Reviewed: 9/30/92
Recommendation:
SEA (NFRAP)
by G. Ferreira

Report No.: J065-SIP
Rev. No.: 0
Work Assignment No.: 019-2JZZ
Contract No.: 68-W9-0051
September 30, 1992

Ms. Sandy Foose
U.S. Environmental Protection Agency
Region 2
Edison, New Jersey 08837

Re: Trenton Drum Company Site Inspection Prioritization Evaluation

Dear Ms. Foose:

The following is a summary of the Site Inspection Prioritization evaluation for the Trenton Drum Company Site (CERCLIS ID No. NJD077076347), located at 1545 New York Avenue, Lawrence Township, New Jersey.

General Description and Site History

The Trenton Drum Company, also known as Westfall Ace Drum Company, is an inactive drum reconditioning facility located on New York Avenue in a residential/industrial area of Lawrence Township, New Jersey. Muehlhausen Cooperage of Trenton established a wooden drum manufacturing operation at the turn of the century. Sometime in the early 1960s, after several ownership changes, the facility was converted into the drum reconditioning operation for steel and fiber drums (Ref. No. 2). The site is presently owned by Mr. Jack Binder (Ref. No. 11). The 2-acre site is bordered on the east by Hamnet Memorial Park, on the north by Ohio Avenue, across which is a residential area, on the west by an empty lot and building, and to the south by New York Avenue. Hydrocarbon Research Inc. (HRI) operates a facility on New York Avenue across from Trenton Drum Company. A drainage ditch lies along the eastern border of the site and flows east and parallel to New York Avenue. The Delaware and Raritan Canal (D&R Canal) is located approximately 500 feet south of the site (Ref. Nos. 2, 9).

Approximately 90 percent of drums reconditioned at the Trenton Drum Company Site reportedly contained motor oil and solvent. Drums were cleaned using a recirculating caustic flush system. Spillage from the rinsing processes were collected in floor drains and delivered to a settling tank, where solids were removed prior to recycling. Recycled caustic solutions were stored in two tanks within the building. The sludge generated in the recycling processes was reportedly disposed of every 6 months (Ref. No. 2).

On September 24, 1984, a fire destroyed the main building beyond repair. Only drums being processed (cleaned and repainted) were consumed in the fire. Runoff generated from fighting the fire reportedly flowed into storm and floor drains on HRI's property, located downslope of the site. The Lawrence Township Health Department placed an absorbant at HRI's outfall (location unknown) to contain any oil in the outfall. A followup inspection in September 1984 revealed that the facility still continued to accept drums (Ref. No. 2).

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On March 20, 1985, the U.S. Environmental Protection Agency (U.S. EPA) Region 2 Field Investigation Team (FIT) conducted a site inspection at the Trenton Drum Company Site, during which six soil, three surface water, and three sediment samples were collected. These samples were analyzed for Target Compound List (TCL) analtyes, through the U.S. EPA Contract Laboratory Program (CLP). Analytical results indicated the presence of volatile organic contaminants (VOCs), semivolatile organic contaminants (SVOCs), polychlorinated biphenyls (PCBs), polycyclic aromatic hydrocarbons (PAHs), and metals in on-site soils and in the surface water and the sediment samples collected from the drainage ditch bordering the site to the east. Selected hazardous substances detected in on-site soils include benzene (270,000 parts per billion (ppb)), toluene (320,000 ppb), butylbenzyl phthalate (990,000 ppb), bis(2-ethylhexyl) phthalate (150,000 ppb), PCBs (13,000 ppb), phenanthrene (120,000 ppb), chromium (1,716 parts per million (ppm)), lead (6,307 ppm), and mercury (2 ppm) (Ref. No. 12, pp. 88-127).

In October and November 1988, the U.S. EPA Region 2 FIT collected air contaminant data from the Trenton Drum Company Site using remote sensing techniques to evaluate the site for potential air contamination. Laser measurements were provided by a Differential Absorption Lidar System (DIAL). Fourier transform infrared (FTIR) and ultraviolet (UV) measurement data were also utilized. Twenty-one target contaminants were monitored for by the systems. None of these contaminants were found at a sufficient concentration (4 times the confidence level) to allow for DIAL system quantification; however, chloroform and 1,1,1-trichloroethane were detected at greater than 2 times the confidence level. The presence of these contaminants could not be confirmed, as compounds detected at 2 times the confidence level required visual inspection of the spectra to confirm their presence (Ref. No. 4).

The New Jersey Department of Environmental Protection (NJDEP), through the potentially responsible party (PRP), had initiated an Interim Remedial Measure (IRM) on August 24, 1990. Approximately 40 drums were hazard categorized, overpacked, and labelled as hazardous wastes, However, this work ceased as the PRP defaulted on the payment to his contractor (Ref. No. 2).

The U.S. EPA Region 2 Removal Action Branch (RAB) conducted a removal action in June 1991 to stabilize the site and provide site security. During this action, all leaking drums were either overpacked or transferred to new drums. Approximately 60 feet of fence was repaired or newly installed. Also, the fire-charred structure was removed to provide access to the steel and the fiber drums located within the confines of the damaged building. These drums containing waste materials were bulked into new drums and staged on a concrete pad with the previously staged drums. The nonhazardous fiber drums were crushed and disposed of, and the remaining drums were gathered from the site perimeter and staged on the concrete pad. In addition, a 550-gallon leaking underground storage tank was discovered and removed during the removal action. The contents of this tank are unknown; however, approximately 100 tons of hydrocarbon contaminated soil was removed (Ref. No. 3).

Further actions at the Trenton Drum Site include the New Jersey Department of Environmental Protection and Energy (NJDEPE) resuming assessment and analytical activities at the site to determine the extent of soil/groundwater contamination and to perform remedial action, if necessary (Ref. No. 3).

Evaluation of Existing Information

Existing information and analytical data, primarily from the 1985 U.S. EPA Region 2 FIT Site Inspection Report and supporting documentation file, were used to do an initial evaluation of the site. In addition, analytical data from the 1988 U.S. EPA Region 2 FIT remote sensing air monitoring investigation was

assessed. This evaluation indicated the exposure routes of concern to be the surface water migration pathway and the soil exposure pathway. Site Inspection analytical results indicate that contaminants attributable to the site have migrated to the drainage ditch which borders the site to the east. This ditch may lead to the D&R Canal, which is located approximately 500 feet south of the site. The D&R Canal is a fishery. A drinking water intake approximately 10 miles downstream serves an approximate population of 166,670 people. Approximately five residences are located within 200 feet of an area of observed contamination.

Hazard Assessment

Updated and additional information and data collected to further evaluate the site included groundwater usage and populations within a 4-mile radius, delineation of a 15-mile surface water migration pathway, identification of surface water intakes and population served, surface water flow characteristics, and identification of fisheries and sensitive environments. Additional information and analytical data from the U.S. EPA RAB removal action activities conducted in 1991 were used to evaluate the site. In addition, a sampling event was conducted on June 30, 1992, during which four sediment and four residential soil samples were collected. These samples were analyzed for Target Compound List (TCL) analytes through the U.S. EPA Contract Laboratory Program (CLP). This sampling event was conducted to assess the potential for release of contaminants attributable to the site to previously unassessed soil exposure and surface water environmental receptors.

Groundwater Pathway - Groundwater samples were not collected during the 1985 U.S. EPA Region 2 FIT site inspection or the removal action conducted in 1991; therefore, an observed release to groundwater cannot be documented at this time. There is a potential for a release to groundwater, as several VOCs, SVOCs, PCBs, PAHs, and metals were detected in on-site soil samples collected during the 1985 site inspection (Ref. No. 12, pp. 88-127). The site lies within a narrow wedge of pre-Triassic (pre-Cambrian) crystalline rocks which extend eastward from its outcrop in the Delaware River and in Trenton to the vicinity of Princeton Junction. This wedge seperates the Piedmont Physiographic Province underlain by Triassic rocks of the Newark series from the Coastal Plain Physiographic Province underlain by Cretaceous sands, gravels, and clays. Groundwater within 4 miles of the site is used for both drinking and industrial purposes. Potable water in the northern portion of the 4-mile radius is primarily derived from private and public supply wells completed in the Stockton Sandstone, or from pre-Cambrian deposits. Potable water in the southern portion is derived from private and public supply wells completed in the Magothy and Raritan Formations, or from thicker accumulations of surficial Pleistocene deposits (Ref. No. 6). The lowest point of known waste disposal is believed to be approximately 6 feet, which was the depth of the 550-gallon underground storage tank discovered during the removal action activities conducted by U.S. EPA RAB (Ref. No. 3). The depth to groundwater below the site is unknown, as there are no wells known to be in the vicinity of the site. Based on site topography, groundwater flows southeast toward the Delaware and Raritan Canal (Ref. No. 9). After an evaluation of groundwater flow and populations served by each of the aquifers within 4 miles of the site, the Magothy and Raritan Formation has been determined to be the aquifer of concern. Potable wells screened in the Magothy and Raritan Formations serve a population of approximately 34,870 people (0-¼ mile: 0; ¼-½ mile: 0; ½-1 mile: 0; 1-2 miles: 10; 2-3 miles: 30; 3-4 miles: 34,830) (Ref. No. 6). Wellhead protection areas have not been delineated in the state of New Jersey; therefore, no wellhead protection areas exist within 4 miles of the site at the present time (Ref. No. 5).

Surface Water Pathway - Analytical results from the 1985 U.S. EPA Region 2 FIT site inspection and June 30, 1992 sampling event indicated that there is a potential for a release of contaminants to surface water. Surface water and sediment samples collected in 1985 from the drainage ditch bordering the site to the east indicate the migration of VOCs, SVOCs, PCBs, pesticides, PAHs, and metals attributable to the site (Ref. No. 12, pp. 88-127). Analytical results of a sediment sample collected from the drainage ditch during the 1992 sampling event indicated the presence of SVOCs, pesticides, and PCBs (Ref. No. 14). This drainage ditch flows east and parallel to New York Avenue. An interview with the Municipal Engineer of the Township of Lawrence and a review of applicable drainage maps indicated that there is no way of confirming drainage from the drainage ditch to the D&R Canal without further field study (Ref. No. 13). Analytical results of sediment samples collected during the June 30, 1992 sampling event indicate the presence of contaminants that may be attributable to the site, as similar SVOCs, PAHs, pesticides, and PCBs were detected at three locations in the D&R Canal (Ref. Nos. 13, 14). Contaminants may have migrated to the D&R Canal as runoff from the fire in 1984 reportedly entered floor and storm drains on HRI's property (Ref. No. 2). The exact location of the storm drain outfall is unknown. Therefore, it is unknown if the upstream sample that was collected during the 1992 sampling event is actually the true upstream sample. The Delaware and Raritan (D&R) Canal is located approximately 500 feet south of the site (Ref. Nos. 2, 9). The D&R Canal is a fishery and is also used as a potable water source for approximately 166,670 people (Ref. No. 7). The nearest intake is located on the D&R Canal approximately 10 miles downstream of the site (Ref. Nos. 7, 10). The flow rate of the D&R Canal is approximately 145 cubic feet per second (cfs) (Ref. No. 7). The nearest sensitive environment along the surface water migration pathway is a wetland located along the D&R Canal approximately 0.6 mile downstream of the site (Ref. No. 10). The site is located in an area of minimal flooding (Ref. No. 7).

Soil Exposure Pathway - Analytical results from the 1985 U.S. EPA Region 2 site inspection indicate that there is on-site soil contamination. VOCs, SVOCs, PCBs, pesticides, PAHs, and metals were detected in on-site soil samples (Ref. No. 12, pp. 88-127). Analytical results from the June 30, 1992 sampling event indicated the presence of SVOCs, PCBs, and PAHs that may be attributable to the site on three residential properties (9 people) north of the site (Ref. Nos. 13, 14). Actual contamination attributable to the site could not be documented on these properties as QA/QC findings from the soil analyses preclude accurate quantification of contaminant concentrations (Ref. No. 14). Approximately five residences are located within 200 feet of observed contamination. There is no school or day care center within 200 feet of an area of observed contamination on site (Ref. Nos. 9, 13). Worker exposure is also a concern, as runoff from the 1984 fire may have contaminated nearby business properties. Hamnet Memorial Park borders the site to the east. The site is enclosed by a fence; however, analytical results from the 1985 site inspection indicate that contaminants have migrated to the drainage ditch, which lies between the site and the park (Ref. Nos. 2, 3, 9, 13, 14).

Air Pathway - Analytical results from the 1988 U.S. EPA Region 2 FIT remote sensing investigation did not indicate a release of contaminants to air. Chloroform and 1,1,1-trichloroethane were detected; however, these contaminants were not detected at a high enough concentration to confirm a release of these contaminants attributable to the site (Ref. No. 4). Vegetation on site was reported to be either dead or stressed from apparent past releases (Ref. No. 2). The nearest population is located in a residential area that borders the site to the north. There are approximately 192,800 people living within a 4-mile radius of the site (0-¼ mile: 630; ¼-½ mile: 2,390; ½-1 mile: 17,060; 1-2 miles: 64,260; 2-3 miles:

66,790; 3-4 miles: 41,680) (Ref. No. 12, p. 40). The nearest sensitive environment is a wetland (approximately 4 acres in size) located approximately 0.3 mile northeast of the site (Ref. No. 10).

Summary

The existing information, data, and additional information collected were sufficient to complete the evaluation of the site. Soil exposure is a major concern, as analytical results from the 1985 site inspection indicated that there is on-site soil contamination. Concentrations of PCBs, PAHs, and SVOCs were detected on three residential properties, which houses 9 people, during the June 30, 1992 sampling event. However, actual contamination could not be documented as data from these samples were qualified. Also, adequate background soil conditions could not be characterized as the background soil sample initially proposed, contained concentrations of PCBs, PAHs, and SVOCs. Worker exposure is also a concern, as runoff from the 1984 fire may have contaminated nearby business properties. Hamnet Memorial Park, which borders the site to the east and is used for recreation. Analytical results also indicate a potential for a release of contaminants to surface water. PCBs, SVOCs, and PAHs were detected in three sediment samples collected from the D&R Canal during the sampling event conducted on June 30, 1992. Site contaminants may have also migrated to the D&R Canal as a result of runoff generated during the 1984 fire after entering floor and storm drains located on HRI's property. The discharge point of HRI's outfall is unknown. The D&R Canal is a fishery and potable water source for approximately 166,660 people. It should also be noted that private and public supply wells within 4 miles of the site serve an approximate population of 34,830 people.

Very truly yours,

Dennis J. Foerter
SITE MANAGER

Anthony F. Culmone, Jr.
PROJECT MANAGER

for RN
Ronald M. Naman
SUBCONTRACT OFFICE MANAGER

Dennis Stainken Ph. D.
WORK ASSIGNMENT MANAGER

PROJECT NOTE ON SITE INSPECTION ANALYTICAL RESULTS

This report contains analytical results from the Site Inspection sampling conducted on June 30, 1992. These analytical results have undergone data validation by consultant personnel following U.S. EPA Region 2 data validation guidelines. At the time of this report the data validation review had not received U.S. EPA Region 2 final approval.

This Report was conducted under the following USEPA Documentation Procedure

Guidance for Performing Site Inspections Under CERCLA Draft Publication 9345.1-0

ATTACHMENT 1

REFERENCES

1. U.S EPA Superfund Program, Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS), List-4: Site Alias Location Listing, p. 285, and List-8: Site/Event Listing, p. 235, April 1, 1992.

2. U.S. EPA action memorandum from Nick Magriples, Removal Action Branch, to Kathleen C. Callahan, Emergency and Remedial Response Division, Subject: Request for a removal action at Trenton Drum Company, Lawrence Township, New Jersey - Action Memorandum. May 30, 1991.

3. U.S. EPA Progress POLREP No. Five and Final POLREP from Michael Ferriola, OSC, Removal Branch, to Distribution, Subject: Trenton Fiber Drum, Lawrence Township, Mercer County, New Jersey. November 15, 1991 and January 24, 1992.

4. Letter from Gary Rojek, HALLIBURTON NUS Corporation, to Roger Ennis, U.S. Environmental Protection Agency. December 21, 1988.

5. Telecon Note: Conversation between Dan Van Abs, New Jersey Department of Environmental Protection and Energy, Bureau of Water Supply Planning, and K. Campbell, HALLIBURTON NUS Environmental Corporation, February 14, 1992.

6. Project Note From Dennis Foerter, HALLIBURTON NUS Environmental Corporation to Trenton Drum Company File, Subject: Groundwater (Trenton Drum Company), April 30, 1992.

7. Project Note From Dennis Foerter, HALLIBURTON NUS Environmental Corporation, to Trenton Drum Company File, Subject: Surface Water Migration Pathway (Trenton Drum Company), April 30, 1992.

8. Project Note From Dennis Foerter, HALLIBURTON NUS Environmental Corporation, to Trenton Drum Company file, Subject: Sensitive Environments/Nearest Residences (Trenton Drum Company), May 6, 1992.

9. Four-Mile Vicinity Map for Trenton Drum Company, based on U.S. Department of the Interior, Geological Survey Topographic Map, 7.5 minute series, Quadrangle for "Trenton East, NJ-PA," 1957, photorevised 1981, "Trenton West, NJ-PA," 1955, photorevised 1981, "Pennington, NJ-PA," 1954, photorevised 1981, and "Princeton, NJ," 1954, photorevised 1981.

10. Fifteen-Mile Surface Water Pathway Map for Trenton Drum Company, based on U.S. Department of the Interior, National Wetlands Inventory, 7.5 minute series, Quadrangles for "Trenton East, NJ-PA," 1976, "Pennington, NJ-PA," 1976, "Princeton, NJ," 1976.

11. Telecon Note: Conversation between Mr. Aranow, Westfall Ace, and M. Vogel, NUS Corporation, September 30, 1988.

12. U.S. Environmental Protection Agency, Final Draft Site Inspection Report for Trenton Drum Company, prepared by HALLIBURTON NUS Environmental Corporation, November 19, 1985.

13. Field Logbook No. HNUS 023, Trenton Drum Company Site, J065-SP, Sampling event conducted by HALLIBURTON NUS Environmental Corporation, Iselin, NJ, June 30, 1992.

14. U.S. EPA Contract Laboratory Program, Aquatec, Inc. (organics), and American Analytical & Technical Services (inorganics), Laboratory analyses from sampling event conducted by HALLIBURTON NUS Environmental Corporation on June 30, 1992.

REFERENCE NO. 1

SEQUENCE: REG, ST, SITE NAME
REGION: 02

EPA ID	SITE/ALIAS NAME STREET CITY COUNTY NAME	STATE COUNTY	ZIP CODE	ALIAS SEQ. # NAME SOURCE	FED FAC	CONG DIST.
NJD980529440	NEWARK WAREHOUSE FIRE			01		
(CONTINUED)						
NJD981084809	TOOLEY'S GARAGE			STATE	N	NJ-04
	NECK ROAD AND ROUTE 130					
	BURLINGTON TWP.	NJ	08518			
	BURLINGTON	005				
NJD981877616	TOYOTA DEALERSHIP			EPA	N	NJ-12
	175 RIDGEDALE AVE					
	MORRIS TWP	NJ	07960			
	MORRIS	027				
NJD002349942	TRANSAMERICA DELAVEL DELROYD DIVISION			EPA	N	NJ-04
	121 FIRST AVE					
	TRENTON	NJ	08650			
	MERCER	021				
	DELAVAL			01		
NJD069290260	TRANSCONTINENTAL GAS PIPE LINE CORP.			EPA	N	NJ-09
	PATERSON PLANK RD					
	CARLSTADT	NJ	07072			
	BERGEN	003				
	TGPL STATION 260			01		
NJD070416284	TRANSCONTINENTAL GAS PIPELINE CORP			EPA	N	NJ-12
	CASE RD					
	NESHANIC STATION	NJ	08853			
	SOMERSET	035				
NJD077076347	TRENTON DRUM CO			EPA	N	NJ-04
	1545 NEW YORK AV					
	LAWRENCE TWP	NJ	08638			
	MERCER	021				

SELECTION:
SEQUENCE: REGION, STATE, SITE NAME

EVENTS: ALL

EPA ID NO.	SITE NAME / STREET / CITY / COUNTY CODE AND NAME	STATE	ZIP / CONG DIST.	OPRBLE UNIT	EVENT TYPE	EVENT QUAL	ACTUAL START DATE	ACTUAL COMPL DATE	CURRENT EVENT LEAD
NJD981084809	TOOLEY'S GARAGE			00	DS1			05/01/85	STATE(FUND)
	MECK ROAD AND ROUTE 130				PA1	LOWER PRIORITY		05/31/85	STATE(FUND)
	BURLINGTON TWP.	NJ	08518		SI1	HIGHER PRIORITY	03/05/86	03/07/86	EPA (FUND)
	005 BURLINGTON		NJ-04						
NJD981077616	TOYOTA DEALERSHIP			00	DS1			06/30/86	EPA (FUND)
	175 RIDGEDALE AVE				PA1	NO FURTHER REMDL ACT PLND	08/07/87	06/28/87	STATE(FUND)
	MORRIS TWP	NJ	07960						
	027 MORRIS		NJ-12						
NJD002349942	TRANSAMERICA DELAVEL DELROYD DIVISION			00	DS1			06/01/81	EPA (FUND)
	121 FIRST AVE				PA1	LOWER PRIORITY		06/01/84	EPA (FUND)
	TRENTON	NJ	08650		SI1	HIGHER PRIORITY	05/01/85	05/31/85	EPA (FUND)
	021 MERCER		NJ-04						
NJD069220260	TRANSCONTINENTAL GAS PIPE LINE CORP.			00	DS1			04/21/87	EPA (FUND)
	PATERSON PLANK RD				PA1	LOWER PRIORITY		06/16/87	EPA (FUND)
	CARLSTADT	NJ	07072		SI1	NO FURTHER REMDL ACT PLND	09/22/87	09/22/87	EPA (FUND)
	003 BERGEN		NJ-09						
NJD070416284	TRANSCONTINENTAL GAS PIPELINE CORP			00	DS1			04/21/87	EPA (FUND)
	CASE RD				PA1	LOWER PRIORITY		06/17/87	EPA (FUND)
	MESSANIC STATION	NJ	08853		SI1	HIGHER PRIORITY	09/22/87	09/22/87	EPA (FUND)
	035 SOMERSET		NJ-12						
NJD077076347	TRENTON DRUM CO			00	RS1		03/18/91	05/31/91	EPA (FUND)
	1545 NEW YORK AV				RV1	STABILIZATION	06/12/91	07/26/91	EPA (FUND)
	LAWRENCE TWP	NJ	08638		RV2	CLEAN-UP	10/28/91	01/23/92	EPA (FUND)
	021 MERCER		NJ-04		DS1			04/10/84	STATE(FUND)
					PA1	LOWER PRIORITY		11/01/84	EPA (FUND)
					SI1	HIGHER PRIORITY	08/01/85	09/13/85	EPA (FUND)
NJD981083140	TRENTON GAS PLANT 1			00	DS1			05/01/85	STATE(FUND)
	SOUTH WARREN STREET				PA1	NO FURTHER REMDL ACT PLND	05/01/85	06/01/85	STATE(FUND)
	TRENTON	NJ	08608						
	021 MERCER		NJ-04						

REFERENCE NO. 2

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION II

26 FEDERAL PLAZA

NEW YORK, NEW YORK 10278

MEMORANDUM

Date: MAY 30 1991

Subject: Request for a Removal Action at Trenton Drum Company, Lawrence Township, New Jersey - **ACTION MEMORANDUM**

From: Nick Magriples, On-Scene Coordinator Nick Magriples
Removal Action Branch

To: Kathleen C. Callahan, Director
Emergency and Remedial Response Division

Thru: Richard C. Salkie, Associate Director for
Removal and Emergency Preparedness Programs

Site I.D.#: 7K

I. PURPOSE

On March 14, 1991, the United States Environmental Protection Agency (EPA) received a request from the New Jersey Department of Environmental Protection (NJDEP) to consider the Trenton Drum Company site, for Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Removal Action consideration. Specifically, the NJDEP requested that EPA stabilize the site by disposing of all of the hazardous waste at the site and restricting access.

The purpose of this Action Memorandum is to request and document approval of the proposed removal action described herein for the Trenton Drum Company site, located at 1545 New York Avenue, Lawrence Township, Mercer County, New Jersey 08368.

II. SITE CONDITIONS AND BACKGROUND

The Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) I.D. Number is NJD077076347. Although the category of the removal action is time-critical, it should be expedited due to the nature of the threat posed by the site to children in an adjacent playground.

A. Site Description

1. Removal Site Evaluation

Trenton Drum is an inactive drum reconditioning facility. Muehlhausen Cooperage of Trenton was established at the turn of the century at this location for manufacturing wooden drums, prior to Trenton Drum. Sometime in the early to mid-1960s, and after several ownership changes, the facility was converted to a drum reconditioning operation for steel and fiber drums.

Ninety percent of the drums reconditioned at the site reportedly carried motor oil and solvent. Drums were cleaned using a recirculating caustic flush system; spillage from rinsing processes were collected in floor drains and delivered to a settling tank, where solids were removed prior to recycling. Recycled caustic solutions were stored in two tanks within the building. Sludge generated in the recycling process was reportedly disposed of approximately every six months.

It was reported during the EPA Field Investigation Team's (FIT) Site Inspection that inadequate housekeeping practices had permitted leakage of drums in the drum storage area and the settling tank appeared to be a potential overflow hazard. Soil and runoff contamination at the site may have affected the Delaware-Raritan Canal, a major source of drinking water for Central New Jersey. It was reported that in a partial cleanup, the owner of the company excavated contaminated soil and reorganized drum storage, although some areas still appeared to be contaminated.

In late September 1984, fire destroyed the main building beyond repair. Only drums being processed (cleaned and repainted) were consumed in the fire. Minimal damage occurred to drums staged in the storage area. A follow-up inspection in September, 1984 revealed that the facility still continued to accept drums. A fence was installed around the site in 1987 by the owner. A March, 1988 inspection by the Division of Environmental Quality observed 1,500 - 2,000 drums at the site.

The NJDEP, through the potentially responsible party (PRP), had initiated an Interim Remedial Measure (IRM) on August 24, 1990. Drums were hazard categorized, overpacked (approximately 40) and labeled as hazardous waste. The PRP defaulted on the payment to his contractor and thus work ceased. A small payment was reportedly sent to the contractor on a closed account.

A Preliminary Assessment (PA) was conducted at Trenton Drum in October, 1984. A Site Inspection report was completed on October 7, 1985. According to the Hazard Ranking System Model, the site was not eligible for ranking on the National Priorities List (NPL).

The primary problems at the site are drums and other containers of waste material at the surface, spilled/leaked waste material, contaminated soils and the reported presence of a caustic settling tank. Some of these drums are strewn inside the remains of a fire-charred building.

2. Physical location

Trenton Drum encompasses an area of two acres in a residential/industrial area (see Figure 1). The site is bounded by Ohio Avenue to the north, Hamnett Memorial Park to the east, New York Avenue to the south, and an empty lot and building to the west (see Figure 2). The area north of Ohio Avenue is all residential. Approximately 20,000 persons live within one mile of the site. Hydrocarbon Research, Inc. (HRI) operates a facility on the other side of New York Avenue. New York Avenue is a dirt road at this point, just east of Puritan Avenue, and becomes a dead end approximately one-quarter of a mile east of the site.

Trenton Drum is located 0.1 miles north and upgradient of the Delaware-Raritan Canal. A drainage ditch, flowing toward the Canal, runs along the eastern border of the site. The distance to the nearest drinking water well is 2.1 miles.

3. Site characteristics

There are currently no operations taking place at the site. The company abandoned the site and never completed the removal action. Drums and various sized containers are strewn haphazardly throughout the site. A number of them are either open or are leaking. Past operations and housekeeping practices have contributed to the contamination at the site. Drum rinses were reportedly poured directly on the ground.

This proposed removal action would be the first CERCLA funded action for the site.

4. Release or threatened release into the environment of a hazardous substance, or pollutant or contaminant

Analyses of soil samples collected at the site during the FIT Site Inspection (1985) indicate the presence of the materials listed in Table 1, as maximum concentrations.

Table 1: Soil Analytical Data - Trenton Drum

Contaminant	Highest Concentration Detected (ppm)
toluene	320
benzene	270
3-nitroaniline	34
diethyl phthalate	12
butylbenzylphthalate	990
bis(2-ethylhexyl)phthalate	150
pyrene	24
benzo(a)anthracene	250
chrysene	92
benzo(b)fluoranthene	58
benzo(k)fluoranthene	54
benzo(a)pyrene	55
indeno(1,2,3-cd)pyrene	41
dibenzo(a,h)anthracene	14
benzo(ghi)perylene	36
PCBs *	18
cadmium	69
copper	1,036
lead	6,307
mercury	2
zinc	1,173

ppm = parts per million
* = total aroclor in one sample

Samples collected from drums and hazard categorized by the PRP's cleanup contractor during September, 1990 indicate the presence of Resource Conservation and Recovery Act (RCRA) characteristic ignitable waste material at the site. Other materials identified include solvents, paint sludges and oily sludges.

All of the specific compounds or characteristics listed above are hazardous substances as defined by Section 101(14) of CERCLA, and listed in 40 CFR Table 302.4.

The mechanism for past releases at the site appears to have been spills, poor housekeeping practices, illegal disposal practices and unpermitted wastewater discharges. It is reported that numerous spills and discharges have occurred through the years at the site. Substances reportedly spilled include, waste solvent and caustic washes from the drum cleaning operation. The probable migration route, due to the slope of the site, was towards the drainage ditch on New York Avenue and adjacent to the park, and into the subsurface.

Present and future releases at the site include surface runoff, seepage into the ground water from contaminated surface and subsurface soils, and leakage from deteriorating and open drums

at the surface. Additionally, the collapse of the fire-charred building could possible rupture any of the drums presently inside containing waste material.

Potential routes of exposure include direct contact with open and deteriorated drums, and contaminated soils for children or other users of the adjoining playground, and the tennis and basketball courts.

Vegetation at the site appears to be either dead or stressed in the areas of some of the past spills.

5. NPL status

Trenton Drum Company is not an NPL site.

The site is not being evaluated by the Agency of Toxic Substances and Disease Registry (ATSDR).

B. Other Actions to Date

1. Previous actions

In 1983, during an NJDEP Division of Waste Management inspection of the site, contaminated soil was being remediated from the drum storage area by facility personnel. Contaminated soil was staged in drums and stored inside the facility.

2. Current actions

There are no current actions being conducted at the site.

C. State and Local Authorities' Role

1. State and local actions to date

The NJDEP Division of Hazardous Waste Management referred the Trenton Drum site to the EPA on March 14, 1991.

In two separate instances in 1984, Trenton Drum reportedly discharged hazardous substances into the Ewing-Lawrence Sewerage Authority. High concentrations of xylene, toluene and ethylbenzene were detected in wastewater samples collected from the effluent. Trenton Drum was requested to eliminate the hazardous substances from their drum cleaning operations. A filter system was installed as part of a recycling operation. Wastewater was pumped into holding tanks, where the oil was removed. The remaining water was filtered and pumped back into the system. It is not known whether this satisfied the sewerage authority.

On September 24, 1984, fire destroyed the main building at the

On September 24, 1984, fire destroyed the main building at the site. Runoff generated from fighting the fire flowed into storm and floor drains on HRI property, located downgradient of the site. The Lawrence Township Health Department placed an absorbent in HRI's outfall to contain oil in the runoff.

2. Potential for continued state/local response

The NJDEP is planning on initiating long-term remedial activities once EPA has completed all removal activities at the site.

III. THREAT TO PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT, AND STATUTORY AND REGULATORY AUTHORITIES

A. Threats to the Public Health or Welfare

An explanation of the threats to the public health and welfare, as they relate to the criteria provided from section 300.415(b)(2) of the National Contingency Plan (NCP), is presented below.

300.415(b)(2)(i) Actual or potential exposure to nearby human populations, animals or the food chain from hazardous substances or pollutants or contaminants.

The hazardous substances at the site pose a threat to anyone trespassing onto the site, especially the children from the playground. The scenario of children either chasing a ball into the site or playing within the site are realistic. Leaking, damaged and open top drums all provide a threat of direct contact. The contact can be either through inhalation of volatile organic compounds, such as xylene, toluene and 1,1,1 trichloroethane or ingestion of PCB contaminated oils and paint sludges after having come into hand contact with the waste.

300.415(b)(2)(iii) Hazardous substances or pollutants or contaminants in drums, barrels, tanks or other bulk storage containers, that may pose a threat of release.

The chemicals are located in several areas within the site. A deteriorated and unbermed concrete pad at the center of the site contains an estimated 90-100 drums. Half of these drums are overpacked (PRP's past actions). The remaining are deteriorated and unsecured. Some of these are leaking and their contents have formed puddles near the drums. These drums contain solvents, contaminated oils, paint sludges and other unknown ignitable materials.

The open field north of the concrete pad, near Ohio Avenue, contains at least 50-100 partially filled, filled and empty drums. Due to the high vegetation and extensive thorn bushes, it

substantial endangerment to public health, or welfare, or the environment.

V. PROPOSED ACTIONS AND ESTIMATED COSTS

1. Proposed action description

The interim measure proposed in this Action Memorandum is to reduce the threat posed by the drums and other containers present at the site. By conducting this action expeditiously, the serious situation would be stabilized and future planning for further removal activities could be carried forth.

The tasks for this proposed action are as follows:

1) Fence installation

Approximately 30 - 40 feet of fencing is missing on the eastern boundary of the property. This will be installed to remove the direct point of access to the site. The height of the fence will be comparable to the one already present, as will the presence of barbed wire.

2) Posting of signs

Signs, warning the nearby population of the site, will be posted on all four sides.

3) Overpacking and stabilization

All drums noted to be leaking at the time of the action will be overpacked to contain any further leakage. At this time there appears to be at least 25-30 leaking and severely deteriorated drums. Any visible leaked material will be shoveled up, placed in a drum and left at the site.

4) Building demolition and removal/stabilization of drums

A fire charred building located at the southeast corner of the property will be removed to allow access to the approximately 300-500 damaged drums. It is necessary to remove the building structure as it presents a severe safety hazard to workers in this proximity. Once the roof and surrounding structures are removed, an accurate assessment of all drums can be completed. Any leaking drums will be overpacked for stabilization. All drums discovered with waste materials will be staged on the concrete pad with the other drums.

In addition, further information is needed before a decision can be made as to whether the surface runoff from the site needs to

be addressed in this action. Sampling is scheduled to be conducted in the near future. Analytical results should be available within two weeks after completion of the sampling.

The estimated costs for the completion of this project are summarized below. A detailed cost estimate is included in Appendix A.

I. EXTRAMURAL COSTS

1. ERCS Contractor Costs (Regional Allowance)	= $34,672
Contingency Allowance (20%)	= $ 6,934
Subtotal, Mitigation Costs	= $41,606
Rounded Mitigation Costs	**= $41,600**
2. TAT Costs	= $11,065
Subtotal, Extramural Costs	= $52,671
Contingency Allowance (15%)	= $ 7,901
TOTAL, EXTRAMURAL COSTS	**= $60,572**

II. INTRAMURAL COSTS

1. Direct Costs	= $ 4,890
2. Indirect Costs	= $11,084
TOTAL INTRAMURAL COSTS	**= $15,974**

III. TOTAL ESTIMATED PROJECT CEILING	= $76,546
TOTAL ROUNDED ESTIMATED PROJECT CEILING	**= $77,000**

2. Contribution to remedial performance

Based on the available information, the proposed interim actions will, to the extent practicable, contribute to the efficient performance of any long-term remedial action. At this time, it appears that the NJDEP will initiate remedial activities at the site once removal actions are completed by EPA. By conducting these proposed actions, potential future releases caused by trespassers would be minimized. Additionally, drums currently leaking would be overpacked, halting additional contamination.

Prior to the start of the long-term cleanup, all of the threats, as described above, should be completely cleaned up. Due to the serious nature of the threat posed by the materials at the site, the action proposed herein is considered interim. The need to stabilize the site first is paramount. Further action will be required by the removal program in the future to eliminate all of the threats.

3. Description of alternative technologies

This section is not applicable at this time.

4. EE/CA

This section is not applicable at this time.

5. Applicable or relevant and appropriate requirements

This section is not applicable at this time.

6. Project schedule

Upon approval of the action memorandum, stabilization activities can be initiated relatively quickly. All of the work discussed in this proposed action could be completed within two days. Realistically, a delay of several days might occur due to the procurement of a fencing subcontractor, although this could be addressed within the ERCS subcontract.

VI. EXPECTED CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN

Should action be delayed or not taken users of the adjoining playground, and tennis and basketball courts, and the residential homes on Ohio Avenue would be an increased threat from any release or fire/explosion. The basketball court is about 100 feet away from the opening in the fence. The opening is adjacent to the remains of the fire-charred building. Anyone trespassing onto the site could trigger a collapse of the building, resulting in a release of the contents of the damaged drums. The drums throughout the site are in poor condition, and in some cases, are leaking. The opening in the fence adjoining the park provides a direct route of access.

VII. OUTSTANDING POLICY ISSUES

There are no outstanding policy issues associated with the site.

VIII. ENFORCEMENT

A number of PRPs have been identified by the NJDEP. On March 30, 1988, the NJDEP issued an Administrative Order to Trenton Drum, Westfall Ace Drum Co., Harold Aranow and Jack Binder for remediation of the site. Activities were initiated in 1990, however, work soon ceased due to Harold Aranow's failure to pay the contractor. According to the NJDEP, it does not appear as

though any of the PRPs will complete the work. Further details are provided in Appendix B.

