data Summary

The usefulness of the data is based on the criteria outlined in the "Laboratory Data Validation Function Guidelines for Evaluating Organics and Pesticides/PCB Analyses" (May 1988).

On the basis of %RSD of response factors in Initial Calibration and % Difference in continuing calibrations, all positive results for Trichlorofluoromethane are qualified as estimates (J).

On the basis of % Difference between Initial and Continuing calibration, the compounds 1,1,1-Trichloroethane and Carbon Tetrachloride in samples analyzed on 4/10/89 are qualified as estimates (J).

On the basis of contamination in the blanks, all compounds found in the blank will be qualified as non-detected in (U) compounds in the samples.

On the basis of poor internal standard performance of D5-Chlorobenzene in sample 89134620, compounds associated with the internal standard are qualified as estimates (J) for positive values and non-detected compounds qualified as estimates (UJ).

DATA QUALIFIERS

U	-	The material was analyzed for but was not detected. The associated numerical value is an estimated sample quantitation limit.
J	-	The associated numerical value is an estimated quantity.
R	-	The data are unusable (compound may or may not be present). Resampling and reanalysis is necessary for verification.
N	-	Presumptive evidence of presence of material.
JN	-	Presumptive evidence of the presence of the material at an estimated quantity.
UJ	-	The material was analyzed for, but was not detected. The sample quantitation limit is an estimated quantity.

U.S. ENVIRONMENTAL PROTECTION AGENCY

Environmental Services Assistance Team – Zone II

ICF Technology, Inc.

NSI Technology Services, Corp.

The Bionetics Corp.

ESAT Region X
The Bionetics Corp.
7411 Beach Drive East
Port Orchard, WA 98366
(206) 442-1189

MEMORANDUM

DATE: July 6, 1989

TO: Rhonda Wregglesworth, RSCC, USEPA, Region 10

FOR: File

THRU: William Scheidler, ETM, ESAT, Region 10
Joseph N. Blazevich, GC/MS Section Chief, USEPA, Region 10

FROM: John Alexander, Junior Organic Chemist, ESAT, Region 10

SUBJ: CMX Corporation sediment samples - BNA

cc: Deborah Flood, HWD, USEPA, Region 10
Gerald Muth, DPO, USEPA, Region 10
Jerry Lee, Ecology and Environment, Seattle

The following is a QA review of the CMX Corporation sediment sample BNA analysis performed at the Manchester Laboratory. This review covers the following samples:

89134614	89134616	89134618	89134620
89134615	89134617	89134619	

The project code for these samples is TEC-449A and the account number for these samples is FA10PUZZ.

Analysis reviewed: Base Neutral Acid extractables by GC/MS

I. Holding Times: Acceptable.

Sample #	Collection Date	Extraction Date	Analysis Date	Days to Extraction	Days to Analysis
89134614	3/27/89	3/29/89	4/25/89	2	27
89134615	3/27/89	3/29/89	4/25/89	2	27
89134616	3/27/89	3/29/89	4/25/89	2	27
89134617	3/27/89	3/29/89	4/25/89	2	27
89134618	3/27/89	3/29/89	4/26/89	2	28
89134619	3/27/89	3/29/89	4/26/89	2	28
89134620	3/27/89	3/29/89	5/08/89	2	40

II. GC/MS Instrument Tuning: Acceptable

The mass assignment, ion abundance and dates of instrument tuning are acceptable.

III. Initial Calibration: Acceptable.

Two instruments were calibrated and employed in the analysis. The initial calibration for Instrument 1 performed 04/24/89 meets or exceeds the criterion for minimum response factor of 0.05 for all analytes without exceptions. The compounds 2-Nitroaniline, 3-Nitroaniline, and 4-Nitroaniline were not added to this standard calibration sample. In addition, the percent relative standard deviation for the five level calibration response factors were less than 30% for all analytes except the following:

Compound	% RSD	Compound	% RSD
4-Chloroaniline	44.2	d4-4-Chloroaniline	67.3
2,4-Dinitrophenol	34.6		

For samples W89134614 thru W89134619, W89134619Y, and W89134619Z analyzed by Instrument 1, positive and non-detect results for these compounds are flagged (J) and (UJ) respectively. All results for 2-Nitroaniline, 3-Nitroaniline, and 4-Nitroaniline in these samples are flagged (R).

The initial calibration for Instrument 2 performed on 04/25/89 meets or exceeds the criterion for minimum response factor of 0.05 for all analytes without exception. The compounds 2-Nitroaniline, 3-Nitroaniline, and 4-Nitroaniline were not added to this standard calibration sample. In addition, the percent relative standard deviation for the five level calibration response factors were less than 30% for all analytes except the following:

Compound	% RSD	Compound	% RSD
Benzoic acid	38.1	2,4-Dinitrophenol	51.4
4,6-Dinitro-2-Methylphenol	30.2	9h-Carbazole	33.5

For sample E89134620R analyzed by Instrument 2, positive and non-detect results for these compounds are flagged (J) and (UJ) respectively. All results for 2-Nitroaniline, 3-Nitroaniline, and 4-Nitroaniline in this sample are flagged (R).

IV. Continuing Calibration: Acceptable.

The continuing calibration standard for Instrument 1 run on 04/25/89 meet or exceed the criterion for minimum response factor of 0.05 for all analytes. The compounds 2-Nitroaniline, 3-Nitroaniline, and 4-Nitroaniline were not added to the calibration standard.

The continuing calibration standards, as compared to the initial calibration standards, meet the maximum allowable % difference of (+/-) 25% for all analytes except the following:

Compound	%D	Compound	%D
Benzyl alcohol	-88.6	Hexachlorobenzene	30.1
Hexachlorobutadiene	36.5	bis(2-Ethylhexyl)phthalate	-57.8
Hexachlorocyclopentadiene	30.8	Butylbenzylphthalate	-61.2
Di-n-Butylphthalate	-28.3	Benzo(k)Fluoranthene	-26.8
		Di-n-Octyl Phthalate	-57.8

For samples W89134614 thru W89134617 analyzed on Instrument 1, all positive and non-detect results for these compounds are flagged (J) and (UJ) respectively. All results for 2-Nitroaniline, 3-Nitroaniline, and 4-Nitroaniline are flagged R.

The continuing calibration standard for Instrument 1 run on 04/26/89 meet or exceed the criterion for minimum response factor of 0.05 for all analytes except Benzyl Alcohol, which was not detected. The compounds 2-Nitroaniline, 3-Nitroaniline, and 4-Nitroaniline were not added to the calibration standard.

The continuing calibration standards, as compared to the initial calibration standards, meet the maximum allowable % difference of (+/-) 25% for all analytes except the following:

Compound	%D	Compound	%D
2-Methylphenol	-40.0	4-Nitrophenol	-47.5
4-Chloroaniline	57.6	N-Nitrosodiphenylamine	37.1
2,4,5-Trichlorophenol	-41.3	Di-n-Octyl Phthalate	25.8
2,4-Dinitrotoluene	-31.8		

For samples W89134618, W89134619, W89134619Y, and W89134619Z analyzed on Instrument 1, all positive and non-detect results for these compounds are flagged (J) and (UJ) respectively. All results for Benzyl Alcohol, 2-Nitroaniline, 3-Nitroaniline, and 4-Nitroaniline are flagged (R).

The continuing calibration standard for Instrument 2 run on 05/08/89 meet or exceed the criterion for minimum response factor of 0.05 for all analytes except Benzyl Alcohol, which was not detected. The compounds 2-Nitroaniline, 3-Nitroaniline, and 4-Nitroaniline were not added to the calibration standard.

IV. Continuing Calibration: (continued)

The continuing calibration standards, as compared to the initial calibration standards, meet the maximum allowable % difference of (+/-) 25% for all analytes except the following:

Compound	%D	Compound	%D
bis(2-Chloroisopropyl)ether	30.3	4-Nitrophenol	61.2
Hexachlorocyclopentadiene	31.5	9h-Carbazole	42.6
Butylbenzylphthalate	-25.3	3,3-Dichlorobenzidine	36.3
bis(2-Ethylhexyl)phthalate	-34.9	Di-n-Octylphthalate	-38.8

For sample E89134620R analyzed on Instrument 2, all positive and non-detect results for these compounds are flagged (J) and (UJ) respectively. All results for Benzyl Alcohol, 2-Nitroaniline, 3-Nitroaniline, and 4-Nitroaniline are flagged (R).

V. Blanks

The following Target List Compounds were found in the method blank analysis:

bis(2-Ethylhexyl)phthalate
Di-n-Octylphthalate

No sample result exceeded the 10x rule for common phthalates specified in CLP guidelines. The sample results are qualified as non-detected (U), at the sample quantitation limit or sample concentration, whichever is the greater value.

The following Tentatively Identified Compounds were present in the method blanks:

4-Methyl-3-Penten-2-one
4-Penten-2-one
4-Hydroxy-4-Methyl-2-Pentanone
2-Methyl-Octane
3-Methyl-Octane
Hexanedioic Acid, bis(2-Ethylhexyl)ester

No sample results exceeded the 5x rule specified in CLP guidelines. The sample results for these compounds are qualified as non-detected (U).

VI. Surrogate Recovery: Acceptable

VII. Matrix Spike/ Matrix Spike Duplicate: Acceptable

VIII. Internal Standards: Acceptable

IX. TCL Compound Identification: Acceptable

X. Compound Quantitation and Reported Detection Limits: Acceptable

XI. Tentatively Identified Compounds: Acceptable

XI. Data Summary

On the basis of Initial and Continuing Calibration the compounds 2-Nitroaniline, 3-Nitroaniline, and 3-Nitroaniline are flagged (R) for all values in all samples.

On the basis of Initial Calibration the compounds 4-Chloroaniline, 2,4-Dinitrophenol, and D4-4-Chloroaniline are qualified as estimates (J) for positive results and (UJ) for non-detected results in samples W89134614, W89134615, W89134616, W89134617, W89134618, W89134619, W89134619Y, and W89134619Z.

On the basis of Initial Calibration the compounds Benzoic Acid, 4,6-Dinitro-2-Methylphenol, 2,4-Dinitrophenol, and 9h-Carbazole are qualified as estimates (J) for positive results and (UJ) for non-detected results in sample E891346120R.

On the basis of Continuing Calibration, the following compounds are qualified as estimates (J) and (UJ) for positive and non-detect results respectively for samples W89134614, W89134615, W89134616, and W89134617:

Benzyl alcohol	Di-n-Butylphthalate	Butylbenzylphthalate
Hexachlorobutadiene	Hexachlorobenzene	Benzo(k)Fluoranthene
Hexachlorocyclopentadiene	bis(2-Ethylhexyl)phthalate	Di-n-Octyl Phthalate

On the basis of Continuing Calibration, the following compounds are qualified as estimates (J) and (UJ) for positive and non-detect results respectively for samples W89134618, W89134619, W89134619Y, and W89134619Z:

2-Methylphenol	2,4-Dinitrotoluene	N-Nitrosodiphenylamine
4-Chloroaniline	4-Nitrophenol	Di-n-Octyl Phthalate
2,4,5-Trichlorophenol		

On the basis of Continuing Calibration, the following compounds are qualified as estimates (J) and (UJ) for positive and non-detect results respectively for sample E89134620R:

Benzyl alcohol	Butylbenzylphthalate	9h-Carbazole
bis(2-chloroisopropyl)ether	bis(2-Ethylhexyl)phthalate	3,3-Dichlorobenzidine
Hexachlorocyclopentadiene	4-Nitrophenol	Di-n-Octylphthalate

On the basis of Continuing Calibration the compound Benzyl Alcohol is flagged (R) for samples W89134618,W89134619, W89134619Y, W89134619Z, and E89134620R.

On the basis of Method Blank analysis, the following Target List and Tentatively Identified Compounds found in the method blanks are qualified as non-detected (U) in all samples:

bis(2-Ethylhexyl)phthalate	4-Penten-2-one	3-Methyl-Octane
Di-n-Octylphthalate	4-Hydroxy-4-Methyl-2-Pentanone	Hexanedioic Acid, bis(2-Ethylhexyl)ester
4-Methyl-3-Penten-2-one	2-Methyl-Octane	

DATA QUALIFIERS

U	-	The material was analyzed for but was not detected. The associated numerical value is an estimated sample quantitation limit.
J	-	The associated numerical value is an estimated quantity.
R	-	The data are unusable (compound may or may not be present). Resampling and reanalysis is necessary for verification.
N	-	Presumptive evidence of presence of material.
JN	-	Presumptive evidence of the presence of the material at an estimated quantity.
UJ	-	The material was analyzed for, but was not detected. The sample quantitation limit is an estimated quantity.

Tracy Yerington E*E

file

recycled paper

U.S. ENVIRONMENTAL PROTECTION AGENCY

Environmental Services Assistance Team – Zone II

ICF Technology, Inc.

NSI Technology Services, Corp.

The Bionetics Corp.

ESAT Region X
The Bionetics Corp.
7411 Beach Drive East
Port Orchard, WA 98366
(206) 442-1189

REVISED

Memorandum

Date: November 1, 1989

To: Rhonda Wregglesworth, RSSC, USEPA, Region X

For: File

Thru: Bill Scheidler, ETM, ESAT, Region X
Robert Rieck, Section Chief - Pesticides/Inorganics, USEPA, Region X

From: Linda Kempe, Organic Chemist, ESAT, Region X

Subj: CMX Corporation Soil Samples

cc: Deborah Flood, HWD, USEPA, Region X
Barry Towns, QA Officer, USEPA, Region X
Gerry Muth, DPO, USEPA, Region X

We have completed our review of the CMX Corporation soil samples analysis performed at the Manchester Lab. This review covered the following samples:

89134614 89134616 89134618 89134620
89134615 89134617 89134619

Analysis Reviewed: Chlorinated Pesticides/PCB's

I Holding times: Acceptable.

				Maximums 7 days	Maximums 40 days
sample#	collection date	extraction date	analysis date	days to extraction	days to analysis
89134614	3/27/89	3/29/89	4/27/89	2	29
89134615	3/27/89	3/29/89	4/27/89	2	29
89134616	3/27/89	3/29/89	4/27/89	2	29
89134617	3/27/89	3/29/89	4/27/89	2	29
89134618	3/27/89	3/29/89	4/27/89	2	29
89134619	3/27/89	3/29/89	4/27/89	2	29
89134620	3/27/89	3/29/89	4/28/89	2	30

II Chromatographic Performance:

A. DDT resolution: Acceptable. All pesticide components were baseline resolved on both the DB-5 and DB-608 columns.

B. Retention Times: Acceptable. Retention times of all analytes in the continuing calibration standards were within the 1% recovery window calculated from the initial calibration.

C. Surrogate Retention Time: Acceptable. Surrogate retention times were within 1% of the initial calibration times for all samples except 89134620. Sample 89134620 was diluted before analysis and the surrogates were lost through dilution.

III Initial Calibration: Acceptable. Five point calibrations were run for all target compounds. Calculated quadratic correlation coefficients ranged from 0.95-0.98 for the DB-608 column and 0.99 for the DB-5 column. This indicates good response, especially for the DB-5 column.

IV Blanks: Acceptable. Negative results were obtained for all target compounds on both columns and for both blanks.

V Surrogate Recoveries: Acceptable. The recommended surrogate recovery range for soils is from 20%-150%. The surrogate recoveries for the samples ranged from 68%-146%. Because of matrix interferences sample 89134619 is acceptable on the DBFB recovery alone and 89134619W is acceptable on the HBB recovery alone. Sample 89134620 recoveries could not be calculated because of the dilution which was performed prior to analysis.

VI Matrix Spikes: The matrix spike recoveries were acceptable; however, the relative percent difference (RPD) between the matrix spike and matrix spike duplicate is greater than the 15% criteria for all compounds except DDT. The relative percent difference ranged from 4%-57% for the MS and MSD. This indicates a problem with repeatability but does not warrant qualifying the results. These samples may not have been properly homogenized.

VII Data Qualification: The usefulness of the data is based on the criteria outlined in the "Laboratory Data Validation Functional Guidelines for Evaluation of Organic and Pesticide/PCB Analysis (R-582-5-5-010). Positive results for sample 89134620 were qualified as NJ and negative results as UJ due to the presence of interferences from the sample matrix. No other qualifiers are necessary.

Data Qualifier Definitions

For the purposes of this document the following code letters and associated definitions are provided.

U- The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation limit.

J- The associated numerical value is an estimated quantity.

R- The data are unusable (compound may or may not be present). Resampling and reanalysis is necessary for verification.

N- Presumptive evidence of presence of material.

NJ- Presumptive evidence of the presence of the material at an estimated quantity.

UJ- The material was analyzed for, but was not detected. The sample quantitation limit is an estimated quantity.

Sample: 89134614
Method: EP2-608 GC Ext Scan
Project: TEC-449A CMX CORPORATION
Station: _____ Source:(50) Bore Hole Material

Matrix:(40) Sediment
Officer: Flood, Debbie
Account: FA10PUZZ
Field Prep:(__) Unknown

Collected: 89/ 03/ 27
Received: 89/ 03/ 29

Comments: 50% of extract, florisiled 0% and 50% fractions

Extracted: 89/03/29
Analyzed: ~~89/04/10~~ 4/27/89
Reviewed: 5/3/89

Analyst: LK
Reviewer: R. W. Rick

Weight/Volume Extracted: 25.11 g
Percent Solids: 84.1%

Semipolar Column		Nonpolar Column	
Length	30 m	Length	30 m
Packing	DB-608	Packing	DB-5
Temp	200-265 @ 3°/min	Temp	200-265 @ 3°/min
Instru	T-585	Instru	T 585
Detector	Ni 63	Detector	Ni 63

TARGET COMPOUND		SEMIPOLAR COLUMN Vt	Vi	pg.i	ug/Kg	NONPOLAR COLUMN Vt	Vi	pg.i	ug/Kg	REPORTED ug/Kg	CONFIRMED
Aldrin	*	10 ml	4.24	neg	4.70	10 ml	4.24	neg	4.70	4.7 U	
Chlordane	*				12 Ag				12 Ag	12 U	
Dieldrin	*									4.7 U	
4,4'-DDT	*			109	25.8			92.5	21.9	24	
4,4'-DDE	*			142.35	42.1			144.35	42.3	42	
4,4'-DDD	*			23.3	5.52			neg	4.70	4.7 U	
alpha-Endosulfan	*			neg	4.70						
beta-Endosulfan	*										
Endosulfan sulfate	*										
Endrin	*										
Endrin aldehyde	*										
Heptachlor	*										
Heptachlor epoxide	*										
alpha-BHC	*										
beta-BHC	*										
gamma-BHC (Lindane)	*										
delta-BHC	*										
Toxaphene	*				470				470	470 U	
PCB - 1016	*				120				120	120 U	

(Continued on next page)

0601 419-03

TARGET COMPOUND		SEMIPOLAR COLUMN				NONPOLAR COLUMN				REPORTED	CONFIRMED
		Vt	Vi	pg.i	ug/Kg	Vt	Vi	pg.i	ug/Kg	ug/Kg	
PCB - 1221	*	10ml	4µl4	neg	120	10ml	4µl4	neg	120	120U	
PCB - 1232	*										
PCB - 1242	*										
PCB - 1248	*										
PCB - 1254	*										
PCB - 1260	*										
Methoxychlor	*				4.70				4.7	4.7U	
HBB (S.S.) ~~(Inter. Std)~~				99.6				109		104%	
BFB (S.S.)				146				76.4		111%	

(End of Form)

30-MAR-89 11:36 8913.4614

Sample: 89134620
Method: EP2-608 GC Ext Scan
Project: TEC-449A CMX CORPORATION
Station: _____ Source:(44) Sludge (General)

Matrix:(40) Sediment
Officer: Flood, Debbie
Account: FA10PUZZ
Field Prep:(__) Unknown

Collected: 89/ 03/ 27
Received: 89/ 03/ 29
Extracted: 89/03/29
Analyzed: 89/04/28 __:__ Analyst: LLK
Reviewed: 5/3/89 Reviewer: L H. Rich

Comments: 50% of extract, florisiled

Weight/Volume Extracted: 25.86 g
Percent Solids: 45.0%

Semipolar Column: Length 30m Packing DB-608 Temp 200-265 @3°/min Instru T585 Detector Ni 63

Nonpolar Column: Length 30 m Packing DB-5 Temp 200-265 @3°/min Instru T585 Detector Ni 63