IX. RECOMMENDATIONS

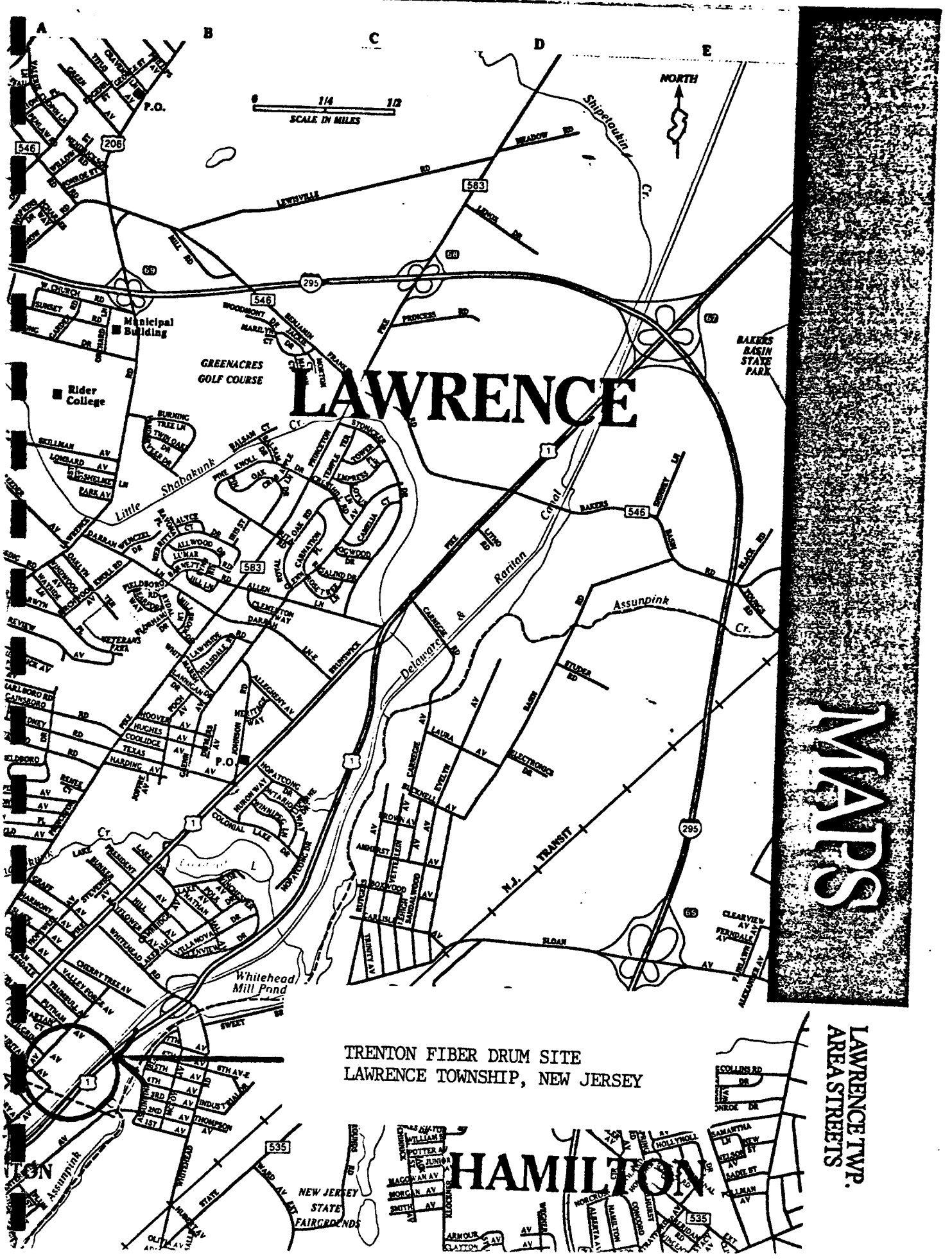
This decision document represents the selected removal action for the Trenton Drum site, in Lawrence, New Jersey, developed in accordance with CERCLA as amended, and not inconsistent with the NCP. This decision is based on the administrative record for the site.

Conditions at the site meet the NCP Section 300.415(b)(2) for a removal and I recommend your approval of the proposed removal action per current Delegation of Authority. The total project ceiling if approved will be $77,000. Of this, an estimated $41,600 comes from the Regional removal allowance.

Approval K Callahan Date 5/31/91
Kathleen C. Callahan, Director
Emergency and Remedial Response Division

Disapproved _____ Date _____
Kathleen C. Callahan, Director
Emergency and Remedial Response Division

cc: (After approval is obtained)
C. Sidamon-Eristoff, RA
R. Salkie, ERR-ADREPP
G. Zachos, ERR-RAB
G. Pavlou, ERR-DDNYCP
J. Frisco, ERR-DDNJP
D. Karlen, ORC-NJSUP
M. Randol, OEP
E. Schaaf, ORC-NYCSUP
P. McKechnie, 2IG
R. Gherardi, OPM-FIN
T. Grier, OS-210
J. Trela, NJDEP
C. Moyik, ERR-PS
M. Mjoness, OS-210
J. Rosianski, OEP
T. Mignone, TATL


MAPS
LAWRENCE
HAMILTON
NORTH
SCALE IN MILES
Municipal Building
Rider College
GREENACRES GOLF COURSE
BAKERS BASIN STATE PARK
Little Shabakunk
Shipetaukin Cr.
Assunpink Cr.
Raritan Canal
Delaware & Raritan Canal
Whitehead Mill Pond
N.J. TRANSIT
NEW JERSEY STATE FAIRGROUNDS
P.O.
TRENTON FIBER DRUM SITE
LAWRENCE TWP. AREA STREETS

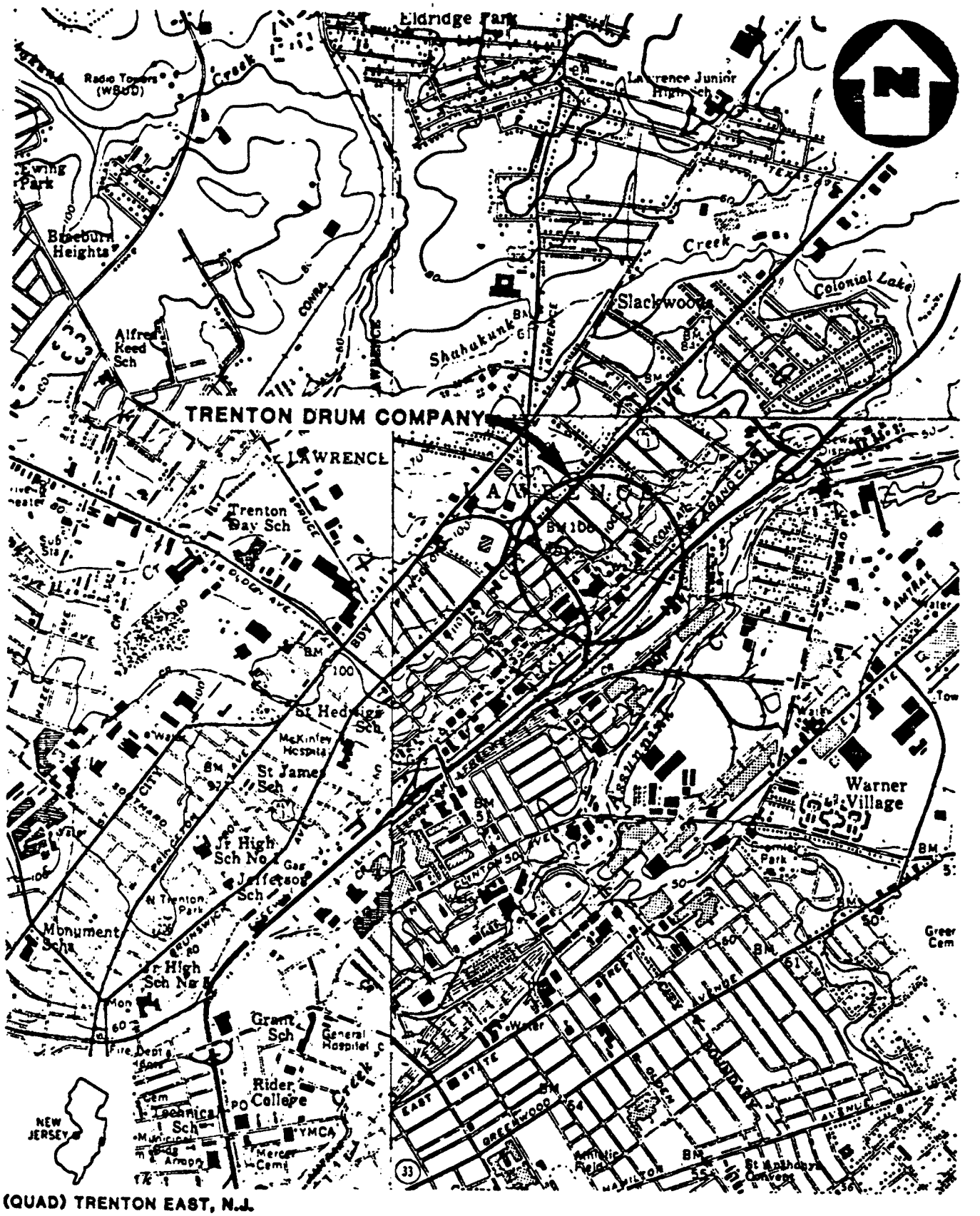


FIGURE 1

SITE LOCATION MAP

TRENTON DRUM CO., LAWRENCE TWP., N.J.

SCALE: 1" = 2000'

NUS CORPORATION

A Halliburton Company

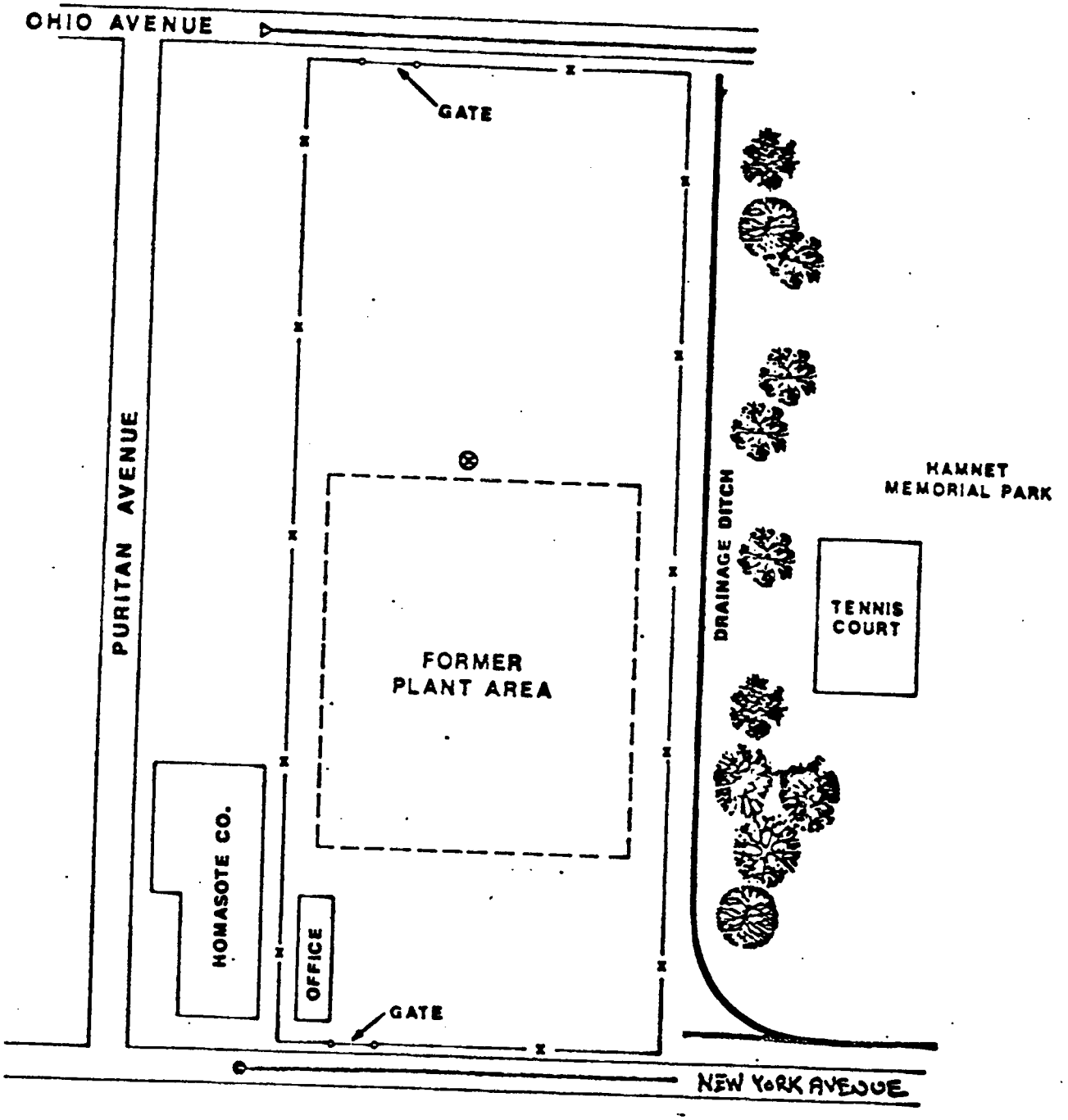


FIGURE 2

TRENTON DRUM CO., LAWRENCE TWP., N.J.

(NOT TO SCALE)

NUS CORPORATION

Appendix A

Summary Report

Initial Cost Projection Scenario: TRENTON FIBER DRUM

Projection ID Number: 004

Cleanup Contractor: SDES - S&D ENGINEERING

Date: 05/06/91

TAT Contractor: WESTON

Cost Projection Summary

Contractor Personnel	15,557.00
Contractor Equipment	3,258.08
Unit Rate Materials	4,374.40
At Cost Materials	0.00
Subcontractors	6,014.80
Waste Transportation	0.00
Waste Disposal	5,468.00
Cleanup Contractor Subtotal	34,672.28
Federal and State Agencies	0.00
Extramural Subtotal	34,672.28
20 % Extramural Contingency	6,934.46
Extramural Subtotal	41,606.74
TAT Personnel	11,064.96
TAT Special Projects	0.00
TAT Analytical Services	0.00
Total TAT Costs	11,064.96
Other Cost Items	0.00
Extramural Subtotal	52,671.70
15 % Project Contingency	7,900.75
Total Extramural Cost	60,572.45
EPA Regional Personnel	4,890.00
EPA Non-Regional Personnel	0.00
EPA Headquarters Direct	0.00
(0 % of Regional Hours)	
EPA Indirect	11,084.00
EPA Total	15,974.00
Project Total	76,546.45

Report for Specified Categories
Initial Cost Projection Scenario: TRENTON FIBER DRUM

Projection ID Number: 004
Cleanup Contractor: SDES - S&D ENGINEERING

Date: 05/06/91
TAT Contractor: WESTON

Cost Projection Detail - By Category

Contractor Personnel

Job Category	Number of Employees	Number of Days	Hrs per Day	Labor	PD, Lodge Travel	Total Charge
000 - GENERAL SITE COSTS						
002-FOREMAN	1	2	10.00	1,288.64	0.00	1,288.64
013-FLD CLERK/TYPIST	1	3	10.00	1,228.62	0.00	1,228.62
			Total for GENERAL SITE COSTS :			2,517.26
006 - ADMINISTRATIVE						
013-FLD CLERK/TYPIST	1	7	10.00	2,866.78	0.00	2,866.78
			Total for ADMINISTRATIVE :			2,866.78
010 - DRUM STAGING						
004-LABORERS	2	5	10.00	3,877.40	0.00	3,877.40
005-EQUIP OPERATOR	1	5	10.00	2,480.70	0.00	2,480.70
			Total for DRUM STAGING :			6,358.10
012 - CONST/REMOVAL						
004-LABORERS	2	3	10.00	2,326.44	0.00	2,326.44
005-EQUIP OPERATOR	1	3	10.00	1,488.42	0.00	1,488.42
			Total for CONST/REMOVAL :			3,814.86
					Total personnel cost:	15,557.00

Report for Specified Categories
Initial Cost Projection Scenario: TRENTON FIBER DRUM

Projection ID Number: 004
Cleanup Contractor: SDES - S&D ENGINEERING

Date: 05/06/91
TAT Contractor: WESTON

Cost Projection Detail - By Category

Contractor Equipment

Equipment Name	Number Needed	Reg Days	Hours /day	Stby Days	Mob/Demob Days	Decon Days	Mileage	Total Charge
000 - GENERAL SITE COSTS								
043-VAN	1	10	10.00	0	2	0	N/A	379.20
045-RACK TRUCK	1	8	10.00	0	2	0	N/A	1,556.48
063-TRLR OFF 8X40 EQUIP	1	10	10.00	0	2	0	N/A	632.80
166-GENERATOR 10 KW	1	10	10.00	0	2	0	N/A	464.00
298-COMPUTER PORTABLE-PC	1	10	10.00	0	2	0	N/A	225.60
Total for GENERAL SITE COSTS :								3,258.08
Total equipment cost:								3,258.08

Projection ID Number: 004 Date: 05/06/91
Cleanup Contractor: SDES - S&D ENGINEERING TAT Contractor: WESTON

Cost Projection Detail - By Category

Unit Rate Materials

Material Name	Material Use	Unit Cost	Number of Units	Total Charge
010 - DRUM STAGING				
PPE	SAFETY	1000.000	1.0 EACH	1,093.60
85 GAL OVERPACK	DRUM OVERPACK	100.000	30.0 EACH	3,280.80
		Total for DRUM STAGING	:	4,374.40
		Total unit rate materials cost:		4,374.40

At Cost Materials

Material Name	Material Use	Quantity/Amount	Total Charge
		Total at cost materials cost:	0.00

Projection ID Number: 004
Cleanup Contractor: SDES - S&D ENGINEERING

Date: 05/06/91
TAT Contractor: WESTON

Cost Projection Detail - By Category

Subcontractors

Subcontractor	Service	Billing	Total Charge
000 - GENERAL SITE COSTS			
GENERAL	ELECTRIC SERVICE	0.0 MONTHS	0.00
	PHONE SERVICE	0.0 MONTHS	0.00
	PORT BATHROOM REN	0.0 MONTHS	0.00
	ROAD CONSTRUCTION	1.0 EACH	546.80
	SITE WATCHMAN	2.0 WEEK	1,749.76
	Total for GENERAL SITE COSTS :		2,296.56
012 - CONST/REMOVAL			
GENERAL	DEMOLITION/ROOF	2.0 WEEK	2,187.20
BOBCAT RENTAL	BOBCAT RENTAL	2.0 WEEK	1,531.04
	Total for CONST/REMOVAL :		3,718.24
	Total subcontractor cost:		6,014.80

Waste Transportation

Waste Type	Amount	Loads	Cost Per Mile	Miles	Total Charge
				Total transportation cost:	0.00

Waste Disposal

Waste Type	Disposal Method	Units	No. of Units	Unit Cost	Total Charge
000 - GENERAL SITE COSTS					
DRUMS/EMPTY	LANDFILL	ROLL-OFF	2	2500.00	5,468.00
				Total for GENERAL SITE COSTS :	5,468.00
				Total disposal cost:	5,468.00

Report for Specified Categories
Initial Cost Projection Scenario: TRENTON FIBER DRUM

Projection ID Number: 004 | Date: 05/06/91
Cleanup Contractor: SDES - S&D ENGINEERING | TAT Contractor: WESTON

Cost Projection Detail - By Category

TAT Personnel

Level	Number of Days	Hrs per Day	Hourly Rate	Labor	PD, Lodge Travel	Total Charge
000 - GENERAL SITE COSTS						
PL2	10	10.00	36.16	6,147.20	0.00	6,147.20
				Total for GENERAL SITE COSTS :		6,147.20
006 - ADMINISTRATIVE						
PL2	10	8.00	36.16	4,917.76	0.00	4,917.76
				Total for ADMINISTRATIVE :		4,917.76
				Total TAT personnel cost:		11,064.96

TAT Special Projects

Description	Total Charge
Total TAT special project cost:	0.00

TAT Analytical Services

Description	Total Charge
Total TAT analytical services cost:	0.00

Projection ID Number: 004 Date: 05/06/91
Cleanup Contractor: SDES - S&D ENGINEERING TAT Contractor: WESTON

Cost Projection Detail - By Category

EPA Regional Personnel

Title	Number of Days	Hrs per Day	Hourly Rate	Labor	PD, Lodge Travel	Total Charge
000 - GENERAL SITE COSTS						
OSC	10	10.00	30.00	3,000.00	0.00	3,000.00
				Total for GENERAL SITE COSTS :		3,000.00
006 - ADMINISTRATIVE						
OSC	7	9.00	30.00	1,890.00	0.00	1,890.00
				Total for ADMINISTRATIVE :		1,890.00

Total EPA Regional Personnel Cost: 4,890.00

EPA Headquarters Cost: 0.00
(0 % of Regional hours)

EPA Indirect Cost: 11,084.00
(163 hours @ $68.00 per hour)

EPA Non-Regional Personnel

Title	Number of Days	Hrs per Day	Hourly Rate	Labor	PD, Lodge Travel	Total Charge
000 - GENERAL SITE COSTS						
006 - ADMINISTRATIVE						

Total EPA Non-Regional Personnel Cost: 0.00

Total EPA Cost: 15,974.00

REFERENCE NO. 3

U.S. ENVIRONMENTAL PROTECTION AGENCY

PROGRESS POLREP

DATE: November 15, 1991

FROM: Michael Ferriola, OSC, USEPA Region II
Removal Action Branch Michael Ferriola

TO:

K. Callahan, EPA	D. Karlen, EPA
R. Salkie, EPA	L. Miller, NJDEPE
J. Frisco, EPA	D. Triggs, NJDEPE
G. Zachos, EPA	ERD, Washington (E-Mail)
M. Pane, EPA	W. Erney, Lawrence Twp.
J. Marshall, EPA	TAT

SUBJECT: Trenton Fiber Drum, Lawrence Township, Mercer County, New Jersey

POLREP NO.: Five (5)

I. BACKGROUND

Site No.:	7K
Delivery Order No.:	0016-02-029
Response Authority:	CERCLA/SARA
NPL Status:	N/A
State Notification:	NJDEPE notified
Action Memorandum:	Approved on September 30, 1991
Start Date:	October 28, 1991
Demobilization Date:	N/A
Completion Date:	N/A

II. SITE INFORMATION

A. Situation

The site is a former steel and fiber drum reconditioning facility. The firm primarily reconditioned steel drums, using a recirculating caustic flush system. In September 1984, a fire destroyed the main building beyond repair, however, the company still continued to partially operate. NJDEP, through the potentially responsible parities (PRP), initiated an Interim Remedial Measure (IRM) in August 1990. A majority of the drums were hazard categorized, overpacked and labeled by the PRP's contractor. The PRP subsequently faulted on a payment to his contractor and work ceased.

A Preliminary Assessment (PA) was conducted in October, 1984 and Site Investigation (SI) in October 1985. The site was determined to be ineligible for ranking on the National Priorities List (NPL) as a result of the investigations.

The USEPA - Region II Removal Action Branch (RAB) conducted a removal action in June of 1991 to temporarily stabilize the site and provide an enhanced security system. All of the leaking drums were overpacked or transferred to new drums, sixty (60) feet of fence was repaired or newly installed, and the fire charred structure was removed. This permitted access to all steel and fiber drums previously located within the confines of this damaged building. All drums containing waste materials were bulked into new drums (based on compatibility tests) and staged on the concrete pad with the previously staged drums. All non-hazardous fiber drums were crushed in roll-off containers and disposed of at the G.R.O.W.S Landfill located in Morrisville, Pennsylvania. In addition, all drums were gathered from the site perimeter and staged on the concrete pad.

The site encompasses two acres in an industrial/residential area of Lawrence Township. The site is bounded by Ohio Avenue, Hamnett Recreation Park, New York Avenue, and the Homsote Co. (Puritan Avenue). The site is approximately 500 feet north and upgradient of the Delaware-Raritan Canal. Drainage ditches run parallel to the site along the eastern and western boundaries and flow toward the Canal. The nearest drinking water well is 2.1 miles southeast from the site.

III. RESPONSE INFORMATION

A. Planned Removal Actions

The planned removal actions for this site will reduce the threat posed by the hazardous materials contained within deteriorated drums and highly contaminated soil. The tasks for the proposed action are as follows: properly dispose of all hazardous substances contained in approximately 100 drums and dispose of highly contaminated soil in the area of the former fire charred building. This soil will be removed if analytical data indicates gross contamination which would pose a threat to human health and the environment. If soils are not removed by this EPA removal action, they should be addressed by post-removal site controls implemented by the NJDEPE.

Hazardous wastestream categories for all drummed materials will be established according to compatibility test results. The drums will be bulked into similar wastestreams to reduce disposal costs, and transported to EPA-approved, RCRA TSDFs meeting the CERCLA Off-Site Policy requirements.

A sampling grid will be established in the area of the former fire charred building. Sampling and analysis will be performed to identify contamination and potential "hot spots" which pose an immediate risk to human health and the environment. If necessary, soils will be removed and disposed of at approved RCRA regulated disposal facilities. If soils are not removed,

based on the results of the analytical data, they will be addressed by NJDEPE remediation activities.

B. Situation

1. Current Situation

On July 29th, EPA and TAT mobilized to the site to composite samples of each wastestream category established from previous compatibility testing. Seven hazardous wastestreams were identified: organic liquids and solids, caustic liquids and solids, aqueous liquids, acid liquids, and inert solids. Samples were shipped to a private laboratory for disposal analyses on August 30th. Analytical data was received on September 30, 1991.

EPA and TAT solicited disposal bids from several TSDFs for each of the wastestreams designated above. An Action Memorandum was approved by the Regional Administrator on September 30th. Office and decontamination trailers were mobilized to the site on October 25th. Temporary electrical service, telephones, and site security were also established on this date.

2. Removal Actions to Date

ERCS, Westinghouse Environmental, mobilized to the site on October 28th in preparation for the drum and highly contaminated soil removal action.

ERCS subcontracted with National Waste Disposal, Inc. to properly dispose of non-hazardous demolition debris. Removal of this debris was necessary to permit soil sampling in the former area of the fire charred fiber drum storage building. A total of four roll-off containers were required to remove this debris. The material was disposed of in the Tullytown Municipal Landfill, located in Tullytown, Pa. NJDEPE solid waste flow regulations stipulate that Mercer County transfer all non-hazardous solid waste materials to the Mercer County Improvement Authority, with ultimate disposal at their designated facility.

The aqueous liquid wastestream was bulked into a 1500 gallon polyethylene storage tank on November 4th and 5th. Drums which made up this wastestream were carefully poured into the "poly tank" by using an electrically operated drum tilting device attached to a forklift. An estimated forty (40) drums were poured into this tank, accounting for a total volume of 1500 gallons.

The inert and organic solid wastestreams were individually consolidated and bulked into 17H/55 gallon drums to reduce the volume of drums scheduled for shipment to a TSDF. The organic liquid wastestream was also reduced in volume in a similar manner. Twenty three (23) organic liquid drums were reduced in volume to a new total of eighteen (18) drums. The bulking and

consolidation actions will substantially reduce disposal costs for this project.

A soil sampling grid was set-up by EPA and TAT on November 7th in the area of the former fire charred fiber drum storage building. The proposed sampling area is approximately 4700 square feet and is divided into eight (8) distinct sampling grids.

On November 11th, EPA and TAT conducted an inventory of all newly formed wastestreams. The total number of drums/volume for each wastestream is indicated below:

Wastestream	Volume
Organic Liquid	18 drums
Organic Solid	12 "
Inert Solid	16 "
Caustic Solid	3 "
Caustic Liquid	3 "
Acid Liquid	1 "
Soil contaminated w/oil	2 "
Aqueous Liquid	~1500 gallons

Disposal quotes were received from Chemical Waste Management, E.I. Dupont, and Connecticut Treatment Corporation (CTC) the week of November 11th.

An apparent leaking underground storage tank (UST) was discovered adjacent to the on-site office trailer upon EPAs arrival on November 11th. A very strong gasoline odor and oil sheen was detected pooling in surface depressions adjacent to the trailer. The light hydrocarbon substances were apparently forced out of the ground as a result of a heavy rainfall during the previous weekend. This presented an immediately dangerous to life and health situation which had to be mitigated as soon as possible. As a result, an exploratory investigation was undertaken by EPA, TAT, and ERCS to discover the source of this problem. The investigation revealed a 550 gallon steel tank buried approximately eighteen (18) inches below grade. The tank was sounded with a gauging rod and found to be full with water, and what appeared to be gasoline/light hydrocarbon mixture. The tank dimensions are forty (48) inch diameter and sixty six (66) inches in length. A meeting was held by EPA, TAT, and ERCS to discuss removal of this tank. The actual removal date for the UST and contaminated soil is scheduled for November 18th and 19th.

On November 12th, TAT collected soil samples from surface and depth locations from eight (8) previously designated grid locations in the area of the former fire charred building. The samples were shipped to a private lab (Aptus, in Minnesota), based on the lowest of five (5) quotes. All samples will be

analyzed for Target Compound List (TCL) Organics and Target Analyte List (TAL) Inorganics.

ERCS subcontracted with Drum Management, located in Marlton, New Jersey for the disposal of all RCRA empty steel drums. On November 13th, the drums were crushed on-site and transported to a metal shredder, with ultimate disposal scheduled for a metal smelter (metals reclamation).

The aqueous liquid wastestream was transported via tank truck to Chemical Waste Management, Newark, New Jersey for wastewater treatment on November 14th. Approximately 1500 gallons will be treated at this RCRA regulated TSDF.

On November 15th, eighteen (18) drums of organic liquids were transported to Marisol, Inc. located in Middlesex, New Jersey for fuels blending/solvent recovery.

3. Enforcement

PRPs have been identified and notification letters under Section 107(a) of CERCLA will be sent out by the EPA Program Support Branch.

C. Next Steps

One final disposal quote for the drummed hazardous waste is pending. Upon receipt and review, the remaining drums will be scheduled for off-site disposal at an EPA approved RCRA TSDF.

D. Key Issues

The leaking UST and contaminated soils associated with this tank will be removed the week of November 18, 1991.

A representative of the NJDEPE was on-site to oversee the on-going EPA removal action. This individual was very pleased at the speed and progress which EPA has made to date.

Lawrence Township officials have been frequenting the site to monitor EPAs progress. While on-site, the local officials have been very cooperative in providing support services to EPA when requested to do so.

IV. COST INFORMATION

	Amount Budgeted	Cost To Date
ERCS Contractor (w/ 20% contingency)	$ 173,000	$ 41,442
TAT	$ 19,800	$ 6,879
EPA Intramural (HQ and Region)	$ 29,400	$ 16,243
Extramural Contingencies	$ 28,800	$ 0
TOTALS	$ 251,000	$ 64,564
Percent of Project Funds Remaining		74.3 %

V. DISPOSITION OF WASTES

WASTE STREAM	MEDIUM	QUANTITY	CONTAINMENT-MIGRATION CONTROL	TREATMENT	DISPOSAL
Aqueous Liquids	Liquid	~1,500 Gallons	Portable Aboveground Tank	Wastewater Treatment	Chemical Waste Mgmt, Newark, NJ
Flammable Liquids	Liquid	18 Drums	N/A	Fuels Blending	Marisol Middlesex, NJ
Empty Steel Drums	Solids	75-55 gallon steel drums	N/A	Recycle	Drum Management Inc. Marlton, NJ
Demolition Debris	Solids	110 Cubic Yards	Roll-off Container	Landfill	Tullytown Landfill, Tullytown, Pa

U.S. ENVIRONMENTAL PROTECTION AGENCY

FINAL POLREP

DATE: January 24, 1992

FROM: Michael Ferriola, OSC, USEPA Region II
Removal Action Branch Michael Ferriola

TO:

K. Callahan, EPA	D. Karlen, EPA
R. Salkie, EPA	L. Miller, NJDEPE
J. Frisco, EPA	D. Triggs, NJDEPE
G. Zachos, EPA	ERD, Washington (E-Mail)
M. Pane, EPA	W. Erney, Lawrence Twp.
J. Marshall, EPA	TAT

SUBJECT: Trenton Fiber Drum, Lawrence Township, Mercer County, New Jersey

POLREP NO.: Eight (8)

I. BACKGROUND

Site No.:	7K
Delivery Order No.:	0016-02-029
Response Authority:	CERCLA/SARA
NPL Status:	N/A
State Notification:	NJDEPE notified
Action Memorandum:	Approved on September 30, 1991
Start Date:	October 28, 1991
Demobilization Date:	December 20, 1991
Completion Date:	January 23, 1992

II. SITE INFORMATION

A. Situation

The site is a former steel and fiber drum reconditioning facility. The firm primarily reconditioned steel drums, using a recirculating caustic flush system. In September 1984, a fire destroyed the main building beyond repair, however, the company still continued to partially operate. NJDEPE, through the potentially responsible parities (PRP), initiated an Interim Remedial Measure (IRM) in August 1990. A majority of the drums were hazard categorized, overpacked and labeled by the PRP's contractor. The PRP subsequently faulted on a payment to his contractor and work ceased.

A Preliminary Assessment (PA) was conducted in October, 1984 and Site Investigation (SI) in October 1985. The site was determined to be ineligible for ranking on the National Priorities List (NPL) as a result of the investigations.

The USEPA - Region II Removal Action Branch (RAB) conducted a removal action in June of 1991 to temporarily stabilize the site and provide an enhanced security system. All of the leaking drums were overpacked or transferred to new drums, sixty (60) feet of fence was repaired or newly installed, and the fire charred structure was removed. This permitted access to all steel and fiber drums previously located within the confines of this damaged building. All drums containing waste materials were bulked into new drums (based on compatibility tests) and staged on the concrete pad with the previously staged drums. All non-hazardous fiber drums were crushed in roll-off containers and disposed of at the G.R.O.W.S Landfill located in Morrisville, Pennsylvania. In addition, all drums were gathered from the site perimeter and staged on the concrete pad.

The site encompasses two acres in an industrial/residential area of Lawrence Township. The site is bounded by Ohio Avenue, Hamnett Recreation Park, New York Avenue, and the Homosote Co. (Puritan Avenue). The site is approximately 500 feet north and upgradient of the Delaware-Raritan Canal. Drainage ditches run parallel to the site along the eastern and western boundaries and flow toward the Canal. The nearest drinking water well is 2.1 miles southeast from the site.

III. RESPONSE INFORMATION

A. Planned Removal Actions

The planned removal actions for this site will reduce the threat posed by the hazardous materials contained within deteriorated drums and highly contaminated soil. The tasks for the proposed action are as follows: properly dispose of all hazardous substances contained in approximately 100 drums and dispose of highly contaminated soil in the area of the former fire charred building. This soil will be removed if analytical data indicates gross contamination which would pose a threat to human health and the environment. If soils are not removed by this EPA removal action, they should be addressed by post-removal site controls implemented by the NJDEPE.

Hazardous wastestream categories for all drummed materials will be established according to compatibility test results. The drums will be bulked into similar wastestreams to reduce disposal costs, and transported to EPA-approved, RCRA TSDFs meeting the CERCLA Off-Site Policy requirements.

A sampling grid will be established in the area of the former fire charred building. Sampling and analysis will be performed to identify contamination and potential "hot spots" which pose an immediate risk to human health and the environment. If necessary, soils will be removed and disposed of at approved RCRA regulated disposal facilities. If soils are not removed,

based on the results of the analytical data, they will be addressed by NJDEPE remediation activities.

B. Situation

1. Current Situation

On July 29th, EPA and TAT mobilized to the site to composite samples of each wastestream category established from previous compatibility testing. Seven hazardous wastestreams were identified: organic liquids and solids, caustic liquids and solids, aqueous liquids, acid liquids, and inert solids. Samples were shipped to a private laboratory for disposal analyses on August 30th. Analytical data was received on September 30, 1991.

EPA and TAT solicited disposal bids from several TSDFs for each of the wastestreams designated above. An Action Memorandum was approved by the Regional Administrator on September 30th. Office and decontamination trailers were mobilized to the site on October 25th. Temporary electrical service, telephones, and site security were also established on this date.

All non-hazardous demolition debris, in the former area of the fire charred fiber drum storage building, was removed to permit soil sampling. Samples were collected and shipped to a private lab for analysis. All wastestreams were consolidated where possible to reduce future disposal costs.

The aqueous liquid, organic liquid, caustic liquid, and acid liquid wastestreams have been treated/disposed of at EPA approved RCRA TSDFs. Liquid and soil samples from the excavation of the underground storage tank have been analyzed for TCLP constituents, TAL metals, and TCL organics. Both the liquid and soil matrices will be characterized and disposed of at appropriate disposal sites.

2. Removal Actions to Date

Approximately 100 tons of soil contaminated with hydrocarbons, from the leaking underground storage tank, was transported to Soil Remediation Inc. (SRI), located in Lowellville, Ohio. The soil will be thermally treated in an asphalt process and ultimately recycled.

The remaining 30 drums; consisting of the organic solids, inert solids, and caustic solids were incinerated at ThermalKEM, located in Rock Hill, South Carolina. The drums were delivered to ThermalKEM on January 3rd.

Analytical data, from soil samples collected in the area of the former fire charred building, was forwarded to NJDEPE on January 10th. This data will be used to supplement existing data and for the further collection of samples.

All contaminated personal protective equipment (PPE) was incinerated at Rollins Environmental Services, located in Bridgeport, New Jersey. The drums of contaminated PPE were transported to Rollins on January 10th.

The underground storage tank aqueous liquids were transported to Chemical Waste Management of Newark, New Jersey on January 23rd for wastewater treatment.

Complete demobilization from the site took place on December 20, 1991. This included disconnection of electrical and telephone service, and off-site removal of the office trailer.

C. Next Steps

The NJDEPE will resume assessment and analytical activities at the site to determine the extent of soil/groundwater contamination and perform remedial actions, if necessary.

D. Key Issues

With the completion of this phase of the removal action, all objectives set forth in the Action Memorandum have been achieved. All drums containing hazardous wastes and substances were characterized and shipped off-site for disposal at appropriate TSDFs. Soil sampling was performed in the area of the former fire charred fiber drum building to determine the magnitude of contamination from poor housekeeping practices.

IV. COST INFORMATION

	Amount Budgeted	Cost To Date
ERCS Contractor (w/ 20% contingency)	$ 173,000	$ 68,778
TAT	$ 19,800	$ 11,020
EPA Intramural (HQ and Region)	$ 29,400	$ 29,179
Extramural Contingencies	$ 28,800	$ 0
TOTALS	$ 251,000	$ 108,977
Percent of Project Funds Remaining		56.6 %

The above accounting of expenditures is an estimate based on figures known to the OSC at the time this report was written. The OSC does not necessarily receive specific figures on final payments made to any contractor(s). Other financial data which the OSC must rely upon may not be entirely up-to-date. The cost accounting provided in this report does not necessarily represent an exact monetary figure which the government may include in any claim for cost recovery.

V. DISPOSITION OF WASTES

WASTE STREAM	MEDIUM	QUANTITY	CONTAINMENT-MIGRATION CONTROL	TREATMENT	DISPOSAL
Aqueous Liquids	Liquid	~1,500 Gallons	Portable Aboveground Tank	Wastewater Treatment	Chemical Waste Mgmt, Newark, NJ
Flammable Liquids	Liquid	18 Drums	N/A	Fuels Blending	Marisol Middlesex, NJ
Empty Steel Drums	Solids	75-55 gallon steel drums	N/A	Recycle	Drum Management Inc. Marlton, NJ
Acid Liquid	Liquid	55 gallons	N/A	Incineration	Laidlaw Environmental, Laurel, Maryland
Caustic Liquids	Liquid	3-55 gallon drums	N/A	Wastewater Treatment	Clean Harbors, Baltimore, Md
Aqueous Liquids	Liquid	~1,200 gallons	Portable Aboveground Tank	Wastewater Treatment	Chemical Waste Mgmt. Newark, NJ
Organic Solids	Solids	15-55 gallon drums	N/A	Incineration	ThermalKEM, Rock Hill, SC
Inert Solids	Solids	12-55 gallon drums	N/A	Incineration	ThermalKEM, Rock Hill, SC
Caustic Solids	Solids	3-55 gallon drums	N/A	Incineration	ThermalKEM, Rock Hill, SC
Contaminated PPE	Solids	5-55 gallon fiber drums	N/A	Incineration	Rollins Environmental Bridgeport, NJ
Contaminated soil	Solids	~100 Cubic Yards	Cover w/visqueen, berm	Thermal Treatment	Soil Remediation, Inc., Lowellville, Ohio
Demolition Debris	Solids	110 Cubic Yards	Roll-off Container	Landfill	Tullytown Landfill, Tullytown, Pa

REFERENCE NO. 4

COR 5D
02-8810-04

NUS CORPORATION
1090 KING GEORGES POST ROAD
SUITE 1103
EDISON, NEW JERSEY 08837
201 225-6160

C-584-12-88-67

December 21, 1988

Mr. Roger Ennis
U.S. Environmental Protection Agency
Region 2
Edison, New Jersey 08817

Dear Roger:

During the period of October 13 through November 23, 1988, NUS Corporation, FIT 2 utilized the services of four subcontractors to collect air contaminant data from seven pre-remedial sites using remote sensing techniques to enable EPA to make critical judgements for the ranking of potential hazardous waste sites. The enclosed summary and trip reports present the air quality data from these seven sites.

Environmental Laser Systems (ELS), Inc. was the principal subcontractor providing laser measurements using a DIAL (Differential Absorption Lidar System). Nicolet Instruments and the University of Denver were contracted to ELS to provide fourier transform infrared (FTIR) and ultraviolet (UV) measurement data, respectively. A third contractor to ELS, Environmental Solutions, Inc., provided remote sensing quality assurance functions.

The FTIR and UV systems were installed in separate EPA vehicles provided by FIT 2. The DIAL system was contained in a van provided by ELS. Retroreflectors, provided by each subcontractor, were used in conjunction with the UV and DIAL systems. A flat mirror, provided by Nicolet, Inc., was used with the FTIR system.

Subcontracting services for weather forecasting were obtained through Kavouras, Inc. for the duration of the project. On-site meteorological monitoring was conducted using a portable 3-meter tower collecting data for wind direction, wind speed, standard deviation of horizontal wind direction (sigma theta), temperature, and relative humidity. The tower was sited at the location judged to be most representative of the prevailing meteorological conditions and to conform to EPA-specified guidelines.

Monitoring investigations were conducted at the following 7 sites:

- N.L. Industries, Inc., Nalcon Division, Sayreville, New Jersey
- Scientific Chemical Processing (SCP), Inc., Newark, New Jersey
- Trenton Drum, Lawrenceville, New Jersey
- Passonno Corporation, Colonie, New York
- West Central Environmental, Schodack, New York
- Durham-Greenville Landfill, Durham, New York
- Atlantic Development/Sayreville Pesticide, Sayreville, New Jersey

Twenty-one target contaminants were monitored for by the systems; these target contaminants are specified in Table 5-1 of the "Final Draft Project Operations Plan, Determination of Air Contaminants for Pre-Remedial Activities Using Remote Sensing Techniques," prepared by NUS Corporation for the EPA on October 13, 1988.

It should be noted that no target contaminants were found at any of the sites at a sufficient concentration to allow for DIAL system quantification. All identification of compounds were completed using the FTIR and UV systems. Compounds found greater than 4 times the confidence level of the FTIR LSFIT program are shown as positively identified. Compounds found greater than 2 times but less than 4 times the confidence level required visual inspection of the spectra to confirm its presence. All concentrations reported by both systems are approximate path-integrated average concentrations.

Very truly yours,

Gary Rojek

Gary Rojek

Reviewed and Approved

GR/ci

cc: Ms. Amy Brochu

Attachment

PRE-REMEDIAL REMOTE SENSING OF AIR CONTAMINANTS INVESTIGATION

SUMMARY AND TRIP REPORT

Site Name: Trenton Drum

TDD No.: 02-8810-04

Monitoring Dates: October 31, November 2-3, and 18, 1988

1. Site Location: See Figure 1

2. Monitoring Configurations: See Figures 2-6

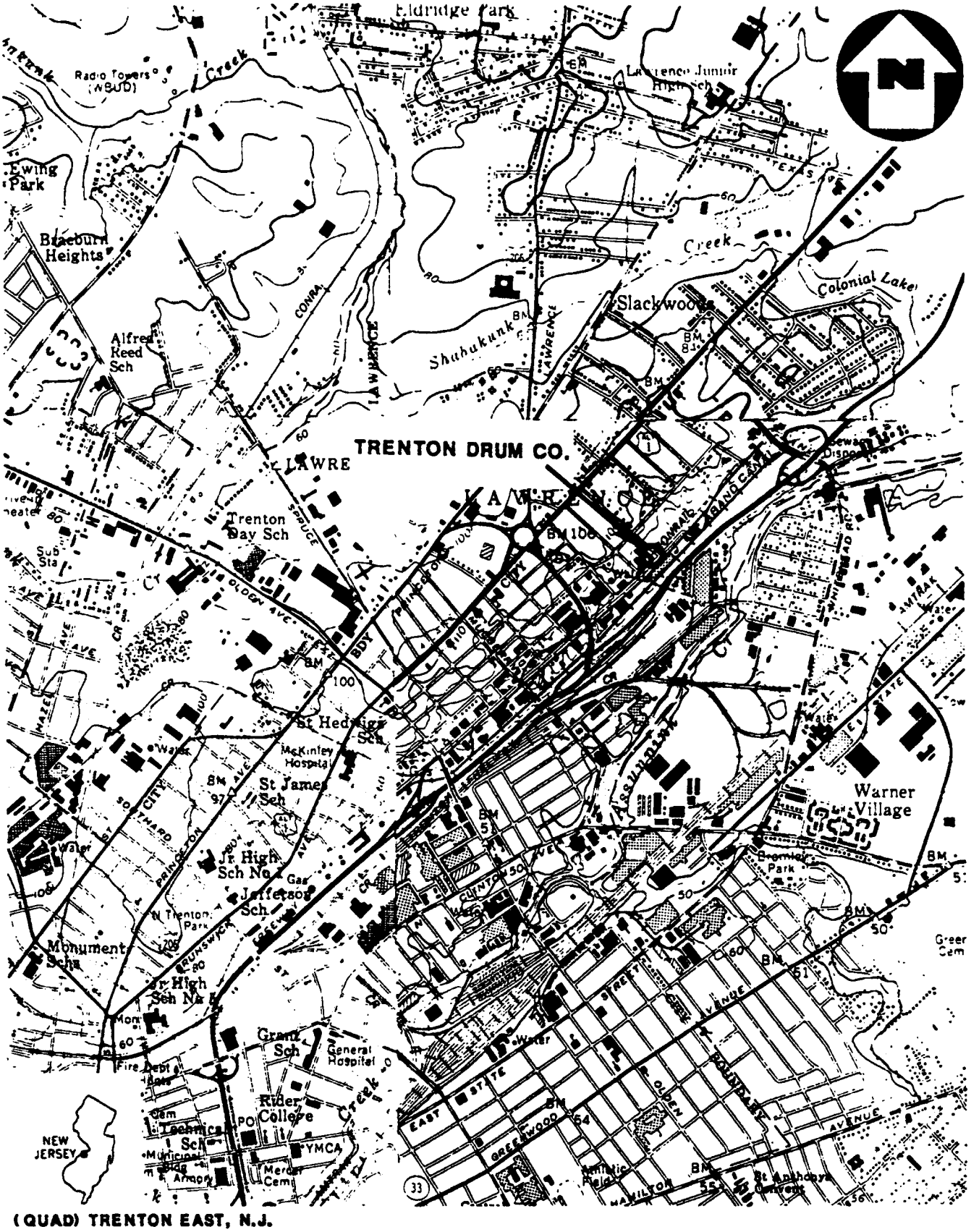
3. Monitoring Sequence Results: See Tables 1-5

4. Comments:

A total of five sequences were completed over four days. Previous investigations have identified on-site drums, surrounding soils, and the drainage ditch as potential sources of volatile air contaminants. Upwind/downwind monitoring was not attempted on October 31 as no compounds were identified across the site above four times the confidence level of the IR unit. Monitoring sequences on November 2, 3, and 18 began with the downwind assessment, since across-site assessment had been completed on October 31. During Sequences 4 and 5, additional upwind monitoring paths were necessary to obtain a complete upwind assessment. A third upwind path, further from the site, was monitored as a comparison to the second upwind monitoring path during Sequence 4.

The UV unit developed controller box problems on November 2 and was not operational for the duration of monitoring on that day.

5. Prepared by: Gary Rojek Date: December 19, 1988



(QUAD) TRENTON EAST, N.J.

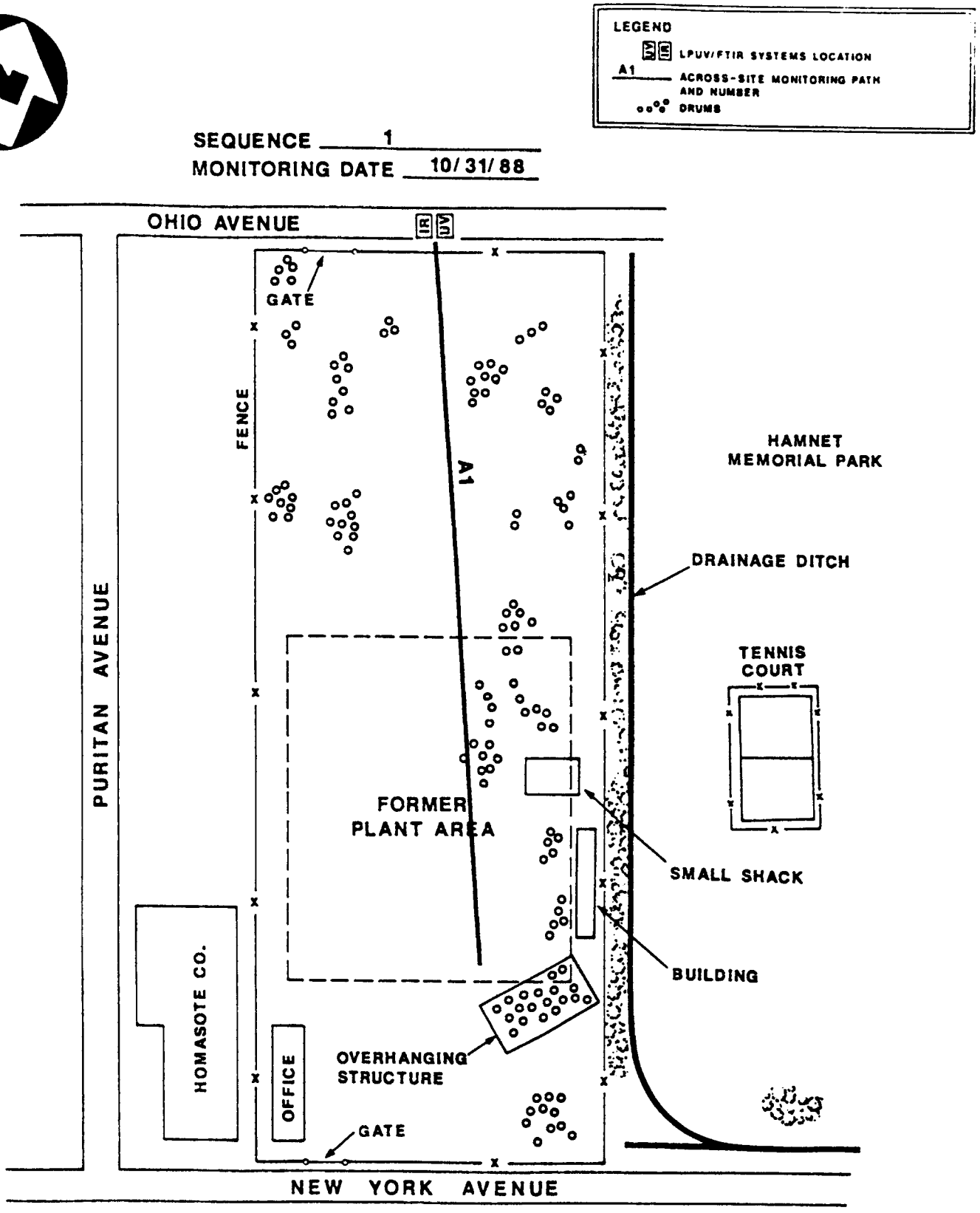
FIGURE 1

SITE LOCATION MAP

TRENTON DRUM CO., LAWRENCE TWP., N.J.

SCALE: 1" = 2000'

NUS CORPORATION



MONITORING CONFIGURATION

TRENTON DRUM CO., LAWRENCE TWP., N.J.

(NOT TO SCALE)

FIGURE 2

NUS CORPORATION

Sequence No. 1

Monitoring Date 10/31/88

TABLE 1: MONITORING SEQUENCE RESULTS

TRENTON DRUM

02-8810-04-STR
Rev. No. 0

	ACROSS-SITE ASSESSMENT		UPWIND ASSESSMENT		DOWNWIND ASSESSMENT	
	IR (a)	UV	IR(a)	UV	IR(a)	UV
IDENTIFIED COMPOUND (S)	APPROXIMATE CONC. (ppm-m)	APPROXIMATE CONC. (ppm-m)	APPROXIMATE CONC. (ppm-m)	APPROXIMATE CONC. (ppm-m)	APPROXIMATE CONC. (ppm-m)	APPROXIMATE CONC. (ppm-m)
1,1,1-trichloroethane	3j	ND	NA	NA	NA	NA
MONITORING TIME						
	Start 1305	Start 1347	Start NA	Start NA	Start NA	Start NA
	Stop 1315	Stop 1350	Stop NA	Stop NA	Stop NA	Stop NA
	Total Minutes 10	Total Minutes 3	Total Minutes NA	Total Minutes NA	Total Minutes NA	Total Minutes NA
METEOROLOGICAL DATA						
	Mean Wind Direction (Degrees) NA		Mean Wind Direction (Degrees) NA		Mean Wind Direction (Degrees) NA	Mean Wind Direction (Degrees) NA
	Avg. Wind Speed (MPH) NA		Avg. Wind Speed (MPH) NA		Avg. Wind Speed (MPH) NA	Avg. Wind Speed (MPH) NA
	Sigma Theta of Wind Direction (Degrees) NA		Sigma Theta of Wind Direction (Degrees) NA		Sigma Theta of Wind Direction (Degrees) NA	Sigma Theta of Wind Direction (Degrees) NA
	Temperature (Degrees Fahrenheit) NA		Temperature (Degrees Fahrenheit) NA		Temperature (Degrees Fahrenheit) NA	Temperature (Degrees Fahrenheit) NA

NOTES:

(a) = IDENTIFIED COMPOUNDS ARE DEFINED AS BEING PRESENT ABOVE 4 TIMES THE CONFIDENCE LEVEL

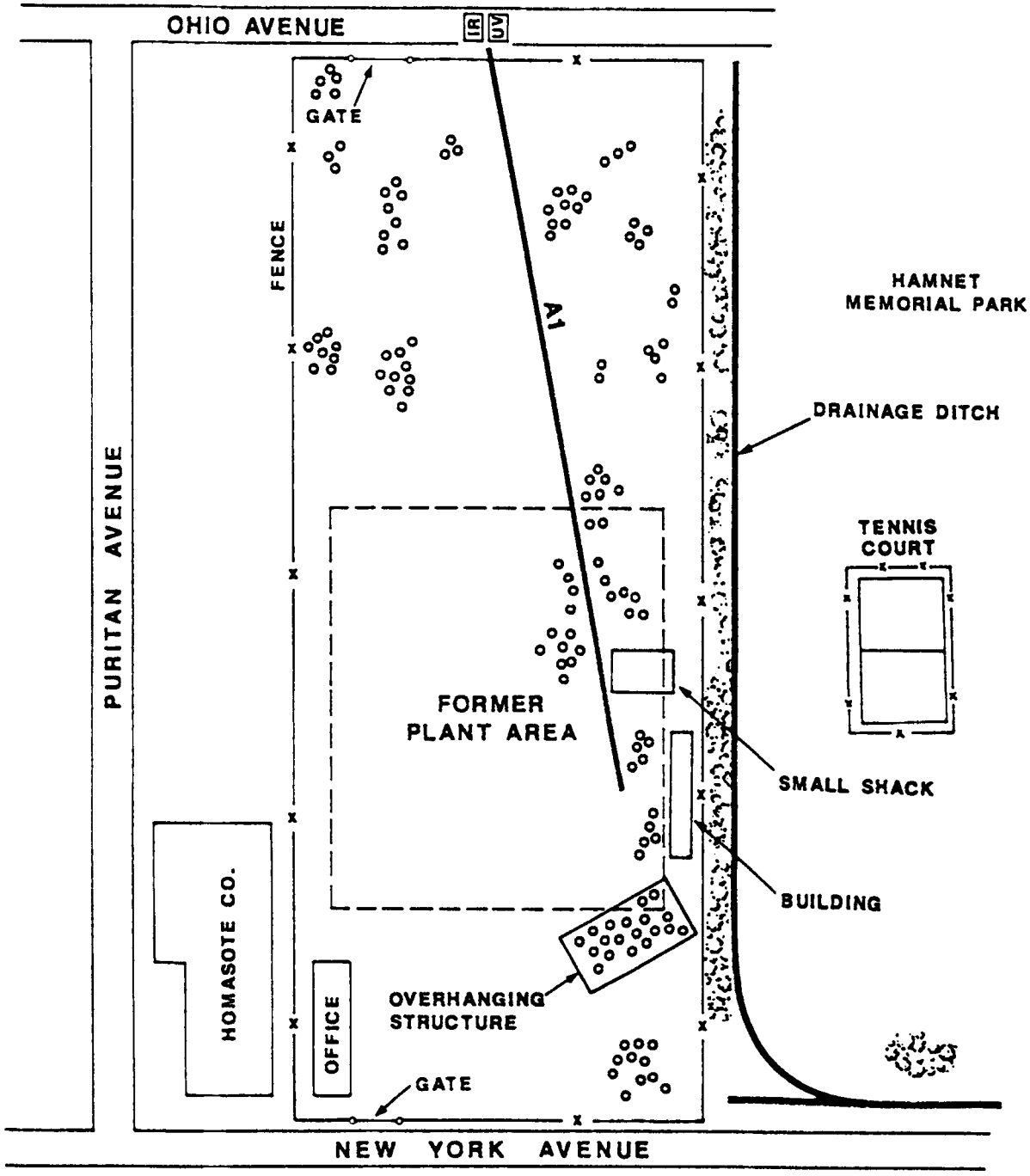
j = COMPOUND WAS PRESENT AT GREATER THAN 2 TIMES BUT LESS THAN 4 TIMES THE CONFIDENCE LEVEL

ND = NOT DETECTED

NA = NOT APPLICABLE

LEGEND
IR UV LPUV/FTIR SYSTEMS LOCATION
A1 ACROSS-SITE MONITORING PATH AND NUMBER
DRUMS

SEQUENCE 2
MONITORING DATE 10/31/88



MONITORING CONFIGURATION

TRENTON DRUM CO., LAWRENCE TWP., N.J.

(NOT TO SCALE)

FIGURE 3

NUS CORPORATION

Sequence No. 2

Monitoring Date 10/31/88

TABLE 2: MONITORING SEQUENCE RESULTS

TRENTON DRUM

02-8810-04-STR
Rev. No. 0

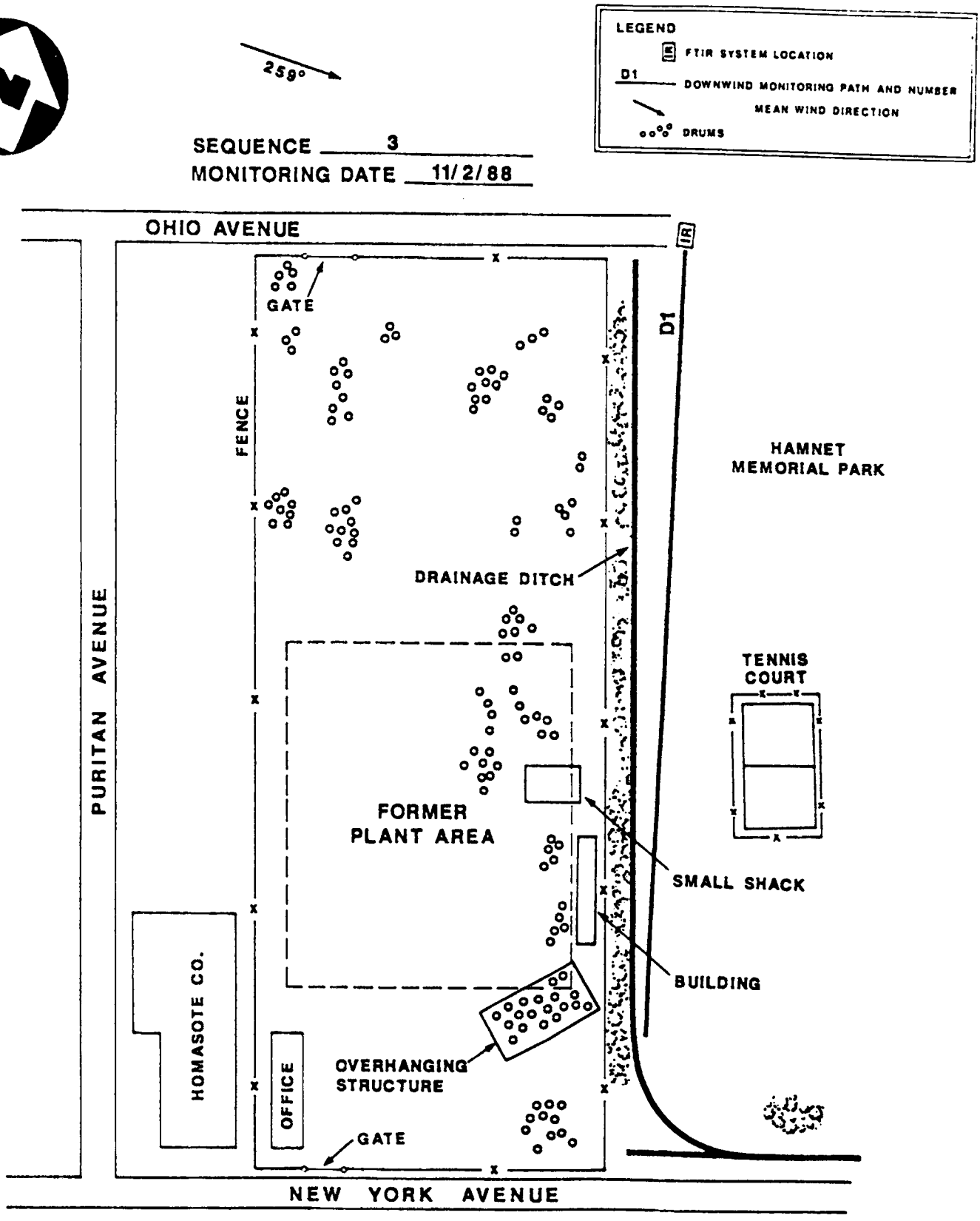
	ACROSS-SITE ASSESSMENT		UPWIND ASSESSMENT		DOWNWIND ASSESSMENT	
	IR (a)	UV	IR(a)	UV	IR(a)	UV
IDENTIFIED COMPOUND (S)	APPROXIMATE CONC. (ppm-m)	APPROXIMATE CONC. (ppm-m)	APPROXIMATE CONC. (ppm-m)	APPROXIMATE CONC. (ppm-m)	APPROXIMATE CONC. (ppm-m)	APPROXIMATE CONC. (ppm-m)
None	ND	ND	NA	NA	NA	NA
MONITORING TIME						
Start	1514	1408	NA	NA	NA	NA
Stop	1530	1632	NA	NA	NA	NA
Total Minutes	16	124	NA	NA	NA	NA
METEOROLOGICAL DATA						
Mean Wind Direction (Degrees)			NA	NA	NA	NA
Avg. Wind Speed (MPH)			NA	NA	NA	NA
Sigma Theta of Wind Direction (Degrees)			NA	NA	NA	NA
Temperature (Degrees Fahrenheit)			NA	NA	NA	NA

NOTES:

(a) = IDENTIFIED COMPOUNDS ARE DEFINED AS BEING PRESENT ABOVE 4 TIMES THE CONFIDENCE LEVEL

ND = NOT DETECTED

NA = NOT APPLICABLE



MONITORING CONFIGURATION

TRENTON DRUM CO., LAWRENCE TWP., N.J.

(NOT TO SCALE)

FIGURE 4

NUS CORPORATION

Sequence No. 3

Monitoring Date 11/2/88

TABLE 3: MONITORING SEQUENCE RESULTS

TRENTON DRUM

02-8810-04-STR
Rev. No. 0

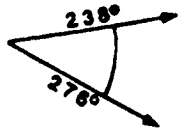
	ACROSS-SITE ASSESSMENT		UPWIND ASSESSMENT		DOWNWIND ASSESSMENT	
	IR (a)	UV	IR(a)	UV	IR(a)	UV
IDENTIFIED COMPOUND (S)	APPROXIMATE CONC. (ppm-m)	APPROXIMATE CONC. (ppm-m)	APPROXIMATE CONC. (ppm-m)	APPROXIMATE CONC. (ppm-m)	APPROXIMATE CONC. (ppm-m)	APPROXIMATE CONC. (ppm-m)
None	NA	NA	NA	NA	ND	NA
MONITORING TIME						
Start	NA	NA	NA	NA	1009	NA
Stop	NA	NA	NA	NA	1300	NA
Total Minutes	NA	NA	NA	NA	171	NA
METEOROLOGICAL DATA						
Mean Wind Direction (Degrees)	NA		NA		259	NA
Avg. Wind Speed (MPH)	NA		NA		7	NA
Sigma Theta of Wind Direction (Degrees)	NA		NA		19	NA
Temperature (Degrees Fahrenheit)	NA		NA		50	NA

NOTES:

(a) = IDENTIFIED COMPOUNDS ARE DEFINED AS BEING PRESENT ABOVE 4 TIMES THE CONFIDENCE LEVEL

ND = NOT DETECTED

NA = NOT APPLICABLE



SEQUENCE 4
MONITORING DATE 11/3/88

LEGEND
IR UV LPUV FTIR SYSTEMS LOCATION
U1 UPWIND MONITORING PATH AND NUMBER
D1 DOWNWIND MONITORING PATH AND NUMBER
RANGE OF MEAN WIND DIRECTION
DRUMS

OHIO AVE
U1
IR UV
IR UV
IR UV
GATE
U3
U2
FENCE
D1
HAMNET MEMORIAL PARK
DRAINAGE DITCH
PURITAN AVENUE
TENNIS COURT
D2
FORMER PLANT AREA
SMALL SHACK
BUILDING
HOMASOTE CO.
OFFICE
OVERHANGING STRUCTURE
GATE
NEW YORK AVENUE

MONITORING CONFIGURATION

TRENTON DRUM CO., LAWRENCE TWP., N.J.

(NOT TO SCALE)

FIGURE 5

NUS CORPORATION

Sequence No. 4

Monitoring Date 11/3/88

TABLE 4: MONITORING SEQUENCE RESULTS

TRENTON DRUM

02-8810-04-STR
Rev. No. 0

IDENTIFIED COMPOUND (S)	ACROSS-SITE ASSESSMENT IR (a) APPROXIMATE CONC. (ppm-m)	ACROSS-SITE ASSESSMENT UV APPROXIMATE CONC. (ppm-m)	UPWIND ASSESSMENT NO. 1 IR(a) APPROXIMATE CONC. (ppm-m)	UPWIND ASSESSMENT NO. 1 UV APPROXIMATE CONC. (ppm-m)	UPWIND ASSESSMENT NO. 2 IR(a) APPROXIMATE CONC. (ppm-m)	UPWIND ASSESSMENT NO. 2 UV APPROXIMATE CONC. (ppm-m)
1,1,1-trichloroethane	NA	NA	3	ND	ND	ND
Chloroform	NA	NA	ND	ND	3J	ND
MONITORING TIME						
Start	NA	NA	1252	1342	1453	1528
Stop	NA	NA	1255	1357	1455	1543
Total Minutes	NA	NA	3	15	2	15
METEOROLOGICAL DATA						
Mean Wind Direction (Degrees)			248	252	250	245
Avg. Wind Speed (MPH)			6	6	5	5
Sigma Theta of Wind Direction (Degrees)			24	28	21	22
Temperature (Degrees Fahrenheit)			54	54	55	55

NOTES:

(a) = IDENTIFIED COMPOUNDS ARE DEFINED AS BEING PRESENT ABOVE 4 TIMES THE CONFIDENCE LEVEL

J = COMPOUND WAS PRESENT AT GREATER THAN 2 TIMES BUT LESS THAN 4 TIMES THE CONFIDENCE LEVEL

ND = NOT DETECTED

NA = NOT APPLICABLE

(Continued on next page)

Sequence No. 4

Monitoring Date 11/3/88

TABLE 4: MONITORING SEQUENCE RESULTS (CONT'D)

TRENTON DRUM

02-8810-04-STR
Rev. No. 0

IDENTIFIED COMPOUND (S)	UPWIND ASSESSMENT NO. 3 IR (a) APPROXIMATE CONC. (ppm-m)	UPWIND ASSESSMENT NO. 3 UV APPROXIMATE CONC. (ppm-m)	DOWNWIND ASSESSMENT NO. 1 IR(a) APPROXIMATE CONC. (ppm-m)	DOWNWIND ASSESSMENT NO. 1 UV APPROXIMATE CONC. (ppm-m)	DOWNWIND ASSESSMENT NO. 2 IR(a) APPROXIMATE CONC. (ppm-m)	DOWNWIND ASSESSMENT NO. 2 UV APPROXIMATE CONC. (ppm-m)
1,1,1-trichloroethane	ND	ND	3j	ND	3j	ND
Chloroform	4j	ND	4j	ND	ND	ND
MONITORING TIME						
	Start 1645	Start 1640	Start 1008	Start 1007	Start 1114	Start 1200
	Stop 1648	Stop 1655	Stop 1011	Stop 1106	Stop 1123	Stop 1215
	Total Minutes 3	Total Minutes 15	Total Minutes 3	Total Minutes 59	Total Minutes 9	Total Minutes 15
METEOROLOGICAL DATA						
	Mean Wind Direction (Degrees) 238	Mean Wind Direction (Degrees) 239	Mean Wind Direction (Degrees) 276	Mean Wind Direction (Degrees) 272	Mean Wind Direction (Degrees) 270	Mean Wind Direction (Degrees) 252
	Avg. Wind Speed (MPH) 2	Avg. Wind Speed (MPH) 3	Avg. Wind Speed (MPH) 8	Avg. Wind Speed (MPH) 8	Avg. Wind Speed (MPH) 7	Avg. Wind Speed (MPH) 7
	Sigma Theta of Wind Direction (Degrees) 27	Sigma Theta of Wind Direction (Degrees) 24	Sigma Theta of Wind Direction (Degrees) 18	Sigma Theta of Wind Direction (Degrees) 19	Sigma Theta of Wind Direction 20	Sigma Theta of Wind Direction 24
	Temperature (Degrees Fahrenheit) 52	Temperature (Degrees Fahrenheit) 52	Temperature (Degrees Fahrenheit) 47	Temperature (Degrees Fahrenheit) 50	Temperature (Degrees Fahrenheit) 51	Temperature (Degrees Fahrenheit) 52

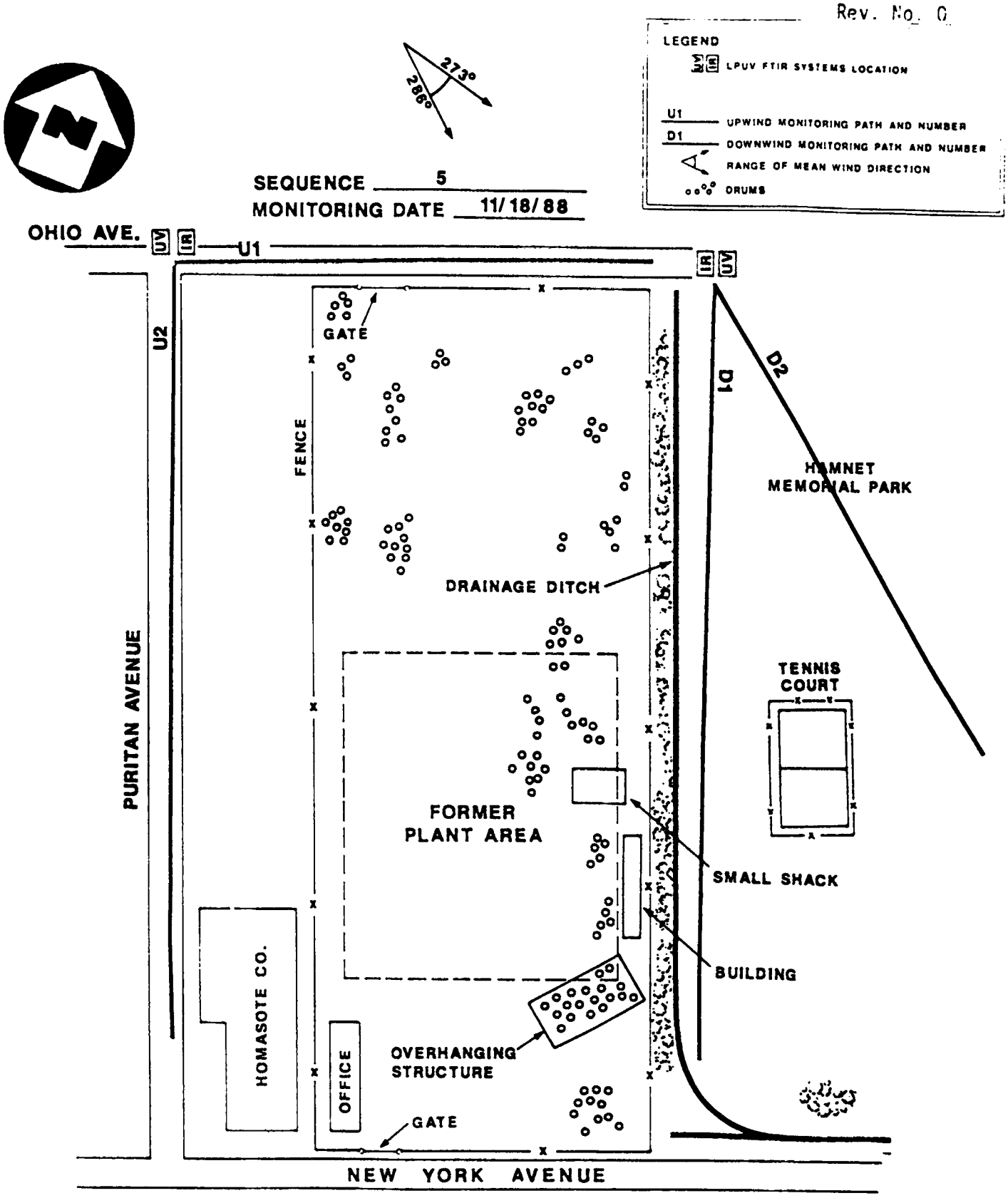
NOTES:

(a) = IDENTIFIED COMPOUNDS ARE DEFINED AS BEING PRESENT ABOVE 4 TIMES THE CONFIDENCE LEVEL

j = COMPOUND WAS PRESENT AT GREATER THAN 2 TIMES BUT LESS THAN 4 TIMES THE CONFIDENCE LEVEL

ND = NOT DETECTED

NA = NOT APPLICABLE



MONITORING CONFIGURATION

TRENTON DRUM CO., LAWRENCE TWP., N.J.