TARGET COMPOUND		SEMIPOLAR COLUMN Vt	Vi	pg.i	ug/Kg	NONPOLAR COLUMN Vt	Vi	pg.i	ug/Kg	REPORTED ug/Kg	CONFIRMED
Aldrin	*	100ml	4µl	86	369	100ml	4µl	40.1	172	271 J NJ	LLK
Chlordane	*			Neg	~~86~~ 21 Ag			Neg	~~86~~ 21 Ag	~~86 U~~ 21 U J	
Dieldrin	*			106	455			40.9	174	315 J NJ	LLK
4,4'-DDT	*			150	643			144 41.3	619 710	665 J	
4,4'-DDE	*			125	536			131	563	550 J	
4,4'-DDD	*			84.5	1454			Neg	86	86 U J	
alpha-Endosulfan	*			44.5	191			52.5	225	208 J	
beta-Endosulfan	*			44.5 15.5	229			27.9	120	174 J	
Endosulfan sulfate	*			44.3	761			Neg	86	86 U J	
Endrin	*			131	561			31.2	134	348 J	
ndrin aldehyde	*			32.7	140			36.1	155	148 J	
Heptachlor	*			31.3	147			9.6	41.2	94 J	
Heptachlor epoxide	*			24.6	106			151	646	376 J	
alpha-BHC	*			Neg	86			12.3	21	86 U J	
beta-BHC	*			↓	↓			36.8	158	↓	
gamma-BHC (Lindane)	*			26.3	113			14.5	623	88 J NJ	LLK
delta-BHC	*			Neg	86			10.6	182	86 U J	
Toxaphene	*			↓	8600			Neg	8600	8600 U J	
PCB - 1016	*			↓	2100			↓	2100	2100 U J	

(Continued on next page)

0606-1419-09

TARGET COMPOUND		SEMIPOLAR COLUMN Vt	Vi	pg.i	ug/Kg	NONPOLAR COLUMN Vt	Vi	pg.i	ug/Kg	REPORTED ug/Kg	CONFIRMED
PCB - 1221	*	100ml	4µl	neg	2000	100ml	4µl	neg	2000	2100 U5	
PCB - 1232	*										
PCB - 1242	*										
PCB - 1248	*										
PCB - 1254	*	1	3	274	1157	4000	2900	167	452	4600 2600	4200 X NJ 2100 U5	LLK
PCB - 1260	*										
Methoxychlor	*			433	186			188	807	497 X NJ	LLK
HBB (S.S.) ~~(Inter. Std)~~										*	
BFB (S.S.)										*	
(End of Form)		30-MAR-89 11:36 89134620									

* HBB and BFB lost in the dilution

ECOLOGY & ENVIROMENT, INC.
SAMPLE SUMMARY REPORT
REGION X

Site Name: CMX CORPORATION
TDD: 8901-012 PAN: FWA0565SA
Case #1: 11641 SAS #1: Lab #1: WILSON
Case #2: 11641 SAS #2: Lab #2: EPA

Sample Description	EPA Sample Number	Lab Sample Number	Collection Date	Matrix	Analysis	Lab	Storet
W1	89134610	MJE795	03/27/89	WATER	METALS	1	
W1	89134610	89134610	03/27/89	WATER	FULL ORGANICS	2	
W2	89134611	MJE796	03/27/89	WATER	METALS	1	
W2	89134611	89134611	03/27/89	WATER	FULL ORGANICS	2	
W3	89134612	MJE797	03/27/89	WATER	METALS	1	
W3	89134612	89134612	03/27/89	WATER	FULL ORGANICS	2	
W4	89134613	MJE798	03/27/89	WATER	METALS	1	
W4	89134613	89134613	03/27/89	WATER	FULL ORGANICS	2	
S1A	89134614	MJE799	03/27/89	SOIL	METALS	1	
S1A	89134614	89134614	03/27/89	SOIL	FULL ORGANICS	2	
S1B	89134615	MJE800	03/27/89	SOIL	METALS	1	
S1B	89134615	89134615	03/27/89	SOIL	FULL ORGANICS	2	
S2A	89134616	MJE801	03/27/89	SOIL	METALS	1	
S2A	89134616	89134616	03/27/89	SOIL	FULL ORGANICS	2	
S2B	89134617	MJE802	03/27/89	SOIL	METALS	1	
S2B	89134617	89134617	03/27/89	SOIL	FULL ORGANICS	2	
S3A	89134618	MJE803	03/27/89	SOIL	METALS	1	
S3A	89134618	89134618	03/27/89	SOIL	FULL ORGANICS	2	
S3B	89134619	MJE804	03/27/89	SOIL	METALS	1	
S3B	89134619	89134619	03/27/89	SOIL	FULL ORGANICS	2	
SM	89134620	MJE805A	03/27/89	SOIL	METALS	1	
SM	89134620	89134620	03/27/89	SOIL	FULL ORGANICS	2	

Project: TEC-449A CMX CORPORATION Officer: TET Account: FA10PUZZ

Laboratory: EPA, Manchester

Sample No: 89 134614 Description: CMX 81A Source: Bore Hole Material

Begin Date: 89/03/27 :

VOA - PP Scan (GCMS)	Sediment Result	Units
Carbon Tetrachloride	5U	ug/kg
Acetone	10BU	ug/kg
Chloroform	5U	ug/kg
Benzene	5U	ug/kg
1,1,1-Trichloroethane	5U	ug/kg
Bromomethane	0.8BU	ug/kg
Chloromethane	0.4BU	ug/kg
Dibromomethane	5U	ug/kg
Chloroethane	10U	ug/kg
Vinyl Chloride	10U	ug/kg
Methylene Chloride	2BU	ug/kg
Carbon Disulfide	5BU	ug/kg
Bromoform	5U	ug/kg
Bromodichloromethane	5U	ug/kg
1,1-Dichloroethane	5U	ug/kg
1,1-Dichloroethene	5U	ug/kg
Trichlorofluoromethane	0.2U	ug/kg
Methane, Dichlorodiflu+	3BU	ug/kg
1,2-Dichloropropane	5U	ug/kg
2-Butanone	0.6BU	ug/kg
1,1,2-Trichloroethane	5U	ug/kg
Trichloroethene	5U	ug/kg
ETHANE, 1,1,2,2-TETRAC+	5U	ug/kg
1,2,3-Trichlorobenzene	5U	ug/kg
Hexachlorobutadiene	5U	ug/kg
Naphthalene	5U	ug/kg
Total Xylenes	5U	ug/kg
2-Chlorotoluene	5U	ug/kg
1,2-Dichlorobenzene	5U	ug/kg
1,2,4-Trimethylbenzene	5U	ug/kg
DBCP	5U	ug/kg
1,2,3-Trichloropropane	5U	ug/kg
Tert-Butylbenzene	5U	ug/kg
Isopropylbenzene (Cume+	5U	ug/kg
p-Isopropyltoluene	5U	ug/kg
BENZENE, ETHYL-	5U	ug/kg
BENZENE, ETHENYL-	5U	ug/kg
BENZENE, PROPYL-	5U	ug/kg
Butylbenzene	5U	ug/kg
4-Chlorotoluene	5U	ug/kg
1,4-Dichlorobenzene	5U	ug/kg
1,2-Dibromoethane (EDB)	10U	ug/kg
1,2-Dichloroethane	5U	ug/kg
Vinyl Acetate	10U	ug/kg
4-Methyl-2-Pentanone	10U	ug/kg

VOA - PP Scan (GCMS) *** Continued ***	Sediment Result	Units
1,3,5-Trimethylbenzene	5U	ug/kg
Bromobenzene	5U	ug/kg
Toluene	5U	ug/kg
Chlorobenzene	5U	ug/kg
1,2,4-Trichlorobenzene	5U	ug/kg
Dibromochloromethane	5U	ug/kg
Tetrachloroethene	5U	ug/kg
Sec-Butylbenzene	5U	ug/kg
1,3-Dichloropropane	5U	ug/kg
Cis-1,2-Dichloroethene	5U	ug/kg
trans-1,2-Dichloroethe+	5U	ug/kg
1,3-Dichlorobenzene	5U	ug/kg
1,1-Dichloropropene	5U	ug/kg
2,2-Dichloropropane	5U	ug/kg
2-Hexanone	10U	ug/kg
Ethane, 1,1,1,2-Tetrac+	5U	ug/kg
cis-1,3-Dichloropropene	5U	ug/kg
trans-1,3-Dichloroprop+	5U	ug/kg
Surrog: D4-1,2-Dichlor+	98	% Recov
Surrog: 1,4-Bromofluor+	91	% Recov
Surrog: D8-Toluene	99	% Recov

B/N/Acid Scan	Sediment Result	Units
Benzo(a)pyrene	230U	ug/kg
2,4-Dinitrophenol	1100UJ	ug/kg
Dibenzo(a,h)anthracene	230U	ug/kg
Benzo(a)anthracene	230U	ug/kg
4-Chloro-3-Methylphenol	230U	ug/kg
Benzoic acid	1100U	ug/kg
Hexachloroethane	230U	ug/kg
Hexachlorocyclopentadi+	470UJ	ug/kg
Isophorone	230U	ug/kg
Acenaphthene	230U	ug/kg
Diethylphthalate	230U	ug/kg
Di-n-Butylphthalate	260J*	ug/kg
Phenanthrene	230U	ug/kg
Butylbenzylphthalate	230UJ	ug/kg
N-Nitrosodiphenylamine	230U	ug/kg
Fluorene	230U	ug/kg
Carbazole	230U	ug/kg
Hexachlorobutadiene	230UJ	ug/kg

B/N/Acid Scan *** Continued ***	Sediment Result	Units
Pentachlorophenol	1100U	ug/kg
2,4,6-Trichlorophenol	230U	ug/kg
2-Nitroaniline	NAR	ug/kg
2-Nitrophenol	230U	ug/kg
Naphthalene, 1-Methyl-	230U	ug/kg
Naphthalene	230U	ug/kg
2-Methylnaphthalene	230U	ug/kg
2-Chloronaphthalene	230U	ug/kg
3,3'-Dichlorobenzidine	230U	ug/kg
2-Methylphenol	230U	ug/kg
1,2-Dichlorobenzene	230U	ug/kg
o-Chlorophenol	230U	ug/kg
2,4,5-Trichlorophenol	1100U	ug/kg
Nitrobenzene	230U	ug/kg
3-Nitroaniline	NAR	ug/kg
4-Nitroaniline	NAR	ug/kg
4-Nitrophenol	1100U	ug/kg
Benzyl Alcohol	230UJ	ug/kg
4-Bromophenyl-phenylet+	230U	ug/kg
2,4-Dimethylphenol	230U	ug/kg
4-Methylphenol	230U	ug/kg
1,4-Dichlorobenzene	230U	ug/kg
4-Chloroaniline	230UJ	ug/kg
Phenol	230U	ug/kg
bis(2-Chloroethyl)Ether	230U	ug/kg
bis(2-Chloroethoxy)Met+	230U	ug/kg
BIS(2-ETHYLHEXYL) PHTH+	560BJ*	ug/kg
Di-n-Octyl Phthalate	240BJ*	ug/kg
Hexachlorobenzene	230UJ	ug/kg
Anthracene	230U	ug/kg
1,2,4-Trichlorobenzene	230U	ug/kg
2,4-Dichlorophenol	230U	ug/kg
2,4-Dinitrotoluene	230U	ug/kg
Pyrene	230U	ug/kg
Dimethylphthalate	230U	ug/kg
Dibenzofuran	230U	ug/kg
Benzo(ghi)perylene	230U	ug/kg
Indeno(1,2,3-cd)pyrene	230U	ug/kg
Benzo(b)fluoranthene	230U	ug/kg
Fluoranthene	230U	ug/kg
Benzo(k)fluoranthene	230U	ug/kg
Acenaphthylene	230U	ug/kg
Chrysene	230U	ug/kg
Retene	230U	ug/kg

(Continued on next page)

Project: TEC-449A CMX CORPORATION

Officer: TET Account: FA10PUZZ

Laboratory: EPA, Manchester

Sample No: 89 134614 Description: CMX 81A

Source: Bore Hole Material

Begin Date: 89/03/27 :

B/N/Acid Scan *** Continued ***	Sediment Result	Units
4,6-Dinitro-2-methylph+	1100U	ug/kg
1,3-Dichlorobenzene	230U	ug/kg
2,6-Dinitrotoluene	230U	ug/kg
N-Nitroso-di-n-Propyla+	230U	ug/kg
4-Chlorophenyl-phenyle+	230U	ug/kg
bis(2-Chloroisopropyl)+	230U	ug/kg
Surrog: Pyrene D10	40	% Recov
Surrog: 2-Fluorobiphen+	33	% Recov
Surrog: 2-Fluorophenol	30	% Recov
Surrog: D14-Terphenyl	48	% Recov
Surrog: D5-Nitrobenzene	30	% Recov
Surrog: D5-Phenol	33	% Recov

Tent Ident - B/N/Aci	Sediment Result	Units
Decanoic Acid, Hexa-	1900J*	ug/kg
HEXANEDIOIC ACID, BIS(+	5100JB*	ug/kg
Decanoic Acid, Methyl +	590J*	ug/kg
4-HYDROXY-4-METHYLPENT+	1100000JB*	ug/kg
3-PENTEN-2-ONE, 4-METH+	8300JB*	ug/kg
3-PENTEN-2-ONE	2900JB*	ug/kg
HYDROCARBON "	1800J*	ug/kg
NONACOSANE	5400J*	ug/kg
2-CYCLOHEXEN-1-ONE, 3,+	1100J*	ug/kg
HYDROCARBON "	6000J*	ug/kg
4-PENTEN-2-ONE, 4-METH+	1300J*	ug/kg
1,2-BENZENEDICARBOXYLI+	1000J*	ug/kg
3-HEPTANONE, 2,4-DIMET+	3600J*	ug/kg

Pest/PCB - PP Scan	Sediment Result	Units
4,4'-DDT	24 *	ug/kg
Chlordane	12U	ug/kg
gamma-BHC (Lindane)	4.7U	ug/kg
Dieldrin	4.7U	ug/kg
Endrin	4.7U	ug/kg
Methoxychlor	4.7U	ug/kg
4,4'-DDD	4.7U	ug/kg
4,4'-DDE	42 *	ug/kg
Heptachlor	4.7U	ug/kg

Pest/PCB - PP Scan *** Continued ***	Sediment Result	Units
Aldrin	4.7U	ug/kg
alpha-BHC	4.7U	ug/kg
beta-BHC	4.7U	ug/kg
delta-BHC	4.7U	ug/kg
alpha-Endosulfan	4.7U	ug/kg
Heptachlor epoxide	4.7U	ug/kg
Endosulfan sulfate	4.7U	ug/kg
Endrin aldehyde	4.7U	ug/kg
Toxaphene	470U	ug/kg
PCB - 1260	120U	ug/kg
PCB - 1254	120U	ug/kg
PCB - 1221	120U	ug/kg
PCB - 1232	120U	ug/kg
PCB - 1248	120U	ug/kg
PCB - 1016	120U	ug/kg
beta-Endosulfan	4.7U	ug/kg
PCB - 1242	120U	ug/kg
IntStd: Hexabromobenze+	104	% Recov
IntStd: 4,4-Dibromooct+	111	% Recov

(Sample Complete)

Project: TEC-449A CMX CORPORATION

Officer: TET Account: FA10PUZZ

Laboratory: EPA, Manchester

Sample No: 89 134615 Description: CMX 81B Source: Bore Hole Material

Begin Date: 89/03/27

End Date: 89/03/27 : Comp: Freq:

VOA - PP Scan (GCMS)	Sediment Result	Units
Carbon Tetrachloride	5U	ug/kg
Acetone	9BU	ug/kg
Chloroform	0.3J*	ug/kg
Benzene	5U	ug/kg
1,1,1-Trichloroethane	5U	ug/kg
Bromomethane	1BU	ug/kg
Chloromethane	0.5BU	ug/kg
Dibromomethane	5U	ug/kg
Chloroethane	10U	ug/kg
Vinyl Chloride	10U	ug/kg
Methylene Chloride	12UJ	ug/kg
Carbon Disulfide	5BU	ug/kg
Bromoform	5U	ug/kg
Bromodichloromethane	5U	ug/kg
1,1-Dichloroethane	5U	ug/kg
1,1-Dichloroethene	5U	ug/kg
Trichlorofluoromethane	5U	ug/kg
Methane, Dichlorodiflu+	10BU	ug/kg
1,2-Dichloropropane	5U	ug/kg
2-Butanone	10U	ug/kg
1,1,2-Trichloroethane	5U	ug/kg
Trichloroethene	5U	ug/kg
ETHANE, 1,1,2,2-TETRAC+	5U	ug/kg
1,2,3-Trichlorobenzene	5U	ug/kg
Hexachlorobutadiene	5U	ug/kg
Naphthalene	5U	ug/kg
Total Xylenes	5U	ug/kg
2-Chlorotoluene	5U	ug/kg
1,2-Dichlorobenzene	5U	ug/kg
1,2,4-Trimethylbenzene	5U	ug/kg
DBCP	5U	ug/kg
1,2,3-Trichloropropane	5U	ug/kg
Tert-Butylbenzene	5U	ug/kg
Isopropylbenzene (Cume+	5U	ug/kg
p-Isopropyltoluene	5U	ug/kg
BENZENE, ETHYL-	5U	ug/kg
BENZENE, ETHENYL-	5U	ug/kg
BENZENE, PROPYL-	5U	ug/kg
Butylbenzene	5U	ug/kg
4-Chlorotoluene	5U	ug/kg
1,4-Dichlorobenzene	5U	ug/kg
1,2-Dibromoethane (EDB)	10U	ug/kg
1,2-Dichloroethane	5U	ug/kg
Vinyl Acetate	10U	ug/kg
4-Methyl-2-Pentanone	10U	ug/kg

VOA - PP Scan (GCMS) *** Continued ***	Sediment Result	Units
1,3,5-Trimethylbenzene	5U	ug/kg
Bromobenzene	5U	ug/kg
Toluene	5U	ug/kg
Chlorobenzene	5U	ug/kg
1,2,4-Trichlorobenzene	5U	ug/kg
Dibromochloromethane	5U	ug/kg
Tetrachloroethene	5U	ug/kg
Sec-Butylbenzene	5U	ug/kg
1,3-Dichloropropane	5U	ug/kg
Cis-1,2-Dichloroethene	5U	ug/kg
trans-1,2-Dichloroethe+	0.7J*	ug/kg
1,3-Dichlorobenzene	5U	ug/kg
1,1-Dichloropropene	5U	ug/kg
2,2-Dichloropropane	5U	ug/kg
2-Hexanone	10U	ug/kg
Ethane, 1,1,1,2-Tetrac+	5U	ug/kg
cis-1,3-Dichloropropene	5U	ug/kg
trans-1,3-Dichloroprop+	5U	ug/kg
Surrog: D4-1,2-Dichlor+	105	% Recov
Surrog: 1,4-Bromofluor+	99	% Recov
Surrog: D8-Toluene	98	% Recov

B/N/Acid Scan	Sediment Result	Units
Benzo(a)pyrene	220U	ug/kg
2,4-Dinitrophenol	1100UJ	ug/kg
Dibenzo(a,h)anthracene	220U	ug/kg
Benzo(a)anthracene	220U	ug/kg
4-Chloro-3-Methylphenol	220U	ug/kg
Benzoic acid	1100U	ug/kg
Hexachloroethane	220U	ug/kg
Hexachlorocyclopentadi+	440UJ	ug/kg
Isophorone	220U	ug/kg
Acenaphthene	220U	ug/kg
Diethylphthalate	220U	ug/kg
Di-n-Butylphthalate	220UJ	ug/kg
Phenanthrene	220U	ug/kg
Butylbenzylphthalate	220UJ	ug/kg
N-Nitrosodiphenylamine	220U	ug/kg
Fluorene	220U	ug/kg
Carbazole	220U	ug/kg
Hexachlorobutadiene	220UJ	ug/kg