(NOT TO SCALE)

FIGURE 6

NUS CORPORATION

Sequence No. 5

Monitoring Date 11/18/88

TABLE 5: MONITORING SEQUENCE RESULTS

TRENTON DRUM

02-8810-04-STR
Rev. No. 0

	ACROSS-SITE ASSESSMENT		UPWIND ASSESSMENT NO. 1		UPWIND ASSESSMENT NO. 2	
	IR (a)	UV	IR(a)	UV	IR(a)	UV
IDENTIFIED COMPOUND (S)	APPROXIMATE CONC. (ppm-m)	APPROXIMATE CONC. (ppm-m)	APPROXIMATE CONC. (ppm-m)	APPROXIMATE CONC. (ppm-m)	APPROXIMATE CONC. (ppm-m)	APPROXIMATE CONC. (ppm-m)
None	NA	NA	ND	ND	ND	ND
MONITORING TIME						
Start	NA	NA	1120	1119	1230	1230
Stop	NA	NA	1127	1148	1237	1255
Total Minutes	NA	NA	7	29	7	25
METEOROLOGICAL DATA						
Mean Wind Direction (Degrees)			280	280	279	286
Avg. Wind Speed (MPH)			5	6	5	5
Sigma Theta of Wind Direction (Degrees)			17	15	16	15
Temperature (Degrees Fahrenheit)			46	46	47	47

NOTES:

(a) = IDENTIFIED COMPOUNDS ARE DEFINED AS BEING PRESENT ABOVE 4 TIMES THE CONFIDENCE LEVEL

ND = NOT DETECTED

NA = NOT APPLICABLE

(Continued on next page)

Sequence No. 5

Monitoring Date 11/18/88

TABLE 5: MONITORING SEQUENCE RESULTS (CONT'D)

TRENTON DRUM

02-8810-04-STR
Rev. No. 0

IDENTIFIED COMPOUND (S)	DOWNWIND ASSESSMENT NO. 1		DOWNWIND ASSESSMENT NO. 2	
	IR(a)	UV	IR(a)	UV
	APPROXIMATE CONC. (ppm-m)	APPROXIMATE CONC. (ppm-m)	APPROXIMATE CONC. (ppm-m)	APPROXIMATE CONC. (ppm-m)
None	ND	ND	ND	ND
MONITORING TIME				
Start 1356	Start 1356		Start 1546	Start 1546
Stop 1459	Stop 1530		Stop 1553	Stop 1617
Total Minutes 60	Total Minutes 94		Total Minutes 7	Total Minutes 31
METEOROLOGICAL DATA				
Mean Wind Direction (Degrees) 283	Mean Wind Direction (Degrees) 283		Mean Wind Direction (Degrees) 273	Mean Wind Direction (Degrees) 281
Avg. Wind Speed (MPH) 4	Avg. Wind Speed (MPH) 4		Avg. Wind Speed (MPH) 3	Avg Wind Speed (MPH) 4
Sigma Theta of Wind Direction (Degrees) 15	Sigma Theta of Wind Direction (Degrees) 16		Sigma Theta of Wind Direction (Degrees) 13	Sigma Theta of Wind Direction (Degrees) 15
Temperature (Degrees Fahrenheit) 49	Temperature (Degrees Fahrenheit) 49		Temperature (Degrees Fahrenheit) 48	Temperature (Degrees Fahrenheit) 47

NOTES:

(a) = IDENTIFIED COMPOUNDS ARE DEFINED AS BEING PRESENT ABOVE 4 TIMES THE CONFIDENCE LEVEL

ND = NOT DETECTED

NA = NOT APPLICABLE

REFERENCE NO. 5

NUS CORPORATION AND SUBSIDIARIES — **TELECON NOTE**

CONTROL NO.:	DATE:	TIME:
9061	02/14/92	11:30

DISTRIBUTION:
- Tooley's Garage
- Staff

BETWEEN:	OF:	PHONE:
Don Van Abs	NJDEPE, Bureau of Water Supply Planning	(609) 633-1179

AND: K. Campbell (NUS)

DISCUSSION:

Mr. Van Abs returned my call of 02/13/92, and provided the following information on Wellhead Protection Area (WHPA) delineation for the State of New Jersey:

- WHPAs are not yet delineated for the state. The Bureau of Water Supply Planning is working on a draft delineation (a multi-year process).

Mr. Van Abs will put HNEC on their mailing list to receive updates on WHPA regulations.

ACTION ITEMS:

K. Campbell 02/14/92

REFERENCE NO. 6

NUS CORPORATION
SUPERFUND DIVISION

PROJECT NOTES

TO: Trenton Drum Company File J065 DATE: 5/6/92

FROM: Dennis Foerter COPIES:

SUBJECT: Groundwater Resources within 4 miles of Trenton Drum Company

REFERENCE:

An evaluation of groundwater resources within a 4-mile radius of the Trenton Drum Co. site was made utilizing: Geology of the Groundwater Resources of Mercer County, 1965, and telecon notes with local water companies and local agencies. The Trenton Drum Co. site lies within a narrow wedge of pre-Triassic crystalline Rocks which extend eastward from its outcrop in the Delaware River and in Trenton to the vicinity of Princeton Junction. This wedge seperates the Piedmont Physiographic Province underlain by Triassic Rocks of the Newark Series from the Coastal Plain Physiographic province underlain by Cretaceous sands and gravels, and clays. ~~An evaluation~~ Trenton, Lawrence Township, Ewing Township and Hamilton Township lie within 4 miles of the Trenton Drum Co. site. The northern half of the 4-mile radius consist of domestic and public supply wells which are primarily screened in the Stockton Formation, or pre Cambrian deposits. The southern half of the 4-mile radius is comprised of wells in Hamilton Township which are screened in either the Magothy and Raritan Formations or thicker accumulations of surficial Pleistocene deposits.

An evaluation of the apparent direction of groundwater flow (southeast), along with the target populations served by the aforementioned aquifers indicate that the Magothy and Raritan formation is the aquifer of concern.

The attached telecon notes and domestic well locations of wells completed in the Magothy and Raritan Formations were used to compile target distance populations ~~with~~ within 4 miles of the Trenton Drum site. The number of domestic wells were multiplied by 2.65 people (the Mercer County Avg.) see next page (page 2) for Target populations for each distance ring.

(CONT'D on next page)

NUS CORPORATION
SUPERFUND DIVISION

PROJECT NOTES

TO: Trenton Drum Co. File JOB5 DATE: 5/6/92

FROM: Dennis Foerster COPIES:

SUBJECT:

REFERENCE:

Wells screened in Magothy and Raritan Formation or Surficial Pleistocene Deposits

Distance from site (miles)	Population served (approximate)
0-1/4	0
1/4-1/2	0
1/2-1	0
1-2	8
2-3	32
3-4	34827 *
TOTAL	34,867

* Public supply well population of 34,800 added to domestic population of approximately 27 people

Dennis Foerster
5/6/92

NUS CORPORATION AND SUBSIDIARIES — **TELECON NOTE**

CONTROL NO.:	DATE:	TIME:
J065	4/15/92	1440

DISTRIBUTION:

Trenton Drum Company File (J065)

BETWEEN:	OF:	PHONE:
Jack (superintendant)	Hamilton Sq D.v. Garden State Water Dept.	(609) 587-8222

AND: Dennis Foerter (NUS)

DISCUSSION:

Jack informed me that Garden State Water Co. has 5 wells which are interconnected and are screened in the Magothy and Raritan Formations. These wells serve a population of approximately 34,800 people. ~~Costly~~ 3 wells are located on Paxson Avenue, One well is located on Robert Frost Drive, and One well is located on Park Avenue. An evaluation of county maps indicate that these wells are located in the 3-4 mile distance ring from the Trenton Drum Co. Site.

Dennis Foerter
4/15/92

ACTION ITEMS:

NUS CORPORATION AND SUBSIDIARIES — **TELECON NOTE**

CONTROL NO.:	DATE:	TIME:
J065	4-9-92	1420

DISTRIBUTION:

Trenton Drum Co. File J065

BETWEEN:	OF:	PHONE:
Switchboard operator	Ewing Township Town Hall	(609) 883-2900

AND: Dennis Foerter (HNUS) (NUS)

DISCUSSION:

Re: Potable water supply (Ewing Twp)

The operator informed me that Ewing Twp. derives its water from the Trenton Water Company. Private well usage in Ewing Twp. is unknown.

Dennis Foerter
4-9-92

ACTION ITEMS:

NUS CORPORATION AND SUBSIDIARIES **TELECON NOTE**

CONTROL NO.:	DATE:	TIME:
J065	4-9-92	1410

DISTRIBUTION:

Trenton Drum Co. File J065

BETWEEN:	OF:	PHONE:
Ron Lynd	Trenton Water Company	(609) 989-3218

AND: Dennis Foerter (HNUS) (NUS)

DISCUSSION:

Re: Potable water supply

Potable ~~surface~~ (63) 4-9-92 water is supplied by a surface water intake located on the Delaware River by the Calhoun Street Bridge. This intake supplies potable water to approximately ~~250~~ (62) 250,000 people. There are no public supply wells owned by Trenton Water Company that are in operation. There is also relatively no private well usage in Trenton. This intake is not located within the surface water migration pathway from the Trenton Drum Site.

Dennis Foerter
4-9-92

ACTION ITEMS:

NUS CORPORATION AND SUBSIDIARIES — **TELECON NOTE**

CONTROL NO.:	DATE:	TIME:
J065	4-9-92	1330

DISTRIBUTION:

Trenton Drum Co. File J065

BETWEEN:	OF:	PHONE:
Ron Peixeira	Lawrenceville Water Company	(609) 896-0919

AND: Dennis Foerter (HWS) (NUS)

DISCUSSION:

Re: Potable water Supply

Mr. Peixeira informed me that Lawrence Township gets its water from the Trenton Water Company, the (or) ~~Trenton Lawrence Tow~~ Lawrenceville water Company, and the Elizabethtown water Co. The Lawrenceville Water Company has 4 public supply wells, 3 of which are active. Well #4 is located on Green Avenue approximately 1 block from Rt. 206. Well #6 is located on Lawrenceville Pennington Road along the old Railroad tracks. Well #9 is located on Denow Road. Well #5 is currently inactive. These wells are all screened in the Stockton Formation and serve a population of approximately 8,285 people (2367 meters x 3.5 people per meter). Private well usage is not known. These wells are also interconnected. ~~Private wel~~ (or) A review of the Mercer County Map reveals that all wells are located between 3 and 4 miles north of the Trenton Drum Co. Site.

ACTION ITEMS:

Dennis Foerter
4/9/92

State of New Jersey

Department of Conservation and Economic Development
ROBERT A. ROE, *Commissioner*

Division of Resource Development
KENNETH H. CREVELING, *Director*

GEOLOGY of the GROUND WATER RESOURCES of MERCER COUNTY

by

KEMBLE WIDMER,
State Geologist

BUREAU OF GEOLOGY AND TOPOGRAPHY
P. O. BOX 1889
TRENTON, NEW JERSEY 08625

— 1965 —

SUMMARY

Engineers, officials, realtors, planners, and citizens with an interest in ground water resources will find in this report summaries of reasonable expectations of depth and yield for wells drilled anywhere in Mercer County. Drillers' reports from over 1,000 wells have been analyzed and summarized by geological formation, by township, and with respect to local problems. Maximums, minimums, averages, and probabilities of depth and yield for domestic or industrial wells for any part of Mercer County can be determined from the data provided. Information and maps concerning watershed areas, industrial zones, and water company service areas are also provided.

All water supplies in Mercer County are derived from: (a) the Delaware River along the western border of the county; (b) the Delaware and Raritan Canal running southward along the Delaware River to Trenton and then northeastward following Assunpink Creek, Shabakunk Creek, Stony Brook, and the Millstone River until it leaves the county northeast of Princeton; (c) surface waters from farm ponds, impoundments, or from the minor streams of the county; or (d) from wells. Surface water supplies and their development or utilization are further complicated by laws which limit the movement of water from the Delaware River Basin, the southwestern two-thirds of the county, into the Raritan River Basin, the northeastern third of the county. At the present time a limited amount of water may be taken through the Delaware and Raritan Canal. There are both legal and physical limits as to the amount of water which can be taken from the canal and utilized in different parts of Mercer County.

Most of the population of Mercer County concentrated in the area around Trenton is supplied by the Trenton Water Company with water drawn from the Delaware River. Other urbanized areas are supplied by water companies depending upon wells. While most of the suburban expansion has so far occurred in areas which can be supplied by existing water companies or where individual wells are not too expensive and are usually adequate, in several townships, particularly in the northern part of the county, pressures have developed in recent years to permit construction of realty improvements whose water requirements exceed or will exceed the ground water supply obtainable within and near their boundaries.

Of the three major industrial zones in Mercer County, all of which cross the Delaware Basin-Raritan Basin Drainage Divide, the southern zone along U. S. Route 130 is supplied by large capacity wells completed in the Raritan formation; the central zone along U. S. Route 1 and the Pennsylvania Railroad mainline has limited ground water supplies but is close to the Delaware and Raritan Canal; and the northern zone, near U. S. Route 69 and the Reading Railroad, has neither surface water supplies nor the expectation of more than moderate supplies from wells.

In short, while most of Mercer County has adequate to moderate water supplies available for domestic and many industrial uses, southern and central Mercer County have the greatest future potential for the development of large supplies from either underground or surface water sources. This generalization, however, must be applied with caution. The areas for some specific uses such as irrigation wells, wells for high rise apartments, or industry with a large water requirement are limited in the county.

Ground water supplies are limited in areas underlain by Precambrian rocks, by argillite and by diabase. Unless surface water supplies or water piped in from outside the area is available, industrial development and housing developments on lots of less than two acres should be discouraged in areas underlain by argillite, by diabase, and perhaps by Precambrian rocks.

The area of Precambrian rocks extends northeastward from Trenton to Princeton Junction. Domestic wells are adequate ranging from 50 gpm to no water with most in the 5 - 9 gpm range. Industrial wells range from 175 gpm to 0 gpm and average about 35 gpm with only about one-third giving more than 50 gpm. Nearly all of the area underlain by Precambrian rocks is covered by Pleistocene sediments which provide well water in some areas.

There are several bands of argillite in northern Mercer County which contain very limited supplies of ground water. Over one-third of the domestic argillite wells give an inadequate 4 gpm or less. One argillite well in ten yields less than 2 gpm. A few industrial wells have been attempted, chiefly in the area between West Trenton and Pennington. The maximum yield for an industrial well was 90 gpm, while over half of the wells gave 20 gpm or less.

Diabase is found in the Rocky Hill sill in northern Mercer County and in several intrusive plugs in Hopewell Township. No industrial wells have been attempted in areas underlain by diabase. Domestic wells range from 100 gpm to nothing with only one well in ten giving water in excess of 10 gpm.

Adequate domestic wells and moderately large industrial wells can be developed in the areas of northern Mercer County underlain by the Stockton sandstone and Brunswick shale. The maximum yield for a domestic well (60 gpm) and the average yield (15 gpm) are the same for both formations. Only about 5% of the shale wells and only 3 out of 118 sandstone wells drilled for domestic water supply are inadequate with a yield of less than 5 gpm. Housing developments in areas underlain by shale and sandstone relying on individual wells and septic tanks will require a minimum lot size in excess of two-thirds of an acre if ground water resources are not to be depleted.

Industrial wells completed in the Brunswick shale have an average yield of 110 gpm and range downward from 470 gpm with more than half of the wells giving in excess of 50 gpm. Industrial wells in the Stockton sandstone average about 20 gpm more than the shale wells and range downward from 905 gpm. Well records suggest that industrial wells will be most successful if the plot is large enough and the location such that wells may be drilled on or near linear topographic features which reflect a geologic structure.

Wells in the Coastal Plain section of Mercer County are completed in either the Magothy-Raritan formation or in the thicker accumulations of the surficial Pleistocene deposits.

The lower Raritan contains too much clay or silt or is too thin to produce water until a stratigraphic thickness of about one hundred feet has been reached. South of this line (shown on Plate V) domestic wells can be completed in the Raritan formation anywhere in the county. The depth of domestic wells usually increases toward the south, but domestic wells can be completed in sand horizons at many different levels in both formations. Magothy-Raritan domestic wells average from 15 - 19 gpm with a maximum yield of 80 gpm.

The larger industrial wells completed in the Magothy-Raritan are usually found drawing from the lower part of the Raritan formation and are located near or along the line of Route 130. Industrial wells range from 1,500 gpm down to 35 gpm with an average and median yield of between 250 gpm and 300 gpm. An industrial well with a capacity of 500 gpm is a reasonable expectation for a carefully constructed well completed in the Raritan formation.

Pleistocene sediments form a surficial cover over a large part of Mercer County. Along the Valley of the Assunpink and Shabakunk from Trenton towards Bakers Basin and Clarksville Pleistocene sediments may be an important source of water because of the poor ground water yields from the underlying crystalline rocks. Thick Pleistocene accumulations in eastern Mercer County from Princeton Junction and Dutch Neck toward Hightstown are a second area of thick water-bearing Pleistocene sediments. Pleistocene wells are seldom more than 100 feet deep because of the limited thickness of the deposits. Domestic wells have an average and median yield of around 15 gpm. The largest Pleistocene industrial well gives 340 gpm and the successful wells average from 50 gpm to 100 gpm. In a number of predictable locations, however, the Pleistocene sediments are dry and repeated attempts to secure water from them have been unsuccessful.

The yields and depths of wells drawing from each formation in the county is given at the end of this section. Yield figures indicate the range, and expected averages. Depth figures must be used with caution because the Raritan is generally deeper in the southern part of the county, the depth of Pleistocene wells is limited by the thickness of the formation, and rock wells are frequently deeper than actually required.

The tabulation of depth figures for rock wells for the county as a whole by geologic formation provides an indication of the maximum range of depths which may be expected in any given formation. The well may or may not have secured most of its water at or near the maximum depth; many records do not indicate the depth at which most of the water was secured. In the case of deep domestic wells, a long hard look at the local relationships should be taken if a satisfactory domestic supply has not been secured after reaching a depth of 300 to 350 feet. In the case of industrial wells, those drilled in excess of 400 feet, while sometimes successful in securing large quantities of water, do not usually give quantities which equal the average of those wells drilled between 200 feet and 400 feet deep.

In the rock formations of the Stockton, Brunswick, Lockatong, Diabase, and Precambrian, most of the deepest wells were probably drilled to the depths indicated in an attempt to get additional water. There may have been no alternative but to go deeper because of the lot size or other local conditions.

In the case of the depth of wells in the sand formations, the Pleistocene and Raritan, it should be recognized that the Pleistocene most frequently is less than 70 feet thick. In several large areas, it is less than 30 feet thick and only occasionally does it exceed a thickness of 100 feet. On the other hand, the Raritan formation is usually found beneath a Pleistocene cover ranging from 10 feet to 150 feet in depth. In southern Mercer County wells must also penetrate as much as 150 feet of younger overlying Cretaceous sediments before reaching the top of the Raritan.

The Raritan has a general dip, or seaward slope, to the southeast which increases about 80 feet for each mile traveled towards the ocean. Wells completed in the Raritan may have been drilled to a deeper horizon in order to secure a better quality of water. It should also be noted that the hard "granite type" rocks of the basement which underlie the Raritan formation have a relief of probably 200 feet and that there are several areas, the most notable around Edinburg, where the Raritan may be very thin or missing. If the depth or thickness of the Raritan is computed on the basis of the average depth of the formation in some of these areas of "high" or "low" basement it would be quite erroneous.

MERCER COUNTY
DOMESTIC WELLS

Formation	*No. of Wells*	*YIELD IN GALLONS PER MINUTE* *Maximum*	*Minimum*	*Average*
Pre-Triassic	26	50	0	10
Stockton	148	60	1	20
Argillite	208	135	⅙	9
Brunswick	186	60	½	15
Diabase	100	100	0	9
Raritan	120	80	3	19
Pleistocene	20	80	3	13

INDUSTRIAL WELLS

Formation	*No. of Wells*	*YIELD IN GALLONS PER MINUTE* *Maximum*	*Minimum*	*Average*
Pre-Triassic	41	266	0	41
Stockton	80	905	18	147
Argillite	16	90	½	32
Brunswick	29	470	8	110
Diabase	none	..	..	..
Raritan	69	1500	35	327
Pleistocene	27	340	2	112

MERCER COUNTY
DOMESTIC WELLS

Formation	*No. of Wells*	*DEPTH IN FEET BELOW SURFACE* *Maximum*	*Minimum*	*Practical Depth Limit*	*Formation Thickness*
Pre-Triassic	26	350	52	400	Unknown
Stockton	149	670	22	400	3300
Argillite	209	798	40	400	2900
Brunswick	156	397	45	400	4850
Diabase	72	404	42	400	Unknown
Raritan	120	456	55	500 (?)	300
	(Increases in a southerly direction)				
Pleistocene	20	125	20	150	150

INDUSTRIAL WELLS

Formation	*No. of Wells*	*DEPTH IN FEET BELOW SURFACE* *Maximum*	*Minimum*	*Practical Depth Limit*	*Formation Thickness*
Pre-Triassic	41	900	50	500	Unknown
Stockton	80	603	40	500	3300
Argillite	16	436	85	500	2900
Brunswick	28	800	150	500	4850
Diabase	none	..	..	500	Unknown
Raritan	69	537	67	500 (?)	300
	(Increases in a southerly direction)				
Pleistocene	28	135	25	150	150

NOTE: Wells through Raritan enter Precambrian.
Wells through Pleistocene enter Raritan or Precambrian.

Anyone who believes in the sixth sense of "dowsers or water witches", in the presence of underground rivers, or in layer-cake-like Coastal Plain aquifers should not waste their time by further reading. Those who like precision, mathematical equations, and evaluation in technical terms will find the report a disappointment. The color, type, and geologic subdivision of the Coastal Plain formation for each foot of a well is of little importance if most of the wells drilled for household use in the area are completed at about the same depth and give an adequate supply. The computations for the transmissibility of the rock, its porosity, and the specific capacity per foot of aquifer are of dubious value when based on driller reports reading "red shell all the way" or "white sand five feet, black clay ten feet, etc." and reports of a drawdown test made with a bailer for an unspecified time. However, if the reports of a number of different drillers for wells in the same geologic formation within an area of a few square miles are compared, a pattern can be determined and will provide useful information for future prediction and planning about the ground water resources of the surrounding area.

In the preparation of this report records have not only been examined for their accuracy and adequacy, but they have also been measured against the criteria of "will the record provide useful information which will help develop a pattern." It is believed that this report shows that a more valid overall prediction can be made by examining a large number of partially wrong or partially completed records than by predicting from a few records whose completeness and accuracy have been established. The variations in geologic and hydrologic conditions for any individual well are still such that in the final analysis all that can be predicted before the well is actually drilled and tested is the trend and range of what may be expected.

Location

Mercer County is the most westerly of the three counties which extend across the narrow "waist" of New Jersey from Sandy Hook to the Delaware. Trenton, the county seat and state capitol at the center of the western border of the county, is found at longitude 74° 46′ West and latitude 40° 14′ North. The area and 1960 population figures for the several municipal subdivisions are given in the appendix. Thirty miles from Philadelphia and fifty miles from New York City, Mercer County is crossed by the mainline of the Pennsylvania and Reading Railroads, U. S. Routes #1, #130, #69 and #206 and the New Jersey Turnpike.

The Delaware River forms the western border of the county; and the Millstone River, which drains into Raritan Bay, forms the eastern boundary of the county. Hunterdon and Somerset Counties are to the north; Burlington and Monmouth Counties are to the south.

Mercer and Middlesex Counties are the only two counties in the state which lie partially in the Piedmont Physiographic Province underlain by the Triassic rocks of the Newark series and the Coastal Plain Physiographic Province underlain by Cretaceous sands, gravels, and clays. Mercer County, however, is unique among the New Jersey counties because of the long, narrow wedge of pre-Triassic crystalline rocks extending northeastward from their outcroppings in the Delaware River and in Trenton to the vicinity of Princeton Junction and because of the thick deposits of Pleistocene gravels which, in many places, overlie the crystalline pre-Triassic rocks in the valley of lower Stony Brook, the lower Assunpink and southward from these two streams.

Rainfall, Runoff and Climate

The average annual rainfall is about 42″ in the Trenton area, about 43″ to 44″ in the southern part of the county, and from 44″ to 45″ in the northern (Hopewell Township) hilly area. During a typical dry year (T.A.M.S. uses 1930) the rainfall varies from 33″ in the Trenton-Princeton area to 36″ in the northwest and 37″ in the southeastern section. Summer rainfall may be thirty to thirty-five percent more than in other seasons unless there is an extreme drought. In a typical wet year (T.A.M.S. uses 1952) rainfall varies from 55″ in the border areas of the county to 61″ at Trenton.

In Mercer County there are stream gauging stations on the Delaware and Assunpink at Trenton and on the Millstone near Kingston. Average surface runoff in Mercer County is from 18″-19″ or 850,000 to 900,000 gallons per day per square mile. During a dry year surface runoff is about 11″ over most of the county, but is 12″ to 13″ in the basin of the Millstone River. During a wet year (T.A.M.S. used 1951-1952) runoff in the Piedmont Province area of Mercer County is 29″-30″ in contrast to the 24″-27″ in the area of the Coastal Plain Province. There is an annual difference of about 25″ between precipitation and runoff in Mercer County.

Precipitation is about evenly divided for the year with from three to five inches per month. About every eleven years there is a 15%-20% reduction in the amount of precipitation. This is usually felt as

STRATIGRAPHIC COLUMN FOR MERCER COUNTY

Geologic time intervals are arbitrary divisions of unequal length. Each may be matched by one or more geologic formations. An era, the largest division of geologic time, is subdivided into smaller units called periods. Formations, which are mappable rock units, are usually assigned to periods or smaller subdivisions of geologic time, on the basis of distinctive fossils, if present, or distinctive lithology. In the columns below the number in parenthesis indicates the total millions of years before the present when each geologic period began. The rock type given after the formation name is the most common variety. Other types of rocks are also usually present within the formation.

Era	*Period*		*Thickness In County*	*Formation and Rock Type*
Cenozoic	Quaternary	Recent (1/10)	30′?	Soil and alluvium
		(1) Pleistocene	150′	Glacial deposits
	Tertiary	Pliocene	..	Not present in county
		(70)		
		Paleocene	..	
Mesozoic	Cretaceous (135)		30′	Higher Cretaceous formations not present in county. Marshalltown—clay (most exposures outside county)
	(Coastal Plain)		120′	Englishtown—sand
	(Hamilton, Washington, Windsors, Hightstown area)		50′	Woodbury—clay
			60′	Merchantville—clay
			250–300′	Magothy-Raritan—sand and clay
	Jurassic (180)		..	Not present in New Jersey
	Triassic (225)		4850′	Brunswick—shale
	(Hopewell, Ewing, Lawrence, Princeton area). Igneous rock-intrusive diabase (Hopewell, Princeton)		2900′	Lockatong—argillite
			3300′	Stockton—sandstone
			1300′	Igneous-diabase
Paleozoic	Permian	(270)		Not present in state
	Pennsylvanian			" " " "
	Mississippian	(350)		" " " "
	Devonian	(400)		Not present in county
	Silurian	(440)		" " " "
	Ordovician	(500)		" " " "
	Cambrian (Trenton area)	(600)	Unknown	Hardyston—quartzite
	Precambrian (Began billions of years ago) (Trenton area)		Unknown	No named formations in county Gabbros; pegmatites; gneisses; schists.

Symbols Used in Township Well Tabulations

Boroughs, towns or other local government units with a small area are included in surrounding or adjacent township units.

Well Number	Well number as indicated on well location map. Each township has a separate series of numbers.
Casing Diameter (inches)	Final diameter of the well or diameter of screen. Six inch well unless indicated otherwise.
GPM	Yield in gallons per minute as reported by driller.
Well Depth (feet)	Depth of well in feet from surface as reported by driller.
Fm	Geologic formation from which water is secured.
	Fm (P) well pumping from fm indicated.
	Fm (B) well bottoms in fm indicated.
	See geologic map for formation symbols.
	PC = pre-Cambrian
	Pleistocene is undifferentiated in tables.
Casing Length (feet)	Length of casing used in well. This usually indicates the top of sound rock or top of screen.
Static Water Level (feet)	Static level of water in well as feet below the surface as reported by driller.
Owner	Owner as given on well permit at time well was drilled. Where a change in ownership is known to the Bureau, the newer name is used.
Year Drilled	Year well was drilled. '00 - '63 = 1900 to 1963; '80 - '99 = 1880 to 1899.
Use	Type of well; I = industrial. Otherwise well is classed as a domestic well.
Water Level/ Hours Pumped	Pumping level and duration in hours as given by driller on well report form. If hours are not specified, assume a two hour or less bailer test.
	Any pertinent remarks or unusual conditions are given as a second line.
. . . . .	For value indicates no figure is available from well record information.

The townships are not placed in alphabetical order, because it was felt that the report could most conveniently be used if adjacent townships with the same geology were described in the same section of the report. Thus, Hamilton, Washington, and East Windsor, which are predominantly Coastal Plain, are described immediately after the city of Trenton. West Windsor, which has more Coastal Plain and some Triassic, is next described. Princeton, Lawrenceville, and Ewing, which have predominantly Triassic shales and sandstones, are described next. Hopewell, the largest township and the one with the most complex geology, is described last.

HAMILTON TOWNSHIP

About one-fourth of Mercer County's population is found within Hamilton Township's 39.4 square miles. Somewhat more than a third of this area and more than half the people are served by the Trenton Water Department, which obtains water from the Delaware River. An area of about one square mile is served by the Hamilton Square Water Company from wells drawing from the Magothy and Raritan formations.

Since all of Hamilton Township lies within the Delaware River watershed, other surface supplies using river water may be developed if the need arises. The northern half of the township is in the drainage basin of the Assunpink Creek, about half being in the Trenton Water Department service area. About six square miles south of Trenton, all in the area being served by the Trenton Water Department, is drained by minor tributaries of the Delaware. The rest of the township is in the drainage basin of Crosswicks Creek with most of the area, about fifteen square miles, outside the service areas of water companies.

With the exception of a little more than two square miles in the northwestern part of the township south and east of Assunpink Creek, Hamilton Township is underlain by the Magothy and Raritan formations. As one proceeds southeastward the clays of the younger Merchantville and Woodbury formations and the sands of the Englishtown formation overlie the Magothy and Raritan formations in successively higher layers. Pleistocene sand and gravel formations overlie all of the older formations except in some of the deeper stream valleys. The Pleistocene formations usually occur as a thin veneer, but thicknesses of 40-60 feet are not uncommon and in a few places there may be 100 feet or more.

In Hamilton Township the Magothy and Raritan formations are the principal sources of ground water. In the northeastern part of the township where these formations are missing, thin, or are predominately clay or silt, wells have been completed in both the underlying Precambrian rock and in the overlying Pleistocene deposits. The Pleistocene as a source of water in central and southern Hamilton Township has, in general, been overlooked possibly because its most effective utilization will depend on large diameter caisson type or hand-dug wells rather than on the smaller diameter drilled wells. Shallow wells have been completed in the Englishtown formation in and near the extreme southeastern part of the township. In the low-lying western portions of this township adjacent to the Delaware River, there are no well records, but caisson or Raney type wells in the river gravels would probably yield moderate to large amounts of water for industry. This low-lying area, however, is within the service area of the Trenton Water Department.

Records of four domestic and five industrial wells completed in the crystalline rocks of the Precambrian and Hardyston quartzite are, with one exception (#4), within the outcrop area of these formations in the northeastern part of the township. Well #4 apparently encountered no sand in the Raritan and got 1 gpm from the Precambrian.

In the area underlain by the Precambrian and Hardyston rocks, 3 domestic and 12 industrial wells draw from the Pleistocene deposits. In central Hamilton Township 4 other domestic wells have also been finished in the Pleistocene sand and gravel.

All of the remaining 73 wells in Hamilton Township used in this study, with the exception of one well completed in the Englishtown formation in the southern part of the township, draw from the Magothy and Raritan formations. One (#45), a domestic well, was a test and apparently was never used; 43 are domestic wells, and 28 are industrial or public supply wells. Domestic wells drawing from the Raritan will be from 60 to 150 feet deep in the Mercerville-Hamilton Square area, from 120 feet to 180 feet deep in the White Horse-Robbinsville area, and from 150 feet to over 200 feet deep south of U. S. Highway 130. The average depth and median depth have no significance because the Magothy and Raritan sands are increasingly deeper towards the southeast. The deepest domestic well (#45) drawing from the Raritan in Hamilton Township is 304 feet deep; the shallowest (#49), only 40 feet deep, may be drawing from a sandy phase of the Pleistocene deposits. Well #7 is 317 feet deep but draws from the Raritan at less than 156 feet after the casing was pulled back.

The overall geologic relationships and well data suggest that the Magothy and Raritan formations should not be expected to yield large quantities of water north and west of Mercerville; but since the formation thickens to the southeast, wells south and east of Mercerville and Hamilton Square should nearly always be satisfactory if drilled deep enough. Southeast of a line from White Horse to Robbinsville, industrial wells giving 300 - 500 gpm may be expected if properly constructed. Wells of 100 gpm to 200 gpm may not have to be as deep as the larger capacity wells. The depths of industrial wells range

from 150 to 220 feet in the Hamilton Square area to in excess of 300 feet deep near the New Jersey Turnpike.

That part of Hamilton Township which lies south of the New Jersey Turnpike cannot be compared to other parts of Mercer County because comparable parts of the geologic formations encountered are found either to the southwest in Burlington County or to the east in Monmouth County. In addition to ±83 an Englishtown well and three Hamilton Township wells south of the Turnpike drawing from the Raritan, a tabulation of 15 Englishtown wells and 27 Raritan wells located outside of Mercer County follows the Hamilton Township tabulation. The location of these wells is shown on Plate IV. The Raritan formation is trapped at depths of from 76 to 456 feet for domestic wells and from 73 feet deep to 537 feet deep for industrial and irrigation wells. A few wells have been completed in the overlying Merchantville and several shallow Raritan wells may actually be drawing from the Merchantville or the Pleistocene.

The records for the nine wells in northern Hamilton Township completed in the Hardyston quartzite or Precambrian rocks is summarized below.

	No. of Wells	*YIELD IN GALLONS PER MINUTE*			
		Maximum	*Minimum*	*Average*	*Median*
Domestic	4	20	1	9	7
Industrial	4*	60	7½	30	28

	No. of Wells	*DEPTH IN FEET BELOW SURFACE*			
		Maximum	*Minimum*	*Average*	*Median*
Domestic	4	203	60	170	169
Industrial	5	280	50	151	121

A summary for the Raritan and Pleistocene wells and for Raritan wells south of Mercer County follows. The southern tip of Hamilton Township is at present an area of large farms from which very few well records could be obtained.

* #71 not tested.

DOMESTIC WELLS

Formation	*No. of Wells*	*YIELD IN GALLONS PER MINUTE*			
		Maximum	*Minimum*	*Average*	*Median*
Pleistocene deposits (undifferentiated)	7	15	3	9	10
Magothy and Raritan	44*	47**	7	15	15
Kmr South of Mercer Co.	13	80	7½	32	30

Formation	*No. of Wells*	*DEPTH IN FEET BELOW SURFACE*			
		Maximum	*Minimum*	*Average*	*Median*
Pleistocene deposits (undifferentiated)	7	62	17	50	55
Magothy and Raritan	44	317 (304)	55	115	100
Kmr South of Mercer Co.	13	456	76	230	200

INDUSTRIAL WELLS

Formation	*No. of Wells*	*YIELD IN GALLONS PER MINUTE*			
		Maximum	*Minimum*	*Average*	*Median*
Pleistocene deposits (undifferentiated)	12	228	2	117	132
Magothy and Raritan	27	700	35	246	200
Kmr South of Mercer Co.	12	580	40	361	503

Formation	*No. of Wells*	*DEPTH IN FEET BELOW SURFACE*			
		Maximum	*Minimum*	*Average*	*Median*
Pleistocene deposits (undifferentiated)	12	61	25	42	42
Magothy and Raritan	27	334	67	194	220
Kmr South of Mercer Co.	12	537	73	268	358

* #45 was not tested.

** Well #41 giving 100 gpm was not included in average. Average of wells 17 gpm.

HAMILTON TOWNSHIP

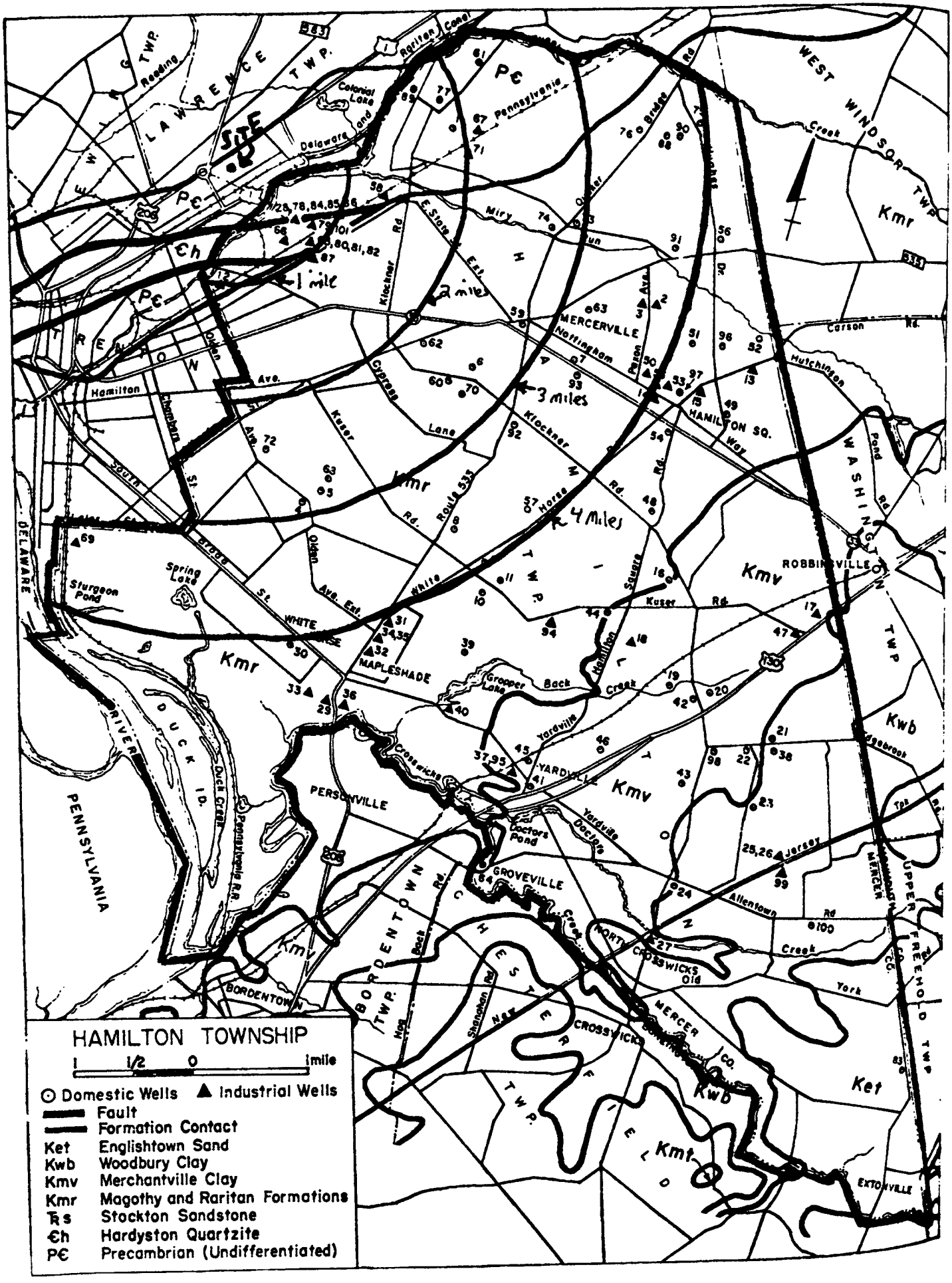
Well Number	Casing Diam. (Inches)	GPM	Well Depth (Feet)	Fm.	Casing Length (Feet)	Static Water Level (Feet)	Owner	Year Drilled	Use	Water Level/ Hours Pumped
1	6	20	203	pC	101	11	Amer. Radiator Standard	'55		187/2
2	10	500	150	Kmr	130	18	Hamilton Sq. Water Co.	'56	I	59/168
		(Abandoned)								
3	10	700	144	"	124	26	" " " "	'58	I	45/8
4	6	1	205	pG	183	36	Cacavio Bros.	'55		
5	4	10	64	Kmr	60	18	Wilson	"		45/2
6	6	25	55	"	52	16	S.P.C.A.	'58		19/6
7	6	30	317	Kmr (P)	226(?)	23	Agabiti	'54		60/—
				pC (B)	(Rock at 156 Casing pulled back into Raritan)					
8	6	15	51	Qp	48	25	Jarzyk	'57		40/6
9	6	10	52	"	39	25	Armsparger	"		"
10	6	15	85	Kmr	75	40	Pintinalli	"		52/6
11	8	10	142	"	128	50	Emil	"		90/6
12	8	75	60	Qp (P)	35	23	Acme Rubber Co.	'56	I	26/6
				pC (B)						
13	10	460	230	Kmr	200	37	Hamilton Sq. Water Co.	'58	I	160/9
14	8	150	218	"	164	53	" " " "	'54	I	120/—
15	8	50	190	"	175	47	Mercer Rubber Co.	'57	I	130/6
16	3	10	62	"	57	37	Rickard	'54		38/8
17	6	270	259	"	239	56	Walter Reade Theatres	'56	I	110/16
18	8	50	186	"	171	54	Mercer Rubber Co.	'54	I	66/—
19	4	20	215	"	..	45	Gardiner	'57		50/2
20	6	15	125	"	122	25	Amer. Legion Post #33	'59		34/6
21	6	20	236	"	203	35	Biermuth	'55		85/—
22	6	15	141	"	138	25	L. Chryanowski	'57		50/6
23	6	20	162	"	159	25	E. Woods	'60		157/6
24	3	10	127	"	122	40	Nelson	'54		41/10
25	8	300	207	"		55	N. J. Turnpike Authority	'55	I	130/9
26	8	250	200	"	173	55	"	"	I	126/12
27	8	500	299	"	249	13	Crosswicks Water Co.	'59	I	
28	12	183	25	Qp (P)	20	8	Thermoid Rubber	'37	I	
				pC (B)						
29	8	100	246	Kmr	..	45	White Horse Bowl. Alley	'45	I	65/—
30	6	15	140	"	..	..	So. Broad Street School	'23		
31	6	100	198	"	..	..	Maple Shade School	'24 ?	I	
32	6	80	217	"	..	140	Hartz & Knopf Dairy	'33	I	
		(Pumps 10 gpm)								
33	8	144	126	"	113	28	Hamilton Twp. Sewerage Plant	'49	I	55/18
34	..	40	70	"	30	30	Mc Galliard	'08	I	

HAMILTON TOWNSHIP (Continued)

Well Number	Casing Diam. (Inches)	GPM	Well Depth (Feet)	Fm.	Casing Length (Feet)	Static Water Level (Feet)	Owner	Year Drilled	Use	Water Level/ Hours Pumped
35	8	150	220	Kmr		73	McGalliard	'25	I	
36	2	35	67	"			City of Bordentown	'19	I	
		(Flows 35 gpm)								
37	6	140	92	"	90	40	Kaye-Tex Manufacturing Co.	'30	I	70/—
38	6	8	155	"	152	68	Tulli	'54		71/—
39	6	15	134	"	..	30	Kopf	'32		
		(Irony water, Abd.)								
40	6	100	198	"	..		Yardville School	'23	I	
41	..	100	295	"	..		Mautz	'09		
42	6	20	123	"	..	17	Buckley	'53		58/—
43	6	47	141	"	..	32	Karzor	'43		100/—
		(Irony)								
44	4	10	73	"	..	42	Salmon	'51		63/—
45	6	Test	304	"			Chandler	'35		
		(Slightly irony)								
46	6	15	100	"	..		Vollwieder			....
47	8	40	110	"	100	50	Reader Bros.	'51	I	70/24
48	4	10	64	"		30	Scalzo	'52		42/—
49	4	10	40	"		18	Brenton	"		30/—
50	12	300	186	"	154	60	Hamilton Sq. Water Co. #5	'51	I	110/—
51	..	15	200	"	..	40	Sayer			
52	6	15	69	"	65	19	Bowes	'53		45/—
53	8	500	220	"	187	51	Hamilton Sq. Water Co. #4	'49	I	82/8
54	4	10	64	"	..	30	Vorhees	'52		42/—
55	12	600	217	"		45	Hamilton Sq. Water Co.	'34	I	
56	6	15	65	"	51	..	Rutkowski	'51		....
57	6	15	117	"	..	45	Scheidnage	'41		
58	8	7½	50	pC	28	8	Pennsylvania Railroad	'47	I	42/—
59	6	40	128	Kmr	118	40	Smith	'49		42/4
60	4	15	64	"		25	Gareth	'53		35/—
61	6	4½	135	pC	60	11	Masterson	'49		100/—
62	4	10	90	Kmr		30	Hutchinson	'53		55/—
63	6	20	68	"	63	25	Kundow	'49		27/6
64	6	15	68	"			Anchor Thread Co.	'36		
65	8	50	38	Qp	23	11	Natl. Sponge Cush. Co.	'57	I	31/6
66	8	80	39	"			Natl. Auto. Fibres Inc.	'40	I	30/—
67	8	60	225	pC			Amer. Rad. & Stan. Sani. Corp.	'24	I	68/—
68	6	15	60	Kmr	57	33	Dringus	'51		
69		240	198	"	..	37	Roebling & Sons	'21	I	0/—

HAMILTON TOWNSHIP (Continued)

Well Number	Casing Diam. (Inches)	GPM	Well Depth (Feet)	Fm.	Casing Length (Feet)	Static Water Level (Feet)	Owner	Year Drilled	Use	Water Level/ Hours Pumped
- 70	..	10	68	Kmr		30	Shaw	'53		42/—
71	8	?	81	pC	..	..	Sloane-Blabon Corp.	'41	I	
- 72	4	3	58	Qp	51	18	Licciardello	'51		
- 73	6	15	83	Kmr (P) pC (B)	80	6	Mercer Contracting Co.	'55		40/— 48/—
- 74	6	15	60	Kmr (P) pC (B)	57	8	Chevron or Calso Sta.	'57		12/6
- 75	3	10	61	Kmr	56	56	G. Finkle	'60		50/6
- 76	6	10	62	Qp	59	15	B. Clark	'57		40/6
- 77	6	10	135	pC	40	15	G. McCullic	"		135/6
78	6	52	36 (Polluted)	Qp (P) pC		..	Thermoid Rubber Co. #4	'20	I	
79	8	40	280	"		18	Sterling Drug Co.	'36	I	130/—
80	8	140	46	Qp (P) pC (B)	27	11	Nearpara Rubber Co.	'52	I	
81	8	140	49	Qp (P) pC (B)	20	8	"	'41	I	
82	8	185	35	Qp	25	11	"	'58	I	25/8
83	..	10	35	Ket	..	10	Ewert	'52		
84	8	15	121	pC	63	8	Thermoid Rubber Co. #9	'20	I	
85	..	2	36 (Abandoned for lack of water)	Qp	..	.	Thermoid Rubber Co. #1	'20	I	
86	18 & 12	228 (50 gpm in 1953)	61	Qp (P) pC (B)	..	9	" #2	'37	I	20/8
87	10	125	50	Qp	..	..	Bona Fide Mills	'48	I	
- 88	3	5	58	"	55	15	J. Cooper	'61		
- 89	3	10	17	"	14		W. Beebe	"		58/6
90	3	10	55	"	52	12	D. Perferi	"		
- 91	6	15	72	Kmr	65	1	C. Green	'57		15/6
- 92	6	10	89	"	86	41	Mrs. A. Svochak	'54		45/—
- 93	3	20	80	"	77	40	Brake Tire & Alignment	'61		
94	8	50	84	"	78	25	Italian American Club	"		
95	8	200	88	"	68	40	Kaye Tex Manufacturing Co.	'60	I	68/6
96	3	15	120	"	114	38	G. Gatson, Jr.	'61	I	50/5
97	3	12	101	"		38	L. Bainbridge	"		75/6
98	4	10	118	"	115	..	J. Karch	'62		40/6
99	10	600	334	"	317	65	N.J.T.P. Authority	'60	I	154/8
100	4	7	195	"	192	69	T. Cruzlovic	'61		115/6
101	18 & 12	150 (Down to 50 gpm in 1910)	45	Qp	26	3	Sterling Drug Co.	'38	I	20/—


HAMILTON TOWNSHIP
1 1/2 0 1 mile
Domestic Wells
Industrial Wells
Fault
Formation Contact
Ket Englishtown Sand
Kwb Woodbury Clay
Kmv Merchantville Clay
Kmr Magothy and Raritan Formations
Ꞧs Stockton Sandstone
Єh Hardyston Quartzite
PЄ Precambrian (Undifferentiated)
1 mile
2 miles
3 miles
4 Miles
MERCERVILLE
HAMILTON SQ.
ROBBINSVILLE
MAPLESHADE
YARDVILLE
PERSONVILLE
GROVEVILLE
NORTH CROSSWICKS
CROSSWICKS
BORDENTOWN
EXTONVILLE
PENNSYLVANIA
DELAWARE
WEST WINDSOR TWP
WASHINGTON TWP
UPPER FREEHOLD TWP
MERCER CO.
CHESTERFIELD TWP.
BORDENTOWN TWP.
DUCK ID.
Sturgeon Pond
Spring Lake
Gropper Lake
Doctors Pond
Colonial Lake
Delaware and Raritan Canal
Pennsylvania
Hamilton Ave.
Kuser Rd.
Klockner Rd.
Route 533
Yardville
Allentown Rd
Carson Rd.
Hutchinson
Jersey
Old York
Kmr
Kmv
Kwb
Ket
Kmt
Pє
Єh

LAWRENCE TOWNSHIP

Most of Lawrence Township is underlain by either the Stockton sandstone or the Lockatong argillite. A narrow zone of Brunswick shale is found along Stony Brook in the northern part of the township. Most of the township south of U. S. Route #1 is underlain by Precambrian rocks.

All of the area underlain by Precambrian rocks is served by the Trenton Water Company. About half of the area underlain by the Stockton sandstone is served by the Trenton Water Company or by the Lawrenceville Water Company. Most of the township south of Route #206 is close enough to the Delaware and Raritan Canal for industrial water supplies to be drawn from the canal by the construction of a pipeline.

Of the seven wells in Lawrence Township drawing from Precambrian rocks, four are industrial wells that can hardly be considered adequate and three are domestic wells that are satisfactory—with yields of 5, 6, and 14 gpm from 65, 123 and 113 feet, respectively. Two of the industrial wells, giving 5 gpm from 304 feet and 15 gpm from 253 feet, would meet the sanitary needs of a small plant or a domestic well. The other two industrial wells, giving 70 gpm from 330 feet and 60 gpm from 59 feet, are adequate for some industrial uses where a large yield is not required. Two other industrial wells, #78 and #82, were driven into the Precambrian rocks but draw from the overlying sandstone just above the harder crystalline rocks. These wells are 265 and 180 feet deep, respectively.

The two domestic wells, #59 and #62, drawing water from a narrow band of Brunswick shale, are adequate but are below average wells for the formation, giving, respectively, 5 gpm from 204 feet and 7 gpm from 131 feet.

The higher northern part of Lawrence Township, north of Route #206, except for the above-mentioned shale zone, is underlain by the Lockatong argillite. Only a small part of this highly desirable residential area is served by the Lawrenceville Water Company. At the present time (1962) most of the area is in small farms with some houses along the main roads. Most of the houses are on one acre lots with several on even larger lots. It remains to be seen, but it seems unlikely, that ground water will be adequate for the full development of the area on lots averaging one acre or less. Experience elsewhere in Mercer County suggests that lot sizes for intensive residential development of areas underlain by argillite should be at least two acres if all houses are relying upon individual wells and individual septic tanks.

Two large tracts of the argillite zone are occupied by industry. One, occupied by Educational Testing Service, has four of the six argillite industrial wells. The other, an overseas radio transmitting area, has no industrial water requirement. The remaining two argillite industrial wells are for the Buxton Dairy and give a minimum supply for this type of activity (19 gpm from 250 feet and 15 gpm from 250 feet). Three of the Educational Testing Service wells are adequate for normal sanitary water requirements (50 gpm from 223 feet 45 gpm from 208 feet and 20 gpm from 281 feet) but the fourth (2 gpm from 281 feet) is hardly adequate for domestic use.

The yields and depths of the thirty-two domestic wells drawing from the Lockatong formation are summarized below. Although there were no failures, two wells give only 2 gpm and five wells give 5 gpm or less, showing that about 20% of the wells in the Lockatong are inadequate.

In the area of Lawrence Township underlain by the Stockton Formation (south of Route #206 and north of U. S. Route #1) a sampling of thirty-three domestic wells and nineteen industrial wells indicates that domestic wells are always adequate and that industrial wells are adequate for moderate demands. The type of industry for which most of the industrial wells were drilled suggests that when larger supplies of water were required, the wells were successful and that the moderate yield of the Stockton wells results more from a moderate requirement than from an inability to obtain water from the wells.

INDUSTRIAL WELLS

Formation	*No. of Wells*	*Yield in GPM*			
		Maximum	*Minimum*	*Average*	*Median*
Stockton	20	340	30	94	75
Lockatong	6	50	2	25	19
Precambrian	4	70	5	..	
Brunswick	0	..	..	..	..

Formation	No. of Wells	Depth in Feet			
		Maximum	Minimum	Average	Median
Stockton	20	402	83	177	164
Lockatong	6	427	208	256	250
Precambrian	4	330	59		
Brunswick	0				

DOMESTIC WELLS

Formation	No. of Wells	Yield in GPM			
		Maximum	Minimum	Average	Median
Stockton	33	35	5	15	15
Lockatong	32	30	2	10	7
Precambrian	3	14	5		
Brunswick	2	7	5		

Formation	No. of Wells	Depth in Feet			
		Maximum	Minimum	Average	Median
Stockton	33	242	55	100	95
Lockatong	32	350	50	147	125
Precambrian	3	123	65		
Brunswick	2	131	204		

LAWRENCE TOWNSHIP

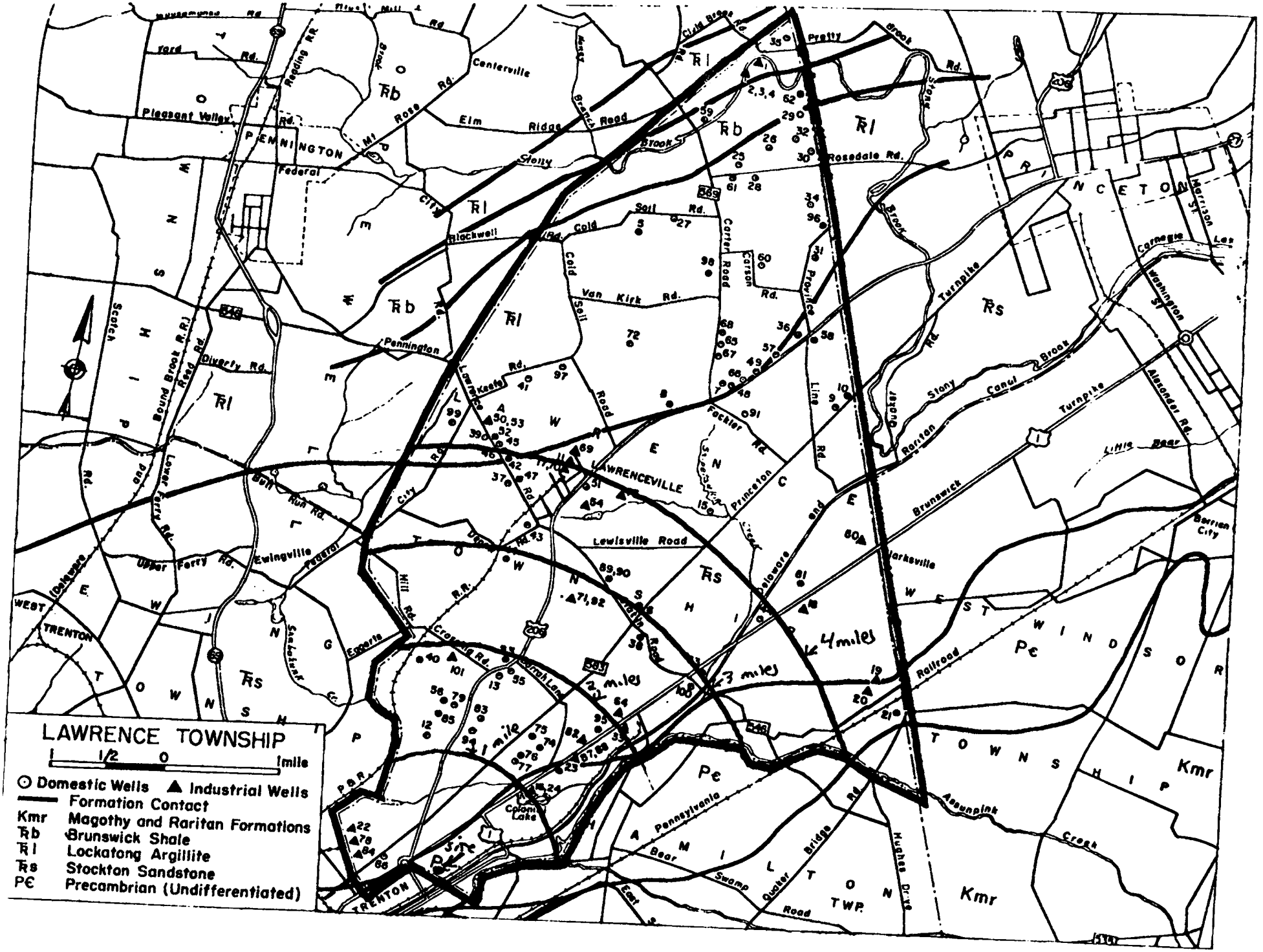
Well Number	Casing Diam. (Inches)	GPM	Well Depth (Feet)	Fm.	Casing Length (Feet)	Static Water Level (Feet)	Owner	Year Drilled	Use	Water Level/ Hours Pumped
1	12–8	45	248	Trl	45	13	Education Testing Service	'57	I	161/48
2	12–8	20	281	"	45	13	"	"	I	158/48
3	12–8	2	317	"	45	26	"	"	I	
4	12–8	50	223	"	50	5	"	'56	I	160/48
5	8–6	6	350	"	21	6	Woods	"		245/1
6	6	30	103	Trs	26	40	Albert Chemical	'57		45/4
7	8–6	5	100	Trl	18	22	Thompson	'54		90/—
8	8–6	10	169	"	28	22	Rusling	"		70/—
9	6	18	146	Trs	23		Cashvan	'59		
10	6	15	146	"	38	20	"	"		
11	8	30	230	"			Lawrenceville Water Co. #2	'24	I	
12	6	6	123	"	36	10	Charles Long (Bldr.)	'62		100/4
13	6	20	75	"	27	18	Wenzel	'56		48/4
14	8	25	121	"	42	10	Darby	'54		19/6
15	6	20	80	"	32	9	Campbell	'56		30/4
16	8	5	304	pC	31	11	Colonial Bowling Alley	'49	I	
17	12–8	300	150	Trs		8	Lawrenceville Water Co.	'37	I	35/—
18	8	75	164	"	57	flowed	N. J. Motor Vehicle Station	'56	I	69/24
19	12–8	70	350	pC	87	9	Curtiss Wright	'58	I	150/48
20	12	60	59	"	29	7	Curtiss Wright	'58	I	50/24
21	6	6	123	"	55	14	Halper	'59		97/6
22	6	50	145	Trs		4	Para Lab Supply Co.	'48	I	31/8
23	6	14	113	pC	35	17	Cunningham	'51		80/4
24	8	15	253	"	30	12	Colonial Bowling Lanes	'56	I	134/8
25	8–6	7	80	Trl	21	5	LaPlaca	'51		35/—
26	8	15	337	"	24	4	Schleuter	"		140/6
27	6	25	103	"	22	10	Goldstine	'50		45/6
28	8–6	9	130	"	22	5	Beacraft	'51		50/—
29	6	7	130	"	21	10	Hannah	'29		100/8
30	6	15	119	"	21	9	Cowan	"		60/6
31	6	2	199	"	24	15	Katzenbach	'41		150/—
32		6	201	"		18	Batton	'30		127/—
33	10	340	212	Trs		13	Lawrence Hose Co.	'47	I	65/9
34		25	185	Trl		11	Goodridge	'38		108/—

LAWRENCE TOWNSHIP (Continued)

Well Number	Casing Diam. (Inches)	GPM	Well Depth (Feet)	Fm.	Casing Length (Feet)	Static Water Level (Feet)	Owner	Year Drilled	Use	Water Level/ Hours Pumped
35	6	12	248	Trl	22	62	Gemmell	'49		....
36	..	18	242	Trs	..	..	Rakin	'29		
37	6	10	95	"	34	22	Hance	'51		50/—
38	6	5	157	"	35	16	Hunter	'49		60/6
39	6	12	83	Trl	22	14	Kocon	'51		50/—
40	6	20	70	Trs	..	19	Muskewitz	"		33/4
41	6	20	90	Trl	28	5	Newman	'47		20/—
42	6	7	100	Trs	..	11	Rich	'52		50/—
43	6	12	63	"	35	14	Robinson	'51		11/8
44	6	8	140	"	57	6	F. Carlisi	'61		68/6
45	6	5	77	Trl	24	8	Vanderbilt	'52		76/2
46	6	4	121	"	23	6	VanDoren	'52		40/2
47	6	8	90	Trs	20	12	VanSyckle	'51		25/—
48	6	8	106	Trl	44	25	Raymond	'53		60/—
49	6	4	100	"	35	28	D. Penrose	'53		70/—
50	8	19	250	"	26	2½	Buxton Dairy	'48	I	140/—
51	6	25	60	Trs	.	6	Costello	'51		8/4
52	6	13	144	Trl	22	8	Demowski	'53		84/2
53	8	15	250	"		30	Buxton's Dairy	'38	I	
54	6	125	201	Trs	..	..	Lawrenceville School	'14 or '15	I	15/—
55	6	15	56	"	35	12	Bruschi	'52		12/5
56	6	15	72	"	38	8	A. Colligan	'51		30/—
57	6	7	198	Trl	23	22	Lauck	'50		104/6
58	6	20	115	Trs	17	45	Luccarelli	'52		90/—
59	4	5	204	Trb		35	Prickett	'34		150/—
60	6	30	105	"	28	3	Hazeltine	'49		15/—
61	6	6	76	Trl	..	4	LaPlaca	'51		55/—
62	6	7	131	Trb	18	12	J. Kelly	'52		70/—
63	6	35	116	Trs	33	1	Kaplan	'49		40/8
64	6	72	150	"	34	4	S & F Theatres Inc.	"	I	58/4
65	6	5	149	Trl	24	18	Hutchinson	'52		90/3
66	6	15	125	"	31	26	Houghton	'53		70/—
67	6	7	160	"	22	10	Mitchell	'50		100/1
68	6	8	152	"	..	70	Waring	'51		70/1

LAWRENCE TOWNSHIP (Continued)

Well Number	Casing Diam. (Inches)	GPM	Well Depth (Feet)	Fm.	Casing Length (Feet)	Static Water Level (Feet)	Owner	Year Drilled	Use	Water Level/ Hours Pumped
69	12	90	286	Trs	..	8	Lawrenceville Water Co. No. 4	'51	I	50/24
70	8	60	110	"	..	6	" No. 3	'32	I	18/—
71	6	33	112	"	50	..	Green Acres	'31	I	26/—
72	6	9	123	Trl	..	20	Houghton	'34		
73	10	152	402	Trs	41	8	Lawrenceville School	'47	I	145/24
- 74	6	18	65	"	..	8	Aldrich	'51		12/4
- 75	6	7	108	"	..	10	Bayless	..		
- 76	6	8	122	"	20	20	Biddle	'51		40/4
- 77	6	6	65	"		15	Comniso	"		30/—
78	8	33	265	Trs (P) pC (B)	55	15	Integro Inc. #2	'52	I	140/6
- 79	6	25	70	Trs	34	6	Thompson	'52		30/4
80	8	30	85	"	41	17	Clarksville Diner	'60	I	23/6
81	6	8	73	"		3	Nadi	'29		
82	6	45	180	Trs (P) pC (B)	23	7	Transport Mfg. & Equip. Co.	'52	I	15/8
- 83	6	7	72	Trs	..	10	Gallimore	'51		25/—
84	6	30	187	"	59	19	Integro Inc.	'50	I	63/4
- 85	6	15	78	"	32	15	Schino	..		15/5
- 86	6	5	65	pC	34	9	Seaman	'51		60/½
87	8	90	147	Trs		18	Howard Johnson Rest. #1	'41	I	92/—
88	8	30	156	"	..	..	" #2	"	I	
89	8	75	86	"		30	Mrs. W. Ziegler #1	'36	I	
90	8	80	117	"	47	38	" #2	'37	I	
91	6	25	104	"	40	20	H. Fackler	'35		70/—
92	8	160	204	"	32	18	Green Acres Country Club	'46	I	50/—
93	6	10	55	"	32	12	J. Antoniszym	'51		..
- 94	6	20	65	"	37	3	C. Rossa	'52		12/4
- 95	6	10	61	"	35	10	W. J. Takash	'51		22/6
96	6	10	100	Trl	23	8	A. Maruca	'61		50/—
97	6	10	95	"	22	18	F. Lonska	"		"
98	6	2	250	"	25	2	J. Kerney, Jr.	'60		
99	6	8	145	"	26	20	J. Lovero	'62		100/4
100	6	30	105	Trs	55	10	Hester Realty Corp.	'60		80/4
101	8	79	195	"	37	11	National Guard	'27	I	65/9


LAWRENCE TOWNSHIP
1 1/2 0 1mile
Domestic Wells
Industrial Wells
Formation Contact
Kmr Magothy and Raritan Formations
Ꞧb Brunswick Shale
Ꞧl Lockatong Argillite
Ꞧs Stockton Sandstone
PЄ Precambrian (Undifferentiated)
LAWRENCEVILLE
PENNINGTON
PRINCETON
WEST WINDSOR
TOWNSHIP
HAMILTON TWP.
TRENTON
Colonial Lake
Pennington
Lewisville Road
Princeton
Jarksville
Ewingville
Rosedale Rd.
Van Kirk Rd.
Cold Soil Rd.
Carter Road
Province Line Rd.
Fackler Rd.
Lawrence Rd.
Bull Run Rd.
Upper Ferry Rd.
Diverty Rd.
Pleasant Valley Rd.
Yard Rd.
Centerville
Elm Ridge Road
Stony Brook
Pretty Brook Rd.
Carnegie Lake
Washington St.
Alexander Rd.
Turnpike
Stony Brook
Canal
Raritan
Brunswick
Little Bear
Barrien City
Railroad
Assunpink Creek
Pennsylvania
Bear Swamp Road
Quaker Bridge Rd.
Hughes Drive
Delaware and Raritan Canal
Lower Ferry Rd.
Scotch Rd.
Bound Brook R.R.
Reading RR
Mt Rose Rd.
Federal
Eggerts
Crossing Rd.
Hill Rd.
Lawrence Rd.
Keefe Rd.
Cold Soil Road
Carson Rd.
Quaker Rd.
Harrison St.
Stony Brook
Rd.
Ꞧb
Ꞧl
Ꞧs
PЄ
Kmr
1 mile
2 miles
3 miles
4 miles
Site

EWING TOWNSHIP

Only a small portion of the northern part of Ewing Township's 15.1 square mile area is underlain by the Lockatong argillite. About a fifth of a square mile adjacent to Trenton along Calhoun Street is underlain by Precambrian crystalline rocks. The rest of the township is underlain by Stockton sandstone which gives adequate domestic and moderately good industrial wells.

All of the area underlain by Precambrian rocks and a large part of the area underlain by the Stockton sandstone is served by the Trenton Water Company or other small local water companies near Ewingville and West Trenton. The area underlain by argillite in the northern part of the township, where water systems would seem most desirable, must depend almost entirely on individual wells.

North of Ewingville and Upper Ferry Road the higher terrain of the township is underlain by Lockatong argillite. Four industrial wells north or west of the Mercer County Airport tapping this formation give 12 gpm from 123 feet, 14 gpm from 436 feet, 43 gpm from 201 feet and 90 gpm from 232 feet. These wells give an average yield for the three smaller wells of 23 gpm, or 39 gpm if the 90 gpm well is included, from an average depth of 248 feet.

Domestic wells are not always successful; although all give some water, nearly half of the 35 argillite wells used in this study give less than 5 gpm. The wells have an average depth of 159 feet and a median depth of 123 feet.

Most of the industrial wells in the township draw their water from cracks and fissures in the Stockton sandstone. Eighteen Stockton industrial wells give from 207 gpm to 50 gpm with an average yield of 121 gpm from depths between 200 and 300 feet. Domestic wells in the Stockton have always given at least the minimum water required for a household from depths of around 100 feet.

Near Calhoun Street four industrial wells have been completed in the Precambrian rocks which underlie most of Trenton. These four wells are not very successful industrial wells, ranging from 1 gpm from 270 feet, 37 gpm from 337 feet, and 30 gpm from 145 feet to 40 gpm from 423 feet.

The lack of correlation between depth and yield in rock formations is demonstrated by each of the formations in Ewing Township. The yield and depth for the largest and smallest yield, and the deepest and shallowest wells in each formation, are tabulated below.

	Deepest Well	*Shallowest Well*	*Biggest Yield*	*Smallest Yield*
Precambrian	40 gpm/423′	30 gpm/145′	40 gpm/423′	1 gpm/270′
Argillite	1 gpm/798′	3 gpm/62′	90 gpm/232′	1 gpm/798′ also 95′
Stockton Domestic	10 gpm/670′	15 gpm/22′	60 gpm/99′	5 gpm/60′
Stockton Industrial	120 gpm/603′	110 gpm/150′	207 gpm/155′	50 gpm/300′

INDUSTRIAL WELLS

Formation	*No. of Wells*	*Yield in GPM*			
		Maximum	*Minimum*	*Average*	*Median*
Precambrian	4	40	1	27	30
Lockatong	4	90	12	39 (23) *	14
Stockton	18	207	50	121	110
		Depth in Feet			
Precambrian	4	423	145	293	337
Lockatong	4	436	123	248	232
Stockton	18	603	150	274	205

* Average of three wells.

*DOMESTIC WELLS**

Formation	*No. of Wells*	*Yield in GPM*			
		Maximum	*Minimum*	*Average*	*Median*
Stockton	64	60	5	17	15
Lockatong	35	20	1	5	5
		Depth in Feet			
Stockton	64	670	22	104	85
Lockatong	35	798	62	159	123

* No domestic wells draw from the Precambrian in Ewing Township.

EWING TOWNSHIP

Well Number	Casing Diam. (Inches)	GPM	Well Depth (Feet)	Fm.	Casing Length (Feet)	Static Water Level (Feet)	Owner	Year Drilled	Use	Water Level/ Hours Pumped
1	6	2	133	Trl	22	2	R. Penlee	'56		130/2
2	6	5	177	"	6	37	J. Notorion	'54		177/—
3	6	3	125	"	21	27	Jacobella	"		125/1
4	6	10	568	"	30	90	Forman	'57		318/9
5	8–6	6	176	"	21	55	C. Barber	'49		70/—
6	10–6	5	113	"	22	25	Fraulino	'54		90/—
7	10–8	2½	120	"	23	50	Dowdell	'55		100/—
8	8–6	2½	156	"	20	40	Walker	'54		80/—
9	6	20	100	"	45	15	Duralski	'56		40/40
10	8	100	250	Trs	35	19	Hampton Hill Water Co.	'55	I	
11	8–6	20	150	"	31	24	J. Castelize	"		120/6
12	6	17	80	"	24	19	J. Wylie	'51		42/2
13	6	7	100	"	44	20	Scott	'56		40/4
14	6	40	100	"	43	10	Sun Oil Co.	'57		35/10
15	6	30	170	"	86	25	Ezennick	"		60/5
16	8–6	12	90	Trl	25	17	Geo. Brewster Inc.	'59		80/1
17	6	25	70	Trs	21	19	Procascon	'54		40/1
18	6	10	87	"	22	40	Cunningham	'56		80/1
19	6	20	100	"	23	17	Maio	'54		23/3
20	10	50	300	"	39	15	N. J. Highway Dept.	'51	I	150/3
21	10–8	50	500	"	47	14	"	'54	I	177/9
22	8–6	10	670	"	32	6	Gilbert	'59		20/—
23	6	30	55	"	22	7	Davis	'54		15/1
24	6	15	85	"	28	19	Costello	'56		40/4
25	6	20	55	"	32	8	Peterson	'54		25/1
26	8	60	350	"	41	6	A & H Young	'55	I	120/8
27	6	20	82	"	36	25	Bongrazio	'54		75/6
28	6	15	70	"	25	9	Loncenchok	"		20/1
29	6	10	86	"	34	30	Tilton	'52		
30	6	5	111	Trl	20	28	Lambert	'48		
31	6	15	125	Trs	22	20	Zwick	'51		

EWING TOWNSHIP (Continued)

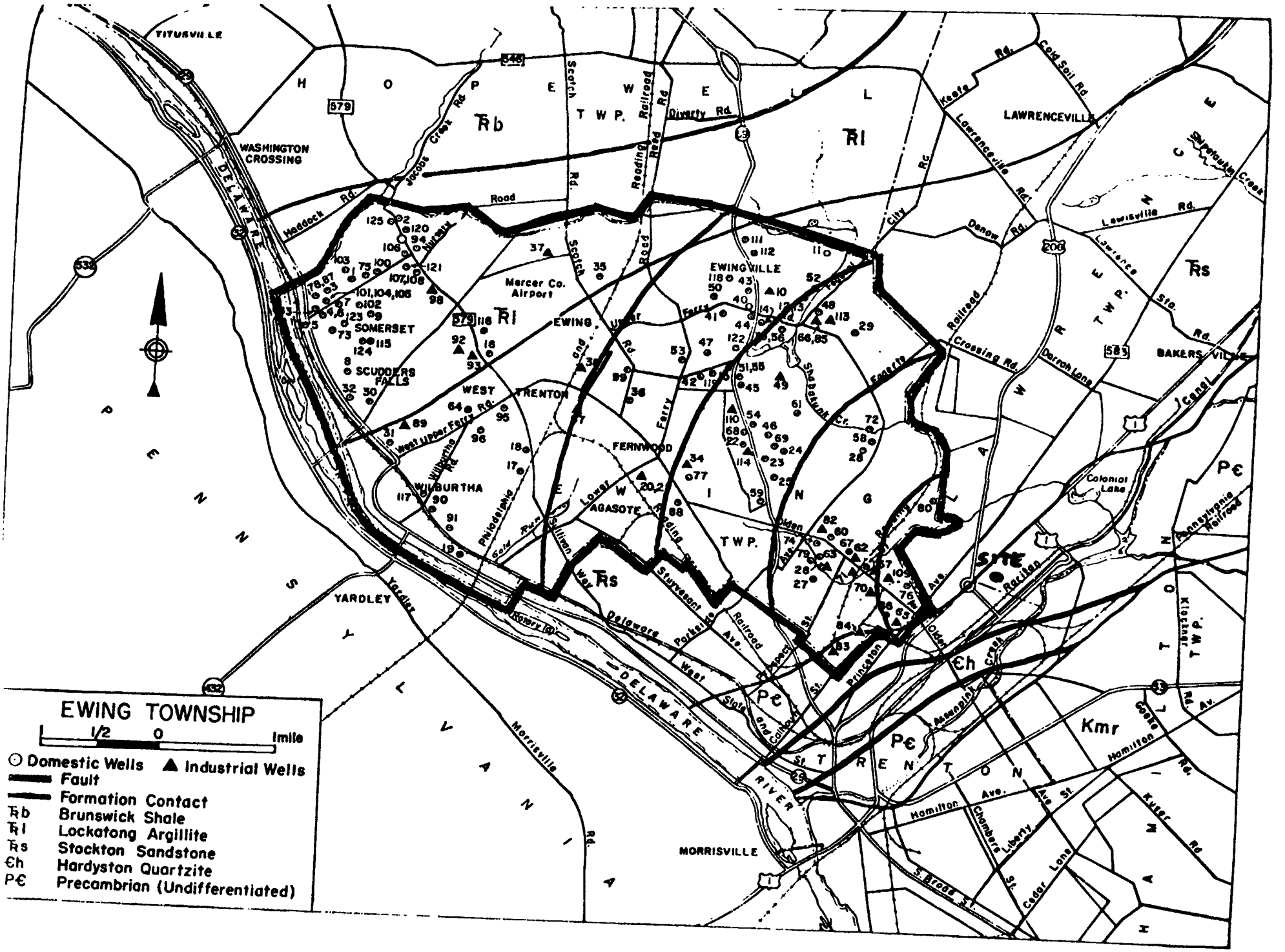
Well Number	Casing Diam. (Inches)	GPM	Well Depth (Feet)	Fm.	Casing Length (Feet)	Static Water Level (Feet)	Owner	Year Drilled	Use	Water Level/ Hours Pumped
32	6	1	798	Trl		..	Maddock	'16		....
33	6	5	84	"	23	20	Dowdell	..		....
34	8	150	203	Trs	37	12	Food Fair	'51	I	
35	6	10	72	Trl	21	8	Hull	"		
- 36	6	16	81	Trs	..	14	Jove	'31		.
37	8	90	232	Trl	..	9	Mercer Co. Airport	'43	I	....
38	8	120	603	Trs	..	11	Naval Air Testing Sta.	"	I	100/8
39	6	15	60	"	35	17	Hooper	'51		137/—
- 40	6	20	92	"	..	29	Scott	'54		30/4
- 41	6	30	85	"	27	24	Van Horn	'51		54/20
42	6	12	63	"	23	21	Tilton	..		36/6
- 43	6	25	90	"	60	42	Kittell	'51		21/6
- 44	6	12	80	"	33	19	Northcutt	"		45/4
- 45	6	15	71	"	33	10	Longo	'52		40/4
- 46	6	15	81	"	40	10	Howard	..		10/6
- 47	6	15	70	"	31	14	Morris	.		12/—
- 48	6	12	81	"	17	40	Schenck	..		14/—
49	..	110	150	"	..	25	Trenton State College	'31	I	60/4
- 50	6	7	67	"	..	50	Jackson	'40		30/—
- 51		45	162	"	..	13	Hook	'14		. . .
- 52	6	7	106	"	22	40	Anderson	'51		
- 53	6	12	79	"	34	18	Johnson	"		80/3
- 54	6	10	65	"	36	15	Nathulkiewicz	"		32/5
- 55	6	30	160	"	52	15	Smith	'49		.
- 56	6	18	80	"		13	Borello	'53		42/6
57	8	200	201	"	43	5	Arctic Ice Cream Co.	'49	I	40/4
- 58	6	12	72	"	23	14	Bernhardt			34/—
- 59	6	10	75	"		18	Beyer	'51		....
— 60	5	15	82	"	34	10	Briehler	..		22/6
- 61	6	12	85	"	32	40	Columbus Devel. Co.			10/5
62	8	100	200	"	15	35	Martindell Plastics Co.	'57	I	45/4
										45/8