B/N/Acid Scan *** Continued ***	Sediment Result	Units
Pentachlorophenol	1100U	ug/kg
2,4,6-Trichlorophenol	220U	ug/kg
2-Nitroaniline	NAR	ug/kg
2-Nitrophenol	220U	ug/kg
Naphthalene, 1-Methyl-	220U	ug/kg
Naphthalene	220U	ug/kg
2-Methylnaphthalene	220U	ug/kg
2-Chloronaphthalene	220U	ug/kg
3,3'-Dichlorobenzidine	220U	ug/kg
2-Methylphenol	220U	ug/kg
1,2-Dichlorobenzene	220U	ug/kg
o-Chlorophenol	220U	ug/kg
2,4,5-Trichlorophenol	1100U	ug/kg
Nitrobenzene	220U	ug/kg
3-Nitroaniline	NAR	ug/kg
4-Nitroaniline	NAR	ug/kg
4-Nitrophenol	1100U	ug/kg
Benzyl Alcohol	220UJ	ug/kg
4-Bromophenyl-phenylet+	220U	ug/kg
2,4-Dimethylphenol	220U	ug/kg
4-Methylphenol	220U	ug/kg
1,4-Dichlorobenzene	220U	ug/kg
4-Chloroaniline	220UJ	ug/kg
Phenol	220U	ug/kg
bis(2-Chloroethyl)Ether	220U	ug/kg
bis(2-Chloroethoxy)Met+	220U	ug/kg
BIS(2-ETHYLHEXYL) PHTH+	1400BJ*	ug/kg
Di-n-Octyl Phthalate	220BUJ	ug/kg
Hexachlorobenzene	220UJ	ug/kg
Anthracene	220U	ug/kg
1,2,4-Trichlorobenzene	220U	ug/kg
2,4-Dichlorophenol	220U	ug/kg
2,4-Dinitrotoluene	220U	ug/kg
Pyrene	220U	ug/kg
Dimethylphthalate	220U	ug/kg
Dibenzofuran	220U	ug/kg
Benzo(ghi)perylene	220U	ug/kg
Indeno(1,2,3-cd)pyrene	220U	ug/kg
Benzo(b)fluoranthene	220U	ug/kg
Fluoranthene	220U	ug/kg
Benzo(k)fluoranthene	220U	ug/kg
Acenaphthylene	220U	ug/kg
Chrysene	220U	ug/kg
Retene	220U	ug/kg

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Project: TEC-449A CMX CORPORATION

Officer: TET Account: FA10PUZZ

Laboratory: EPA, Manchester

Sample No: 89 134615 Description: CMX 81B

Source: Bore Hole Material

Begin Date: 89/03/27 :

End Date: 89/03/27 :

Comp: Freq:

B/N/Acid Scan *** Continued ***	Sediment Result	Units
4,6-Dinitro-2-methylph+	1100U	ug/kg
1,3-Dichlorobenzene	220U	ug/kg
2,6-Dinitrotoluene	220U	ug/kg
N-Nitroso-di-n-Propyla+	220U	ug/kg
4-Chlorophenyl-phenyle+	220U	ug/kg
bis(2-Chloroisopropyl)+	220U	ug/kg
Surrog: Pyrene D10	39	% Recov
Surrog: 2-Fluorobiphen+	36	% Recov
Surrog: 2-Fluorophenol	30	% Recov
Surrog: D14-Terphenyl	46	% Recov
Surrog: D5-Nitrobenzene	33	% Recov
Surrog: D5-Phenol	31	% Recov

Tent Ident - B/N/Aci	Sediment Result	Units
Decanoic Acid, Hexa-	1600J*	ug/kg
HEXANEDIOIC ACID, BIS(+	3000JB*	ug/kg
Decanoic Acid, Methyl +	630J*	ug/kg
4-HYDROXY-4-METHYLPENT+	970000JB*	ug/kg
3-PENTEN-2-ONE, 4-METH+	6100JB*	ug/kg
3-PENTEN-2-ONE	3400JB*	ug/kg
HYDROCARBON "	1200J*	ug/kg
NONACOSANE	3500J*	ug/kg
4-PENTEN-2-ONE, 3-METH+	870J*	ug/kg
2-CYCLOHEXEN-1-ONE, 3,+	1400J*	ug/kg
HYDROCARBON "	3600J*	ug/kg
3-HEPTANONE, 2,4-DIMET+	2700J*	ug/kg

Pest/PCB - PP Scan	Sediment Result	Units
4,4'-DDT	6.20 *	ug/kg
Chlordane	11U	ug/kg
gamma-BHC (Lindane)	4.5U	ug/kg
Dieldrin	4.5U	ug/kg
Endrin	4.5U	ug/kg
Methoxychlor	4.5U	ug/kg
4,4'-DDD	4.5U	ug/kg
4,4'-DDE	13 *	ug/kg
Heptachlor	4.5U	ug/kg
Aldrin	4.5U	ug/kg

Pest/PCB - PP Scan *** Continued ***	Sediment Result	Units
alpha-BHC	4.5U	ug/kg
beta-BHC	4.5U	ug/kg
delta-BHC	4.5U	ug/kg
alpha-Endosulfan	4.5U	ug/kg
Heptachlor epoxide	4.5U	ug/kg
Endosulfan sulfate	4.5U	ug/kg
Endrin aldehyde	4.5U	ug/kg
Toxaphene	450U	ug/kg
PCB - 1260	110U	ug/kg
PCB - 1254	110U	ug/kg
PCB - 1221	110U	ug/kg
PCB - 1232	110U	ug/kg
PCB - 1248	110U	ug/kg
PCB - 1016	110U	ug/kg
beta-Endosulfan	4.5U	ug/kg
PCB - 1242	110U	ug/kg
IntStd: Hexabromobenze+	106	% Recov
IntStd: 4,4-Dibromooct+	87	% Recov

(Sample Complete)

Project: TEC-449A CMX CORPORATION

Officer: TET Account: FA10PUZZ

Laboratory: EPA, Manchester

Sample No: 89 134616 Description: CMX 82A Source: Bore Hole Material

Begin Date: 89/03/27 :

End Date: 89/03/27 : Comp: Freq:

VOA - PP Scan (GCMS)	Sediment Result	Units
Carbon Tetrachloride	6U	ug/kg
Acetone	16UJ	ug/kg
Chloroform	6U	ug/kg
Benzene	6U	ug/kg
1,1,1-Trichloroethane	6U	ug/kg
Bromomethane	1BU	ug/kg
Chloromethane	0.5BU	ug/kg
Dibromomethane	6U	ug/kg
Chloroethane	11U	ug/kg
Vinyl Chloride	11U	ug/kg
Methylene Chloride	6UJ	ug/kg
Carbon Disulfide	0.3BU	ug/kg
Bromoform	6U	ug/kg
Bromodichloromethane	6U	ug/kg
1,1-Dichloroethane	6U	ug/kg
1,1-Dichloroethene	6U	ug/kg
Trichlorofluoromethane	0.8JU	ug/kg
Methane, Dichlorodiflu+	7BU	ug/kg
1,2-Dichloropropane	6U	ug/kg
2-Butanone	0.8U	ug/kg
1,1,2-Trichloroethane	6U	ug/kg
Trichloroethene	6U	ug/kg
ETHANE, 1,1,2,2-TETRAC+	6U	ug/kg
1,2,3-Trichlorobenzene	6U	ug/kg
Hexachlorobutadiene	6U	ug/kg
Naphthalene	6U	ug/kg
Total Xylenes	6U	ug/kg
2-Chlorotoluene	6U	ug/kg
1,2-Dichlorobenzene	6U	ug/kg
1,2,4-Trimethylbenzene	6U	ug/kg
DBCP	6U	ug/kg
1,2,3-Trichloropropane	6U	ug/kg
Tert-Butylbenzene	6U	ug/kg
Isopropylbenzene (Cume+	6U	ug/kg
p-Isopropyltoluene	6U	ug/kg
BENZENE, ETHYL-	6U	ug/kg
BENZENE, ETHENYL-	6U	ug/kg
BENZENE, PROPYL-	6U	ug/kg
Butylbenzene	6U	ug/kg
4-Chlorotoluene	6U	ug/kg
1,4-Dichlorobenzene	6U	ug/kg
1,2-Dibromoethane (EDB)	11U	ug/kg
1,2-Dichloroethane	6U	ug/kg
Vinyl Acetate	11U	ug/kg
4-Methyl-2-Pentanone	11U	ug/kg

VOA - PP Scan (GCMS) *** Continued ***	Sediment Result	Units
1,3,5-Trimethylbenzene	6U	ug/kg
Bromobenzene	6U	ug/kg
Toluene	6U	ug/kg
Chlorobenzene	6U	ug/kg
1,2,4-Trichlorobenzene	6U	ug/kg
Dibromochloromethane	6U	ug/kg
Tetrachloroethene	6U	ug/kg
Sec-Butylbenzene	6U	ug/kg
1,3-Dichloropropane	6U	ug/kg
Cis-1,2-Dichloroethene	6U	ug/kg
trans-1,2-Dichloroethe+	6U	ug/kg
1,3-Dichlorobenzene	6U	ug/kg
1,1-Dichloropropene	6U	ug/kg
2,2-Dichloropropane	6U	ug/kg
2-Hexanone	11U	ug/kg
Ethane, 1,1,1,2-Tetrac+	6U	ug/kg
cis-1,3-Dichloropropene	6U	ug/kg
trans-1,3-Dichloroprop+	6U	ug/kg
Surrog: D4-1,2-Dichlor+	104	% Recov
Surrog: 1,4-Bromofluor+	83	% Recov
Surrog: D8-Toluene	106	% Recov

VOA - PP Scan (GCMS) Matrix Spike #1	Sediment Result	Units
Carbon Tetrachloride	76	% Recov
Acetone	NAR	% Recov
Chloroform	100	% Recov
Benzene	120	% Recov
1,1,1-Trichloroethane	110	% Recov
Bromomethane	92	% Recov
Chloromethane	99	% Recov
Dibromomethane	100	% Recov
Chloroethane	85	% Recov
Vinyl Chloride	73	% Recov
Methylene Chloride	NAR	% Recov
Carbon Disulfide	NAR	% Recov
Bromoform	83	% Recov
Bromodichloromethane	95	% Recov
1,1-Dichloroethane	94	% Recov
1,1-Dichloroethene	75	% Recov
Trichlorofluoromethane	100	% Recov
Methane, Dichlorodiflu+	200	% Recov

VOA - PP Scan (GCMS) *** Continued *** Matrix Spike #1	Sediment Result	Units
1,2-Dichloropropane	93	% Recov
2-Butanone	NAR	% Recov
1,1,2-Trichloroethane	100	% Recov
Trichloroethene	94	% Recov
ETHANE, 1,1,2,2-TETRAC+	72	% Recov
1,2,3-Trichlorobenzene	28	% Recov
Hexachlorobutadiene	21	% Recov
Naphthalene	35	% Recov
Total Xylenes	53	% Recov
2-Chlorotoluene	74	% Recov
1,2-Dichlorobenzene	62	% Recov
1,2,4-Trimethylbenzene	63	% Recov
DBCP	69	% Recov
1,2,3-Trichloropropane	95	% Recov
Tert-Butylbenzene	61	% Recov
Isopropylbenzene (Cume+	74	% Recov
p-Isopropyltoluene	50	% Recov
BENZENE, ETHYL-	88	% Recov
BENZENE, ETHENYL-	90	% Recov
BENZENE, PROPYL-	67	% Recov
Butylbenzene	37	% Recov
4-Chlorotoluene	76	% Recov
1,4-Dichlorobenzene	68	% Recov
1,2-Dibromoethane (EDB)	99	% Recov
1,2-Dichloroethane	94	% Recov
Vinyl Acetate	5	% Recov
4-Methyl-2-Pentanone	NAR	% Recov
1,3,5-Trimethylbenzene	65	% Recov
Bromobenzene	88	% Recov
Toluene	110	% Recov
Chlorobenzene	97	% Recov
1,2,4-Trichlorobenzene	33	% Recov
Dibromochloromethane	94	% Recov
Tetrachloroethene	93	% Recov
Sec-Butylbenzene	49	% Recov
1,3-Dichloropropane	99	% Recov
Cis-1,2-Dichloroethene	93	% Recov
trans-1,2-Dichloroethe+	91	% Recov
1,3-Dichlorobenzene	67	% Recov
1,1-Dichloropropene	91	% Recov
2,2-Dichloropropane	68	% Recov
2-Hexanone	NAR	% Recov
Ethane, 1,1,1,2-Tetrac+	100	% Recov
cis-1,3-Dichloropropene	130	% Recov

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Project: TEC-449A CMX CORPORATION Officer: TET Account: FA10PUZZ

Laboratory: EPA, Manchester

Sample No: 89 134616 Description: CMX 82A Source: Bore Hole Material

Begin Date: 89/03/27

End Date: 89/03/27 Comp: Freq:

VOA - PP Scan (GCMS) *** Continued *** Matrix Spike #1	Sediment Result	Units
trans-1,3-Dichloroprop+	99	% Recov
Surrog: D4-1,2-Dichlor+	90	% Recov
Surrog: 1,4-Bromofluor+	85	% Recov
Surrog: D8-Toluene	106	% Recov

VOA - PP Scan (GCMS) Matrix Spike #2	Sediment Result	Units
Carbon Tetrachloride	91	% Recov
Acetone	NAR	% Recov
Chloroform	100	% Recov
Benzene	100	% Recov
1,1,1-Trichloroethane	99	% Recov
Bromomethane	97	% Recov
Chloromethane	100	% Recov
Dibromomethane	110	% Recov
Chloroethane	85	% Recov
Vinyl Chloride	70	% Recov
Methylene Chloride	150	% Recov
Carbon Disulfide	NAR	% Recov
Bromoform	78	% Recov
Bromodichloromethane	100	% Recov
1,1-Dichloroethane	98	% Recov
1,1-Dichloroethene	71	% Recov
Trichlorofluoromethane	100	% Recov
Methane, Dichlorodiflu+	180	% Recov
1,2-Dichloropropane	99	% Recov
2-Butanone	NAR	% Recov
1,1,2-Trichloroethane	99	% Recov
Trichloroethene	89	% Recov
ETHANE, 1,1,2,2-TETRAC+	74	% Recov
1,2,3-Trichlorobenzene	26	% Recov
Hexachlorobutadiene	19	% Recov
Naphthalene	37	% Recov
Total Xylenes	50	% Recov
2-Chlorotoluene	71	% Recov
1,2-Dichlorobenzene	59	% Recov
1,2,4-Trimethylbenzene	61	% Recov
DBCP	71	% Recov
1,2,3-Trichloropropane	99	% Recov
Tert-Butylbenzene	58	% Recov
Isopropylbenzene (Cume+	72	% Recov
p-Isopropyltoluene	48	% Recov

VOA - PP Scan (GCMS) *** Continued *** Matrix Spike #2	Sediment Result	Units
BENZENE, ETHYL-	86	% Recov
BENZENE, ETHENYL-	86	% Recov
BENZENE, PROPYL-	63	% Recov
Butylbenzene	38	% Recov
4-Chlorotoluene	71	% Recov
1,4-Dichlorobenzene	65	% Recov
1,2-Dibromoethane (EDB)	97	% Recov
1,2-Dichloroethane	100	% Recov
Vinyl Acetate	8	% Recov
4-Methyl-2-Pentanone	NAR	% Recov
1,3,5-Trimethylbenzene	64	% Recov
Bromobenzene	81	% Recov
Toluene	100	% Recov
Chlorobenzene	96	% Recov
1,2,4-Trichlorobenzene	31	% Recov
Dibromochloromethane	93	% Recov
Tetrachloroethene	80	% Recov
Sec-Butylbenzene	47	% Recov
1,3-Dichloropropane	100	% Recov
Cis-1,2-Dichloroethene	94	% Recov
trans-1,2-Dichloroethe+	91	% Recov
1,3-Dichlorobenzene	62	% Recov
1,1-Dichloropropene	78	% Recov
2,2-Dichloropropane	66	% Recov
2-Hexanone	NAR	% Recov
Ethane, 1,1,1,2-Tetrac+	100	% Recov
cis-1,3-Dichloropropene	130	% Recov
trans-1,3-Dichloroprop+	100	% Recov
Surrog: D4-1,2-Dichlor+	102	% Recov
Surrog: 1,4-Bromofluor+	85	% Recov
Surrog: D8-Toluene	110	% Recov

B/N/Acid Scan	Sediment Result	Units
Benzo(a)pyrene	230U	ug/kg
2,4-Dinitrophenol	1100UJ	ug/kg
Dibenzo(a,h)anthracene	230U	ug/kg
Benzo(a)anthracene	230U	ug/kg
4-Chloro-3-Methylphenol	230U	ug/kg
Benzoic acid	1100U	ug/kg
Hexachloroethane	230U	ug/kg
Hexachlorocyclopentadi+	450UJ	ug/kg

B/N/Acid Scan *** Continued ***	Sediment Result	Units
Isophorone	230U	ug/kg
Acenaphthene	230U	ug/kg
Diethylphthalate	230U	ug/kg
Di-n-Butylphthalate	110J*	ug/kg
Phenanthrene	230U	ug/kg
Butylbenzylphthalate	230UJ	ug/kg
N-Nitrosodiphenylamine	230U	ug/kg
Fluorene	230U	ug/kg
Carbazole	230U	ug/kg
Hexachlorobutadiene	230UJ	ug/kg
Pentachlorophenol	1100U	ug/kg
2,4,6-Trichlorophenol	230U	ug/kg
2-Nitroaniline	NAR	ug/kg
2-Nitrophenol	230U	ug/kg
Naphthalene, 1-Methyl-	230U	ug/kg
Naphthalene	230U	ug/kg
2-Methylnaphthalene	230U	ug/kg
2-Chloronaphthalene	230U	ug/kg
3,3'-Dichlorobenzidine	230U	ug/kg
2-Methylphenol	230U	ug/kg
1,2-Dichlorobenzene	230U	ug/kg
o-Chlorophenol	230U	ug/kg
2,4,5-Trichlorophenol	1100U	ug/kg
Nitrobenzene	230U	ug/kg
3-Nitroaniline	NAR	ug/kg
4-Nitroaniline	NAR	ug/kg
4-Nitrophenol	1100U	ug/kg
Benzyl Alcohol	230UJ	ug/kg
4-Bromophenyl-phenylet+	230U	ug/kg
2,4-Dimethylphenol	230U	ug/kg
4-Methylphenol	230U	ug/kg
1,4-Dichlorobenzene	230U	ug/kg
4-Chloroaniline	230UJ	ug/kg
Phenol	230U	ug/kg
bis(2-Chloroethyl)Ether	230U	ug/kg
bis(2-Chloroethoxy)Met+	230U	ug/kg
BIS(2-ETHYLHEXYL) PHTH+	230BUJ	ug/kg
Di-n-Octyl Phthalate	230BUJ	ug/kg
Hexachlorobenzene	230UJ	ug/kg
Anthracene	230U	ug/kg
1,2,4-Trichlorobenzene	230U	ug/kg
2,4-Dichlorophenol	230U	ug/kg
2,4-Dinitrotoluene	230U	ug/kg
Pyrene	230U	ug/kg

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Project: TEC-449A CMX CORPORATION Officer: TET Account: FA10PUZZ

Laboratory: EPA, Manchester

Sample No: 89 134616 Description: CMX 82A Source: Bore Hole Material

Begin Date: 89/03/27 :

End Date: 89/03/27 : Comp: Freq:

B/N/Acid Scan *** Continued ***	Sediment Result	Units
Dimethylphthalate	230U	ug/kg
Dibenzofuran	230U	ug/kg
Benzo(ghi)perylene	230U	ug/kg
Indeno(1,2,3-cd)pyrene	230U	ug/kg
Benzo(b)fluoranthene	230U	ug/kg
Fluoranthene	230U	ug/kg
Benzo(k)fluoranthene	230U	ug/kg
Acenaphthylene	230U	ug/kg
Chrysene	230U	ug/kg
Retene	230U	ug/kg
4,6-Dinitro-2-methylph+	1100U	ug/kg
1,3-Dichlorobenzene	230U	ug/kg
2,6-Dinitrotoluene	230U	ug/kg
N-Nitroso-di-n-Propyla+	230U	ug/kg
4-Chlorophenyl-phenyle+	230U	ug/kg
bis(2-Chloroisopropyl)+	230U	ug/kg
Surrog: Pyrene D10	26	% Recov
Surrog: 2-Fluorobiphen+	34	% Recov
Surrog: 2-Fluorophenol	32	% Recov
Surrog: D14-Terphenyl	33	% Recov
Surrog: D5-Nitrobenzene	29	% Recov
Surrog: D5-Phenol	30	% Recov

Tent Ident - B/N/Aci	Sediment Result	Units
2-PENTANONE, 4-METHOXY+	220J*	ug/kg
4-HYDROXY-4-METHYLPENT+	860000JB*	ug/kg
3-PENTEN-2-ONE, 4-METH+	5100JB*	ug/kg
3-PENTEN-2-ONE	2500JB*	ug/kg
2-CYCLOHEXEN-1-ONE, 3,+	1100J*	ug/kg
3-HEPTANONE, 2,4-DIMET+	1800J*	ug/kg
HYDROCARBON "	6100J*	ug/kg
HYDROCARBON "	6900J*	ug/kg