EWING TOWNSHIP (Continued)

Well Number	Casing Diam. (Inches)	GPM	Well Depth (Feet)	Fm.	Casing Length (Feet)	Static Water Level (Feet)	Owner	Year Drilled	Use	Water Level/ Hours Pumped
63	6	7	92	Trs			Ehret	'15		
64	6	5	95	"	31	15	Buck	'56		
65		30	115	pC			Gray Rock Art. Water Co.		I	
66	6	50	165	Trs	45	10	Hillwood Manor Water Co. #1	'52	I	50/10
67	6	12	230	"	80	15	Valet Cleaners	'51		50/8
68	6	12	196	"	23	17	Predhome	'18		60/8
69		15	65	"		11	Revella	'52		27/4
70	8	60	205	"	35	12	Richardson & Son	'51	I	60/6
71	6	100	225	"	38	8	Stoy Dairy	'49	I	35/8
72	4	15	22	"		12	Ewingville Twp. Schools	'59		11/2
73	6	8	101	Trl		40	F. Kreiguer	'52		65/6
74	6	12	200	Trs	100	8	Trenton Auto Clinic	'48		15/6
75	6	3½	62	Trl		15	R. Holmes	'51		60/—
76	6	15	197	Trs		30	Mercer Marble & Granite Co.	'50		100/—
77	6	30	65	"	38	8	Mastrangello	'51		30/6
78	8	2½	225	Trl			C. Wilber	'29		
79	6	20	65	Trs			Novel-T-Craft Co.	'46		
80	6	18	45	"	35	14	Osbrene	'53		40/1
81	6	12	210	"	110	15	Johnston Cadillac	'51		50/10
82	8	207	155	"	23	10	Kreuger Brewing Co.	'46	I	66/—
83		1	270	pC		1½	Sanitary Earthenware Co.	'10	I	to bottom
84		40	423	"			Essex Rubber Co.	'11	I	
85	8	50	165	Trs	48	15	Hillwood Manor Water Co. #2	'51	I	60/8
86	6	12	75	"		6	Keystone Struct. Steel	'37		29/—
87	6	2	123	Trl	22	30	O. Peterson	'53		123/1
88	6	15	60	Trs	40	7	Fasaline	'52		20/1
89	12–6	100	200	"		38	State Police	'35	I	85/8
90	6	5	60	"			P. deFlesco	'37		
91	6	10	70	"	42		Stout	'50		
92		12	123	Trl			State Hosp. Dairy Farm		I	90/—
93	12–8	14	436	"	30	17	"	'11	I	173/21
94	6	10	105	"	21	20	W. Harman	'18		65/—

EWING TOWNSHIP (Continued)

Well Number	Casing Diam. (Inches)	GPM	Well Depth (Feet)	Fm.	Casing Length (Feet)	Static Water Level (Feet)	Owner	Year Drilled	Use	Water Level/ Hours Pumped
95	6	27	110	Trs	29	19	P. Klim	'48		38/2
96	6	15	94	"	32	40	M. Clemend	'53		45/5
97	10	280	272	"	..	22	General Motors Corp.	'41	I	67/18
98	8	45	201	Trl	..	36	Luscombe Airplane Corp. #2	'43	I	105/—
99	6	15	100	Trs	..	32	M. Bashford	'51		35/4
100	6	1½	142	Trl	16	15	A. McElwee	'51		130/—
101	..	2½	123	"	..	24	Trinity Church, Trenton	'21		....
102	6	1½	153	"	20	8	Russo	'56		....
103	6	2	140	"	..	10	Landwehr Restaurant	'52		140/—
104	6	5	163	"	..	15	T. Usher	'29		...
105	6	2	200	"	..	..	Owens	'43		....
106	6	10	72	"	..	15	L. Calvanelli	'51		30/—
107	6	20	80	"	22	19	T. Kotovach	'52		26/4
108	6	15	81	"	22	12	A. Perlone	'52		40/4
109	12–8	37½	337	pC	65	..	Union Op	'58	I	...
110	10–8	110	200	Trs	63	20	Ewing Water Supply Co.	'54	I	155/10
111	8–6	10	90	"	23	4' 6"	E. Brophy	'57		80/—
112	8–6	20	70	"	21	8	S. Lentini	'58		40/3
113	8	200	306	"	45	12	Hillwood Manor Water Co. #3	'59	I	70/4
114	6	150	185	"		0	Crestmont Park Water Co.	Pre-'10	I	....
115	6	2	200	Trl	22	20	Tren-Dell Con	'58		150/5
116	8–6	1	95	"	..	18	McLauglin	'57		18/1
117	6	25	96	Trs	22½	80	Panara	'46		....
118	6	30	90	"	26	25	Lentini & Grice	'56		..
119	6	12	63	"	23	21	Allen	..		....
120	6	4½	135	Trl	21	40	Gencey Co.	'56		....
121	6	5	148	"	21	32	" "	'56		....
122	6	60	99	Trs	34	8	" "	'56		....
123	6	10	115	Trl	22	18	Statler Blds.	'57		....
124	6	8	110	"	33	14	Jacobelli	'57		.
125	6	10	110	"	21	14	Statler Blds.	'57		...


EWING TOWNSHIP
1/2 0 1mile
Domestic Wells
Industrial Wells
Fault
Formation Contact
Ꞧb Brunswick Shale
Ꞧl Lockatong Argillite
Ꞧs Stockton Sandstone
Єh Hardyston Quartzite
PЄ Precambrian (Undifferentiated)
TITUSVILLE
WASHINGTON CROSSING
HOPEWELL TWP.
LAWRENCEVILLE
LAWRENCE TWP.
EWINGVILLE
Mercer Co. Airport
SOMERSET
SCUDDERS FALLS
WEST TRENTON
FERNWOOD
WILBURTHA
AGASOTE
EWING TWP.
BAKERS VILLE
Colonial Lake
SITE
YARDLEY
MORRISVILLE
TRENTON
HAMILTON TWP.
PENNSYLVANIA
DELAWARE RIVER
Haddock Rd.
Jacobs Creek Rd.
Scotch Road
Reading Railroad
Diverty Rd.
Keefe Rd.
Cold Soil Rd.
Lawrenceville Rd.
Denow Rd.
Lewisville Rd.
Lawrence Sta. Rd.
Darrah Lane
Crossing Rd.
Shabakunk Cr.
Eggerts
Olden Ave.
Princeton Ave.
Hamilton Ave.
Chambers St.
Liberty St.
Cedar Lane
S. Broad St.
Kuser Rd.
Klockner Rd.
Pennsylvania Railroad
Canal
Delaware
Parkside Ave.
Stuyvesant Ave.
Sullivan Way
Philadelphia
Gold Run
Lower Road
West Upper Ferry Rd.
Wilburtha Rd.
Nursery Road
Morrisville Rd.
Yardley
Rotary Rd.
Assunpink Creek
Shipetaukin Creek
Ꞧb
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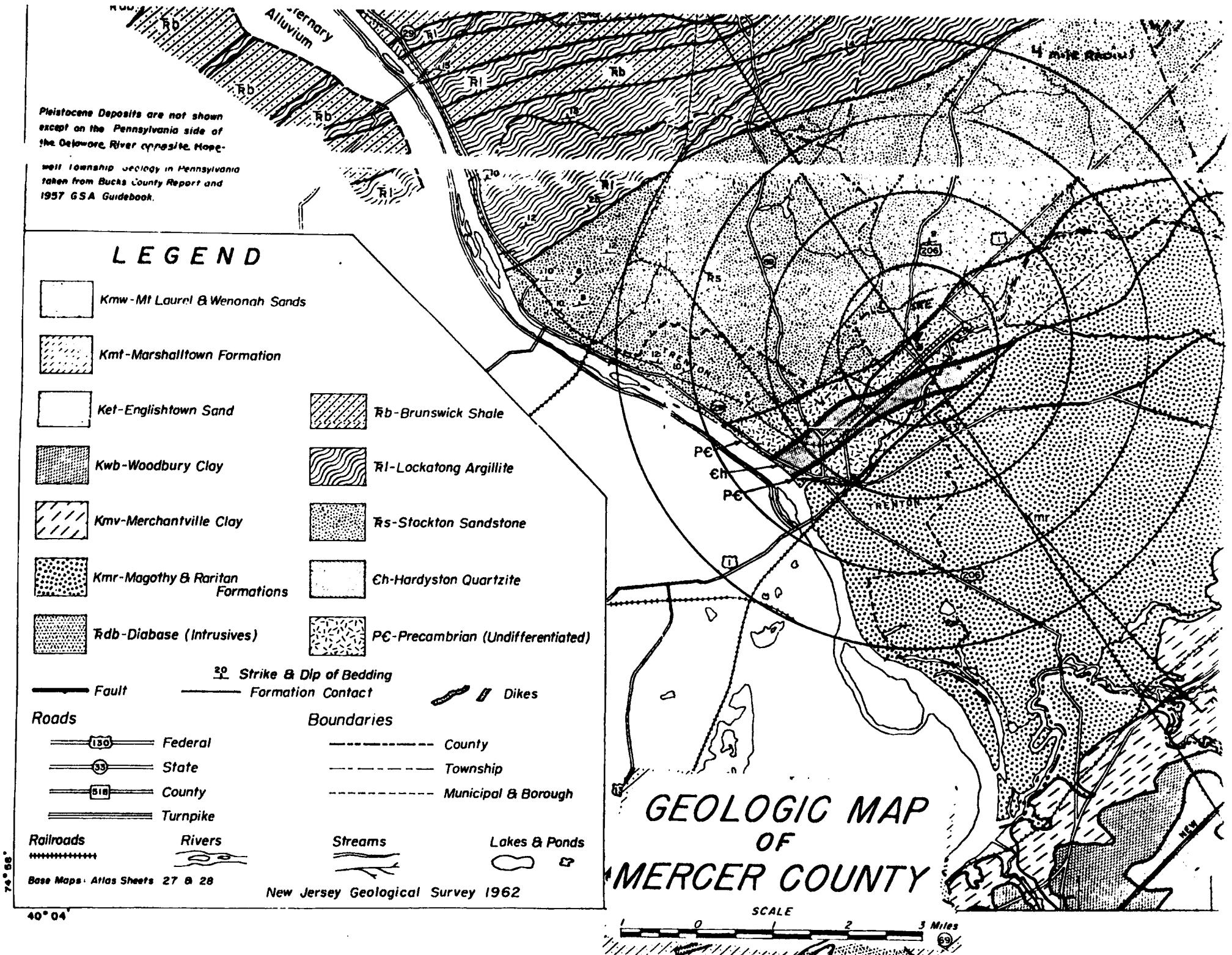
Ꞧs
Єh
PЄ
Kmr


Pleistocene Deposits are not shown except on the Pennsylvania side of the Delaware River opposite Hopewell Township. Geology in Pennsylvania taken from Bucks County Report and 1957 GSA Guidebook.
LEGEND
Kmw-Mt Laurel & Wenonah Sands
Kmt-Marshalltown Formation
Ket-Englishtown Sand
Kwb-Woodbury Clay
Kmv-Merchantville Clay
Kmr-Magothy & Raritan Formations
Ꞧdb-Diabase (Intrusives)
Ꞧb-Brunswick Shale
Ꞧl-Lockatong Argillite
Ꞧs-Stockton Sandstone
Єh-Hardyston Quartzite
PЄ-Precambrian (Undifferentiated)
Strike & Dip of Bedding
Fault
Formation Contact
Dikes
Roads
Federal
State
County
Turnpike
Boundaries
County
Township
Municipal & Borough
Railroads
Rivers
Streams
Lakes & Ponds
Base Maps: Atlas Sheets 27 & 28
New Jersey Geological Survey 1962
GEOLOGIC MAP OF MERCER COUNTY
SCALE
1 0 1 2 3 Miles
4 mile Radius
Alluvium
TRENTON
74°58'
40°04'

REFERENCE NO. 7

NUS CORPORATION
SUPERFUND DIVISION

PROJECT NOTES

TO: Trenton Drum Company File J065 DATE: 4/30/92

FROM: Dennis Foerster COPIES:

SUBJECT: Surface Water Migration Pathway (Trenton Drum Company)

REFERENCE:

Attached are several telecon notes characterizing the surface water pathway from Trenton Drum Company. This information states that storm drains and drainage ditches lead to the Delaware and Raritan Canal. No culverts or waterways connect the Delaware and Raritan Canal to the Assunpink Creek. The D and R Canal flows northeast toward New Brunswick. The D and R Canal is a fishery, stocked with trout. Other species of fish existing in the canal are bass and shad. One intake exists approximately 10 miles downstream of the site. Water from the Canal is sent to a treatment plant and blended with surface water collected from 2 other intakes. A total of approximately 500,000 people are served by these intakes. This total was divided equally for the 3 intakes; therefore, it is estimated that the D and R Canal intake serves approximately 166,670 people. It is also reported that the average flow rate of the D and R Canal over a typical 1 year period is approximately 145 cubic feet per inch (cfs). Also a review of Flood Insurance Rate Maps indicates that the site is in an area of minimal flooding.

Dennis Foerster
4/30/92

NUS CORPORATION AND SUBSIDIARIES — **TELECON NOTE**

CONTROL NO.:	DATE:	TIME:
J065	4-8-92	1415

DISTRIBUTION:

Trenton Drum Co. File J065

BETWEEN:	OF:	PHONE:
Engineer (Chris)	Lawrence Township Department of Public Work	(609) 844-7087

AND: D. Foerter (NUS)

DISCUSSION:

Re: Storm Drains in Lawrence Township.

Chris informed me that Storm Drains generally drain to roadside swales along New York Avenue just east of Puritan Avenue. I asked him where drainage ditches in that area lead. He said that they would most definitely lead to the Delaware and Raritan Canal. He informed me that the Delaware and Raritan Canal flows northeast toward New Brunswick and into the Raritan River. There are no culverts or waterways in the area of the site that would connect the Delaware and Raritan Canal to the Assunpink Creek, at least to Chris' knowledge.

Dennis A Foerter
4/8/92

ACTION ITEMS:

NUS CORPORATION AND SUBSIDIARIES **TELECON NOTE**

CONTROL NO.:	DATE:	TIME:
J065	4-8-92	1130

DISTRIBUTION:

Trenton Drum Co. File J065

BETWEEN:	OF:	PHONE:
Kevin Cole	Department of Parks and Forestry	(908) 873-3052

AND:

D. Foerler (NUS)

DISCUSSION:

Re: Delaware and Raritan Canal

Kevin informed me that part of the Delaware and Raritan Canal in Trenton is filled in. It flows from Mulberry Street in Trenton to the northeast, eventually discharging to the Raritan River in New Brunswick. He says that fishing activities do occur in the Canal, as the Carnegie Lake downstream is stocked with Bass. Shad fishing is also occurring in the Canal and Carnegie Lake. He said that he is not sure of any potable surface water intakes on the canal, and that I could probably derive this information from the Department of Fish Game and Wildlife. Mr. Cole also informed me that a state designated natural area exists in the area of Bulls Island along the Canal; however, this area is located outside the target distance limit.

Dennis Foerler
4/8/92

ACTION ITEMS:

NUS CORPORATION AND SUBSIDIARIES — **TELECON NOTE**

CONTROL NO.:	DATE:	TIME:
J065	4/22/92	1405

DISTRIBUTION:

Trenton Drum Co. - J065

BETWEEN:	OF:	PHONE:
Bob Sowedel	NJDEPE Div. of Fish Game and Wildlife	(609) 292-9410

AND:

Dennis Foerter (NUS)

DISCUSSION:

Re: Fisheries in Delaware and Raritan Canal

Mr. Sowedel informed the portion of the Delaware and Raritan Canal that extends from Trenton to Princeton is stocked with Trout. He also said that warm water fish exist in the area of the Canal that enters the Raritan River. He didn't have any information on surface water intakes which exist on the Canal

Dennis Foerter
4/22/92

ACTION ITEMS:

NUS CORPORATION AND SUBSIDIARIES — **TELECON NOTE**

CONTROL NO.:	DATE:	TIME:
J065	4/30/92	1110

DISTRIBUTION:

Trenton Drum Co. File J065

BETWEEN:	OF:	PHONE:
Glen Johansen	Elizabethtown Water Company	1 (800) 272-1325

AND: D. Foerter (HNUS) (NUS)

DISCUSSION:

Re: Surface Water Intakes

Mr. Johansen informed me that the Intake on the D and R Canal goes to a treatment plant and is blended with water derived from one intake on the Millstone River and one intake from the Raritan River. The Total population served is approximately 500,000 people. The flow rate ~~can be~~ of the D and R Canal can be derived from Jim Schimmer (609) 330-3999. Surface water is not blended with public supply wells. The D and R intake is located just downstream of the D and R Canal - Millstone River Confluence.

Dennis Foerter
4/30/92

ACTION ITEMS:

NUS CORPORATION AND SUBSIDIARIES **TELECON NOTE**

CONTROL NO.:	DATE:	TIME:
J065	4/30/92	1145

DISTRIBUTION:

Trenton Drum Company File J065

BETWEEN:	OF:	PHONE:
Mr. Price	New Jersey WATER SUPPLY OFFICE	(609) 530-3999

AND:

D. Foerter (HNUS) (NUS)

DISCUSSION:

Mr. Price informed me that the flow rate of the Delaware and Raritan Canal over a typical 1 year period is 145 cubic feet per ~~tech~~ second (cfs).

Dennis Foerter
4/30/92

ACTION ITEMS:

NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

TOWNSHIP OF LAWRENCE, NEW JERSEY MERCER COUNTY

PANEL 2 OF 2
(SEE MAP INDEX FOR PANELS NOT PRINTED)

COMMUNITY-PANEL NUMBER
340250 0002 B

MAP REVISED:
JULY 3, 1985

Federal Emergency Management Agency

KEY TO MAP

500-Year Flood Boundary	
100-Year Flood Boundary	
Zone Designations*	ZONE B
100-Year Flood Boundary	
500-Year Flood Boundary	
Base Flood Elevation Line With Elevation In Feet**	513
Base Flood Elevation in Feet Where Uniform Within Zone**	(EL 987)
Elevation Reference Mark	RM7x
Zone D Boundary	
River Mile	•M1.5

**Referenced to the National Geodetic Vertical Datum of 1929

*EXPLANATION OF ZONE DESIGNATIONS

ZONE	EXPLANATION
A	Areas of 100-year flood; base flood elevations and flood hazard factors not determined.
AO	Areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; average depths of inundation are shown, but no flood hazard factors are determined.
AH	Areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; base flood elevations are shown, but no flood hazard factors are determined.
A1-A30	Areas of 100-year flood; base flood elevations and flood hazard factors determined.
A99	Areas of 100-year flood to be protected by flood protection system under construction; base flood elevations and flood hazard factors not determined.
B	Areas between limits of the 100-year flood and 500-year flood; or certain areas subject to 100-year flooding with average depths less than one (1) foot or where the contributing drainage area is less than one square mile; or areas protected by levees from the base flood. (Medium shading)
C	Areas of minimal flooding. (No shading)
D	Areas of undetermined, but possible, flood hazards.
V	Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors not determined.
V1-V30	Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors determined.

INITIAL IDENTIFICATION:
JUNE 1, 1973

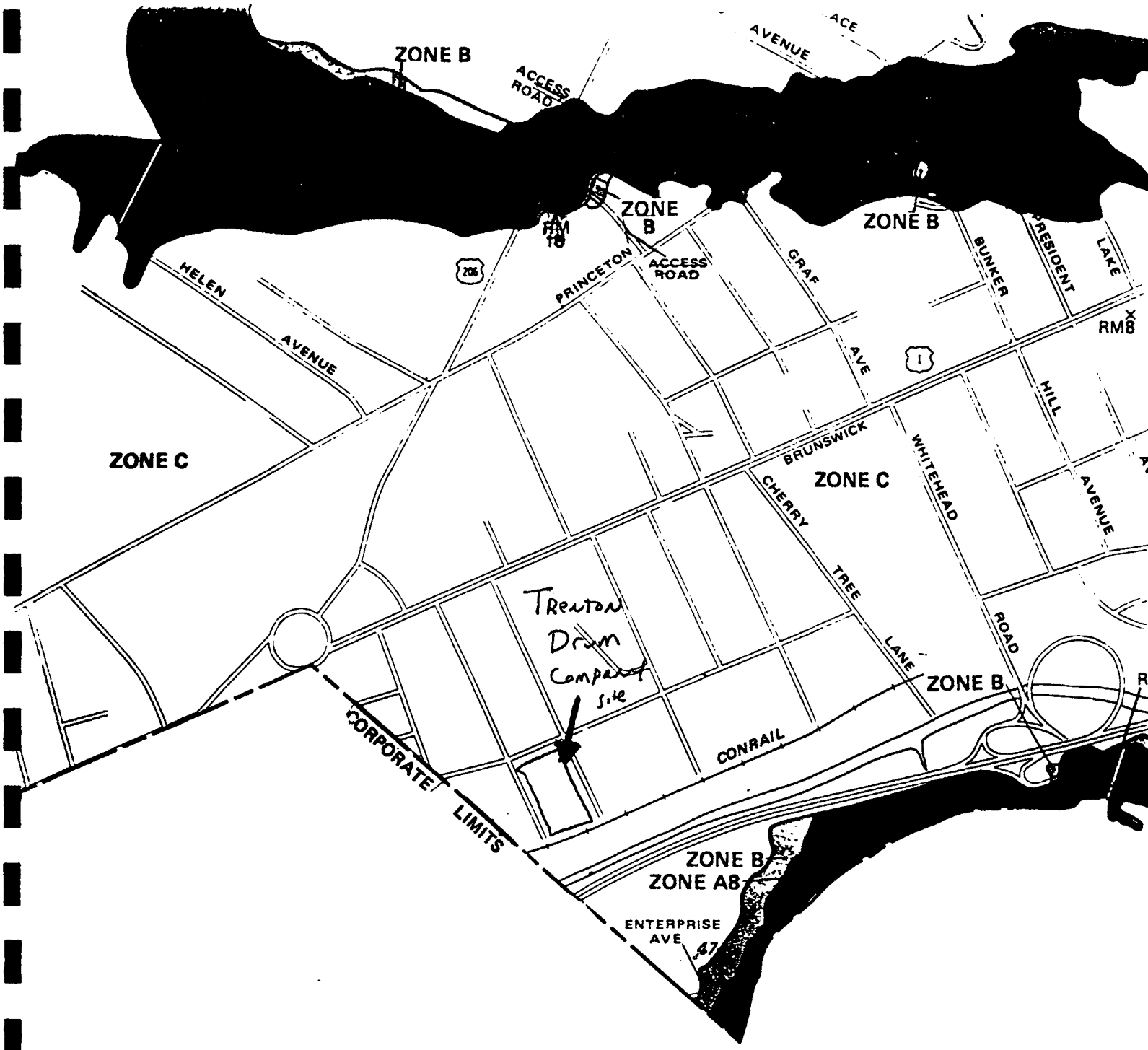
FLOOD HAZARD BOUNDARY MAP REVISIONS:

FLOOD INSURANCE RATE MAP EFFECTIVE:
DECEMBER 1, 1977

FLOOD INSURANCE RATE MAP REVISIONS:
July 3, 1985 - to revise special flood hazard areas to revise base flood elevations.

To determine if flood insurance is available in this community, contact your insurance agent, or call the National Flood Insurance Program, at (800) 638-6620.

APPROXIMATE SCALE
800 0 800 FEET


ZONE B
ACCESS ROAD
AVENUE
ZONE B
ZONE B
RM 18
ZONE B
ACCESS ROAD
PRINCETON
GRAF
BUNKER
PRESIDENT
LAKE
RM8
HELEN
AVENUE
206
AVE
1
HILL
AVENUE
BRUNSWICK
WHITEHEAD
ZONE C
ZONE C
CHERRY
TREE
LANE
ROAD
Trenton Drum Company site
ZONE B
CONRAIL
CORPORATE LIMITS
ZONE B
ZONE A8
ENTERPRISE AVE
47

REFERENCE NO. 8

NUS CORPORATION
SUPERFUND DIVISION

PROJECT NOTES

TO: Trenton Drum Co. File J065 DATE: 5/6/92

FROM: D. Foerter COPIES:

SUBJECT: Sensitive Environments

REFERENCE:

Attached are information documenting that the Hamnet Memorial Park is a municipal park, and that the Delaware and Raritan Canal is within a state park. Also, there are no sensitive environments along the 15 mile migration pathway. Natural areas exist along the Canal in the area of Bulls Island, which is not along the 15 mile surface water migration pathway (see attached telecon note)

NUS 443A 58 1182

NUS CORPORATION AND SUBSIDIARIES — **TELECON NOTE**

CONTROL NO.:	DATE:	TIME:
J065	4/30/92	1400

DISTRIBUTION:

Trenton Drum Co. File J065

BETWEEN:	OF:	PHONE:
Clerk	Lawrence Twp Recreation Dept.	(609) 844-7067

AND:

D. Foerter (HNUS) (NUS)

DISCUSSION:

Re: Hamwot Municipal Park.

The clerk informed me that Hamwot Memorial Park, which borders Trenton Drum Company Site is a municipal park.

Dennis Foerter
4/30/92

ACTION ITEMS:

Delaware & Raritan Canal State Park

Feeder Canal Office and Campground:
Bull's Island Recreation Area
2185 Daniel Bray Highway
Stockton, N.J. 08559
(609) 397-2949

Main Canal Office:
D&R Canal State Park
643 Canal Road
Somerset, N.J. 08873
(908) 873-3050

Information

Delaware and Raritan Canal State Park offers approximately 64 miles of hiking, biking, and canoeing along the feeder and main canals. The park also offers other activities such as fishing, picnicking, camping, and horseback riding. As noted below, some activities are restricted to certain sections of the park.

The main canal is 8 feet deep and 75 feet wide, and stretches from New Brunswick to Trenton. It flows along the Millstone and Raritan Rivers and is closely paralleled by the original towpath. The towpath provides 31 miles of recreation on its hardpacked gravel surface and is most suitable for mountain-type bicycles. The towpath is interrupted in Trenton at Mulberry Street where the canal flows for 6000 feet under Route 1 and along some streets in the city. Because the canal is difficult to follow through the city, a detailed city map is needed to hike or bike the canal in this area.

Along the towpath, picnic tables are available at Cadwalader Park, Princeton Turning Basin Park(Alexander Road), Griggstown, and Blackwell's Mills. Additionally, canoe rentals are available at Princeton, Kingston, and Griggstown, with horseback riding permitted on the towpath between Kingston and Blackwell's Mills. There are no rental stables in the area.

The feeder canal flows along the Delaware River and is approximately 8 feet deep and 65 feet wide. Closely paralleling the feeder is a recycled railroad right-of-way which has been improved as the Multi-Use Trail(MUT). This trail surface is hard-packed and smooth for most of its 33 miles, making it suitable for thin-wheeled bicycles. The MUT stretches from Hermitage Avenue in Trenton north to Milford, with an interruption in Lambertville. To access the trail at the northern limits of Lambertville, follow Route 29 north to Route 202. Turn towards the canal just before the Rt. 202 bridge at the sign for Jiminson Farm. Cross over the Canal bridge and continue north along an unimproved rough section of the trail. The trail improves within 3/4 mile. To access the trail at the southern limits of Lambertville, continue south along the canal where it intersects Bridge Street. Stay on the western, or river, side of the canal by the Lambertville Station restaurant.

Along the MUT picnic tables are available at Washington Crossing, Lambertville, and Bull's Island. No horseback riding is permitted on the MUT, and canoes can be rented across from Bull's Island at Point Pleasant, Pennsylvania.

Picnicking is allowed along the entire MUT and towpath but beware Poison Ivy. Fishing is permitted in both the main and feeder canals and is subject to all N.J. Fish and Game laws. Swimming and gas-powered motors are not permitted in either canal. Unleashed pets and alcohol are also not permitted in the park. Finally, everyone is asked to please share the trails.

NUS CORPORATION AND SUBSIDIARIES **TELECON NOTE**

CONTROL NO.:	DATE:	TIME:
J065	4-8-92	1130

DISTRIBUTION:

Trenton Drum Co. File J065

BETWEEN:	OF:	PHONE:
Kevin Cole	Department of Parks and Forestry	(908) 873-3052

AND: D. Foerter (NUS)

DISCUSSION:

Re: Delaware and Raritan Canal

Kevin informed me that part of the Delaware and Raritan Canal in Trenton is filled in. It flows from Mulberry Street in Trenton to the northeast, eventually discharging to the Raritan River in New Brunswick. He says that fishing activities do occur in the Canal, as the Carnegie Lake downstream is stocked with Bass. Shad fishing is also occurring in the Canal and Carnegie Lake. He said that he is not sure of any potable surface water intakes on the canal, and that I could probably derive this information from the Department of Fish Game and Wildlife. Mr. Cole also informed me that a state designated natural area exists in the area of Bulls Island along the Canal; however, this area is located outside the target distance limit.

Dennis Foerter
4/8/92

ACTION ITEMS:

NUS 067 REVISED 0685

REFERENCE NO. 9

TITLE: 15 MILE SURFACE WATER PATHWAY MAP
SITE NAME:
TRENTON DRUM COMPANY
LAWRENCE TOWNSHIP, NEW JERSEY
DATE: 4/2/92
SCALE: 1" = 2000'
REPORT NUMBER: J065-SIP
USGS TOPO NAME:
TRENTON EAST, NJ-PA
SURFACE WATER INTAKE
APPROXIMATE 15 MILE DISTANCE LIMIT
SCALE 1:24 000
CONTOUR INTERVAL 20 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929
WETLAND LEGEND
U – Primarily represents upland areas, but may include unclassified wetlands such as man-modified areas, non photo-identifiable areas and/or unintentional omissions.
E – ESTUARINE
M – MARINE
P – PALUSTRINE
L – LACUSTRINE
R – RIVERINE
MODIFYING TERMS
(1) Information on the water regime modifiers found on this legend, but not found in the classification system, may be obtained from the above listed source.

REFERENCE NO. 10

TITLE: FOUR MILE VICINITY MAP
SITE NAME:
TRENTON DRUM COMPANY
LAWRENCE TOWNSHIP, NEW JERSEY
DATE: 04/02/92
SCALE: 1" = 2000'
REPORT NUMBER: J065-SIP
USGS TOPO NAME:
TRENTON EAST, NJ-PA
SCALE 1:24 000
1 MILE
7000 FEET
1 KILOMETER
CONTOUR INTERVAL 20 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929
LAWRENCE
EWING
HAMILTON
TRENTON
MERCERVILLE
CENTRAL COUNTY
Lawrenceville
Ewingville
West Trenton
Eldridge Park
Slackwood
Hutchinson Mills
Princessville
Franklin Corner
Bakersville
Clarksville
Port Mercer
Lewisville
Lawrence
Quaker Gardens
Warner Village
Chewalls Park
Creston
Nottingham
The Orchards
Greenacres Country Club
Greenwood Cemetery
Shady Ballpark
Trenton Gardens
Hamilton High Sch
Spring Lake
Sturgeon Pond
ROEBLING MEMORIAL PARK
Rowan Lake
Sylvan Glen
Parsonville
Groveville
Biles
Moon Island
Five Points
Fallsington
Pennsville
Sand and Gravel Pit
Waterworks
Radio Towers (WBUD)
Radio Tower (WTNJ)
Airway Beacon
Trailer Parks
Sewage Disposal
Standpipe
Substation
Water
Well
Cem
Golf Course
Dam
Oil
Tower
Fire House
Library
Swimming Pool
Filtration Plant
Gaging Sta
Sub Sta
Pumping Sta
Baseball Diamond
Tennis Court
Playground
Drive-in Theater
Stadium
Fairgrounds
Hospitals
Cemetery
Riverview Cemetery
Mercer County Country Club
Mercer Hospital
Mercer Mall
Mercer Cemetery
Rider College
YMCA
Monument Bldg
Sacred Heart
St Joachim Sch
St Hedwigs Cem
Fountain Lawn Memorial Park Cemetery
National Guard Armory
Lawrence Junior High Sch
Ewing High Sch
Ewing Park
Baeburn Heights
Alfred Reed Sch
Trenton Day Sch
Cadwalader Sch
Cadwalader Park
Mercer County Airport
U.S. Naval Reservation
State School For Deaf
Fisk Sch
Ferrywood
Rotary Island
Blaustein Island
Holy Trinity Cem
St Ignatius Cem
Morrisville
Morris Sch
Holy Trinity Sch
Capital View
Parker Sch
Mott Sch
Baker Park
Lake Lawrence
Sylvia Lake
Colonial Lake
Shabakunk Creek
Little Shabakunk Creek
Assunpink Creek
Bear Swamp Creek
Duck Pond
Upper Bear Swamp Creek
Rock Run
Gold Run
Bull Run
Baker Basin State Park
Van Less Park
Airway Beacon
Conrail
Amtrak
Delaware River
New Jersey
Pennsylvania
Mercer Co
Bucks Co

REFERENCE NO. 11

0001-C
02-8810-04

NUS CORPORATION — **TELECON NOTE**

CONTROL NO:	DATE:	TIME:
~~02-8605-17~~ TV 02-8810-04	9/30/88	0950

DISTRIBUTION:
(Trenton Drum)
Remote Sensing Co.

BETWEEN:	OF:	PHONE:
Mr. Aranow	Westfall Acc Camden N.J.	(609) 365-9222

AND:
M. Vogel (NUS)

DISCUSSION:
Re: site access for air monitoring

Asked Mr Aranow if we could come out to do some air monitoring on site. He said he "has no problem with it" HOWEVER, Mr. Aranow is not the owner of the property, he is the clean-up contractor who has removed ~90% of the drums. He is in charge of cleaning up the property legally he does not know that he has authority to grant us access. The owner is Jack Binder whose address was given to me by Aranow: J Binder
Century Village East
Richmond C Apt 116
Deerfield Beach, Florida ~~22334~~ MV 9/3/88 33442
Information gave phone # as: 1-305-428-7288

→ Do not know whether Aranow was previous owner or operator of Trenton Drum Co. and is cleaning up his own drums from Binder's property.

ACTION ITEMS:

REFERENCE NO. 12

0039-0
02-8409-13A/NJL3

02-8409-13A
Rev. 1

FINAL DRAFT
SITE INSPECTION REPORT
AND HAZARDOUS RANKING SYSTEM MODEL
TRENTON DRUM COMPANY
TRENTON, NEW JERSEY

PREPARED UNDER

TECHNICAL DIRECTIVE DOCUMENT NO. 02-8409-13 A
CONTRACT NO. 68-01-6699

FOR THE

ENVIRONMENTAL SERVICES DIVISION
U.S. ENVIRONMENTAL PROTECTION AGENCY

NOVEMBER 19, 1985

NUS CORPORATION
SUPERFUND DIVISION

SUBMITTED BY

Laurie Gneiding

LAURIE GNEIDING
PROJECT MANAGER

REVIEWED/APPROVED BY

Ronald M. Naman

RONALD M. NAMAN
REGIONAL PROJECT MANAGER

1

NUS CORPORATION
RARITAN PLAZA III, FIELDCREST AVENUE
EDISON, NEW JERSEY 08837
201-225-6160

our 35th year

C-584-10-85-30

October 7, 1985

Ms. Diana Messina
U.S. Environmental Protection Agency
Region II
Edison, New Jersey 08817

Dear Diana:

Enclosed are the Site Inspection Report (EPA Form 2070-13) and the MITRE Hazardous Ranking System (HRS) documents for Trenton Drum Company, Trenton, New Jersey. The site inspection was authorized under TDD #02-8409-13A.

Very truly yours,

Laurie Gneiding

Laurie Gneiding

Approved: _____

LG:jls

Enclosure

2

Contents

Section	
1	Site Inspection Report Executive Summary
2	Environmental Protection Agency Form 2070-13
3	Maps and Photographs
4	Documentation Records for Hazard Ranking System
5	Hazardous Ranking System Scoring Forms
6	Bibliography of Information Sources
7	Press Release Summary - MITRE Hazardous Ranking System
8	Attachments - Cited Documents

NUS CORPORATION
A Halliburton Company

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
EXECUTIVE SUMMARY

Trenton Drum Company **Site Name**	NJD077076347 **EPA Site ID Number**
1545 New York Avenue Lawrence Twp., NJ 08638 **Address**	02-8409-13A **TDD Number**

SITE DESCRIPTION

Trenton Drum Company, now known as Westfall Ace Co., is located in Lawrence Township, Mercer County, New Jersey.

Trenton Drum Co. cleaned and reconditioned drums until a fire destroyed the operation in late September, 1984.

Westfall Ace Co. presently stores drums and uses contractors to clean drums. Drums are sometimes brought back to Westfall Ace Co. where they are sold.

The two acre site is located 0.1 mile north and upgradient of the Delaware-Raritan Canal. Industry borders the south and west with a residential area to the north. A municipal park forms the eastern border of the site. A drainage ditch separates the park from Trenton Drum Co.

The NJDEP sampled the site in March, 1983. NJDEP/Division of Waste Management (DWM) gave notice to Trenton Drum in October 1983 for discharges into surface waters and groundwater. The site is an active NJDEP/Division of Water Resources (DWR) enforcement case. Groundwater monitoring wells have been recommended but none have been installed. Contaminated soil was ordered excavated. It was stored onsite then removed to an unknown destination.

NUS FIT II conducted a site investigation and sampled surface water and soils. Volatile organics, polynucleararomatic hydrocarbons (PAHs), phthalate esters, PCBs, pesticides, and metals were found.

The site is jointly owned by Al Westfall and Harold Aranow.

HAZARD RANKING SCORE: $S_M = 15.2$ $S_{FE} = 43.75$ $S_{DC} = 62.5$

Prepared by: Laurie Gneiding
of NUS Corporation

Date: 9/13/85

Site Inspection Report

5

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

I. IDENTIFICATION
01 STATE 02 SITE NUMBER
NJ 0077076347

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site): Trenton Drum Company

02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER: 1545 New York Avenue

03 CITY	04 STATE	05 ZIP CODE	06 COUNTY	07 COUNTY CODE	08 CONG DIST.
Lawrence Township	NJ	08638	Mercer	021	04

09 COORDINATES
LATITUDE: 40° 14' 40". N
LONGITUDE: 074° 45' 45". W

10 TYPE OF OWNERSHIP (Check one)
X A. PRIVATE _ B. FEDERAL _ C. STATE
_ D. COUNTY _ E. MUNICIPAL _ F. OTHER
_ G. UNKNOWN

III. INSPECTION INFORMATION

01 DATE OF INSPECTION: 3 / 29 / 85 (MONTH DAY YEAR)

02 SITE STATUS: X ACTIVE _ INACTIVE

03 YEARS OF OPERATION: Approx. 1900 (BEGINNING YEAR) / N/A (ENDING YEAR) _ UNKNOWN

AGENCY PERFORMING INSPECTION (Check all that apply)
_ A. EPA X B. EPA CONTRACTOR NUS Corp. (Name of firm) _ C. MUNICIPAL _ D. MUNICIPAL CONTRACTOR _____ (Name of firm)
_ E. STATE _ F. STATE CONTRACTOR _____ (Name of firm) _ G. OTHER _____ (Specify)

05 CHIEF INSPECTOR	06 TITLE	07 ORGANIZATION	08 TELEPHONE NO.
Jay M. Crystall	Civil Engineer	NUS Corp.	(201) 225-6160

09 OTHER INSPECTORS	10 TITLE	11 ORGANIZATION	12 TELEPHONE NO.
Michael Rosenberg	Environmental Engineer	NUS Corp.	(201) 225-6160
Paul McNally	Biologist	NUS Corp.	(201) 225-6160
Laurie Gneiding	Toxicologist	NUS Corp.	(201) 225-6160
Charles Lobue	Biologist	NUS Corp.	(201) 225-6160
Mark Gallagher	Biologist	NUS Corp.	(201) 225-6160
Art Clarke	Chemist	NUS Corp.	(201) 225-6160

13 SITE REPRESENTATIVES INTERVIEWED	14 TITLE	15 ADDRESS	16 TELEPHONE NO.
Al Westfall		Trenton Drum Co. (Westfall Ace Co.)	(609) 394-5129
Harold Aranow		Trenton Drum Co.	(609) 394-5129
			( )
			( )
			( )
			( )
			( )

17 ACCESS GAINED BY (Check one)	18 TIME OF INSPECTION	19 WEATHER CONDITIONS
X PERMISSION _ WARRANT	1200 hours	Overcast, 50°F, west wind - 5 mph

IV. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency/Organization)	03 TELEPHONE NO.
Diana Messina	U.S. EPA, Region II	(201) 321-6685

04 PERSON RESPONSIBLE FOR SITE INSPECTION FORM	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NO.	08 DATE

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

I. IDENTIFICATION
01 STATE 02 SITE NUMBER
NJ D077076347

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

- X A. SOLID
- X B. POWDER, FINES
- X C. SLUDGE
- _ D. OTHER _____ (Specify)
- _ E. SLURRY
- X F. LIQUID
- _ G. GAS

02 WASTE QUANTITY AT SITE

(Measures of waste quantities must be independent)

TONS Unknown
CUBIC YARDS Unknown
NO. OF DRUMS Unknown

03 WASTE CHARACTERISTICS (Check all that apply)

- X A. TOXIC
- _ B. CORROSIVE
- _ C. RADIOACTIVE
- X D. PERSISTENT
- X E. SOLUBLE
- _ F. INFECTIOUS
- X G. FLAMMABLE
- X H. IGNITABLE
- X I. HIGHLY VOLATILE
- X J. EXPLOSIVE
- X K. REACTIVE
- _ 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	Unknown	See below	
SOL	SOLVENTS	Unknown	See below	
PSO	PESTICIDES	Unknown	See below	
OCC	OTHER ORGANIC CHEMICALS	Unknown	See below	
IOC	INORGANIC CHEMICALS			
ACD	ACIDS			
BAS	BASES			
MES	HEAVY METALS	Unknown	See below	

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

CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE O CONCENTRATIO
SOL	benzene	71-43-2	soil	270,000	ppb
SOL	tetrachloroethene	127-18-4	soil	170	ppb
SOL	toluene	108-88-3	soil	320,000	ppb
OCC	butyl benzyl phthalate	85-68-7	soil	990,000	ppb
OCC	di-n-butyl phthalate	84-74-2	soil	240,000	ppb
OCC	ethyl benzene	100-41-4	soil	170	ppb
OCC	styrene	100-42-5	soil	710	ppb
OCC	xylenes	1330-20-7	soil	340	ppb
OCC	1,3-dichlorobenzene	541-73-1	soil	3,200	ppb
OCC	isophorone	78-59-1	soil	6,700	ppb
OCC	hexachlorobenzene	118-74-1	soil	3,500	ppb
OLW	phenanthrene	85-01-8	soil	120,000	ppb
OLW	fluorene	86-73-7	soil	10,000	ppb
OLW	acenaphthylene	208-96-8	soil	6,900	ppb
OLW	fluoranthene	206-44-0	soil	1,300	ppb

SEE ATTACHMENT A

V. FEEDSTOCKS (See Appendix for CAS Numbers)

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

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

Analytical results from Radian Corp. and CAL Labs

ATTACHMENT A

TRENTON DRUM COMPANY

NJD077076347

Category	Substance Name	CAS Number	Storage/Disposal Method	Concentration	Measure o Concentrati
OCC	2-methylnaphthalene	----	soil	6,900	ppb
OCC	3-nitroaniline	99-09-2	soil	8,700	ppb
OCC	dibenzofuran	132-64-9	soil	5,500	ppb
OCC	diethyl phthalate	84-66-2	soil	12,000	ppb
OCC	bis(2-ethylhexyl)phthalate	117-81-7	soil, water	150,000; 69	ppb
OCC	di-n-butylphthalate	84-74-2	soil	4,500	ppb
OCC	Aroclor 1248	12672 29-6	soil	5,000	ppb
OCC	Aroclor 1254	11097-69-1	soil	13,000	ppb
OCC	Aroclor 1260	11096-82-5	soil	650	ppb
OCC	1,1-dichloroethane	75-35-4	water	20	ppb
OCC	trans-1,2-dichloroethene	156-60-5	water	18	ppb
OCC	trichloroethene	79-01-6	water	14	ppb
OCC	isophorone	78-59-1	water	150	ppb
OLW	pyrene	129-00-0	soil	24,000	ppb
OLW	benzo(a)anthracene	56-55-3	soil	250,000	ppb
OLW	chrysene	218-01-9	soil	92,000	ppb
OLW	benzo(b)fluoranthene	205-99-2	soil	58,000	ppb
OLW	benzo(k)fluoranthene	207-08-9	soil	54,000	ppb
OLW	benzo(a)pyrene	50-32-8	soil	55,000	ppb
OLW	indeno(1,2,3-cd)pyrene	193-39-5	soil	41,000	ppb
OLW	dibenzo(a,h)anthracene	53-70-3	soil	14,000	ppb
OLW	benzo(ghi)perylene	191-24-2	soil	36,000	ppb
PSD	4,4'-DDE	72-55-9	soil	960	ppb
PSD	4,4'-DDD	72-54-8	soil	20	ppb
PSD	4,4'-DDT	50-29-3	soil	35	ppb
PSD	chlordane	57-74-9	soil	340	ppb
MES	arsenic	7440-38-2	water	0.023	ppm
MES	cadmium	7440-43-9	soil	69	ppm
MES	copper	7440-50-8	soil	1,036	ppm
MES	lead	7439-92-1	soil, water	6,307; 0.214	ppm
MES	mercury	7439-97-6	soil, water	2; 0.003	ppm
MES	tin	7440-31-5	soil	24	ppm
MES	zinc	7440-66-6	soil	1,173	ppm
MES	chromium	7440-47-3	water	.031	ppm

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

1. IDENTIFICATION
01 STATE 02 SITE NUMBER
NJ D077076347

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 X A. GROUNDWATER CONTAMINATION — 02 _ OBSERVED (DATE:) — X POTENTIAL — _ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 168 — 04 NARRATIVE DESCRIPTION

No groundwater samples taken. The potential exists for contaminants to leach into groundwater.

01. X B. SURFACE WATER CONTAMINATION — 02 X OBSERVED (DATE: 3/20/85) — _ POTENTIAL — _ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 151,112 — 04 NARRATIVE DESCRIPTION

A drainage ditch forms the border between Trenton Drum and Hamnet Memorial Park. The drainage ditch is contaminated with dichloroethene, dichloroethane, butanone, trichloroethane, trichloroethene, and chlordane. Runoff may contaminate the Delaware and Raritan Canal as well as the Assunpink River.

01 X C. CONTAMINATION OF AIR — 02 X OBSERVED (DATE: 3/15/85) — _ POTENTIAL — _ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 151,112 — 04 NARRATIVE DESCRIPTION

NUS FIT II observed air releases during site reconnaissance and site inspection. OVA readings up to 22 ppm and HNu readings up to 17 ppm were detected onsite.

01. X D. FIRE/EXPLOSIVE CONDITIONS — 02 X OBSERVED (DATE: 9/84) — _ POTENTIAL — _ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 20,000 — 04 NARRATIVE DESCRIPTION

A fire destroyed the Trenton Drum Company in September, 1984. The potential still exists as flammable materials remain in the drums before being reconditioned.

01. X E. DIRECT CONTACT — 02 _ OBSERVED (DATE:) — X POTENTIAL — _ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 20,000 — 04 NARRATIVE DESCRIPTION

The drainage ditch is contaminated with various volatile organics and chlordane. Due to the close proximity of the municipal park, and the broken down fence the potential for direct contact is high.

01 X F. CONTAMINATION OF SOIL — 02 X OBSERVED (DATE: 3/20/85) — _ POTENTIAL — _ ALLEGED
03 AREA POTENTIALLY AFFECTED: 2 (ACRES) — 04 NARRATIVE DESCRIPTION

Soil samples collected by FIT II were contaminated with PCBs, pesticides, heavy metals, PAHs, phthalate esters, volatile organics, and other miscellaneous organics.

01. _ G. DRINKING WATER CONTAMINATION — 02 _ OBSERVED (DATE:) — _ POTENTIAL — _ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: None — 04 NARRATIVE DESCRIPTION

No potential exists as Trenton Water Dept. wells are outside the 3 mile radius of the site.

01 X H. WORKER EXPOSURE/INJURY — 02 _ OBSERVED (DATE:) — X POTENTIAL — _ ALLEGED
03 WORKERS POTENTIALLY AFFECTED: 8 — 04 NARRATIVE DESCRIPTION

The potential exists as the site is contaminated. Workers were observed wearing cloth gloves and eating and drinking on site.

01 X I. POPULATION EXPOSURE/INJURY — 02 _ OBSERVED (DATE:) — X POTENTIAL — _ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 20,000 — 04 NARRATIVE DESCRIPTION

The potential exists as the site borders a park and residential areas.

See above E. Direct Contact

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

I. IDENTIFICATION
01 STATE 02 SITE NUMBER
NJ D077076347

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

01 X J. DAMAGE TO FLORA — 02 _ OBSERVED (DATE: _____) X POTENTIAL _ ALLEGED
04 NARRATIVE DESCRIPTION

The potential exists as drainage from the site flows into the Delaware-Raritan Canal.

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

The potential exists as drainage from the site flows into the Delaware-Raritan Canal.

01 X L. CONTAMINATION OF FOOD CHAIN — 02 _ OBSERVED (DATE: _____) X POTENTIAL _ ALLEGED
04 NARRATIVE DESCRIPTION

The potential exists if fauna and flora are contaminated.

01 X M. UNSTABLE CONTAINMENT OF WASTES (Spills/runoff/standing liquids/leaking drums) — 02 X OBSERVED (DATE: 3/20/85) _ POTENTIAL _ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 20,000 — 04 NARRATIVE DESCRIPTION

FIT II observed many spills of chemicals from drums. Standing liquids were tested for pH and results showed a pH 12-13.

01 X N. DAMAGE TO OFFSITE PROPERTY — 02 _ OBSERVED (DATE: _____) X POTENTIAL _ ALLEGED
04 NARRATIVE DESCRIPTION

The potential exists as a park borders the site.

01 X O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs — 02 X OBSERVED (DATE: 10/20/83) _ POTENTIAL _ ALLEGED
04 NARRATIVE DESCRIPTION

NJDEP/DWM served a notice of violation to Trenton Drum Company for "discharge of undetermined amounts of petroleum substances . . . into . . . storm sewer drainage system".

01 X P. ILLEGAL/UNAUTHORIZED DUMPING — 02 X OBSERVED (DATE: 3/20/85) _ POTENTIAL _ ALLEGED
04 NARRATIVE DESCRIPTION

Many of the drums on site still contained hazardous material and emitted fumes. Sludges, puddles of liquid, and piles of solids were strewn around the ground.

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

None

III. TOTAL POPULATION POTENTIALLY AFFECTED: 151,112

IV. COMMENTS

None

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

Site Inspection conducted by NUS FIT II on 3/20/85

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

I. IDENTIFICATION
01 STATE 02 SITE NUMBER
NJ 0077076347

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				
_ G. STATE (Specify)				
_ H. LOCAL (Specify)				
_ I. OTHER (Specify)				
X J. NONE				

III. SITE DESCRIPTION

01 Storage/Disposal (Check all that apply)	02 AMOUNT	03 UNIT OF MEASURE
_ A. SURFACE IMPOUNDMENT		
X B. PILES	Unknown	
X C. DRUMS, ABOVE GROUND	Approx. 2,000	55 gallon
X D. TANK, ABOVE GROUND	Unknown	
_ E. TANK, BELOW GROUND		
_ F. LANDFILL		
_ G. LANDFARM		
_ H. OPEN DUMP		
_ I. OTHER _____ (Specify)		

04 TREATMENT (Check all that apply)	05 OTHER
_ A. INCINERATION	X A. BUILDINGS ON SITE
_ B. UNDERGROUND INJECTION	
_ C. CHEMICAL/PHYSICAL	
_ D. BIOLOGICAL	06 AREA OF SITE
_ E. WASTE OIL PROCESSING	
_ F. SOLVENT RECOVERY	
_ G. OTHER RECYCLING/RECOVERY	2 (Acres)
_ H. OTHER _____ (Specify)	

07 COMMENTS

Drums are stored on site then sent out to subcontractors for reconditioning. Many of the drums contain hazardous material. General housekeeping is poor. Above ground tank was a caustic settling tank.

IV. CONTAINMENT

01 CONTAINMENT OF WASTES (Check one)

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

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

Thousands of drums are stacked at Trenton Drum Co. Some are clean, however many still contain hazardous materials and waste has spilled on the ground.

V. ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE: X YES _ NO

02 COMMENTS

The fence surrounding the site is damaged or nonexistent.

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

Site Inspection conducted by NUS FIT II on 3/20/85

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 5 - DEMOGRAPHIC, AND ENVIRONMENTAL DATA

1. IDENTIFICATION
01 STATE 02 SITE NUMBER
NJ D077076347

II. DRINKING WATER SUPPLY

01 TYPE OF DRINKING SUPPLY (Check as applicable) / 02 STATUS / 03 DISTANCE TO SITE

	SURFACE	WELL	ENDANGERED	AFFECTED	MONITORED	
COMMUNITY	A. _	B. X	A. _	B. _	C. _	A. 3.5 (mi)
NON-COMMUNITY	C. _	D. X	D. _	E. _	F. _	B. 1.5 (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, UNUSEABLE

02 POPULATION SERVED BY GROUND WATER: 167

03 DISTANCE TO NEAREST DRINKING WATER WELL: 2.1 (mi)

04 DEPTH TO GROUNDWATER	05 DIRECTION OF GROUNDWATER FLOW	06 DEPTH TO AQUIFER OF CONCERN	07 POTENTIAL YIELD OF AQUIFER	08 SOLE SOURCE AQUIFER
4 (ft)	southeast	4 (ft)	5×10^5 (gpd)	_ YES X NO

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

Domestic wells vary in depth from 50-112 feet and are located southeast of Trenton Drum in Lawrence Township. Industrial wells are 200 feet deep.

10 RECHARGE AREA

_ YES
X NO

COMMENTS

11. DISCHARGE AREA

_ YES
X NO

COMMENTS

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
Delaware and Raritan Canal	X	500 feet (mi)
Assunpink River		1,900 feet (mi)
Delaware River		3 (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. 20,061 NO. OF PERSONS	B. 84,324 NO. OF PERSONS	C. 151,112 NO. OF PERSONS

02 DISTANCE TO NEAREST POPULATION: 50 feet (mi)

03 NUMBER OF BUILDINGS WITHIN TWO (2) MILES OF SITE: 32,749

04 DISTANCE TO NEAREST OFF-SITE BUILDING: 50 feet (mi)

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)

Trenton Drum Co. is located in a densely populated and heavily industrialized area. Industry is on the south and western borders of the site. Residential areas are to the north and a park is the western border of the site.

VI. ENVIRONMENTAL INFORMATION

01 PERMEABILITY OF UNSATURATED ZONE (Check one)

_ A. 10^{-6} - 10^{-8} cm/sec _ B. 10^{-4} - 10^{-6} cm/sec _ C. 10^{-4} - 10^{-3} cm/sec X D. GREATER THAN 10^{-3} cm/sec

02 PERMEABILITY OF BEDROCK (Check one)

A. IMPERMEABLE (Less than 10^{-6} cm/sec) _ B. RELATIVELY IMPERMEABLE (10^{-4} - 10^{-6} cm/sec) X C. RELATIVELY PERMEABLE (10^{-2} - 10^{-4} cm/sec) _ D. VERY PERMEABLE (Greater than 10^{-2} cm/sec)

03 DEPTH TO BEDROCK: 20-30 (ft)
04 DEPTH OF CONTAMINATED SOIL ZONE: Unknown (ft)
05 SOIL pH: basic

06 NET PRECIPITATION: 11 (in)
07 ONE YEAR 24 HOUR RAINFALL: 3 (in)
08 SLOPE
SITE SLOPE: 3-5 %
DIRECTION OF SITE SLOPE: southeast
TERRAIN AVERAGE SLOPE: 3-5 %

09 FLOOD POTENTIAL
SITE IS IN 100 YEAR FLOODPLAIN
10 _ SITE IS ON BARRIER ISLAND, COASTAL HIGH HAZARD AREA, RIVERINE FLOODWAY

11 DISTANCE TO WETLANDS (5 acre minimum)
ESTUARINE: A. None (mi)
OTHER: B. 1.6 (mi)

12 DISTANCE TO CRITICAL HABITAT (of endangered species): None (mi)
ENDANGERED SPECIES: _____

13 LAND USE IN VICINITY

DISTANCE TO:

COMMERCIAL/INDUSTRIAL	RESIDENTIAL AREAS: NATIONAL/STATE PARKS, FORESTS, OR WILDLIFE RESERVES	AGRICULTURAL LANDS: PRIME AG LAND	AGRICULTURAL LANDS: AG LAND
A. 50 feet (mi)	B. 50 feet (mi)	C. 2.1 (mi)	D. 2.1 (mi)

14 DESCRIPTION OF SITE IN RELATION TO SURROUNDING TOPOGRAPHY

Trenton Drum Co. is located 0.1 mile north and upgradient of the Delaware-Raritan Canal. A drainage ditch, flowing toward the Canal, runs along the eastern border of the site. The entire site is on a slope.

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

USGS Maps: Trenton East, Trenton West, Princeton, and Pennington Quads

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 6 - SAMPLE AND FIELD INFORMATION

I. IDENTIFICATION
01 STATE 02 SITE NUMBER
NJ D077076347

II. SAMPLES TAKEN

SAMPLE TYPE	01 NUMBER OF SAMPLES TAKEN	02 SAMPLES SENT TO Organic	Inorganic	03 ESTIMATED DATE RESULTS AVAILABLE
GROUNDWATER				
SURFACE WATER	3	Radian Corp. Sacramento, CA	California Analytical W. Sacramento, CA	6/85
WASTE				
AIR				
RUNOFF				
SPILL				
SOIL	9	Radian Corp. Sacramento, CA	California Analytical W. Sacramento, CA	
VEGETATION				
OTHER				

III. FIELD MEASUREMENTS TAKEN

01 TYPE	02 COMMENTS
Air Monitoring	HNu photoionizers and OVA flameionization detector
Soil and Spill pH	pH readings of 12-13

IV. PHOTOGRAPHS AND MAPS

01 TYPE X GROUND _ AERIAL 02 IN CUSTODY OF NUS Corp., Edison, NJ
(Name of organization or individual)

03 MAPS X YES _ NO

04 LOCATION OF MAPS NUS Corp., Edison, NJ

V. OTHER FIELD DATA COLLECTED (Provide narrative description)

Photographs
Field Notebook
Collected on 3/15/85 and 3/20/85

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

Site Inspection conducted by NUS FIT II on 3/20/85

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 7 - OWNER INFORMATION

I. IDENTIFICATION
01 STATE 02 SITE NUMBER
NJ D077076347

II. CURRENT OWNER(S)

01 NAME	02 D + B Number	08 NAME	09 D + B NUMBER
Flicker One			
03 STREET ADDRESS (P.O. Box, RFD#, etc.)	04 SIC CODE	10 STREET ADDRESS (P.O. Box, RFD#, etc.)	11 SIC CODE
c/o Homsote Co. P.O. Box 7240			
05 CITY / 06 STATE	07 ZIP CODE	12 CITY / 13 STATE	14 ZIP CODE
W. Trenton / NJ	08628		
01 NAME	02 D + B Number	08 NAME	09 D + B NUMBER
03 STREET ADDRESS (P.O. Box, RFD#, etc.)	04 SIC CODE	10 STREET ADDRESS (P.O. Box, RFD#, etc.)	11 SIC CODE
05 CITY / 06 STATE	07 ZIP CODE	12 CITY / 13 STATE	14 ZIP CODE
01 NAME	02 D + B Number	08 NAME	09 D + B NUMBER
03 STREET ADDRESS (P.O. Box, RFD#, etc.)	04 SIC CODE	10 STREET ADDRESS (P.O. Box, RFD#, etc.)	11 SIC CODE
05 CITY / 06 STATE	07 ZIP CODE	12 CITY / 13 STATE	14 ZIP CODE
01 NAME	02 D + B Number	08 NAME	09 D + B NUMBER
03 STREET ADDRESS (P.O. Box, RFD#, etc.)	04 SIC CODE	10 STREET ADDRESS (P.O. Box, RFD#, etc.)	11 SIC CODE
05 CITY / 06 STATE	07 ZIP CODE	12 CITY / 13 STATE	14 ZIP CODE

III. PREVIOUS OWNER(S) (List most recent first)

01 NAME	02 D + B Number
03 STREET ADDRESS (P.O. Box, RFD#, etc.)	04 SIC CODE
05 CITY / 06 STATE	07 ZIP CODE
01 NAME	02 D + B Number
03 STREET ADDRESS (P.O. Box, RFD#, etc.)	04 SIC CODE
05 CITY / 06 STATE	07 ZIP CODE
01 NAME	02 D + B Number
03 STREET ADDRESS (P.O. Box, RFD#, etc.)	04 SIC CODE
05 CITY / 06 STATE	07 ZIP CODE

IV. REALTY OWNER(S) (If applicable; list most recent first)

01 NAME	02 D + B NUMBER
03 STREET ADDRESS (P.O. Box, RFD#, etc.)	04 SIC CODE
05 CITY / 06 STATE	07 ZIP CODE
01 NAME	02 D + B NUMBER
03 STREET ADDRESS (P.O. Box, RFD#, etc.)	04 SIC CODE
05 CITY / 06 STATE	07 ZIP CODE
01 NAME	02 D + B NUMBER
03 STREET ADDRESS (P.O. Box, RFD#, etc.)	04 SIC CODE
05 CITY / 06 STATE	07 ZIP CODE

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

U.S. EPA, Edison Files
NUS Corp. FIT II Site Inspection conducted on 3/20/85

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POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 8 - OPERATOR INFORMATION

I. IDENTIFICATION
01 STATE 02 SITE NUMBER
NJ 0077076347

II. CURRENT OPERATOR(S) — OPERATOR'S PARENT COMPANY (If applicable)

01 NAME: Westfall Ace Co.	02 D + B Number	10 NAME	11 D + B NUMBER
03 STREET ADDRESS (P.O. Box, RFD#, etc.): 1545 New York Avenue	04 SIC CODE	12 STREET ADDRESS (P.O. Box, RFD#, etc.)	13 SIC CODE
05 CITY: Lawrence Twp. / 06 STATE: NJ	07 ZIP CODE: 08638	14 CITY / 15 STATE	16 ZIP CODE
08 YEARS OF OPERATION: 9/84 to Present	09 NAME OF OWNER: Al Westfall		

III. PREVIOUS OPERATOR(S) (List most recent first: Provide only if different from owner) — PREVIOUS OPERATOR'S PARENT COMPANIES (If applicable)

01 NAME: Trenton Drum Co.	02 D + B Number	10 NAME	11 D + B NUMBER
03 STREET ADDRESS (P.O. Box, RFD#, etc.): 1545 New York Avenue	04 SIC CODE: Reconditioning operation	12 STREET ADDRESS (P.O. Box, RFD#, etc.)	13 SIC CODE
05 CITY: Lawrence Twp. / 06 STATE: NJ	07 ZIP CODE: 08638	14 CITY / 15 STATE	16 ZIP CODE
08 YEARS OF OPERATION: 1973-1984	09 NAME OF OWNER DURING THIS PERIOD: Al Westfall		
01 NAME: Trenton Drum Co.	02 D + B Number	10 NAME	11 D + B NUMBER
03 STREET ADDRESS (P.O. Box, RFD#, etc.): 1545 New York Avenue	04 SIC CODE: Manufacturing	12 STREET ADDRESS (P.O. Box, RFD#, etc.)	13 SIC CODE
05 CITY: Lawrence Twp. / 06 STATE: NJ	07 ZIP CODE: 08638	14 CITY / 15 STATE	16 ZIP CODE
08 YEARS OF OPERATION: 1900-1973	09 NAME OF OWNER DURING THIS PERIOD		
01 NAME	02 D + B Number	10 NAME	11 D + B NUMBER
03 STREET ADDRESS (P.O. Box, RFD#, etc.)	04 SIC CODE	12 STREET ADDRESS (P.O. Box, RFD#, etc.)	13 SIC CODE
05 CITY / 06 STATE	07 ZIP CODE	14 CITY / 15 STATE	16 ZIP CODE
08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD		

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

Site Inspection conducted by NUS FIT II on 3/20/85

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 9 - GENERATOR/TRANSPORTER INFORMATION

1. IDENTIFICATION
01 STATE 02 SITE NUMBER
NJ D077076347

II ON-SITE GENERATOR

01 NAME	02 D + B Number
Trenton Drum Co.	
03 STREET ADDRESS (P.O. Box, RFD#, etc.)	04 SIC CODE
1545 New York Avenue	
05 CITY / 06 STATE	07 ZIP CODE
Lawrence Twp. / NJ	08638

III OFF-SITE GENERATOR(S)

01 NAME	02 D + B Number	01 NAME	02 D + B NUMBER
Metro Container		ST Container	
03 STREET ADDRESS (P.O. Box, RFD#, etc.)	04 SIC CODE	02 STREET ADDRESS (P.O. Box, RFD, etc.)	04 SIC CODE
05 CITY / 06 STATE	07 ZIP CODE	05 CITY / 06 STATE	07 ZIP CODE
Trainer / PA		Berlin / NJ	
01 NAME	02 D + B Number	01 NAME	02 D + B NUMBER
Quality Container		Philadelphia Drum Co.	
03 STREET ADDRESS (P.O. Box, RFD#, etc.)	04 SIC CODE	02 STREET ADDRESS (P.O. Box, RFD, etc.)	04 SIC CODE
05 CITY / 06 STATE	07 ZIP CODE	05 CITY / 06 STATE	07 ZIP CODE
Philadelphia / PA		Coatsville / PA	

IV. TRANSPORTER(S)

01 NAME	02 D + B Number	01 NAME	02 D + B NUMBER
Westfall Ace Co.			
03 STREET ADDRESS (P.O. Box, RFD#, etc.)	04 SIC CODE	02 STREET ADDRESS (P.O. Box, RFD, etc.)	04 SIC CODE
1545 New York Avenue			
05 CITY / 06 STATE	07 ZIP CODE	05 CITY / 06 STATE	07 ZIP CODE
Lawrence Twp. / NJ	08638		
01 NAME	02 D + B Number	01 NAME	02 D + B NUMBER
03 STREET ADDRESS (P.O. Box, RFD#, etc.)	04 SIC CODE	02 STREET ADDRESS (P.O. Box, RFD, etc.)	04 SIC CODE
05 CITY / 06 STATE	07 ZIP CODE	05 CITY / 06 STATE	07 ZIP CODE

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

Site Inspection conducted by NUS FIT II on 3/20/85

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 10 - PAST RESPONSE ACTIVITIES

I. IDENTIFICATION
01 STATE 02 SITE NUMBER
NJ D077076347

II. PAST RESPONSE ACTIVITIES

01 ___ A. WATER SUPPLY CLOSED — 02 DATE: ___ 03 AGENCY: ___
04 DESCRIPTION
No previous history.

01 ___ B. TEMPORARY WATER SUPPLY PROVIDED — 02 DATE: ___ 03 AGENCY: ___
04 DESCRIPTION
No previous history.

01 ___ C. PERMANENT WATER SUPPLY PROVIDED — 02 DATE: ___ 03 AGENCY: ___
04 DESCRIPTION
No previous history.

01 ___ D. SPILLED MATERIAL REMOVED — 02 DATE: ___ 03 AGENCY: ___
04 DESCRIPTION
No previous history.

01 X E. CONTAMINATED SOIL REMOVED — 02 DATE: 10/23/83 03 AGENCY: ___
04 DESCRIPTION
Soil excavated by Trenton Drum Co. and stored in drums onsite. Some transported offsite manifest PA A4672231.

01 ___ F. WASTE REPACKAGED — 02 DATE: ___ 03 AGENCY: ___
04 DESCRIPTION
No previous history.

01 X G. WASTE DISPOSED ELSEWHERE — 02 DATE: 10/83 03 AGENCY: ___
04 DESCRIPTION
Contaminated soil removed to an unknown destination. Spray booth paint sludges removed by Philadelphia Drum Co. Some soil transported offsite via manifest #PAA4672231.

01 ___ H. ON SITE BURIAL — 02 DATE: ___ 03 AGENCY: ___
04 DESCRIPTION
No previous history.

01 ___ I. IN SITU CHEMICAL TREATMENT — 02 DATE: ___ 03 AGENCY: ___
04 DESCRIPTION
No previous history.

01 ___ J. IN SITU BIOLOGICAL TREATMENT — 02 DATE: ___ 03 AGENCY: ___
04 DESCRIPTION
No previous history.

01 ___ K. IN SITU PHYSICAL TREATMENT — 02 DATE: ___ 03 AGENCY: ___
04 DESCRIPTION
No previous history.

01 ___ L. ENCAPSULATION — 02 DATE: ___ 03 AGENCY: ___
04 DESCRIPTION
No previous history.

01 ___ M. EMERGENCY WASTE TREATMENT — 02 DATE: ___ 03 AGENCY: ___
04 DESCRIPTION
No previous history.

01 ___ N. CUTOFF WALLS — 02 DATE: ___ 03 AGENCY: ___
04 DESCRIPTION
No previous history.

01 ___ O. EMERGENCY DIKING/SURFACE WATER DIVERSION — 02 DATE: ___ 03 AGENCY: ___
04 DESCRIPTION
No previous history.

01 ___ P. CUTOFF TRENCHES/SUMP — 02 DATE: ___ 03 AGENCY: ___
04 DESCRIPTION
No previous history.

01 ___ Q. SUBSURFACE CUTOFF WALL — 02 DATE: ___ 03 AGENCY: ___
04 DESCRIPTION
No previous history.

EPA FORM 2070-13 (7-81)

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 10 - PAST RESPONSE ACTIVITIES

I. IDENTIFICATION
01 STATE 02 SITE NUMBER
NJ D077076347

II. PAST RESPONSE ACTIVITIES

01 ___ R. BARRIER WALLS CONSTRUCTED — 02 DATE: ___ 03 AGENCY: ___
04 DESCRIPTION
No previous history.

01 ___ S. CAPPING/COVERING — 02 DATE: ___ 03 AGENCY: ___
04 DESCRIPTION
No previous history.

01 ___ T. BULK TANKAGE REPAIRED — 02 DATE: ___ 03 AGENCY: ___
04 DESCRIPTION
No previous history.

01 ___ U. GROUT CURTAIN CONSTRUCTED — 02 DATE: ___ 03 AGENCY: ___
04 DESCRIPTION
No previous history.

01 ___ V. BOTTOM SEALED — 02 DATE: ___ 03 AGENCY: ___
04 DESCRIPTION
No previous history.

01 ___ W. GAS CONTROL — 02 DATE: ___ 03 AGENCY: ___
04 DESCRIPTION
No previous history.

01 X X. FIRE CONTROL — 02 DATE: 9/84 03 AGENCY: ___
04 DESCRIPTION
A fire destroyed operations at Trenton Drum Co.

01 ___ Y. LEACHATE TREATMENT — 02 DATE: ___ 03 AGENCY: ___
04 DESCRIPTION
No previous history.

01 ___ Z. AREA EVACUATED — 02 DATE: ___ 03 AGENCY: ___
04 DESCRIPTION
No previous history.

01 ___ 1. ACCESS TO SITE RESTRICTED — 02 DATE: ___ 03 AGENCY: ___
04 DESCRIPTION
No previous history.

01 ___ 2. POPULATION RELOCATED — 02 DATE: ___ 03 AGENCY: ___
04 DESCRIPTION
No previous history.

01 ___ 3. OTHER REMEDIAL ACTIVITIES — 02 DATE: ___ 03 AGENCY: ___
04 DESCRIPTION
No previous history.

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

NJDEP-DWM Files

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 11 - ENFORCEMENT INFORMATION

I. IDENTIFICATION
01 STATE 02 SITE NUMBER
NJ D077076347

II. ENFORCEMENT INFORMATION

01 PAST REGULATORY/ENFORCEMENT ACTION X YES _ NO

02 DESCRIPTION OF FEDERAL, STATE, LOCAL REGULATORY/ENFORCEMENT ACTION

NJDEP sampled the site on 3/83. The Division of Waste Management was assessing a clean-up. DWM gave notice of violation t Trenton Drum on 10/2/83 for "discharge of undetermined amount of petroleum substances and caustic into the surface water ru off and subsequent storm sewer drainage system/groundwater.