Pest/PCB - PP Scan	Sediment Result	Units
4,4'-DDT	144 *	ug/kg
Chlordane	11U	ug/kg
gamma-BHC (Lindane)	4.6U	ug/kg
Dieldrin	4.6U	ug/kg

Pest/PCB - PP Scan *** Continued ***	Sediment Result	Units
Endrin	4.6U	ug/kg
Methoxychlor	4.6U	ug/kg
4,4'-DDD	4.6U	ug/kg
4,4'-DDE	25 *	ug/kg
Heptachlor	4.6U	ug/kg
Aldrin	4.6U	ug/kg
alpha-BHC	4.6U	ug/kg
beta-BHC	4.6U	ug/kg
delta-BHC	4.6U	ug/kg
alpha-Endosulfan	4.6U	ug/kg
Heptachlor epoxide	4.6U	ug/kg
Endosulfan sulfate	4.6U	ug/kg
Endrin aldehyde	4.6U	ug/kg
Toxaphene	460U	ug/kg
PCB - 1260	110U	ug/kg
PCB - 1254	110U	ug/kg
PCB - 1221	110U	ug/kg
PCB - 1232	110U	ug/kg
PCB - 1248	110U	ug/kg
PCB - 1016	110U	ug/kg
beta-Endosulfan	20 *	ug/kg
PCB - 1242	110U	ug/kg
IntStd: Hexabromobenze+	125	% Recov
IntStd: 4,4-Dibromooct+	133	% Recov

(Sample Complete)

Project: TEC-449A CMX CORPORATION Officer: TET Account: FA10PUZZ

Laboratory: EPA, Manchester

Sample No: 89 134617 Description: CMX 82B Source: Bore Hole Material

Begin Date: 89/03/27

End Date: 89/03/27 : Comp: Freq:

VOA - PP Scan (GCMS)	Sediment Result	Units
Carbon Tetrachloride	5U	ug/kg
Acetone	12UJ	ug/kg
Chloroform	5U	ug/kg
Benzene	5U	ug/kg
1,1,1-Trichloroethane	5U	ug/kg
Bromomethane	1BU	ug/kg
Chloromethane	0.4BU	ug/kg
Dibromomethane	5U	ug/kg
Chloroethane	11U	ug/kg
Vinyl Chloride	11U	ug/kg
Methylene Chloride	7UJ	ug/kg
Carbon Disulfide	0.1BU	ug/kg
Bromoform	5U	ug/kg
Bromodichloromethane	5U	ug/kg
1,1-Dichloroethane	5U	ug/kg
1,1-Dichloroethene	5U	ug/kg
Trichlorofluoromethane	5U	ug/kg
Methane, Dichlorodiflu+	11BU	ug/kg
1,2-Dichloropropane	5U	ug/kg
2-Butanone	11U	ug/kg
1,1,2-Trichloroethane	5U	ug/kg
Trichloroethene	5U	ug/kg
ETHANE, 1,1,2,2-TETRAC+	5U	ug/kg
1,2,3-Trichlorobenzene	5U	ug/kg
Hexachlorobutadiene	5U	ug/kg
Naphthalene	5U	ug/kg
Total Xylenes	5U	ug/kg
2-Chlorotoluene	5U	ug/kg
1,2-Dichlorobenzene	5U	ug/kg
1,2,4-Trimethylbenzene	5U	ug/kg
DBCP	5U	ug/kg
1,2,3-Trichloropropane	5U	ug/kg
Tert-Butylbenzene	5U	ug/kg
Isopropylbenzene (Cume+	5U	ug/kg
p-Isopropyltoluene	5U	ug/kg
BENZENE, ETHYL-	5U	ug/kg
BENZENE, ETHENYL-	5U	ug/kg
BENZENE, PROPYL-	5U	ug/kg
Butylbenzene	5U	ug/kg
4-Chlorotoluene	5U	ug/kg
1,4-Dichlorobenzene	5U	ug/kg
1,2-Dibromoethane (EDB)	11U	ug/kg
1,2-Dichloroethane	5U	ug/kg
Vinyl Acetate	11U	ug/kg
4-Methyl-2-Pentanone	11U	ug/kg

VOA - PP Scan (GCMS) *** Continued ***	Sediment Result	Units
1,3,5-Trimethylbenzene	5U	ug/kg
Bromobenzene	5U	ug/kg
Toluene	5U	ug/kg
Chlorobenzene	5U	ug/kg
1,2,4-Trichlorobenzene	5U	ug/kg
Dibromochloromethane	5U	ug/kg
Tetrachloroethene	5U	ug/kg
Sec-Butylbenzene	5U	ug/kg
1,3-Dichloropropane	5U	ug/kg
Cis-1,2-Dichloroethene	5U	ug/kg
trans-1,2-Dichloroethe+	5U	ug/kg
1,3-Dichlorobenzene	5U	ug/kg
1,1-Dichloropropene	5U	ug/kg
2,2-Dichloropropane	5U	ug/kg
2-Hexanone	11U	ug/kg
Ethane, 1,1,1,2-Tetrac+	5U	ug/kg
cis-1,3-Dichloropropene	5U	ug/kg
trans-1,3-Dichloroprop+	5U	ug/kg
Surrog: D4-1,2-Dichlor+	98	% Recov
Surrog: 1,4-Bromofluor+	95	% Recov
Surrog: D8-Toluene	96	% Recov

B/N/Acid Scan	Sediment Result	Units
Benzo(a)pyrene	220U	ug/kg
2,4-Dinitrophenol	1100UJ	ug/kg
Dibenzo(a,h)anthracene	220U	ug/kg
Benzo(a)anthracene	220U	ug/kg
4-Chloro-3-Methylphenol	220U	ug/kg
Benzoic acid	1100U	ug/kg
Hexachloroethane	220U	ug/kg
Hexachlorocyclopentadi+	440UJ	ug/kg
Isophorone	220U	ug/kg
Acenaphthene	220U	ug/kg
Diethylphthalate	220U	ug/kg
Di-n-Butylphthalate	220UJ	ug/kg
Phenanthrene	220U	ug/kg
Butylbenzylphthalate	220UJ	ug/kg
N-Nitrosodiphenylamine	220U	ug/kg
Fluorene	220U	ug/kg
Carbazole	220U	ug/kg
Hexachlorobutadiene	220UJ	ug/kg

B/N/Acid Scan *** Continued ***	Sediment Result	Units
Pentachlorophenol	1100U	ug/kg
2,4,6-Trichlorophenol	220U	ug/kg
2-Nitroaniline	NAR	ug/kg
2-Nitrophenol	220U	ug/kg
Naphthalene, 1-Methyl-	220U	ug/kg
Naphthalene	220U	ug/kg
2-Methylnaphthalene	220U	ug/kg
2-Chloronaphthalene	220U	ug/kg
3,3'-Dichlorobenzidine	220U	ug/kg
2-Methylphenol	220U	ug/kg
1,2-Dichlorobenzene	220U	ug/kg
o-Chlorophenol	220U	ug/kg
2,4,5-Trichlorophenol	1100U	ug/kg
Nitrobenzene	220U	ug/kg
3-Nitroaniline	NAR	ug/kg
4-Nitroaniline	NAR	ug/kg
4-Nitrophenol	1100U	ug/kg
Benzyl Alcohol	220UJ	ug/kg
4-Bromophenyl-phenylet+	220U	ug/kg
2,4-Dimethylphenol	220U	ug/kg
4-Methylphenol	220U	ug/kg
1,4-Dichlorobenzene	220U	ug/kg
4-Chloroaniline	220UJ	ug/kg
Phenol	220U	ug/kg
bis(2-Chloroethyl)Ether	220U	ug/kg
bis(2-Chloroethoxy)Met+	220U	ug/kg
BIS(2-ETHYLHEXYL) PHTH+	1400BJ*	ug/kg
Di-n-Octyl Phthalate	220BUJ	ug/kg
Hexachlorobenzene	220UJ	ug/kg
Anthracene	220U	ug/kg
1,2,4-Trichlorobenzene	220U	ug/kg
2,4-Dichlorophenol	220U	ug/kg
2,4-Dinitrotoluene	220U	ug/kg
Pyrene	220U	ug/kg
Dimethylphthalate	220U	ug/kg
Dibenzofuran	220U	ug/kg
Benzo(ghi)perylene	220U	ug/kg
Indeno(1,2,3-cd)pyrene	220U	ug/kg
Benzo(b)fluoranthene	220U	ug/kg
Fluoranthene	220U	ug/kg
Benzo(k)fluoranthene	220U	ug/kg
Acenaphthylene	220U	ug/kg
Chrysene	220U	ug/kg
Retene	220U	ug/kg

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Project: TEC-449A CMX CORPORATION   Officer: TET   Account: FA10PUZZ

Laboratory: EPA, Manchester

Sample No: 89 134617   Description: CMX 82B   Source: Bore Hole Material

Begin Date: 89/03/27 :

End Date: 89/03/27 :   Comp: Freq:

B/N/Acid Scan *** Continued ***	Sediment Result	Units
4,6-Dinitro-2-methylph+	1100U	ug/kg
1,3-Dichlorobenzene	220U	ug/kg
2,6-Dinitrotoluene	220U	ug/kg
N-Nitroso-di-n-Propyla+	220U	ug/kg
4-Chlorophenyl-phenyle+	220U	ug/kg
bis(2-Chloroisopropyl)+	220U	ug/kg
Surrog: Pyrene D10	38	% Recov
Surrog: 2-Fluorobiphen+	38	% Recov
Surrog: 2-Fluorophenol	27	% Recov
Surrog: D14-Terphenyl	49	% Recov
Surrog: D5-Nitrobenzene	35	% Recov
Surrog: D5-Phenol	28	% Recov

Tent Ident - B/N/Aci	Sediment Result	Units
Decanoic Acid, Hexa-	160000J*	ug/kg
HEXANEDIOIC ACID, BIS(+	2300JB*	ug/kg
4-HYDROXY-4-METHYLPENT+	1000000JB*	ug/kg
3-PENTEN-2-ONE, 4-METH+	6200JB*	ug/kg
3-PENTEN-2-ONE	1100JB*	ug/kg
2-CYCLOHEXEN-1-ONE, 3,+	420J*	ug/kg
3-HEPTANONE, 2,4-DIMET+	1400J*	ug/kg
2(5H)-FURANONE, 5,5-DI+	510J*	ug/kg
HYDROCARBON (EVIDENCE +	2000J*	ug/kg
HYDROCARBON "	2400J*	ug/kg

Pest/PCB - PP Scan	Sediment Result	Units
4,4'-DDT	29 *	ug/kg
Chlordane	11U	ug/kg
gamma-BHC (Lindane)	4.3U	ug/kg
Dieldrin	4.3U	ug/kg
Endrin	4.3U	ug/kg
Methoxychlor	4.3U	ug/kg
4,4'-DDD	4.3U	ug/kg
4,4'-DDE	8.3 *	ug/kg
Heptachlor	4.3U	ug/kg
Aldrin	4.3U	ug/kg
alpha-BHC	4.3U	ug/kg
beta-BHC	4.3U	ug/kg

Pest/PCB - PP Scan *** Continued ***	Sediment Result	Units
delta-BHC	4.3U	ug/kg
alpha-Endosulfan	4.3U	ug/kg
Heptachlor epoxide	4.3U	ug/kg
Endosulfan sulfate	4.3U	ug/kg
Endrin aldehyde	4.3U	ug/kg
Toxaphene	430U	ug/kg
PCB - 1260	110U	ug/kg
PCB - 1254	110U	ug/kg
PCB - 1221	110U	ug/kg
PCB - 1232	110U	ug/kg
PCB - 1248	110U	ug/kg
PCB - 1016	110U	ug/kg
beta-Endosulfan	4.3U	ug/kg
PCB - 1242	110U	ug/kg
IntStd: Hexabromobenze+	100	% Recov
IntStd: 4,4-Dibromooct+	99	% Recov

(Sample Complete)

Project: TEC-449A CMX CORPORATION Officer: TET Account: FA10PUZZ

Laboratory: EPA, Manchester

Sample No: 89 134618 Description: CMX 83A Source: Bore Hole Material

Begin Date: 89/03/27

End Date: 89/03/2 Comp: Freq:

VOA - PP Scan (GCMS)	Sediment Result	Units
Carbon Tetrachloride	5U	ug/kg
Acetone	12UJ	ug/kg
Chloroform	5U	ug/kg
Benzene	5U	ug/kg
1,1,1-Trichloroethane	5U	ug/kg
Bromomethane	1BU	ug/kg
Chloromethane	0.4BU	ug/kg
Dibromomethane	5U	ug/kg
Chloroethane	10U	ug/kg
Vinyl Chloride	10U	ug/kg
Methylene Chloride	6UJ	ug/kg
Carbon Disulfide	5BU	ug/kg
Bromoform	5U	ug/kg
Bromodichloromethane	5U	ug/kg
1,1-Dichloroethane	5U	ug/kg
1,1-Dichloroethene	5U	ug/kg
Trichlorofluoromethane	0.5JU	ug/kg
Methane, Dichlorodiflu+	2BU	ug/kg
1,2-Dichloropropane	5U	ug/kg
2-Butanone	0.6BU	ug/kg
1,1,2-Trichloroethane	5U	ug/kg
Trichloroethene	5U	ug/kg
ETHANE, 1,1,2,2-TETRAC+	5U	ug/kg
1,2,3-Trichlorobenzene	5U	ug/kg
Hexachlorobutadiene	5U	ug/kg
Naphthalene	5U	ug/kg
Total Xylenes	5U	ug/kg
2-Chlorotoluene	5U	ug/kg
1,2-Dichlorobenzene	5U	ug/kg
1,2,4-Trimethylbenzene	5U	ug/kg
DBCP	5U	ug/kg
1,2,3-Trichloropropane	5U	ug/kg
Tert-Butylbenzene	5U	ug/kg
Isopropylbenzene (Cume+	5U	ug/kg
p-Isopropyltoluene	5U	ug/kg
BENZENE, ETHYL-	5U	ug/kg
BENZENE, ETHENYL-	5U	ug/kg
BENZENE, PROPYL-	5U	ug/kg
Butylbenzene	5U	ug/kg
4-Chlorotoluene	5U	ug/kg
1,4-Dichlorobenzene	5U	ug/kg
1,2-Dibromoethane (EDB)	10U	ug/kg
1,2-Dichloroethane	5U	ug/kg
Vinyl Acetate	10U	ug/kg
4-Methyl-2-Pentanone	10U	ug/kg

VOA - PP Scan (GCMS) *** Continued ***	Sediment Result	Units
1,3,5-Trimethylbenzene	5U	ug/kg
Bromobenzene	5U	ug/kg
Toluene	5U	ug/kg
Chlorobenzene	5U	ug/kg
1,2,4-Trichlorobenzene	5U	ug/kg
Dibromochloromethane	5U	ug/kg
Tetrachloroethene	5U	ug/kg
Sec-Butylbenzene	5U	ug/kg
1,3-Dichloropropane	5U	ug/kg
Cis-1,2-Dichloroethene	5U	ug/kg
trans-1,2-Dichloroethe+	5U	ug/kg
1,3-Dichlorobenzene	5U	ug/kg
1,1-Dichloropropene	5U	ug/kg
2,2-Dichloropropane	5U	ug/kg
2-Hexanone	10U	ug/kg
Ethane, 1,1,1,2-Tetrac+	5U	ug/kg
cis-1,3-Dichloropropene	5U	ug/kg
trans-1,3-Dichloroprop+	5U	ug/kg
Surrog: D4-1,2-Dichlor+	104	% Recov
Surrog: 1,4-Bromofluor+	94	% Recov
Surrog: D8-Toluene	99	% Recov

B/N/Acid Scan	Sediment Result	Units
Benzo(a)pyrene	210U	ug/kg
2,4-Dinitrophenol	1000UJ	ug/kg
Dibenzo(a,h)anthracene	210U	ug/kg
Benzo(a)anthracene	210U	ug/kg
4-Chloro-3-Methylphenol	210U	ug/kg
Benzoic acid	1000U	ug/kg
Hexachloroethane	210U	ug/kg
Hexachlorocyclopentadi+	420U	ug/kg
Isophorone	210U	ug/kg
Acenaphthene	210U	ug/kg
Diethylphthalate	210U	ug/kg
Di-n-Butylphthalate	210U	ug/kg
Phenanthrene	210U	ug/kg
Butylbenzylphthalate	210U	ug/kg
N-Nitrosodiphenylamine	210UJ	ug/kg
Fluorene	210U	ug/kg
Carbazole	210U	ug/kg
Hexachlorobutadiene	210U	ug/kg

B/N/Acid Scan *** Continued ***	Sediment Result	Units
Pentachlorophenol	1000U	ug/kg
2,4,6-Trichlorophenol	210U	ug/kg
2-Nitroaniline	NAR	ug/kg
2-Nitrophenol	210U	ug/kg
Naphthalene, 1-Methyl-	210U	ug/kg
Naphthalene	210U	ug/kg
2-Methylnaphthalene	210U	ug/kg
2-Chloronaphthalene	210U	ug/kg
3,3'-Dichlorobenzidine	210U	ug/kg
2-Methylphenol	210UJ	ug/kg
1,2-Dichlorobenzene	210U	ug/kg
o-Chlorophenol	210U	ug/kg
2,4,5-Trichlorophenol	1000UJ	ug/kg
Nitrobenzene	210U	ug/kg
3-Nitroaniline	NAR	ug/kg
4-Nitroaniline	NAR	ug/kg
4-Nitrophenol	1000UJ	ug/kg
Benzyl Alcohol	210U	ug/kg
4-Bromophenyl-phenylet+	210U	ug/kg
2,4-Dimethylphenol	210U	ug/kg
4-Methylphenol	210U	ug/kg
1,4-Dichlorobenzene	210U	ug/kg
4-Chloroaniline	210UJ	ug/kg
Phenol	210U	ug/kg
bis(2-Chloroethyl)Ether	210U	ug/kg
bis(2-Chloroethoxy)Met+	210U	ug/kg
BIS(2-ETHYLHEXYL) PHTH+	6600B*	ug/kg
Di-n-Octyl Phthalate	210BUJ	ug/kg
Hexachlorobenzene	210U	ug/kg
Anthracene	210U	ug/kg
1,2,4-Trichlorobenzene	210U	ug/kg
2,4-Dichlorophenol	210U	ug/kg
2,4-Dinitrotoluene	210UJ	ug/kg
Pyrene	210U	ug/kg
Dimethylphthalate	210U	ug/kg
Dibenzofuran	210U	ug/kg
Benzo(ghi)perylene	210U	ug/kg
Indeno(1,2,3-cd)pyrene	210U	ug/kg
Benzo(b)fluoranthene	210U	ug/kg
Fluoranthene	210U	ug/kg
Benzo(k)fluoranthene	210U	ug/kg
Acenaphthylene	210U	ug/kg
Chrysene	210U	ug/kg
Retene	210U	ug/kg

(Continued on next page)

EPA Region X Lab Management System
Sample/Project Analysis Results

Project: TEC-449A CMX CORPORATION   Officer: TET   Account: FA10PUZZ

Laboratory: EPA, Manchester

Sample No: 89 134618   Description: CMX 83A   Source: Bore Hole Material

Begin Date: 89/03/27 :

End Date: 89/03/27 :   Comp: Freq:

B/N/Acid Scan *** Continued ***	Sediment Result	Units
4,6-Dinitro-2-methylph+	1000U	ug/kg
1,3-Dichlorobenzene	210U	ug/kg
2,6-Dinitrotoluene	210U	ug/kg
N-Nitroso-di-n-Propyla+	210U	ug/kg
4-Chlorophenyl-phenyle+	210U	ug/kg
bis(2-Chloroisopropyl)+	210U	ug/kg
Surrog: Pyrene D10	35	% Recov
Surrog: 2-Fluorobiphen+	38	% Recov
Surrog: 2-Fluorophenol	51	% Recov
Surrog: D14-Terphenyl	41	% Recov
Surrog: D5-Nitrobenzene	40	% Recov
Surrog: D5-Phenol	45	% Recov

Tent Ident - B/N/Aci	Sediment Result	Units
HEXANEDIOIC ACID, BIS(+	7100JB*	ug/kg
2-PENTANONE, 4-METHOXY+	1100J*	ug/kg
HYDROCARBON "	630J*	ug/kg
4-HYDROXY-4-METHYLPENT+	960000JB*	ug/kg
3-PENTEN-2-ONE, 4-METH+	130000JB*	ug/kg
2,5-HEPTADIEN-4-ONE, 2+	320J*	ug/kg
3-PENTEN-2-ONE	4300JB*	ug/kg
HYDROCARBON "	560J*	ug/kg
HYDROCARBON "	580J*	ug/kg
UNKNOWN HYDROCARBON (E+	700J*	ug/kg
TETRACOSANE	540J*	ug/kg
2-PENTENOIC ACID, METH+	6800J*	ug/kg
2-CYCLOHEXEN-1-ONE, 3,+	740J*	ug/kg
PENTADECANE, 2-METHYL-	890J*	ug/kg
4-PENTEN-2-ONE, 4-METH+	2400JB*	ug/kg
3-HEPTANONE, 2,4-DIMET+	1900J*	ug/kg
HEPTADECANE, 2,6-DIMET+	490J*	ug/kg
HYDROCARBON (EVIDENCE +	2800J*	ug/kg

Pest/PCB - PP Scan	Sediment Result	Units
4,4'-DDT	86 *	ug/kg
Chlordane	11U	ug/kg
gamma-BHC (Lindane)	4.3U	ug/kg
Dieldrin	6.4 *	ug/kg

Pest/PCB - PP Scan *** Continued ***	Sediment Result	Units
Endrin	4.3U	ug/kg
Methoxychlor	4.3U	ug/kg
4,4'-DDD	4.3U	ug/kg
4,4'-DDE	53 *	ug/kg
Heptachlor	4.3U	ug/kg
Aldrin	4.3U	ug/kg
alpha-BHC	4.3U	ug/kg
beta-BHC	4.3U	ug/kg
delta-BHC	4.3U	ug/kg
alpha-Endosulfan	4.3U	ug/kg
Heptachlor epoxide	4.3U	ug/kg
Endosulfan sulfate	4.3U	ug/kg
Endrin aldehyde	4.3U	ug/kg
Toxaphene	430U	ug/kg
PCB - 1260	110U	ug/kg
PCB - 1254	110U	ug/kg
PCB - 1221	110U	ug/kg
PCB - 1232	110U	ug/kg
PCB - 1248	110U	ug/kg
PCB - 1016	110U	ug/kg
beta-Endosulfan	4.3U	ug/kg
PCB - 1242	110U	ug/kg
IntStd: Hexabromobenze+	107	% Recov
IntStd: 4,4-Dibromooct+	99	% Recov

(Sample Complete)

Project: TEC-449A CMX CORPORATION Officer: TET Account: FA10PUZZ

Laboratory: EPA, Manchester

Sample No: 89 134619 Description: CMX 83B Source: Bore Hole Material

Begin Date: 89/03/27

End Date: 89/03/27 : Comp: Freq:

VOA - PP Scan (GCMS)	Sediment Result	Units
Carbon Tetrachloride	5U	ug/kg
Acetone	11UJ	ug/kg
Chloroform	5U	ug/kg
Benzene	5U	ug/kg
1,1,1-Trichloroethane	5U	ug/kg
Bromomethane	0.8BU	ug/kg
Chloromethane	0.3BU	ug/kg
Dibromomethane	5U	ug/kg
Chloroethane	10U	ug/kg
Vinyl Chloride	10U	ug/kg
Methylene Chloride	9UJ	ug/kg
Carbon Disulfide	5BU	ug/kg
Bromoform	5U	ug/kg
Bromodichloromethane	5U	ug/kg
1,1-Dichloroethane	5U	ug/kg
1,1-Dichloroethene	5U	ug/kg
Trichlorofluoromethane	1U	ug/kg
Methane, Dichlorodiflu+	7BU	ug/kg
1,2-Dichloropropane	5U	ug/kg
2-Butanone	10U	ug/kg
1,1,2-Trichloroethane	5U	ug/kg
Trichloroethene	5U	ug/kg
ETHANE, 1,1,2,2-TETRAC+	5U	ug/kg
1,2,3-Trichlorobenzene	5U	ug/kg
Hexachlorobutadiene	5U	ug/kg
Naphthalene	5U	ug/kg
Total Xylenes	5U	ug/kg
2-Chlorotoluene	5U	ug/kg
1,2-Dichlorobenzene	5U	ug/kg
1,2,4-Trimethylbenzene	5U	ug/kg
DBCP	5U	ug/kg
1,2,3-Trichloropropane	5U	ug/kg
Tert-Butylbenzene	5U	ug/kg
Isopropylbenzene (Cume+	5U	ug/kg
p-Isopropyltoluene	5U	ug/kg
BENZENE, ETHYL-	5U	ug/kg
BENZENE, ETHENYL-	5U	ug/kg
BENZENE, PROPYL-	5U	ug/kg
Butylbenzene	5U	ug/kg
4-Chlorotoluene	5U	ug/kg
1,4-Dichlorobenzene	5U	ug/kg
1,2-Dibromoethane (EDB)	10U	ug/kg
1,2-Dichloroethane	5U	ug/kg
Vinyl Acetate	10U	ug/kg
4-Methyl-2-Pentanone	10U	ug/kg

VOA - PP Scan (GCMS) *** Continued ***	Sediment Result	Units
1,3,5-Trimethylbenzene	5U	ug/kg
Bromobenzene	5U	ug/kg
Toluene	5U	ug/kg
Chlorobenzene	5U	ug/kg
1,2,4-Trichlorobenzene	5U	ug/kg
Dibromochloromethane	5U	ug/kg
Tetrachloroethene	5U	ug/kg
Sec-Butylbenzene	5U	ug/kg
1,3-Dichloropropane	5U	ug/kg
Cis-1,2-Dichloroethene	5U	ug/kg
trans-1,2-Dichloroethe+	5U	ug/kg
1,3-Dichlorobenzene	5U	ug/kg
1,1-Dichloropropene	5U	ug/kg
2,2-Dichloropropane	5U	ug/kg
2-Hexanone	10U	ug/kg
Ethane, 1,1,1,2-Tetrac+	5U	ug/kg
cis-1,3-Dichloropropene	5U	ug/kg
trans-1,3-Dichloroprop+	5U	ug/kg
Surrog: D4-1,2-Dichlor+	101	% Recov
Surrog: 1,4-Bromofluor+	98	% Recov
Surrog: D8-Toluene	95	% Recov

B/N/Acid Scan	Sediment Result	Units
Benzo(a)pyrene	200U	ug/kg
2,4-Dinitrophenol	970UJ	ug/kg
Dibenzo(a,h)anthracene	200U	ug/kg
Benzo(a)anthracene	200U	ug/kg
4-Chloro-3-Methylphenol	200U	ug/kg
Benzoic acid	970U	ug/kg
Hexachloroethane	200U	ug/kg
Hexachlorocyclopentadi+	400U	ug/kg
Isophorone	200U	ug/kg
Acenaphthene	200U	ug/kg
Diethylphthalate	200U	ug/kg
Di-n-Butylphthalate	100J*	ug/kg
Phenanthrene	200U	ug/kg
Butylbenzylphthalate	200U	ug/kg
N-Nitrosodiphenylamine	200UJ	ug/kg
Fluorene	200U	ug/kg
Carbazole	200U	ug/kg
Hexachlorobutadiene	200U	ug/kg

B/N/Acid Scan *** Continued ***	Sediment Result	Units
Pentachlorophenol	970U	ug/kg
2,4,6-Trichlorophenol	200U	ug/kg
2-Nitroaniline	NAR	ug/kg
2-Nitrophenol	200U	ug/kg
Naphthalene, 1-Methyl-	200U	ug/kg
Naphthalene	200U	ug/kg
2-Methylnaphthalene	200U	ug/kg
2-Chloronaphthalene	200U	ug/kg
3,3'-Dichlorobenzidine	200U	ug/kg
2-Methylphenol	200UJ	ug/kg
1,2-Dichlorobenzene	200U	ug/kg
o-Chlorophenol	200U	ug/kg
2,4,5-Trichlorophenol	970UJ	ug/kg
Nitrobenzene	200U	ug/kg
3-Nitroaniline	NAR	ug/kg
4-Nitroaniline	NAR	ug/kg
4-Nitrophenol	970UJ	ug/kg
Benzyl Alcohol	200U	ug/kg
4-Bromophenyl-phenylet+	200U	ug/kg
2,4-Dimethylphenol	200U	ug/kg
4-Methylphenol	200U	ug/kg
1,4-Dichlorobenzene	200U	ug/kg
4-Chloroaniline	200UJ	ug/kg
Phenol	200U	ug/kg
bis(2-Chloroethyl)Ether	200U	ug/kg
bis(2-Chloroethoxy)Met+	200U	ug/kg
BIS(2-ETHYLHEXYL) PHTH+	860B*	ug/kg
Di-n-Octyl Phthalate	200BUJ	ug/kg
Hexachlorobenzene	200U	ug/kg
Anthracene	200U	ug/kg
1,2,4-Trichlorobenzene	200U	ug/kg
2,4-Dichlorophenol	200U	ug/kg
2,4-Dinitrotoluene	200UJ	ug/kg
Pyrene	200U	ug/kg
Dimethylphthalate	200U	ug/kg
Dibenzofuran	200U	ug/kg
Benzo(ghi)perylene	200U	ug/kg
Indeno(1,2,3-cd)pyrene	200U	ug/kg
Benzo(b)fluoranthene	200U	ug/kg
Fluoranthene	200U	ug/kg
Benzo(k)fluoranthene	200U	ug/kg
Acenaphthylene	200U	ug/kg
Chrysene	200U	ug/kg
Retene	200U	ug/kg

(Continued on next page)

Project: TEC-449A CMX CORPORATION Officer: TET Account: FA10PUZZ

Laboratory: EPA, Manchester

Sample No: 89 134619 Description: CMX 83B Source: Bore Hole Material

Begin Date: 89/03/27

End Date: 89/03/27 Comp: Freq:

B/N/Acid Scan *** Continued ***	Sediment Result	Units
4,6-Dinitro-2-methylph+	970U	ug/kg
1,3-Dichlorobenzene	200U	ug/kg
2,6-Dinitrotoluene	200U	ug/kg
N-Nitroso-di-n-Propyla+	200U	ug/kg
4-Chlorophenyl-phenyle+	200U	ug/kg
bis(2-Chloroisopropyl)+	200U	ug/kg
Surrog: Pyrene D10	36	% Recov
Surrog: 2-Fluorobiphen+	33	% Recov
Surrog: 2-Fluorophenol	39	% Recov
Surrog: D14-Terphenyl	41	% Recov
Surrog: D5-Nitrobenzene	32	% Recov
Surrog: D5-Phenol	40	% Recov

B/N/Acid Scan Matrix Spike #1	Sediment Result	Units
Benzo(a)pyrene	93J	% Recov
2,4-Dinitrophenol	52J	% Recov
Dibenzo(a,h)anthracene	79J	% Recov
Benzo(a)anthracene	87J	% Recov
4-Chloro-3-Methylphenol	140	% Recov
Benzoic acid	480U	% Recov
Hexachloroethane	53J	% Recov
Hexachlorocyclopentadi+	NAR	% Recov
Isophorone	93J	% Recov
Acenaphthene	83J	% Recov
Diethylphthalate	92J	% Recov
Di-n-Butylphthalate	93J	% Recov
Phenanthrene	85J	% Recov
Butylbenzylphthalate	73J	% Recov
N-Nitrosodiphenylamine	110	% Recov
Fluorene	83J	% Recov
Carbazole	NAR	% Recov
Hexachlorobutadiene	54J	% Recov
Pentachlorophenol	83J	% Recov
2,4,6-Trichlorophenol	94J	% Recov
2-Nitroaniline	NAR	% Recov
2-Nitrophenol	80J	% Recov
Naphthalene, 1-Methyl-	NAR	% Recov
Naphthalene	73J	% Recov
2-Methylnaphthalene	67J	% Recov
2-Chloronaphthalene	78J	% Recov
3,3'-Dichlorobenzidine	NAR	% Recov

B/N/Acid Scan *** Continued *** Matrix Spike #1	Sediment Result	Units
2-Methylphenol	80J	% Recov
1,2-Dichlorobenzene	55J	% Recov
o-Chlorophenol	93J	% Recov
2,4,5-Trichlorophenol	88J	% Recov
Nitrobenzene	73J	% Recov
3-Nitroaniline	NAR	% Recov
4-Nitroaniline	NAR	% Recov
4-Nitrophenol	81J	% Recov
Benzyl Alcohol	120	% Recov
4-Bromophenyl-phenylet+	110	% Recov
2,4-Dimethylphenol	81J	% Recov
4-Methylphenol	98J	% Recov
1,4-Dichlorobenzene	39J	% Recov
4-Chloroaniline	99U	% Recov
Phenol	86J	% Recov
bis(2-Chloroethyl)Ether	35J	% Recov
bis(2-Chloroethoxy)Met+	85J	% Recov
BIS(2-ETHYLHEXYL) PHTH+	250B	% Recov
Di-n-Octyl Phthalate	210B	% Recov
Hexachlorobenzene	110	% Recov
Anthracene	83J	% Recov
1,2,4-Trichlorobenzene	55J	% Recov
2,4-Dichlorophenol	110	% Recov
2,4-Dinitrotoluene	81J	% Recov
Pyrene	67J	% Recov
Dimethylphthalate	90J	% Recov
Dibenzofuran	86J	% Recov
Benzo(ghi)perylene	43J	% Recov
Indeno(1,2,3-cd)pyrene	54J	% Recov
Surrog: Pyrene D10	29	% Recov
Benzo(b)fluoranthene	130	% Recov
Fluoranthene	95J	% Recov
Benzo(k)fluoranthene	70J	% Recov
Acenaphthylene	91J	% Recov
Chrysene	89J	% Recov
Retene	NAR	% Recov
4,6-Dinitro-2-methylph+	70J	% Recov
1,3-Dichlorobenzene	99U	% Recov
2,6-Dinitrotoluene	82J	% Recov
N-Nitroso-di-n-Propyla+	99U	% Recov
4-Chlorophenyl-phenyle+	100	% Recov
bis(2-Chloroisopropyl)+	99U	% Recov
Surrog: 2-Fluorobiphen+	31	% Recov
Surrog: 2-Fluorophenol	37	% Recov

B/N/Acid Scan *** Continued *** Matrix Spike #1	Sediment Result	Units
Surrog: D14-Terphenyl	35	% Recov
Surrog: D5-Nitrobenzene	28	% Recov
Surrog: D5-Phenol	35	% Recov

B/N/Acid Scan Matrix Spike #2	Sediment Result	Units
Benzo(a)pyrene	48J	% Recov
2,4-Dinitrophenol	13J	% Recov
Dibenzo(a,h)anthracene	42J	% Recov
Benzo(a)anthracene	50J	% Recov
4-Chloro-3-Methylphenol	52J	% Recov
Benzoic acid	13J	% Recov
Hexachloroethane	33J	% Recov
Hexachlorocyclopentadi+	NAR	% Recov
Isophorone	40J	% Recov
Acenaphthene	37J	% Recov
Diethylphthalate	39J	% Recov
Di-n-Butylphthalate	42J	% Recov
Phenanthrene	41J	% Recov
Butylbenzylphthalate	39J	% Recov
N-Nitrosodiphenylamine	50J	% Recov
Fluorene	35J	% Recov
Carbazole	99U	% Recov
Hexachlorobutadiene	41J	% Recov
Pentachlorophenol	46J	% Recov
2,4,6-Trichlorophenol	46J	% Recov
2-Nitroaniline	480U	% Recov
2-Nitrophenol	40J	% Recov
Naphthalene, 1-Methyl-	NAR	% Recov
Naphthalene	34J	% Recov
2-Methylnaphthalene	27J	% Recov
2-Chloronaphthalene	35J	% Recov
3,3'-Dichlorobenzidine	NAR	% Recov
2-Methylphenol	45J	% Recov
1,2-Dichlorobenzene	33J	% Recov
o-Chlorophenol	46J	% Recov
2,4,5-Trichlorophenol	41J	% Recov
Nitrobenzene	0.1J	% Recov
3-Nitroaniline	NAR	% Recov
4-Nitroaniline	NAR	% Recov
4-Nitrophenol	22J	% Recov
Benzyl Alcohol	99U	% Recov

(Continued on next page)

Project: TEC-449A CMX CORPORATION Officer: TET Account: FA10PUZZ

Laboratory: EPA, Manchester

Sample No: 89 134619 Description: CMX 83B Source: Bore Hole Material

Begin Date: 89/03/27 :

End Date: 89/03/27 : Comp: Freq:

B/N/Acid Scan *** Continued *** Matrix Spike #2	Sediment Result	Units
4-Bromophenyl-phenylet+	59J	% Recov
2,4-Dimethylphenol	22J	% Recov
4-Methylphenol	40J	% Recov
1,4-Dichlorobenzene	34J	% Recov
4-Chloroaniline	18J	% Recov
Phenol	41J	% Recov
bis(2-Chloroethyl)Ether	39J	% Recov
bis(2-Chloroethoxy)Met+	37J	% Recov
BIS(2-ETHYLHEXYL) PHTH+	210B	% Recov
Di-n-Octyl Phthalate	110B	% Recov
Hexachlorobenzene	61J	% Recov
Anthracene	40J	% Recov
1,2,4-Trichlorobenzene	35J	% Recov
2,4-Dichlorophenol	43J	% Recov
2,4-Dinitrotoluene	38J	% Recov
Pyrene	39J	% Recov
Dimethylphthalate	42J	% Recov
Dibenzofuran	39J	% Recov
Benzo(ghi)perylene	23J	% Recov
Indeno(1,2,3-cd)pyrene	33J	% Recov
Surrog: Pyrene D10	17	% Recov
Benzo(b)fluoranthene	41J	% Recov
Fluoranthene	48J	% Recov
Benzo(k)fluoranthene	39J	% Recov
Acenaphthylene	39J	% Recov
Chrysene	47J	% Recov
Retene	NAR	% Recov
4,6-Dinitro-2-methylph+	28J	% Recov
1,3-Dichlorobenzene	33J	% Recov
2,6-Dinitrotoluene	36J	% Recov
N-Nitroso-di-n-Propyla+	3J	% Recov
4-Chlorophenyl-phenyle+	48J	% Recov
bis(2-Chloroisopropyl)+	47J	% Recov
Surrog: 2-Fluorobiphen+	15	% Recov
Surrog: 2-Fluorophenol	17	% Recov
Surrog: D14-Terphenyl	22	% Recov
Surrog: D5-Nitrobenzene	14	% Recov
Surrog: D5-Phenol	17	% Recov

Tent Ident - B/N/Aci	Sediment Result	Units
1,2-BENZENEDICARBOXYLI+	340J*	ug/kg
HEXANEDIOIC ACID, BIS(+	1900JB*	ug/kg
4-HYDROXY-4-METHYLPENT+	870000JB*	ug/kg
3-PENTEN-2-ONE, 4-METH+	3900JB*	ug/kg
3-PENTEN-2-ONE	1200JB*	ug/kg
HYDROCARBON "	500J*	ug/kg
NONACOSANE	1400J*	ug/kg
2-CYCLOHEXEN-1-ONE, 3,+	450J*	ug/kg
HYDROCARBON "	1100J*	ug/kg
3-HEPTANONE, 2,4-DIMET+	2800J*	ug/kg
2(5H)-FURANONE, 5,5-DI+	380J*	ug/kg

Pest/PCB - PP Scan	Sediment Result	Units
4,4'-DDT	76 *	ug/kg
Chlordane	10U	ug/kg
gamma-BHC (Lindane)	4.0U	ug/kg
Dieldrin	4.0U	ug/kg
Endrin	4.0U	ug/kg
Methoxychlor	4.0U	ug/kg
4,4'-DDD	4.0U	ug/kg
4,4'-DDE	58 *	ug/kg
Heptachlor	4.0U	ug/kg
Aldrin	4.0U	ug/kg
alpha-BHC	4.0U	ug/kg
beta-BHC	4.0U	ug/kg
delta-BHC	4.0U	ug/kg
alpha-Endosulfan	4.0U	ug/kg
Heptachlor epoxide	4.0U	ug/kg
Endosulfan sulfate	4.0U	ug/kg
Endrin aldehyde	4.0U	ug/kg
Toxaphene	400U	ug/kg
PCB - 1260	100U	ug/kg
PCB - 1254	100U	ug/kg
PCB - 1221	100U	ug/kg
PCB - 1232	100U	ug/kg
PCB - 1248	100U	ug/kg
PCB - 1016	100U	ug/kg
beta-Endosulfan	4.0U	ug/kg
PCB - 1242	100U	ug/kg
IntStd: Hexabromobenze+	82	% Recov
IntStd: 4,4-Dibromooct+	83	% Recov

Pest/PCB - PP Scan Matrix Spike #1	Sediment Result	Units
4,4'-DDT	132	% Recov
Chlordane	NAR	% Recov
gamma-BHC (Lindane)	71	% Recov
Dieldrin	78	% Recov
Endrin	79	% Recov
Methoxychlor	78	% Recov
4,4'-DDD	90	% Recov
4,4'-DDE	102	% Recov
Heptachlor	50	% Recov
Aldrin	57	% Recov
alpha-BHC	60	% Recov
beta-BHC	77	% Recov
delta-BHC	76	% Recov
alpha-Endosulfan	76	% Recov
Heptachlor epoxide	78	% Recov
Endosulfan sulfate	73	% Recov
Endrin aldehyde	39	% Recov
Toxaphene	NAR	% Recov
PCB - 1260	NAR	% Recov
PCB - 1254	NAR	% Recov
PCB - 1221	NAR	% Recov
PCB - 1232	NAR	% Recov
PCB - 1248	NAR	% Recov
PCB - 1016	NAR	% Recov
beta-Endosulfan	80	% Recov
PCB - 1242	NAR	% Recov
IntStd: Hexabromobenze+	55	% Recov
IntStd: 4,4-Dibromooct+	38	% Recov

Pest/PCB - PP Scan Matrix Spike #2	Sediment Result	Units
4,4'-DDT	174	% Recov
Chlordane	NAR	% Recov
gamma-BHC (Lindane)	94	% Recov
Dieldrin	106	% Recov
Endrin	103	% Recov
Methoxychlor	117	% Recov
4,4'-DDD	120	% Recov
4,4'-DDE	154	% Recov
Heptachlor	90	% Recov
Aldrin	94	% Recov
alpha-BHC	86	% Recov
beta-BHC	100	% Recov

(Continued on next page)

Project: TEC-449A CMX CORPORATION Officer: TET Account: FA10PUZZ

Laboratory: EPA, Manchester

Sample No: 89 134619 Description: CMX 83B Source: Bore Hole Material

Begin Date: 89/03/27 :

End Date: 89/03/27 : Comp: Freq:

Pest/PCB - PP Scan *** Continued ***	Sediment	
Matrix Spike #2	Result	Units
delta-BHC	100	% Recov
alpha-Endosulfan	101	% Recov
Heptachlor epoxide	106	% Recov
Endosulfan sulfate	96	% Recov
Endrin aldehyde	57	% Recov
Toxaphene	NAR	% Recov
PCB - 1260	NAR	% Recov
PCB - 1254	NAR	% Recov
PCB - 1221	NAR	% Recov
PCB - 1232	NAR	% Recov
PCB - 1248	NAR	% Recov
PCB - 1016	NAR	% Recov
beta-Endosulfan	109	% Recov
PCB - 1242	NAR	% Recov
IntStd: Hexabromobenze+	95	% Recov
IntStd: 4,4-Dibromooct+	92	% Recov

(Sample Complete)

Project: TEC-449A CMX CORPORATION Officer: TET Account: FA10PU2Z

Laboratory: EPA, Manchester

Sample No: 89 134620 Description: CMX SM Source: Sludge (General)

Begin Date: 89/03/27

End Date: 89/03/27 : Comp: Freq:

VOA - PP Scan (GCMS)	Sediment Result	Units
Carbon Tetrachloride	9U	ug/kg
Acetone	9U	ug/kg
Chloroform	6J*	ug/kg
Benzene	110 *	ug/kg
1,1,1-Trichloroethane	9U	ug/kg
Bromomethane	17BU	ug/kg
Chloromethane	17BU	ug/kg
Dibromomethane	9U	ug/kg
Chloroethane	17U	ug/kg
Vinyl Chloride	17U	ug/kg
Methylene Chloride	9BUJ	ug/kg
Carbon Disulfide	61B*	ug/kg
Bromoform	9U	ug/kg
Bromodichloromethane	9U	ug/kg
1,1-Dichloroethane	9U	ug/kg
1,1-Dichloroethene	9U	ug/kg
Trichlorofluoromethane	65J*	ug/kg
Methane, Dichlorodiflu+	5BU	ug/kg
1,2-Dichloropropane	9U	ug/kg
2-Butanone	7BU	ug/kg
1,1,2-Trichloroethane	9U	ug/kg
Trichloroethene	7J*	ug/kg
ETHANE, 1,1,2,2-TETRAC+	9U	ug/kg
1,2,3-Trichlorobenzene	9U	ug/kg
Hexachlorobutadiene	9U	ug/kg
Naphthalene	9U	ug/kg
Total Xylenes	370 *	ug/kg
2-Chlorotoluene	9U	ug/kg
1,2-Dichlorobenzene	9U	ug/kg
1,2,4-Trimethylbenzene	90J*	ug/kg
DBCP	9U	ug/kg
1,2,3-Trichloropropane	9U	ug/kg
Tert-Butylbenzene	9U	ug/kg
Isopropylbenzene (Cume+	18J*	ug/kg
p-Isopropyltoluene	320J*	ug/kg
BENZENE, ETHYL-	54 *	ug/kg
BENZENE, ETHENYL-	9U	ug/kg
BENZENE, PROPYL-	40J*	ug/kg
Butylbenzene	9U	ug/kg
4-Chlorotoluene	9U	ug/kg
1,4-Dichlorobenzene	9U	ug/kg
1,2-Dibromoethane (EDB)	17U	ug/kg
1,2-Dichloroethane	9U	ug/kg
Vinyl Acetate	17U	ug/kg
4-Methyl-2-Pentanone	17U	ug/kg

VOA - PP Scan (GCMS) *** Continued ***	Sediment Result	Units
1,3,5-Trimethylbenzene	230J*	ug/kg
Bromobenzene	9U	ug/kg
Toluene	220 *	ug/kg
Chlorobenzene	9U	ug/kg
1,2,4-Trichlorobenzene	9U	ug/kg
Dibromochloromethane	9U	ug/kg
Tetrachloroethene	240 *	ug/kg
Sec-Butylbenzene	9U	ug/kg
1,3-Dichloropropane	9U	ug/kg
Cis-1,2-Dichloroethene	9U	ug/kg
trans-1,2-Dichloroethe+	9U	ug/kg
1,3-Dichlorobenzene	9U	ug/kg
1,1-Dichloropropene	9U	ug/kg
2,2-Dichloropropane	9U	ug/kg
2-Hexanone	17U	ug/kg
Ethane, 1,1,1,2-Tetrac+	9U	ug/kg
cis-1,3-Dichloropropene	9U	ug/kg
trans-1,3-Dichloroprop+	9U	ug/kg
Surrog: D4-1,2-Dichlor+	100	% Recov
Surrog: 1,4-Bromofluor+	77	% Recov
Surrog: D8-Toluene	124	% Recov

Tent Ident - VOA Sca	Sediment Result	Units
DODECANE	2000J*	ug/kg
DECANE	720J*	ug/kg
UNDECANE	1700J*	ug/kg

B/N/Acid Scan	Sediment Result	Units
Benzo(a)pyrene	8500U	ug/kg
2,4-Dinitrophenol	41000UJ	ug/kg
Dibenzo(a,h)anthracene	8500U	ug/kg
Benzo(a)anthracene	8500U	ug/kg
4-Chloro-3-Methylphenol	8500U	ug/kg
Benzoic acid	41000UJ	ug/kg
Hexachloroethane	8500U	ug/kg
Hexachlorocyclopentadi+	17000UJ	ug/kg
Isophorone	8500U	ug/kg
Acenaphthene	8500U	ug/kg

B/N/Acid Scan *** Continued ***	Sediment Result	Unit
Diethylphthalate	8500U	ug/kg
Di-n-Butylphthalate	750J*	ug/kg
Phenanthrene	860J*	ug/kg
Butylbenzylphthalate	1300J*	ug/kg
N-Nitrosodiphenylamine	8500U	ug/kg
Fluorene	8500U	ug/kg
Carbazole	8500UJ	ug/kg
Hexachlorobutadiene	8500U	ug/kg
Pentachlorophenol	41000U	ug/kg
2,4,6-Trichlorophenol	8500UJ	ug/kg
2-Nitroaniline	NAR	ug/kg
2-Nitrophenol	8500U	ug/kg
Naphthalene, 1-Methyl-	1000J*	ug/kg
Naphthalene	720J*	ug/kg
2-Methylnaphthalene	1100J*	ug/kg
2-Chloronaphthalene	8500U	ug/kg
3,3'-Dichlorobenzidine	8500UJ	ug/kg
2-Methylphenol	8500U	ug/kg
1,2-Dichlorobenzene	8500U	ug/kg
o-Chlorophenol	8500U	ug/kg
2,4,5-Trichlorophenol	41000U	ug/kg
Nitrobenzene	8500U	ug/kg
3-Nitroaniline	NAR	ug/kg
4-Nitroaniline	NAR	ug/kg
4-Nitrophenol	41000UJ	ug/kg
Benzyl Alcohol	REJ	ug/kg
4-Bromophenyl-phenylet+	8500U	ug/kg
2,4-Dimethylphenol	8500U	ug/kg
4-Methylphenol	8500U	ug/kg
1,4-Dichlorobenzene	8500U	ug/kg
4-Chloroaniline	8500U	ug/kg
Phenol	8500U	ug/kg
bis(2-Chloroethyl)Ether	8500U	ug/kg
bis(2-Chloroethoxy)Met+	8500U	ug/kg
BIS(2-ETHYLHEXYL) PHTH+	33000BJ*	ug/kg
Di-n-Octyl Phthalate	2900BJ*	ug/kg
Hexachlorobenzene	8500U	ug/kg
Anthracene	8500U	ug/kg
1,2,4-Trichlorobenzene	8500U	ug/kg
2,4-Dichlorophenol	8500U	ug/kg
2,4-Dinitrotoluene	8500U	ug/kg
Pyrene	980J*	ug/kg
Dimethylphthalate	8500U	ug/kg
Dibenzofuran	8500U	ug/kg

(Continued on next page)

Project: TEC-449A CMX CORPORATION Officer: TET Account: FA10PUZZ

Laboratory: EPA, Manchester

Sample No: 89 134620 Description: CMX SM Source: Sludge (General)

Begin Date: 89/03/27 :

End Date: 89/03/27 : Comp: Freq:

B/N/Acid Scan *** Continued ***	Sediment Result	Units
Benzo(ghi)perylene	8500U	ug/kg
Indeno(1,2,3-cd)pyrene	8500U	ug/kg
Benzo(b)fluoranthene	8500U	ug/kg
Fluoranthene	8500U	ug/kg
Benzo(k)fluoranthene	8500U	ug/kg
Acenaphthylene	8500U	ug/kg
Chrysene	8500U	ug/kg
Retene	8500U	ug/kg
4,6-Dinitro-2-methylph+	41000UJ	ug/kg
1,3-Dichlorobenzene	8500U	ug/kg
2,6-Dinitrotoluene	8500U	ug/kg
N-Nitroso-di-n-Propyla+	8500U	ug/kg
4-Chlorophenyl-phenyle+	8500U	ug/kg
bis(2-Chloroisopropyl)+	8500UJ	ug/kg
Surrog: Pyrene D10	NAR	% Recov
Surrog: 2-Fluorobiphen+	NAR	% Recov
Surrog: 2-Fluorophenol	NAR	% Recov
Surrog: D14-Terphenyl	NAR	% Recov
Surrog: D5-Nitrobenzene	NAR	% Recov
Surrog: D5-Phenol	NAR	% Recov

Tent Ident - B/N/Aci	Sediment Result	Units
4-HYDROXY-4-METHYLPENT+	52000J*	ug/kg
HYDROCARBON "	9300J*	ug/kg
HEPTADECANE	11000J*	ug/kg
HYDROCARBON "	11000J*	ug/kg
HYDROCARBON "	7700J*	ug/kg
HYDROCARBON (EVIDENCE +	4900J*	ug/kg
DECANE, 2,3,7-TRIMETHY+	8200J*	ug/kg

Pest/PCB - PP Scan	Sediment Result	Units
4,4'-DDT	657NJ*	ug/kg
Chlordane	21UJ	ug/kg
gamma-BHC (Lindane)	88NJ*	ug/kg
Dieldrin	315NJ*	ug/kg
Endrin	348NJ*	ug/kg
Methoxychlor	497NJ*	ug/kg
4,4'-DDD	86UJ	ug/kg

Pest/PCB - PP Scan *** Continued ***	Sediment Result	Units
4,4'-DDE	550NJ*	ug/kg
Heptachlor	94NJ*	ug/kg
Aldrin	271NJ*	ug/kg
alpha-BHC	86UJ	ug/kg
beta-BHC	86UJ	ug/kg
delta-BHC	86UJ	ug/kg
alpha-Endosulfan	208NJ*	ug/kg
Heptachlor epoxide	376NJ*	ug/kg
Endosulfan sulfate	86UJ	ug/kg
Endrin aldehyde	148NJ*	ug/kg
Toxaphene	8600UJ	ug/kg
PCB - 1260	2100UJ	ug/kg
PCB - 1254	4200NJ*	ug/kg
PCB - 1221	2100UJ	ug/kg
PCB - 1232	2100UJ	ug/kg
PCB - 1248	2100UJ	ug/kg
PCB - 1016	2100UJ	ug/kg
beta-Endosulfan	174NJ*	ug/kg
PCB - 1242	2100UJ	ug/kg
IntStd: Hexabromobenze+	NAR	% Recov
IntStd: 4,4-Dibromooct+	NAR	% Recov

(Sample Complete)

Project: TEC-449A CMX CORPORATION Officer: TET Account: FA10PUZZ

Blank ID: BS9088

Tent Ident - B/N/Aci Blank #1	Sediment Result	Units
HEXANEDIOIC ACID, BIS(+	600J*	ug/kg
4-HYDROXY-4-METHYLPENT+	140000J*	ug/kg
3-PENTEN-2-ONE, 4-METH+	320J*	ug/kg
OCTANE, 3-METHYL-	570J*	ug/kg
OCTANE, 2-METHYL-	410J*	ug/kg
4-PENTEN-2-ONE	3200J*	ug/kg

Pest/PCB - PP Scan Blank #1	Sediment Result	Units
4,4'-DDT	ND	ug/kg
Chlordane	ND	ug/kg
gamma-BHC (Lindane)	ND	ug/kg
Dieldrin	ND	ug/kg
Endrin	ND	ug/kg
Methoxychlor	ND	ug/kg
4,4'-DDD	ND	ug/kg
4,4'-DDE	ND	ug/kg
Heptachlor	ND	ug/kg
Aldrin	ND	ug/kg
alpha-BHC	ND	ug/kg
beta-BHC	ND	ug/kg
delta-BHC	ND	ug/kg
alpha-Endosulfan	ND	ug/kg
Heptachlor epoxide	ND	ug/kg
Endosulfan sulfate	ND	ug/kg
Endrin aldehyde	ND	ug/kg
Toxaphene	ND	ug/kg
PCB - 1260	ND	ug/kg
PCB - 1254	ND	ug/kg
PCB - 1221	ND	ug/kg
PCB - 1232	ND	ug/kg
PCB - 1248	ND	ug/kg
PCB - 1016	ND	ug/kg
beta-Endosulfan	ND	ug/kg
PCB - 1242	ND	ug/kg
IntStd: Hexabromobenze+	94	% Recov
IntStd: 4,4-Dibromooct+	69	% Recov

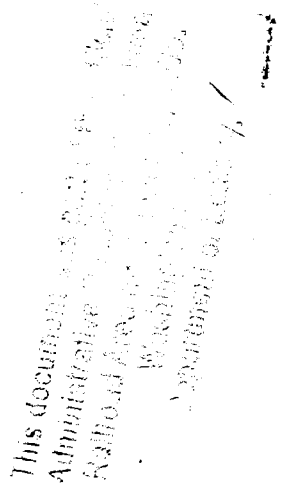
(Sample Complete)

Project: TEC-449A CMX CORPORATION

Officer: TET Account: FA10PUZZ

Blank ID: BS9088D

Pest/PCB - PP Scan Blank #2	Sediment Result	Units
4,4'-DDT	ND	ug/kg
Chlordane	ND	ug/kg
gamma-BHC (Lindane)	ND	ug/kg
Dieldrin	ND	ug/kg
Endrin	ND	ug/kg
Methoxychlor	ND	ug/kg
4,4'-DDD	ND	ug/kg
4,4'-DDE	ND	ug/kg
Heptachlor	ND	ug/kg
Aldrin	ND	ug/kg
alpha-BHC	ND	ug/kg
beta-BHC	ND	ug/kg
delta-BHC	ND	ug/kg
alpha-Endosulfan	ND	ug/kg
Heptachlor epoxide	ND	ug/kg
Endosulfan sulfate	ND	ug/kg
Endrin aldehyde	ND	ug/kg
Toxaphene	ND	ug/kg
PCB - 1260	ND	ug/kg
PCB - 1254	ND	ug/kg
PCB - 1221	ND	ug/kg
PCB - 1232	ND	ug/kg
PCB - 1248	ND	ug/kg
PCB - 1016	ND	ug/kg
beta-Endosulfan	ND	ug/kg
PCB - 1242	ND	ug/kg
IntStd: Hexabromobenze+	83	% Recov
IntStd: 4,4-Dibromooct+	80	% Recov



(Sample Complete)

Project: TEC-449A CMX CORPORATION Officer: TET Account: FA10PUZZ

Blank ID: BS9100

VOA - PP Scan (GCMS) Blank #1	Sediment Result	Units
Carbon Tetrachloride	6U	ug/kg
Acetone	10U	ug/kg
Chloroform	6U	ug/kg
Benzene	6U	ug/kg
1,1,1-Trichloroethane	6U	ug/kg
Bromomethane	1U	ug/kg
Chloromethane	0.5U	ug/kg
Dibromomethane	6U	ug/kg
Chloroethane	12U	ug/kg
Vinyl Chloride	12U	ug/kg
Methylene Chloride	3U	ug/kg
Carbon Disulfide	0.2U	ug/kg
Bromoform	6U	ug/kg
Bromodichloromethane	6U	ug/kg
1,1-Dichloroethane	6U	ug/kg
1,1-Dichloroethene	6U	ug/kg
Trichlorofluoromethane	6U	ug/kg
Methane, Dichlorodiflu+	0.06U	ug/kg
1,2-Dichloropropane	6U	ug/kg
2-Butanone	0.5J*	ug/kg
1,1,2-Trichloroethane	6U	ug/kg
Trichloroethene	6U	ug/kg
ETHANE, 1,1,2,2-TETRAC+	6U	ug/kg
1,2,3-Trichlorobenzene	6U	ug/kg
Hexachlorobutadiene	6U	ug/kg
Naphthalene	6U	ug/kg
Total Xylenes	0.06U	ug/kg
2-Chlorotoluene	6U	ug/kg
1,2-Dichlorobenzene	6U	ug/kg
1,2,4-Trimethylbenzene	6U	ug/kg
DBCP	6U	ug/kg
1,2,3-Trichloropropane	6U	ug/kg
Tert-Butylbenzene	6U	ug/kg
Isopropylbenzene (Cume+	6U	ug/kg
p-Isopropyltoluene	6U	ug/kg
BENZENE, ETHYL-	0.3U	ug/kg
BENZENE, ETHENYL-	6U	ug/kg
BENZENE, PROPYL-	6U	ug/kg
Butylbenzene	6U	ug/kg
4-Chlorotoluene	6U	ug/kg
1,4-Dichlorobenzene	6U	ug/kg
1,2-Dibromoethane (EDB)	12U	ug/kg
1,2-Dichloroethane	6U	ug/kg
Vinyl Acetate	12U	ug/kg
4-Methyl-2-Pentanone	12U	ug/kg

VOA - PP Scan (GCMS) *** Continued *** Blank #1	Sediment Result	Units
1,3,5-Trimethylbenzene	6U	ug/kg
Bromobenzene	6U	ug/kg
Toluene	6U	ug/kg
Chlorobenzene	6U	ug/kg
1,2,4-Trichlorobenzene	6U	ug/kg
Dibromochloromethane	6U	ug/kg
Tetrachloroethene	6U	ug/kg
Sec-Butylbenzene	6U	ug/kg
1,3-Dichloropropane	6U	ug/kg
Cis-1,2-Dichloroethene	6U	ug/kg
trans-1,2-Dichloroethe+	6U	ug/kg
1,3-Dichlorobenzene	6U	ug/kg
1,1-Dichloropropene	6U	ug/kg
2,2-Dichloropropane	6U	ug/kg
2-Hexanone	12U	ug/kg
Ethane, 1,1,1,2-Tetrac+	6U	ug/kg
cis-1,3-Dichloropropene	6U	ug/kg
trans-1,3-Dichloroprop+	6U	ug/kg
Surrog: D4-1,2-Dichlor+	98	% Recov
Surrog: 1,4-Bromofluor+	98	% Recov
Surrog: D8-Toluene	102	% Recov

(Sample Complete)

Project: TEC-449A CMX CORPORATION Officer: TET Account: FA10PUZZ

Blank ID: WBS9088D

B/N/Acid Scan Blank #2	Sediment Result	Units
Benzo(a)pyrene	170U	ug/kg
2,4-Dinitrophenol	800UJ	ug/kg
Dibenzo(a,h)anthracene	170U	ug/kg
Benzo(a)anthracene	170U	ug/kg
4-Chloro-3-Methylphenol	170U	ug/kg
Benzoic acid	800U	ug/kg
Hexachloroethane	170U	ug/kg
Hexachlorocyclopentadi+	330UJ	ug/kg
Isophorone	170U	ug/kg
Acenaphthene	170U	ug/kg
Diethylphthalate	170U	ug/kg
Di-n-Butylphthalate	170UJ	ug/kg
Phenanthrene	170U	ug/kg
Butylbenzylphthalate	170UJ	ug/kg
N-Nitrosodiphenylamine	170U	ug/kg
Fluorene	170U	ug/kg
Carbazole	170U	ug/kg
Hexachlorobutadiene	170UJ	ug/kg
Pentachlorophenol	800U	ug/kg
2,4,6-Trichlorophenol	170U	ug/kg
2-Nitroaniline	NAR	ug/kg
2-Nitrophenol	170U	ug/kg
Naphthalene, 1-Methyl-	170U	ug/kg
Naphthalene	170U	ug/kg
2-Methylnaphthalene	170U	ug/kg
2-Chloronaphthalene	170U	ug/kg
3,3'-Dichlorobenzidine	170U	ug/kg
2-Methylphenol	170U	ug/kg
1,2-Dichlorobenzene	170U	ug/kg
o-Chlorophenol	170U	ug/kg
2,4,5-Trichlorophenol	800U	ug/kg
Nitrobenzene	170U	ug/kg
3-Nitroaniline	NAR	ug/kg
4-Nitroaniline	NAR	ug/kg
4-Nitrophenol	800U	ug/kg
Benzyl Alcohol	170UJ	ug/kg
4-Bromophenyl-phenylet+	170U	ug/kg
2,4-Dimethylphenol	170U	ug/kg
4-Methylphenol	170U	ug/kg
1,4-Dichlorobenzene	170U	ug/kg
4-Chloroaniline	170UJ	ug/kg
Phenol	170U	ug/kg
bis(2-Chloroethyl)Ether	170U	ug/kg
bis(2-Chloroethoxy)Met+	170U	ug/kg
BIS(2-ETHYLHEXYL) PHTH+	23000BJ*	ug/kg

B/N/Acid Scan *** Continued *** Blank #2	Sediment Result	Units
Di-n-Octyl Phthalate	280BJ*	ug/kg
Hexachlorobenzene	170UJ	ug/kg
Anthracene	170U	ug/kg
1,2,4-Trichlorobenzene	170U	ug/kg
2,4-Dichlorophenol	170U	ug/kg
2,4-Dinitrotoluene	170U	ug/kg
Pyrene	170U	ug/kg
Dimethylphthalate	170U	ug/kg
Dibenzofuran	170U	ug/kg
Benzo(ghi)perylene	170U	ug/kg
Indeno(1,2,3-cd)pyrene	170U	ug/kg
Benzo(b)fluoranthene	170U	ug/kg
Fluoranthene	170U	ug/kg
Benzo(k)fluoranthene	170U	ug/kg
Acenaphthylene	170U	ug/kg
Chrysene	170U	ug/kg
Retene	170U	ug/kg
4,6-Dinitro-2-methylph+	800U	ug/kg
1,3-Dichlorobenzene	170U	ug/kg
2,6-Dinitrotoluene	170U	ug/kg
N-Nitroso-di-n-Propyla+	170U	ug/kg
4-Chlorophenyl-phenyle+	170U	ug/kg
bis(2-Chloroisopropyl)+	170U	ug/kg
Surrog: Pyrene D10	44	% Recov
Surrog: 2-Fluorobiphen+	25	% Recov
Surrog: 2-Fluorophenol	26	% Recov
Surrog: D14-Terphenyl	52	% Recov
Surrog: D5-Nitrobenzene	22	% Recov
Surrog: D5-Phenol	23	% Recov

Tent Ident - B/N/Aci Blank #2	Sediment Result	Units
HEXANEDIOIC ACID, BIS(+	56000J*	ug/kg
4-HYDROXY-4-METHYLPENT+	140000J*	ug/kg
3-PENTEN-2-ONE, 4-METH+	290J*	ug/kg
OCTANE, 3-METHYL-	490J*	ug/kg
OCTANE, 2-METHYL-	350J*	ug/kg
4-PENTEN-2-ONE	2900J*	ug/kg

(Sample Complete)

Project: TEC-449A CMX CORPORATION Officer: TET Account: FA10PUZZ

Blank ID: BS9102A

VOA - PP Scan (GCMS) Blank #2	Sediment Result	Units
Carbon Tetrachloride	6U	ug/kg
Acetone	10U	ug/kg
Chloroform	6U	ug/kg
Benzene	6U	ug/kg
1,1,1-Trichloroethane	6U	ug/kg
Bromomethane	1U	ug/kg
Chloromethane	0.4U	ug/kg
Dibromomethane	6U	ug/kg
Chloroethane	13U	ug/kg
Vinyl Chloride	13U	ug/kg
Methylene Chloride	3U	ug/kg
Carbon Disulfide	0.1U	ug/kg
Bromoform	6U	ug/kg
Bromodichloromethane	6U	ug/kg
1,1-Dichloroethane	6U	ug/kg
1,1-Dichloroethene	6U	ug/kg
Trichlorofluoromethane	6U	ug/kg
Methane, Dichlorodiflu+	13U	ug/kg
1,2-Dichloropropane	6U	ug/kg
2-Butanone	2U	ug/kg
1,1,2-Trichloroethane	6U	ug/kg
Trichloroethene	6U	ug/kg
ETHANE, 1,1,2,2-TETRAC+	6U	ug/kg
1,2,3-Trichlorobenzene	6U	ug/kg
Hexachlorobutadiene	6U	ug/kg
Naphthalene	6U	ug/kg
Total Xylenes	6U	ug/kg
2-Chlorotoluene	6U	ug/kg
1,2-Dichlorobenzene	6U	ug/kg
1,2,4-Trimethylbenzene	6U	ug/kg
DBCP	6U	ug/kg
1,2,3-Trichloropropane	6U	ug/kg
Tert-Butylbenzene	6U	ug/kg
Isopropylbenzene (Cume+	6U	ug/kg
p-Isopropyltoluene	6U	ug/kg
BENZENE, ETHYL-	0.2U	ug/kg
BENZENE, ETHENYL-	6U	ug/kg
BENZENE, PROPYL-	6U	ug/kg
Butylbenzene	6U	ug/kg
4-Chlorotoluene	6U	ug/kg
1,4-Dichlorobenzene	6U	ug/kg
1,2-Dibromoethane (EDB)	13U	ug/kg
1,2-Dichloroethane	6U	ug/kg
Vinyl Acetate	13U	ug/kg
4-Methyl-2-Pentanone	13U	ug/kg

VOA - PP Scan (GCMS) *** Continued *** Blank #2	Sediment Result	Units
1,3,5-Trimethylbenzene	6U	ug/kg
Bromobenzene	6U	ug/kg
Toluene	6U	ug/kg
Chlorobenzene	6U	ug/kg
1,2,4-Trichlorobenzene	6U	ug/kg
Dibromochloromethane	6U	ug/kg
Tetrachloroethene	6U	ug/kg
Sec-Butylbenzene	6U	ug/kg
1,3-Dichloropropane	6U	ug/kg
Cis-1,2-Dichloroethene	6U	ug/kg
trans-1,2-Dichloroethe+	6U	ug/kg
1,3-Dichlorobenzene	6U	ug/kg
1,1-Dichloropropene	6U	ug/kg
2,2-Dichloropropane	6U	ug/kg
2-Hexanone	13U	ug/kg
Ethane, 1,1,1,2-Tetrac+	6U	ug/kg
cis-1,3-Dichloropropene	6U	ug/kg
trans-1,3-Dichloroprop+	6U	ug/kg
Surrog: D4-1,2-Dichlor+	95	% Recov
Surrog: 1,4-Bromofluor+	94	% Recov
Surrog: D8-Toluene	101	% Recov

(Sample Complete)

Project: TEC-449A CMX CORPORATION Officer: TET Account: FA10PUZZ

Blank ID: WBS9088

B/N/Acid Scan Blank #1	Sediment Result	Units
Benzo(a)pyrene	170U	ug/kg
2,4-Dinitrophenol	800UJ	ug/kg
Dibenzo(a,h)anthracene	170U	ug/kg
Benzo(a)anthracene	170U	ug/kg
4-Chloro-3-Methylphenol	170U	ug/kg
Benzoic acid	800U	ug/kg
Hexachloroethane	170U	ug/kg
Hexachlorocyclopentadi+	330UJ	ug/kg
Isophorone	170U	ug/kg
Acenaphthene	170U	ug/kg
Diethylphthalate	170U	ug/kg
Di-n-Butylphthalate	170UJ	ug/kg
Phenanthrene	170U	ug/kg
Butylbenzylphthalate	170UJ	ug/kg
N-Nitrosodiphenylamine	170U	ug/kg
Fluorene	170U	ug/kg
Carbazole	170U	ug/kg
Hexachlorobutadiene	170UJ	ug/kg
Pentachlorophenol	800U	ug/kg
2,4,6-Trichlorophenol	170U	ug/kg
2-Nitroaniline	NAR	ug/kg
2-Nitrophenol	170U	ug/kg
Naphthalene, 1-Methyl-	170U	ug/kg
Naphthalene	170U	ug/kg
2-Methylnaphthalene	170U	ug/kg
2-Chloronaphthalene	170U	ug/kg
3,3'-Dichlorobenzidine	170U	ug/kg
2-Methylphenol	170U	ug/kg
1,2-Dichlorobenzene	170U	ug/kg
o-Chlorophenol	170U	ug/kg
2,4,5-Trichlorophenol	800U	ug/kg
Nitrobenzene	170U	ug/kg
3-Nitroaniline	NAR	ug/kg
4-Nitroaniline	NAR	ug/kg
4-Nitrophenol	800U	ug/kg
Benzyl Alcohol	170UJ	ug/kg
4-Bromophenyl-phenylet+	170U	ug/kg
2,4-Dimethylphenol	170U	ug/kg
4-Methylphenol	170U	ug/kg
1,4-Dichlorobenzene	170U	ug/kg
4-Chloroaniline	170UJ	ug/kg
Phenol	170U	ug/kg
bis(2-Chloroethyl)Ether	170U	ug/kg
bis(2-Chloroethoxy)Met+	170U	ug/kg
BIS(2-ETHYLHEXYL) PHTH+	290J*	ug/kg

B/N/Acid Scan *** Continued *** Blank #1	Sediment Result	Units
Di-n-Octyl Phthalate	230J*	ug/kg
Hexachlorobenzene	170UJ	ug/kg
Anthracene	170U	ug/kg
1,2,4-Trichlorobenzene	170U	ug/kg
2,4-Dichlorophenol	170U	ug/kg
2,4-Dinitrotoluene	170U	ug/kg
Pyrene	170U	ug/kg
Dimethylphthalate	170U	ug/kg
Dibenzofuran	170U	ug/kg
Benzo(ghi)perylene	170U	ug/kg
Indeno(1,2,3-cd)pyrene	170U	ug/kg
Benzo(b)fluoranthene	170U	ug/kg
Fluoranthene	170U	ug/kg
Benzo(k)fluoranthene	170U	ug/kg
Acenaphthylene	170U	ug/kg
Chrysene	170U	ug/kg
Retene	170U	ug/kg
4,6-Dinitro-2-methylph+	800U	ug/kg
1,3-Dichlorobenzene	170U	ug/kg
2,6-Dinitrotoluene	170U	ug/kg
N-Nitroso-di-n-Propyla+	170U	ug/kg
4-Chlorophenyl-phenyle+	170U	ug/kg
bis(2-Chloroisopropyl)+	170U	ug/kg
Surrog: Pyrene D10	39	% Recov
Surrog: 2-Fluorobiphen+	32	% Recov
Surrog: 2-Fluorophenol	30	% Recov
Surrog: D14-Terphenyl	45	% Recov
Surrog: D5-Nitrobenzene	26	% Recov
Surrog: D5-Phenol	30	% Recov

(Sample Complete)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 4 - PERMIT AND DESCRIPTIVE INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
WA	D103507430

II. PERMIT INFORMATION

TYPE OF PERMIT ISSUED (Check all that apply)	02 PERMIT NUMBER	03 DATE ISSUED	04 EXPIRATION DATE	05 COMMENTS
___A. NPDES				
___B. UIC				
___C. AIR				
___D. RCRA				
___E. RCRA INTERIM STATUS				
___F. SPCC PLAN				
X G. STATE (Specify)	ST9046			Waste discharge permit
___H. LOCAL (Specify)				
X I. OTHER (Specify)	177937			DOT
___J. NONE				

III. SITE DESCRIPTION

01 STORAGE/DISPOSAL (Check all that apply)	02 AMOUNT	03 UNIT OF MEASURE
___A. SURFACE IMPOUNDMENT		
___B. PILES		
X C. DRUMS, ABOVE GROUND	12	55-gallon
X D. TANK, ABOVE GROUND	2	250-gallon
X E. TANK, BELOW GROUND	unknown	unknown
___F. LANDFILL		
___G. LANDFARM		
___H. OPEN DUMP		
X I. OTHER Drainfield (Specify)	Unknown	

04 TREATMENT (Check all that apply)
___A. INCINERATION
___B. UNDERGROUND INJECTION
___C. CHEMICAL/PHYSICAL
___D. BIOLOGICAL
___E. WASTE OIL PROCESSING
___F. SOLVENT RECOVERY
___G. OTHER RECYCLING/RECOVERY
___H. OTHER _____ (Specify)

05 Other
X A. BUILDINGS ON SITE
1

06 AREA OF SITE
~ 0.2 (Acres)

07 COMMENTS

Two above ground mixing tanks are located in warehouse area. Tanks are used for mixing developer and fixer photochemical solutions. Tanks are on elevated wooden platform; no spill containment features were observed.

IV. CONTAINMENT

01 CONTAINMENT OF WASTES (Check one)

___A. ADEQUATE, SECURE ___B.MODERATE X C.INADEQUATE, POOR ___D. INSECURE, UNSOUND, DANGEROUS

02 DESCRIPTION OF DRUMS, DIKING, LINERS, BARRIERS, ETC.

Drums of product and waste fixer and cleaner solutions are stored on wooden platforms; no spill containment features were observed.

V. ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE: ___YES X NO
02 COMMENTS

Waste fixer is stored in locked room in southeast corner of building. Facility is fenced on three sides, and entrance is by locking gate.

VI. SOURCES OF INFORMATION (Cite specific references, e.g. state files, sample analysis, reports)

1. E & E Site Inspection, 1989.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
WA	D103507430

II. DRINKING WATER SUPPLY

01 TYPE OF DRINKING SUPPLY (Check as applicable)

	SURFACE	WELL
COMMUNITY	A. X	B. ___
NON-COMMUNITY	C. ___	D. X

02 STATUS

ENDANGERED	AFFECTED	MONITORED
A. ___	B. ___	C. X
D. ___	E. ___	F. ___

03 DISTANCE TO SITE

A. > 3 (mi)
B. <.1 (mi)

III. GROUNDWATER

01 GROUNDWATER USE IN VICINITY (Check one)

___A. ONLY SOURCE FOR DRINKING
X B. DRINKING (Other sources available)
COMMERCIAL, INDUSTRIAL, IRRIGATION (No other water sources available)
___C. COMMERCIAL, INDUSTRIAL IRRIGATION (Limited other sources available)
___D. NOT USED, UNUSABLE

02 POPULATION SERVED BY GROUNDWATER ~ 10,500

03 DISTANCE TO NEAREST DRINKING WATER WELL ~ 100 (ft)

04 DEPTH TO GROUNDWATER	05 DIRECTION OF GROUNDWATER FLOW	06 DEPTH TO AQUIFER OF CONCERN	07 POTENTIAL YIELD OF AQUIFER	08 SOLE SOURCE AQUIFER
10-20 (ft)	Southeast	10-20 (ft)	Unknown (gpd)	___YES X NO

09 DESCRIPTION OF WELLS (Including usage, depth, and location relative to population and buildings)

The closest well is located at the Tolley residence at 1506 South 2nd Avenue, approximately 100 feet south of CMX. The depth of this well is unknown.

10 RECHARGE AREA		11 DISCHARGE AREA	
___YES	COMMENTS	___YES	COMMENTS
___NO	Unknown	___NO	Unknown

IV. SURFACE WATER

01 SURFACE WATER USE (Check one)

X A. RESERVOIR, RECREATION DRINKING WATER SOURCE
___B. IRRIGATION, ECONOMICALLY IMPORTANT RESOURCES
___C. COMMERCIAL, INDUSTRIAL
___D. NOT CURRENTLY USED

02 AFFECTED/POTENTIALLY AFFECTED BODIES OF WATER

NAME:	AFFECTED	DISTANCE TO SITE
Yakima River	___	2.0 (mi)
Wide Hollow Creek	___	~ 1.0 (mi)
	___	(mi)

V. DEMOGRAPHIC AND PROPERTY INFORMATION

01 TOTAL POPULATION WITHIN

ONE (1) MILE OF SITE	TWO (2) MILES OF SITE	THREE (3) MILES OF SITE
A. ~ 8,000	B. ~ 26,000	C. ~ 40,000
NO. OF PERSONS	NO. OF PERSONS	NO. OF PERSONS

02 DISTANCE TO NEAREST POPULATION

~ 20 (ft)

03 NUMBER OF BUILDINGS WITHIN TWO (2) MILES OF SITE

~ 7,000

04 DISTANCE TO NEAREST OFF-SITE BUILDING

~ 20 (ft)

05 POPULATION WITHIN VICINITY OF SITE (Provide narrative description of nature of population within vicinity of site, e.g., rural, village, densely populated urban area)

Site is located in a mixed residential/commercial area. There are four schools, five churches, two trailer parks, and a radio station within a 1-mile radius of the site. The nearest residential area is immediately south of the facility boundary.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION
01 STATE: WA | 02 SITE NUMBER: D103507430

II. HAZARDOUS CONDITIONS AND INCIDENTS (CONTINUED)

___J. DAMAGE TO FLORA — 02 ___ OBSERVED (DATE: _____) ___ POTENTIAL ___ ALLEGED
04 NARRATIVE DESCRIPTION

None known, observed, or suspected.

01 ___K. DAMAGE TO FAUNA — 02 ___ OBSERVED (DATE: _____) ___ POTENTIAL ___ ALLEGED
04 NARRATIVE DESCRIPTION (Include name(s) of species)

None known, observed, or suspected.

01 ___L. CONTAMINATION OF FOOD CHAIN — 02 ___ OBSERVED (DATE: _____) ___ POTENTIAL ___ ALLEGED
04 NARRATIVE DESCRIPTION

None known, observed, or suspected.

01 X M. UNSTABLE CONTAINMENT OF WASTES — 02 ___ OBSERVED (DATE: _____) X POTENTIAL ___ ALLEGED
(Spills/runoff/standing liquids/leaking drums)
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

Waste fixer and X-ray unit cleaner solutions stored in plastic and/or cardboard. 55-gallon drums are not bermed. Drainage from wash area may drain to underground drainfield.

01 ___N. DAMAGE TO OFFSITE PROPERTY — 02 ___ OBSERVED (DATE: _____) ___ POTENTIAL ___ ALLEGED
04 NARRATIVE DESCRIPTION

None known, observed, or suspected.

01 X O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs — 02 ___ OBSERVED (DATE: _____) X POTENTIAL ___ ALLEGED
04 NARRATIVE DESCRIPTION

The facility is not served by the city sewer. A septic tank was reportedly installed in 1985. A separate drainfield also may exist but has not been positively located.

01 ___P. ILLEGAL/UNAUTHORIZED DUMPING — 02 ___ OBSERVED (DATE: _____) ___ POTENTIAL ___ ALLEGED
04 NARRATIVE DESCRIPTION

None known, observed, or suspected.

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS

None known, observed, or suspected.

III. TOTAL POPULATION POTENTIALLY AFFECTED: 10,500

IV. COMMENTS

V. SOURCES OF INFORMATION (Cite specific references. e.g., state files, sample analysis, reports)

1. E & E Site Inspection, 1989.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 3 – DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
WA	D103507430

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 X A. GROUNDWATER CONTAMINATION — 02 ___ OBSERVED (DATE: _____) X POTENTIAL ___ ALLEGED

03 POPULATION POTENTIALLY AFFECTED: 10,500 — 04 NARRATIVE DESCRIPTION

Site wastes may enter groundwater via a drainfield beneath the site. Approximately 10,500 people are believed to use groundwater wells as a drinking water source within 3 miles of the site.

01 X B. SURFACE WATER CONTAMINATION — 02 ___ OBSERVED (DATE: _____) X POTENTIAL ___ ALLEGED

03 POPULATION POTENTIALLY AFFECTED: unknown — 04 NARRATIVE DESCRIPTION

Storm drains on Mead Avenue along the north side of CMX discharge to Wide Hollow Creek. Wide Hollow Creek is used for recreation but is not known to be used as a drinking water source.

01 ___ C. CONTAMINATION OF AIR — 02 ___ OBSERVED (DATE: _____) ___ POTENTIAL ___ ALLEGED

03 POPULATION POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION

None known, observed, or suspected.

01 ___ D. FIRE/EXPLOSIVE CONDITIONS — 02 ___ OBSERVED (DATE: _____) ___ POTENTIAL ___ ALLEGED

03 POPULATION POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION

None known, observed, or suspected.

01 X E. DIRECT CONTACT — 02 ___ OBSERVED (DATE: _____) X POTENTIAL ___ ALLEGED

03 POPULATION POTENTIALLY AFFECTED: 5 — 04 NARRATIVE DESCRIPTION

Photochemicals stored on wooden platforms are not surrounded by spill containment structures. Sump solids are accessible to site workers.

01 X F. CONTAMINATION OF SOIL — 02 ___ OBSERVED (DATE: _____) X POTENTIAL ___ ALLEGED

03 AREA POTENTIALLY AFFECTED: ~2 (Acres) — 04 NARRATIVE DESCRIPTION

Elevated levels of mercury, iron, zinc, and calcium were detected in some site soil samples, along with tentatively identified hydrocarbons. The pesticides DDT, DDE, beta-endosulfan and dieldren were also detected in site soils. The significance of these compounds and the extent of their presence have not been determined.

01 X G. DRINKING WATER CONTAMINATION — 02 ___ OBSERVED (DATE: _____) X POTENTIAL ___ ALLEGED

03 POPULATION POTENTIALLY AFFECTED: 10,500 — 04 NARRATIVE DESCRIPTION

Nearby residents drink water from domestic wells. Site wastes may enter groundwater via the drainfield beneath the site.

01 X H. WORKER EXPOSURE/INJURY — 02 ___ OBSERVED (DATE: _____) X POTENTIAL ___ ALLEGED

03 WORKERS POTENTIALLY AFFECTED: 5 — 04 NARRATIVE DESCRIPTION

Site workers have the potential of being exposed to sump solids and photochemical solutions.

01 ___ I. POPULATION EXPOSURE/INJURY — 02 ___ OBSERVED (DATE: _____) ___ POTENTIAL ___ ALLEGED

03 POPULATION POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION

None known, observed, or suspected.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 2 - WASTE INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
WA	D103507430

WASTE STATES, QUANTITIES, AND CHARACTERISTICS

PHYSICAL STATES (Check all that apply)
___A. SOLID ___E. SLURRY
___B. POWDER, FINES _X_F. LIQUID
___C. SLUDGE ___G. GAS
___D. OTHER _____ (Specify)

02 WASTE QUANTITY AT SITE (Measures of waste quantities must be independent)
TONS Unknown
CUBIC YARDS _____
NO. OF DRUMS _____

03 WASTE CHARACTERISTICS (Check all that apply)
_X_A. TOXIC ___E. SOLUBLE ___I. HIGHLY VOLATILE
_X_B. CORROSIVE ___F. INFECTIOUS ___J. EXPLOSIVE
___C. RADIOACTIVE ___G. FLAMMABLE ___K. REACTIVE
_X_D. PERSISTENT ___H. IGNITABLE ___L. INCOMPATIBLE
___M. NOT APPLICABLE

III. WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE			
OLW	OILY WASTE			Chemicals associated with photo-
SOL	SOLVENTS			chemical solutions (developers and
PSD	PESTICIDES	Unknown		fixers), waste from unknown source.
OCC	OTHER ORGANIC CHEMICALS			
IOC	INORGANIC CHEMICALS			
ACD	ACIDS	Unknown		
BAS	BASES			
MES	HEAVY METALS	Unknown		

IV. HAZARDOUS SUBSTANCES (See Appendix for most frequently cited CAS Numbers)

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
MES	Cadmium	7440-43-9	Sump solids	61.1	mg/kg
MES	Chromium	7440-47-3	Sump solids	14,200	mg/kg
MES	Copper	7440-50-8	Sump solids	1,480	mg/kg
MES	Lead	7439-92-1	Sump solids	1,970	mg/kg
MES	Nickel	7440-02-0	Sump solids	80	mg/kg
MES	Silver	7440-22-4	Sump solids	373	mg/kg
MES	Zinc	7440-66-6	Sump solids	715	mg/kg
MES	Mercury	7439-97-6	Subsurface soil	1.6 J*	mg/kg
OCC	Benzene	71432	Sump solids	110	µg/kg
OCC	Tetrachloroethene	127-18-4	Sump solids	240	µg/kg
OCC	Toluene	108-88-3	Sump solids	220	µg/kg
OCC	Ethylbenzene	100-41-4	Sump solids	54	µg/kg
OCC	Trichlorofluoromethane	75-69-4	Sump solids	65 J*	µg/kg
OCC	Total Xylenes	1330-20-7	Sump solids	370	µg/kg
OCC	1,2,4-Trimethylbenzene	95-63-6	Sump solids	90 J*	µg/kg
OCC	1,3,5-Trimethylbenzene	108-67-8	Sump solids	230 J*	µg/kg
OCC	p-Isopropyltoluene	99-87-6	Sump solids	320 J*	µg/kg
OCC	Napthalene	91-20-3	Sump solids	270 J*	µg/kg
OCC	2-Methylnapthalene	91-57-6	Sump solids	1,100 J*	µg/kg
OCC	1-Methylnapthalene	90-12-0	Sump solids	1,000 J*	µg/kg
OCC	Phenanthrene	85-01-8	Sump solids	860 J*	µg/kg
OCC	Pyrene	129-00-0	Sump solids	980 J*	µg/kg
OCC	Butylbenzylphthalate	85-68-7	Sump solids	1,300 J*	µg/kg
OCC	Di-n-butylphthalate	84-74-2	Sump solids	750 J*	µg/kg

V. FEEDSTOCKS (See Appendix for CAS Numbers)

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS			FDS		
FDS			FDS		

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

1. E & E Site Inspection, 1989.

*J - The associated numerical value is an estimated quantity because quality control criteria were not met or concentrations reported were less than the contract required detection limit.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 1 - SITE LOCATION AND INSPECTION INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
WA	D103507430

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)	02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER				
CMX Corporation	206 West Mead Avenue				
03 CITY	**04 STATE**	**05 ZIP CODE**	**06 COUNTY**	**07 COUNTY CODE**	**08 CONG DIST**
Yakima	WA	98902	Yakima	77	04

09 COORDINATES		10 TYPE OF OWNERSHIP (Check one)
LATITUDE	LONGITUDE	
46°34'41.0"	120°30'23.0"	X A. PRIVATE ___B. FEDERAL _____ ___C. STATE ___D.COUNTY ___E. MUNICIPAL ___F. OTHER _____ ___G.UNKNOWN

III. INSPECTION INFORMATION

01 DATE OF INSPECTION	02 SITE STATUS	03 YEARS OF OPERATION		
2/1/89	X ACTIVE	1985	Present	___UNKNOWN
MO/DAY/YR	___INACTIVE	BEGINNING YEAR	ENDING YEAR	

04 AGENCY PERFORMING INSPECTION (Check all that apply)
___A. EPA X B. EPA CONTRACTOR Ecology & Environment, Inc. (E & E) ___C. MUNICIPAL ___D. MUNICIPAL CONTRACTOR
(Name of firm)
___E. STATE ___F. STATE CONTRACTOR _____ ___G. OTHER _____
(Name of firm) (Specify)

05 CHIEF INSPECTOR	06 TITLE	07 ORGANIZATION	08 TELEPHONE NO.
Susan Niemuth	Field Investigator	E & E	206/624-9537
09 OTHER INSPECTORS	**10 TITLE**	**11 ORGANIZATION**	**12 TELEPHONE NO.**
Mary Bandrowski	Field Investigator	E & E	206/624-9537
Gerald Lee	Field Investigator	E & E	206/624-9537
Lazar Gorelik	Field Investigator	E & E	206/624-9537
13 SITE REPRESENTATIVES INTERVIEWED	**14 TITLE**	**15 ADDRESS**	**16 TELEPHONE NO.**
Randy Cluff	Supervisor	206 West Mead Avenue Yakima, WA 98902	509/575-6970

17 ACCESS GAINED BY (Check one)	18 TIME OF INSPECTION	19 WEATHER CONDITIONS
X PERMISSION ___ WARRANT	0920 - 1130	Snowing, cold

IV. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency/Organization)	03 TELEPHONE NO.
William Glasser	EPA, Region X	206/442-7215

04 PERSON RESPONSIBLE FOR SITE INSPECTION FORM	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NO.	08 DATE
Gloria Skinner	EPA-FIT	E & E	206/624-9537	10/4/89

APPENDIX E

SITE INSPECTION REPORT FORM (EPA FORM 2070-13)

EPA PRELIMINARY ASSESSMENT FORM 2070-12
FOR
CMX CORPORATION
YAKIMA, WASHINGTON

TDD Number: F10-8804-42
PAN Number: FWA0565PA

FIT Investigator: Lazar Gorelik

Report Prepared by: Lazar Gorelik

Report Date:

Submitted to: John Osborn, RPO
Field Operations and Technical Support Branch
U.S. Environmental Protection Agency
Region X
Seattle, WA

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 1 - SITE INFORMATION AND ASSESSMENT

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
WA	D103507430

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)	02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER
CMX Corporation	206 West Mead Avenue

03 CITY	04 STATE	05 ZIP CODE	06 COUNTY	07 COUNTY CODE	08 CONG DIST
Yakima	WA	98902	Yakima	77	04

09 COORDINATES	LATITUDE	LONGITUDE
	46°34'41"	120°30'23"

10 DIRECTIONS TO SITE (Starting from nearest public road)

From Highway 82 take the exit at Nob Hill Blvd., follow East Nob Hill Blvd. Take a left turn on South 18th Street and follow to East Mead Avenue. Take a right turn on East Mead Avenue and follow to South 2nd Avenue. The site is near 2nd Avenue on Mead Avenue.

III. RESPONSIBLE PARTIES

01 OWNER (If known)	02 STREET (Business, mailing, residential)
CMX Corporation	Unknown

03 CITY	04 STATE	05 ZIP CODE	06 TELEPHONE NUMBER
Seattle			

07 OPERATOR (If known and different from owner)	08 STREET (Business, mailing, residential)
CMX Corporation	206 West Mead Avenue

09 CITY	10 STATE	11 ZIP CODE	12 TELEPHONE NUMBER
Yakima	WA	98902	(509) 575-6970

13 TYPE OF OWNERSHIP (Check one)

X A. PRIVATE ___B. FEDERAL: _____ (Agency name) ___C. STATE ___D. COUNTY ___E.MUNICIPAL

___F. OTHER: _____ (Specify) ___G. UNKNOWN

14 OWNER/OPERATOR NOTIFICATION ON FILE (Check all that apply)

__A. RCRA 3001 DATE RECEIVED: MO/DAY/YR __B. UNCONTROLLED WASTE SITE (CERCLA 103 c) DATE RECEIVED: MO/DAY/YR __C. NONE

IV. CHARACTERIZATION OF POTENTIAL HAZARD

01 ON SITE INSPECTION

X YES DATE 04/02/85 MO/DAY/YR

___NO

BY(Check all that apply)

___A. EPA ___B. EPA CONTRACTOR X C. STATE ___D. OTHER CONTRACTOR

___E. LOCAL HEALTH OFFICIAL ___F. OTHER: _____ (Specify)

CONTRACTOR NAME(S): _____

02 SITE STATUS (CHECK ONE)	03 YEARS OF OPERATION		
X A. ACTIVE ___B. INACTIVE ___C. UNKNOWN	Unknown (BEGINNING YEAR)	Present (ENDING YEAR)	___UNKNOWN

04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED

Wastewater containing spent photographic chemicals was discharged to a site drainfield.

05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION

Potential of soil and ground water contamination with spent photographic chemicals.

V. PRIORITY ASSESSMENT

01 PRIORITY FOR INSPECTION (Check one. If high or medium is checked, complete Part 2 - Waste Information and Part 3 - Description of Hazardous conditions and Incidents)

X A. HIGH (Inspection required promptly) ___ B. MEDIUM (Inspection required) ___ C. Low (Inspect on time available basis) ___ D. NONE (No further action needed. Complete current disposition form)

VI. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency/Organization)	03 TELEPHONE NUMBER
William Glasser	USEPA, HWD, region X	206-442-7215

04 PERSON RESPONSIBLE FOR ASSESSMENT	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NUMBER	08 DATE
Lazar Gorelik	EPA/FIT	E&E, Inc.	206-624-9537	05/31/88 MO/DAY/YR

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 4 - PERMIT AND DESCRIPTIVE INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
WA	D103507430

II. PERMIT INFORMATION

01 TYPE OF PERMIT ISSUED (Check all that apply)	02 PERMIT NUMBER	03 DATE ISSUED	04 EXPIRATION DATE	05 COMMENTS
___ A. NPDES				
___ B. UIC				
___ C. AIR				
___ D. RCRA				
___ E. RCRA INTERIM STATUS				
___ F. SPCC PLAN				
X G. STATE (Specify)	ST9046			Waste discharge permit
___ H. LOCAL (Specify)				
X I. OTHER (Specify)	177937			DOT
___ J. NONE				

III. SITE DESCRIPTION

01 STORAGE/DISPOSAL (Check all that apply)	02 AMOUNT	03 UNIT OF MEASURE
___ A. SURFACE IMPOUNDMENT		
___ B. PILES		
X C. DRUMS, ABOVE GROUND	12	55-gallon
X D. TANK, ABOVE GROUND	2	250-gallon
X E. TANK, BELOW GROUND	unknown	unknown
___ F. LANDFILL		
___ G. LANDFARM		
___ H. OPEN DUMP		
X I. OTHER Drainfield (Specify)	Unknown	

04 TREATMENT (Check all that apply)

___ A. INCINERATION
___ B. UNDERGROUND INJECTION
___ C. CHEMICAL/PHYSICAL
___ D. BIOLOGICAL
___ E. WASTE OIL PROCESSING
___ F. SOLVENT RECOVERY
___ G. OTHER RECYCLING/RECOVERY
___ H. OTHER _____ (Specify)

05 Other

X A. BUILDINGS ON SITE
1

06 AREA OF SITE
~ 0.2 (Acres)

07 COMMENTS

Two above ground mixing tanks are located in warehouse area. Tanks are used for mixing developer and fixer photochemical solutions. Tanks are on elevated wooden platform; no spill containment features were observed.

IV. CONTAINMENT

01 CONTAINMENT OF WASTES (Check one)

___ A. ADEQUATE, SECURE ___ B.MODERATE X C.INADEQUATE, POOR ___ D. INSECURE, UNSOUND, DANGEROUS

02 DESCRIPTION OF DRUMS, DIKING, LINERS, BARRIERS, ETC.

Drums of product and waste fixer and cleaner solutions are stored on wooden platforms; no spill containment features were observed.

V. ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE: ___ YES X NO

02 COMMENTS

Waste fixer is stored in locked room in southeast corner of building. Facility is fenced on three sides, and entrance is by locking gate.

VI. SOURCES OF INFORMATION (Cite specific references, e.g. state files, sample analysis, reports)

1. E & E Site Inspection, 1989.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION
01 STATE: WA | 02 SITE NUMBER: D10[illegible]07430

II. DRINKING WATER SUPPLY

01 TYPE OF DRINKING SUPPLY (Check as applicable)	SURFACE	WELL
COMMUNITY	A. X	B. ___
NON-COMMUNITY	C. ___	D. X

02 STATUS	ENDANGERED	AFFECTED	MONITORED
	A. ___	B. ___	C. X
	D. ___	E. ___	F. ___

03 DISTANCE TO SITE
A. > 3 (mi)
B. <.1 (mi)

III. GROUNDWATER

01 GROUNDWATER USE IN VICINITY (Check one)

___A. ONLY SOURCE FOR DRINKING
X B. DRINKING (Other sources available)
___C. COMMERCIAL, INDUSTRIAL IRRIGATION (Limited other sources available)
___D. NOT USED, UNUSABLE

COMMERCIAL, INDUSTRIAL, IRRIGATION (No other water sources available)

02 POPULATION SERVED BY GROUNDWATER: ~ 10,500
03 DISTANCE TO NEAREST DRINKING WATER WELL: ~ 100 (ft)

04 DEPTH TO GROUNDWATER	05 DIRECTION OF GROUNDWATER FLOW	06 DEPTH TO AQUIFER OF CONCERN	07 POTENTIAL YIELD OF AQUIFER	08 SOLE SOURCE AQUIFER
10-20 (ft)	Southeast	10-20 (ft)	Unknown (gpd)	___YES X NO

09 DESCRIPTION OF WELLS (Including usage, depth, and location relative to population and buildings)

The closest well is located at the Tolley residence at 1506 South 2nd Avenue, approximately 100 feet south of CMX. The depth of this well is unknown.

10 RECHARGE AREA		11 DISCHARGE AREA	
___YES	COMMENTS	___YES	COMMENTS
___NO	Unknown	___NO	Unknown

IV. SURFACE WATER

01 SURFACE WATER USE (Check one)

X A. RESERVOIR, RECREATION DRINKING WATER SOURCE
___B. IRRIGATION, ECONOMICALLY IMPORTANT RESOURCES
___C. COMMERCIAL, INDUSTRIAL
___D. NOT CURRENTLY USED

02 AFFECTED/POTENTIALLY AFFECTED BODIES OF WATER

NAME:	AFFECTED	DISTANCE TO SITE
Yakima River	___	2.0 (mi)
Wide Hollow Creek	___	~ 1.0 (mi)
	___	(mi)

V. DEMOGRAPHIC AND PROPERTY INFORMATION

01 TOTAL POPULATION WITHIN

ONE (1) MILE OF SITE	TWO (2) MILES OF SITE	THREE (3) MILES OF SITE
A. ~ 8,000	B. ~ 26,000	C. ~ 40,000
NO. OF PERSONS	NO. OF PERSONS	NO. OF PERSONS

02 DISTANCE TO NEAREST POPULATION: ~ 20 (ft)

03 NUMBER OF BUILDINGS WITHIN TWO (2) MILES OF SITE: ~ 7,000

04 DISTANCE TO NEAREST OFF-SITE BUILDING: ~ 20 (ft)

05 POPULATION WITHIN VICINITY OF SITE (Provide narrative description of nature of population within vicinity of site, e.g., rural, village, densely populated urban area)

Site is located in a mixed residential/commercial area. There are four schools, five churches, two trailer parks, and a radio station within a 1-mile radius of the site. The nearest residential area is immediately south of the facility boundary.