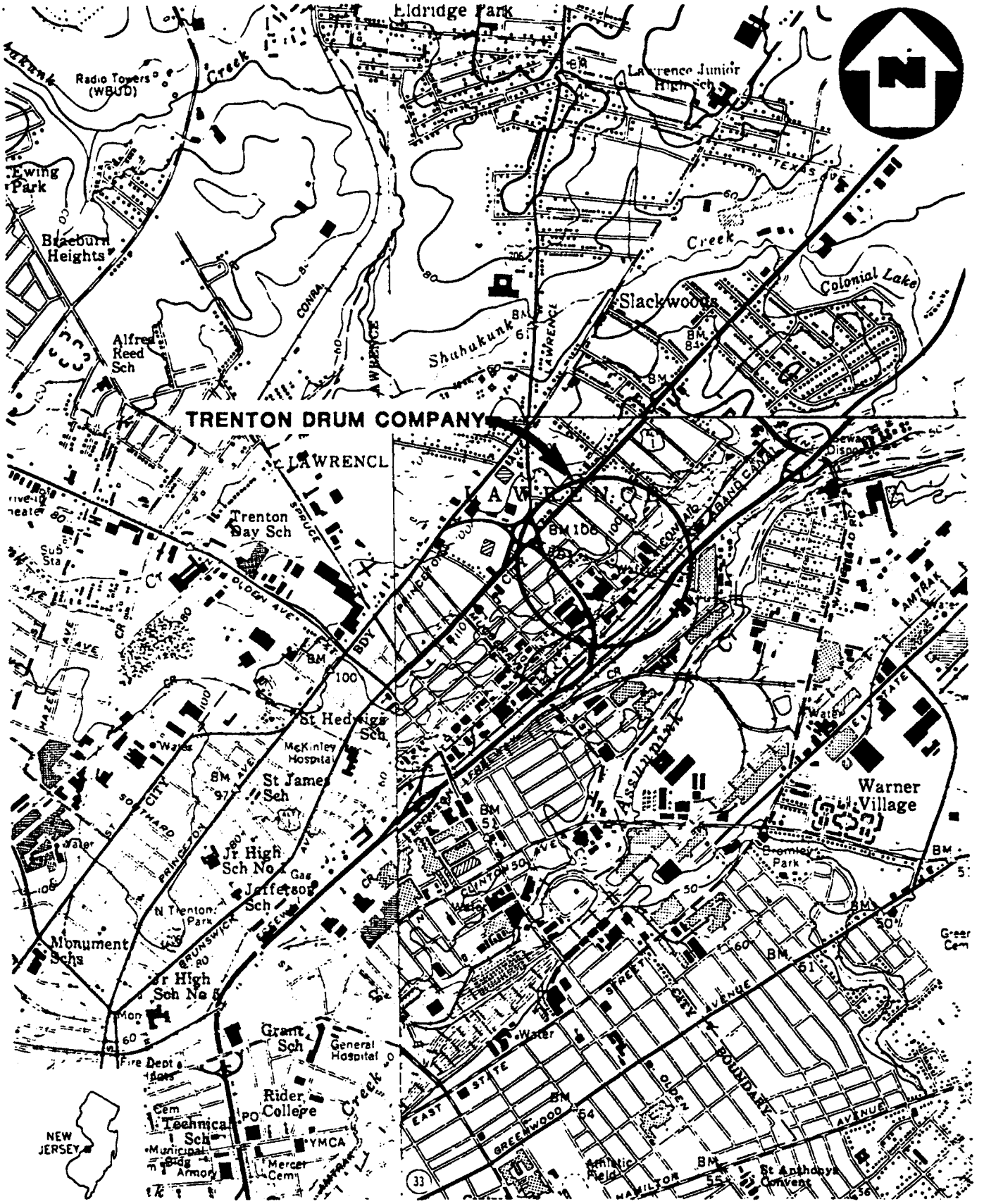
The site is an active NJDEP/Division of Water Resources enforcement case. Groundwater monitoring wells have been recommend but none have been installed.

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

Background files from NJDEP-DWM

APPENDIX A

MAPS AND PHOTOS



(QUAD) TRENTON EAST, N.J.

FIGURE 1

SITE LOCATION MAP

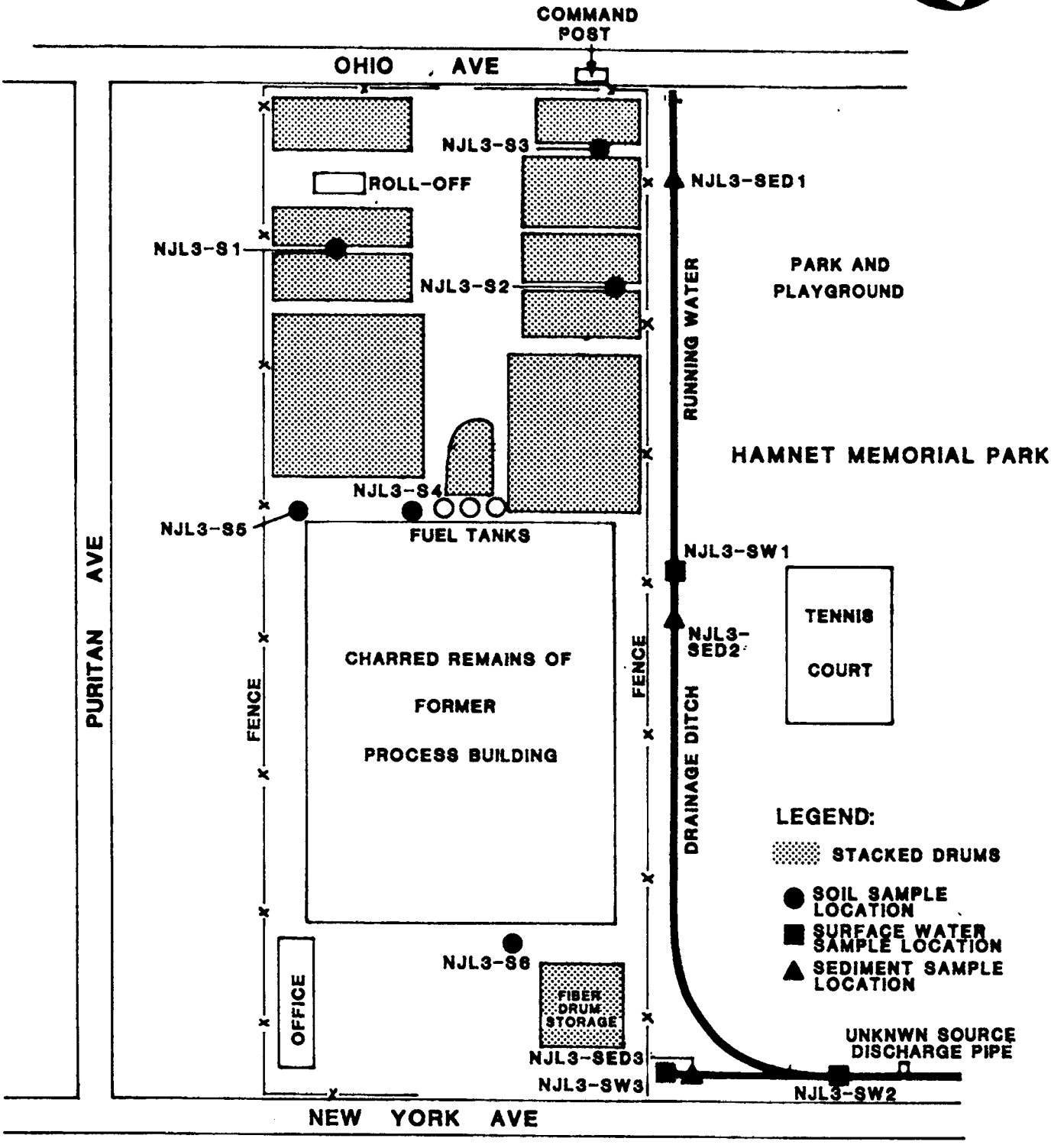
TRENTON DRUM CO., LAWRENCE TWP., N.J.

SCALE: 1" = 2000'

22

NUS CORPORATION

A Halliburton Company



SAMPLE LOCATION MAP

TRENTON DRUM CO., LAWRENCE TWP., N.J.

(NOT TO SCALE)

23

FIGURE 2

NUS CORPORATION

A Halliburton Company

TRENTON DRUM COMPANY
LAWRENCE TOWNSHIP, NEW JERSEY
TDD# 02-8409-13A
March 20, 1985

PHOTOLOG INDEX

TRENTON DRUM COMPANY
LAWRENCE TOWNSHIP, NEW JERSEY
TDD# 02-8409-13A
March 20, 1985

PHOTOGRAPH INDEX

Photo Number	Description	Time
1.	Trenton Drum Company, now called Westfall-Ace Co., no longer reconditions drums on site. Since a fire levelled the operation in September 1984, drums are stored on site and shipped to outside reconditioning facilities.	1318
2.	C. LoBue and L. Gneiding collecting sediment sample NJL3-SED1 from drainage ditch in Hamnet Memorial Park, approximately 45 feet from Ohio Ave.	1318
3.	C. LoBue and L. Gneiding collecting sediment sample NJL3-SED2 in Hamnet Memorial Park, while Paul McNally monitors air. Burnt out former process building of Trenton Drum Co. can be seen in background. Note hole in fence between Trenton Drum Co. and park.	1325
4.	C. LoBue and L. Gneiding collecting surface water sample NJL3-SW1 from drainage ditch in Hamnet Memorial Park.	1326
5.	Looking westward across Hamnet Memorial Park towards Trenton Drum Company. FIT personnel can be seen sampling drainage ditch in park.	1331
6.	Pickup truck delivering empty drums through Ohio Ave gate.	1344
7.	Rear drum storage area of Trenton Drum Co. Between 5000 and 7000 drums, awaiting transport to reconditioning operations, are stored on site. Note roll-off at right filled with crushed drums.	1356
8.	L. Gneiding collecting medium concentration surface soil sample NJL3-S1 from ground in between fallen drums near west fence line in rear drum storage yard.	1431

TRENTON DRUM COMPANY
LAWRENCE TOWNSHIP, NEW JERSEY
TDD# 02-8409-13A

PHOTOGRAPH INDEX

Photo Number	Description	Time
9.	L. Gneiding taking medium concentration soil sample NJL3-S2 from aisle, while C. LoBue and Paul McNally look on. Note blue sludge-laden soil being sampled.	1435
10.	L. Gneiding taking medium concentration soil sample NJL3-S3 in aisle between stacked drums near Ohio Ave. gate. C. LoBue and Paul McNally look on. Note yellow crystalline substance on ground being sampled.	1438
11.	A portion of one of the ten stacked piles of empty drums in rear storage area. Note residues inside many of the drums.	1442
12.	L. Gneiding and C. LoBue taking soil sample NJL3-S4 from behind fuel tank near former process building. Paul McNally observes sampling.	1515
13.	Part of the recirculating caustic flush system previously used to recondition drums. The caustic solution tanks in the foreground and the rusted drums in the background used to be housed inside the process building.	1516
14.	L. Gneiding, P. McNally and C. LoBue collecting surface soil sample NJL3-S5 near foundation of former process building on Purtian Ave. side of property.	1520
15.	L. Gneiding collecting surface water sample NJL3-SW3 from a small pool at the end of the New York Ave. drainage ditch, adjacent to a fiber drum storage area.	1604
16.	L. Gneiding and C. LoBue collecting sediment sample NJL3-SED3 from same location as NJL3-SW3.	1605

TRENTON DRUM COMPANY
LAWRENCE TOWNSHIP, NEW JERSEY
TDD# 02-8409-13A
March 20, 1985

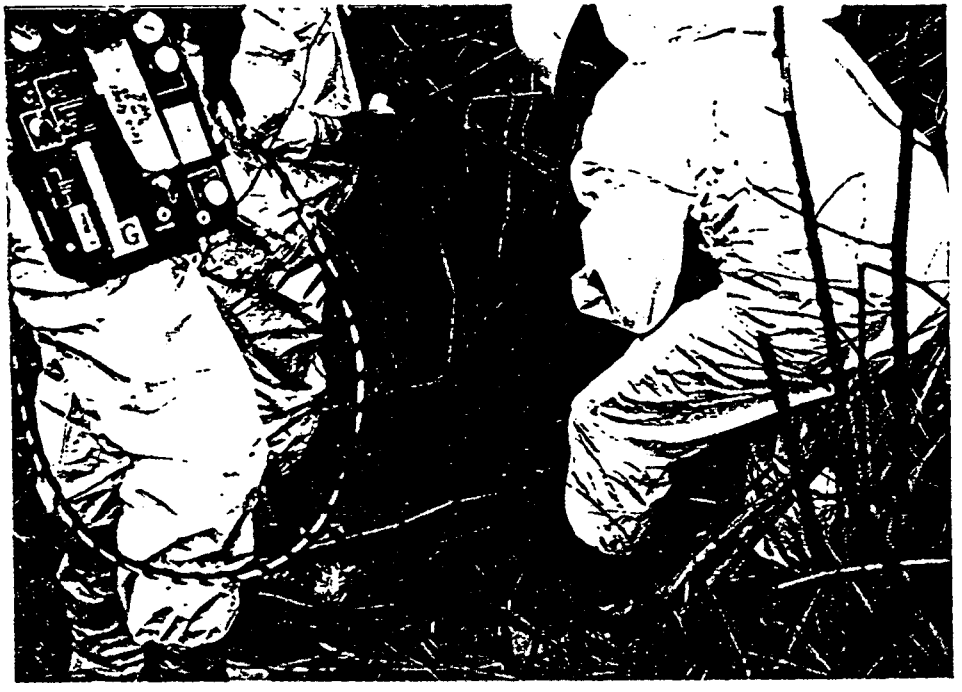
PHOTOGRAPH INDEX

Photo Number	Description	Time
17.	L. Gneiding, P. McNally and C. LoBue collecting surface water sample NJL3-SW2 from drainage ditch on New York Ave., approximately 100 ft. downstream of the Trenton Drum Co. property.	1622
18.	P. McNally and C. LoBue collecting surface soil sample NJL3-S6 from ground outside former fiber drum storage building.	1645
19.	Charred remains of what used to be the process building for the drum reconditioning operation.	1649

NUS CORPORATION

TRENTON DRUM COMPANY, LAWRENCE TOWNSHIP, NEW JERSEY

1. March 20, 1985 1318
Trenton Drum Company, now called Westfall-Ace Co., no longer reconditions drums on site. Since a fire levelled the operation in September 1984, drums are stored on site and shipped to outside reconditioning facilities.



2. March 20, 1985 1318
C. LoBue and L. Gneiding collecting sediment sample NJL3-SED1 from drainage ditch in Hamnet Memorial Park, approximately 45 Feet from Ohio Ave.

3. March 20, 1985 1325
C. LoBue and L. Gneiding collecting sediment sample NJL3-SED2 in Hamnet Memorial Park, while Paul McNally monitors air. Burnt out former process building of Trenton Drum Co. can be seen in background. Note hole in fence between Trenton Drum Co. and park.

4. March 20, 1985 1326
C. LoBue and L. Gneiding collecting surface water sample NJL3-SW1 from drainage ditch in Hamnet Memorial Park.

NUS CORPORATION

TRENTON DRUM COMPANY, LAWRENCE TOWNSHIP, NEW JERSEY

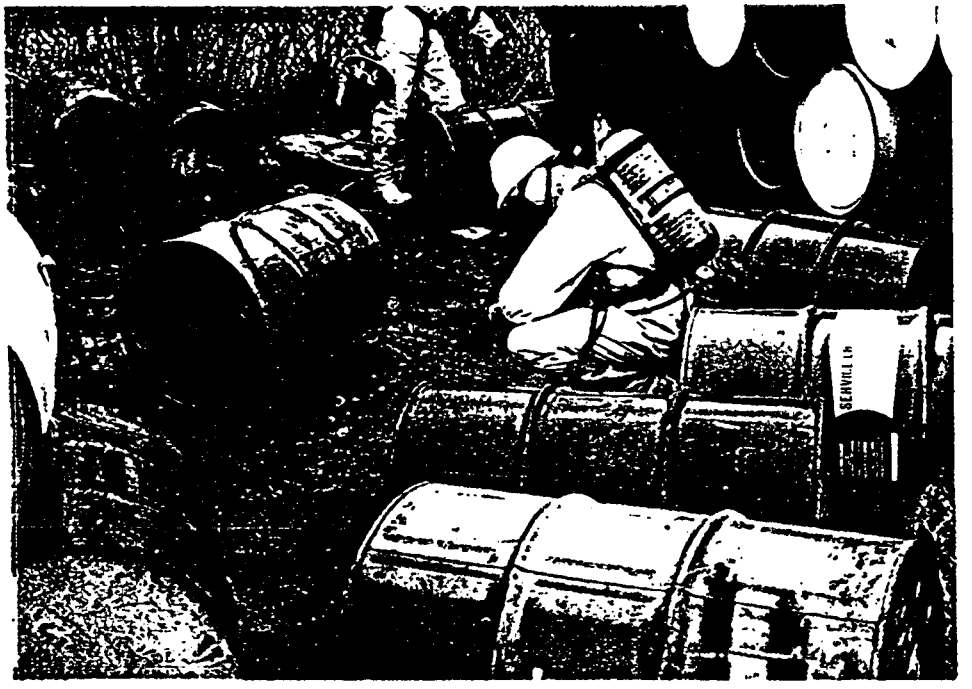
5. March 20, 1985 1331
Looking westward across Hamnet Memorial Park towards Trenton Drum Company. FIT personnel can be seen sampling drainage ditch in park.

6. March 20, 1985 1344
Pickup truck delivering empty drums through Ohio Ave gate.

NUS CORPORATION

TRENTON DRUM COMPANY, LAWRENCE TOWNSHIP, NEW JERSEY

7. March 20, 1985 1356
Rear drum storage area of Trenton Drum Co. Between 5000 and 7000 drums, awaiting transport to reconditioning operations, are stored on site. Note roll-off at right filled with crushed drums.



8. March 20, 1985 1431
L. Gneiding collecting medium concentration surface soil sample NJL3-S1 from ground in between fallen drums, near west fence line in rear drum storage yard.

NUS CORPORATION

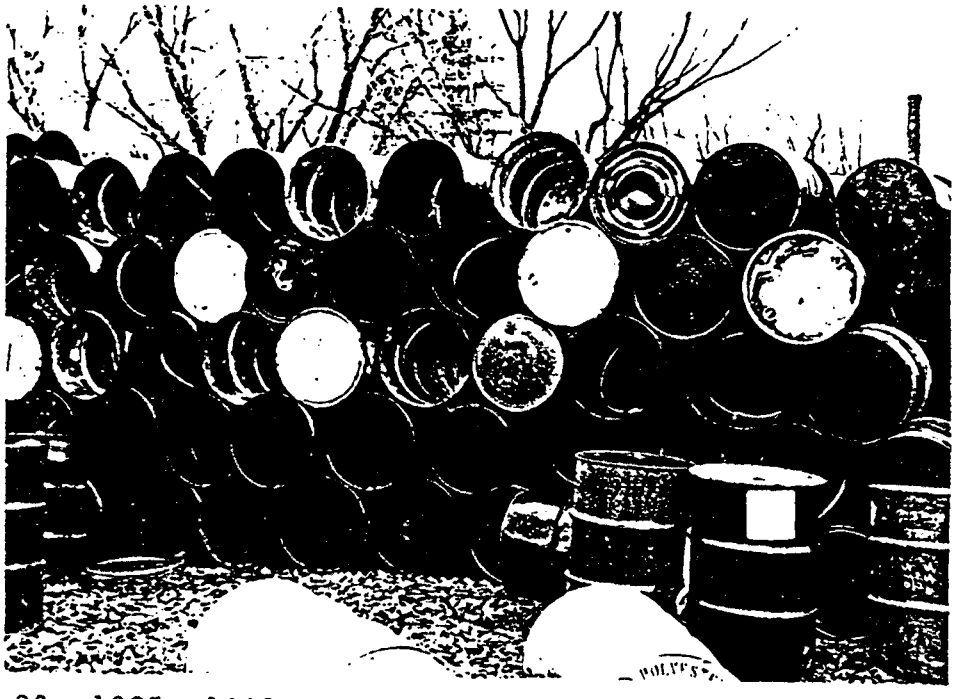
TRENTON DRUM COMPANY, LAWRENCE TOWNSHIP, NEW JERSEY

9. March 20, 1985 1435
L. Gneiding taking medium concentration soil sample NJL3-S2 from aisle, while C. LoBue and Paul McNally look on. Note blue sludge-laden soil being sampled.

10. March 20, 1985 1438
L. Gneiding taking medium concentration soil sample NJL3-S3 in aisle between stacked drums near Ohio Ave. gate. C. LoBue and Paul McNally look on. Note yellow crystalline substance on ground being sampled.

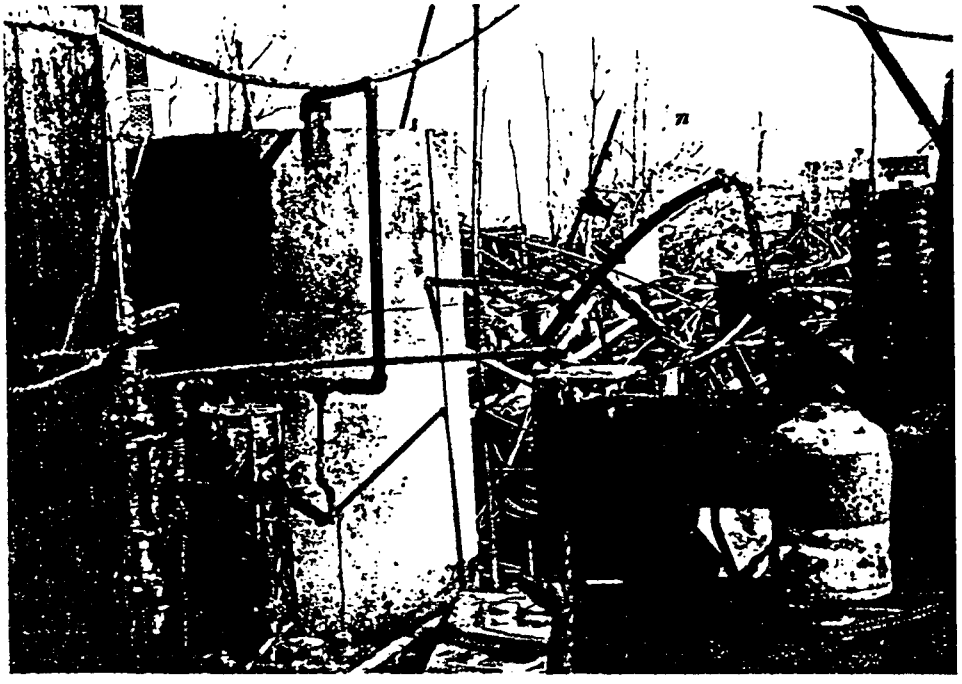
NUS CORPORATION

TRENTON DRUM COMPANY, LAWRENCE TOWNSHIP, NEW JERSEY



11. March 20, 1985 1442
A portion of one of the ten stacked piles of empty drums in rear storage area. Note residues inside many of the drums.

12. March 20, 1985 1515
L. Gneiding and C. LoBue taking soil sample NJL3-S4 from behind fuel tank near former process building. Paul McNally observes sampling.



13. March 20, 1985 1516
Part of the recirculating caustic flush system previously used to recondition drums. The caustic solution tanks in the foreground and the rusted drums in the background used to be housed inside the process building.

14. March 20, 1985 1520
L. Gneiding , P. McNally and C. LoBue collecting surface soil sample NJL3-S5 near foundation of former process building on Puritan Ave. side of property.

15. March 20, 1985 1604
L. Gneiding collecting surface water sample NJL3-SW3 from a small pool at the end of the New York Ave. drainage ditch, adjacent to a fiber drum storage area.

16. March 20, 1985 1605
L. Gneiding and C. LoBue collecting sediment sample NJL3-SED3 from same location as NJL3-SW3.

17. March 20, 1985 1622
L. Gneiding, P. McNally and C. LoBue collecting surface water sample NJL3-SW2 from drainage ditch on New York Ave., approximately 100 ft. downstream of the Trenton Drum Co. property.

18. March 20, 1985 1645
P. McNally and C. LoBue collecting surface soil sample NJL3-S6 from ground outside former fiber drum storage building.

NUS CORPORATION

TRENTON DRUM COMPANY, LAWRENCE TOWNSHIP, NEW JERSEY

19. March 20, 1985 1649
Charred remains of what used to be the process building for the drum reconditioning operation.

SUMMARY STATEMENT

TRENTON DRUM COMPANY
TRENTON, NEW JERSEY

Trenton Drum Company, now known as Westfall Ace Co., is located in Lawrence Township, Mercer County, New Jersey.

Trenton Drum Co. cleaned and reconditioned drums until a fire destroyed the operation in late September, 1984.

Westfall Ace Co. presently stores drums and uses contractors to clean drums. Drums are sometimes brought back to Westfall Ace Co. where they are sold.

The two acre site is located 0.1 mile north and upgradient of the Delaware-Raritan Canal. Industry borders the south and west with a residential area to the north. A municipal park forms the eastern border of the site. A drainage ditch separates the park from Trenton Drum Co.

The NJDEP sampled the site in March, 1983. NJDEP/Division of Waste Management (DWM) gave notice to Trenton Drum in October 1983 for discharges into surface waters and groundwater. The site is an active NJDEP/Division of Water Resources (DWR) enforcement case. Groundwater monitoring wells have been recommended but none have been installed. Contaminated soil was ordered excavated. It was stored onsite then removed to an unknown destination.

NUS FIT II conducted a site investigation and sampled surface water and soils. Volatile organics, polynucleararomatic hydrocarbons (PAHs), phthalate esters, PCBs, pesticides, and metals were found.

The site is jointly owned by Al Westfall and Harold Aranow.

BIBLIOGRAPHY OF INFORMATION SOURCES
HRS MODEL

	SOURCE	LOCATION
1.	Water supply overlay, NJDEP, Bureau of Geology and Topography, 8/75.	NUS Corporation
2.	Uncontrolled Hazardous Waste Site Ranking System: A User's Manual, MITRE Corp.	NUS Corporation
3.	Graphical Exposure Modelling Systems.	NUS Corporation
4.	USGS Maps: Trenton East, Trenton West, Princeton and Pennington.	NUS Corporation
5.	Site inspection conducted by NUS Corp. FIT II on 3/20/85.	NUS Corporation
6.	Geology of the Ground Water Resources of Mercer County, NJ Geological Survey, 1965.	NUS Corporation
7.	Soil Survey of Mercer County, NJ, USDA, January, 1972.	NUS Corporation
8.	Analytical results from Radian Corp., Sacramento, CA and California Analytical Labs, W. Sacramento, CA.	NUS Corporation

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                                      No. of variables:    4

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or type END to exit data window:
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13-Aug-85  09:21 AM                OnLine                                    Cap
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40

TRENTON DRUM CO.
PROJECT MANAGER: JAY CRYSTALL
TDD #02-8409-13A
FIELD NOTEBOOK 1236
FEBRUARY 28, 1985

0036.F
02.8409-13A/NJL3

C-584-8-84-125

GUIDANCE FOR PROPER USE OF LOG BOOKS

Purpose

- Serves to document onsite activities and be understandable to an outside reader.
- Provides the basis for later written reports.
- Used an an evidentiary document and may be used in legal proceedings.

Distribution

- Controlled by the project manager and distributed as appropriate to personnel designated by the project manager.

General Procedures

- Record information in language which is objective and factual.
- Use ink. Waterproof ink is recommended.
- Leave first two pages blank. They serve as space for the table of contents to be added when the log book is complete.
- The first written page identifies the date, time, TDD number, site name, location, NUS personnel and their responsibilities, other non-NUS personnel and observed weather conditions.
- Start on a new page at the start of each day's field activities. This page should identify date, time, TDD number, site name and location, NUS personnel and their responsibilities, other non-NUS personnel and observed weather conditions.
- List all persons leaving or entering the site.
- Information recorded in the log book should be in chronological order.
- Sign and date each page, log all entries using a 24 hour clock. Entries should be time logged every 15 to 30 minutes.
- Corrections are to be lined through and initialed. No erroneous notes are to be made illegible.
- Include a sketch or map of the site which can be used to locate photo or sample locations. Note landmarks, indicate north, and if possible include an approximate scale. Include as many sketches and maps as necessary.
- A person not present when field activities were being documented should read each completed page, and countersign and date when satisified that the written notes are understandable.

Specific Field Activities To Be Documented

- Record the who, what and where of field activities.
- Indicate sampling and photo locations on a site sketch or map.
- As part of the chain of custody procedure, recorded in-situ sampling information must include sample number, date, time, sampling personnel, sample type, designation of sample as a grab or composite, and any preservative used.
- Information for in-situ measurements must include a sample ID number, the date, time, and personnel taking measurements. Pertinent in-situ measurements include but are not limited to pH, temperature, conductivity, flow measurements, continuous air monitoring measurements, and stack gas analysis. If infield calculations are necessary they must be checked and signed by a second team member.
- Create a photo log to document photos taken in the field. These must include date, time, photographer, sample number, roll number, frame number, photo ID number and description. Indicate if the film is for slides or prints in the column for roll number. Photo ID numbers can be added at the time the photo log is assembled.
- Record onsite health and safety measures used. Describe observed potential hazards to health and safety. Document the level of protection used, decontamination procedure used and specific decontamination solutions.
- When sampling is complete, a summary log is to be completed. It must include date, time, sample number, description, field book reference page, and the number and date of the chain of custody from on which the sample is listed. Indicate whether or not the sample was split.
- Record details regarding relevant information obtained during onsite interviews. Include names of persons interviewed, the interest group represented, their address and phone number.
- Record any other relevant information which would be difficult to generate at a later date.

Date 9/7/84

Reviewed/Approved JAR

TRENTON DRUM COMPANY

OZ-8409-13A

-OFF SITE RECON ON 3/8/85

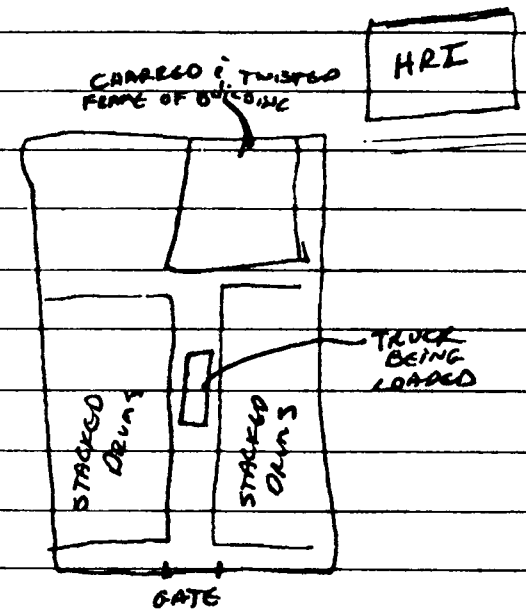
NUS PERSONNEL PRESENT: JAY CRYSTALL - PROJECT MAN.

VEHICLE - EPA - 1115 DEAN SCARI - PHOTOGRAPHER

GARY ROGER - VEHICLE OPERATOR

DRIVING EAST ON OHIO AVE. WE COME INTO VISUAL CONTACT WITH TDC AT 1523. HIGH FENCE SURROUNDING PROPERTY WITH OPEN GATE ON OHIO AVE. LITERALLY THOUSANDS OF MOSTLY METAL DRUMS STACKED HORIZONTALLY, 6 TO 10 DRUMS HIGH. DOZENS OF FIBERGLASS

(CONT)



3/8/85

Joseph Ryan 3/25/85

(44)

TRENTON DRUM CO.

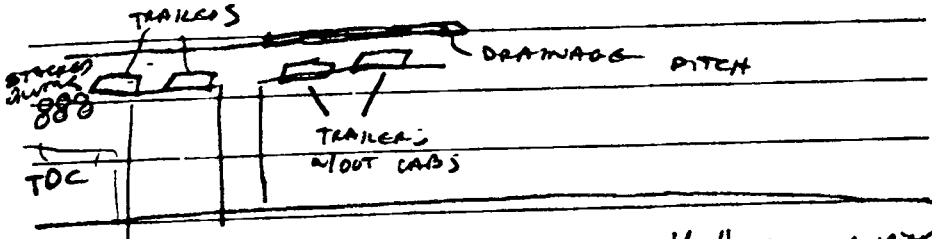
02-8409-13A

DRUMS STANDING ON GROUND AND LYING ABOUT SITE. ~~ABF~~ JJC 3/8

2 MEN WEARING BUTYL APRONS ARE LOADING DOZENS OF DRUMS ONTO A TRUCK

1527 DROVE VEHICLE ALONG PURITAN AVE TO GET A BETTER LOOK AT SITE.

LOOKING TOWARDS FRONT OF BUILDING ON NY AVE THERE ARE 2 TRAILERS PARKED OUT FRONT. DOOR TO ONE IS OPEN REVEALING A FULL CARGO OF STACKED DRUMS. 2 TRAILERS WITHOUT CABS ACROSS PURITAN ON N.Y. AVE.



DRAINAGE DITCH WITH 1/2" OF STANDING WATER IN IT.

BUILDING ON TDC PROPERTY IS AN UGLY MASS OF TWISTED AND CHARRED, RUSTED STEEL BEAMS. STACKS OF DRUMS NEAR BACK OF BUILDING ARE RUSTED. A LINCOLN CONT. PARKED NEAR FRONT OF BUILDING (MAYBE A CADILLAC)

(45) 3/15/85

Paul McNally 3-14-85

TRENTON DRUM CO 02-8409-13A 5

PHOTOLOG

1525

1-5 FROM OHIO ENTRANCE

6

1526 7 FROM PURITAN AVE EAST

8 FROM HRI TO TDC. TRUCK

9 ANOTHER TRUCK

1529 10 BOTH TRUCKS

11 FROM PURITAN TOWARDS TDC Burnt Building

NUMEROUS TRAILERS ABOUT

BLUE DRUMS APPEARING TO BE EITHER NEW OR RECONDITIONED NEXT TO FRONT OF BUILDING (NY AVE SIDE) - FROM VANTAGE PT. SAW ABOUT 25 OR 30.

1531 DRIVE SUBURBAN BACK TO ~~FRONT~~ J.C. 3/8 GATE ON OHIO AVE. 3 OR 4 AREAS OF DRUMS STANDING ON GROUND W/LIDS ON, 10-20 DRUMS IN EACH AREA (ADJACENT TO ~~STACKS OF~~ J.C. 3/8/85 HORIZONTALLY STACKED DRUMS). MEN STILL LOADING WHAT APPEARS TO BE EMPTY DRUMS ON TRUCK. THERE IS A RESIDENTIAL AREA DIRECTLY

SCIENTIFIC BINDERY PRODUCTS CHICAGO

3/8/85

(46) Paul McNally 3-14-85

TRENTON DRUM CO. 02-8409-13A 6

ACROSS OHIO AVE FROM TDC. PARK W/ TENNIS COURTS AND BENCHES ~~ALONG~~ ON EASTERN SIDE OF TDC. FENCE SEEMS TO BE INTACT ALONG PARK, OHIO AVE, & PURITAN AVE SIDES OF TDC.

DID NOT TAKE SUBURBAN ON NY AVE PAST PURITAN, AS IT WAS HARD TO DISTINGUISH BETWEEN PRIVATE DRIVE & ROADWAY.

1538 A TRUCK, W/ BACK OPEN REVEALING A FULL CARGO OF EMPTY DRUMS, PULLS INTO NY AVE ENTRANCE OF SITE.

1540 TRUCK BEING LOADED BY MEN ON SITE LEAVES SITE FROM OHIO AVE GATE.

NUS PERSONNEL LEAVE AREA @ 1545

2/8/85

3-14-85

SCIENTIFIC SURGERY PRODUCTS CHICAGO 5

TRENTON DRUM CO. ~~SI~~ JC. 3/15 Recon 1

02-8409-13A LAWRENCE TWP, NJ. JC 3/15 SSO

3/15/85 NUS PERSONNEL: JAY CRYSTALL PM

LAURIE GNEIDING - AIR MONITORING

OVA # ~~B~~ JC 3/15 F MIKE ROSENBERG - AIR MONITORING

HNU # A GLENN BRINE - DECON, SSO

WILL MEET W/ AL WESFALL @ 1100

PARTLY CLOUDY, 45° WITH WIND FR. SW 20 mph

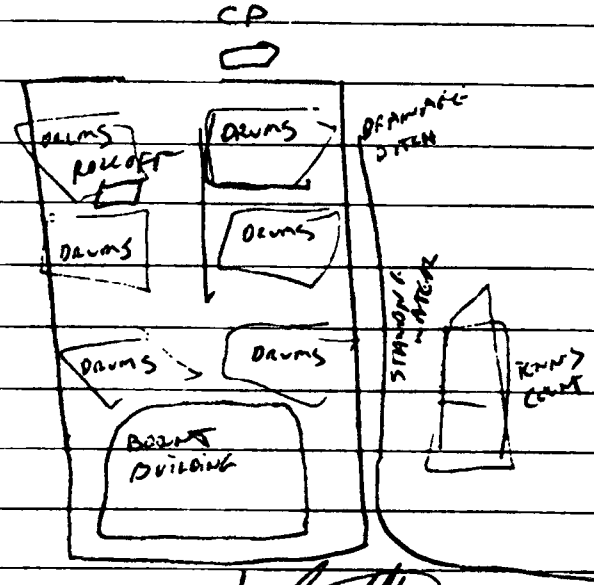
1105 ARRIVED ON SITE PARK NEAR N.Y. AVE GATE

SPOKE W/ AAROLD ARANOW & AL WESTFALL

DETAILS OF DISCUSSION ARE ENTERED IN LOG LATER

1130 SET UP COMMAND POST NEAR

OHIO AVE GATE



[signature] 3/15/85 [signature] 3/25/85

SCIENTIFIC BINDERY PRODUCTS CHICAGO

48

TRENTON DRUM CO., LAWRENCE TWP. 02-8409-13A

1135

M. ROSENBERG, L. GNEIDING, & G. BRING SUIT UP LEVEL B.

1145 M. ROSENBERG USES SCBA # 192083
L. GNEIDING " " # 307175
G. BRING " " # 191312

M. ROSENBERG & L. GNEIDING WILL CONDUCT "MINE SWEEP" AIR MONITORING DOWN CENTER AISLE. COMMAND POST IS DETERMINED TO BE UPWIND OF DRUMS.

1 TRUCK ON SITE BEING LOADED IN CENTER AISLE - DRUMS ARE BEING LIFTED BY HAND

1159 M. ROSENBERG & L. GNEIDING ON AIR

1200 TRUCK LEAVES THRU OHIO AVE. GATE

RECON CREW WALKS DOWN AISLE

1210 M. ROSENBERG SAYS READINGS OF 0 ppm EXCEPT RIGHT UP NEAR MOUTH OF A DRUM 1 ppm. 0 ppm ON HNA

RECON CREW ENTERS STORAGE AREA FOR CLOSER MONITORING. G. BRING MAINTAINS

3/5/85 3/25/85

SCIENTIFIC BINDERY PRODUCTS CHICAGO 5

L TRENTON DRUM CO., LAWRENCE TWP. 02-8409-13A
LINE OF SIGHT FROM CENTER AISLE.

HNU READING OF 500 ppm IN A DRUM.
RESIDUE IN MANY "EMPTY" DRUMS.

~~1215~~
3/15 ~~1115~~ WIND DIES DOWN. OVA READING OF
20ppm NEAR AISLE. GLENN BRINE EVACUATES
SITE. GOES ON AIR AT COMMAND POST.
G.B. ON AIR @ 1217

PHOTO #6 5ppm ON OVA NEAR SOIL
W/OUT SOIL BEING DISTURBED
G. BRINE, L. GNEIDING, & M. ROSENBERG RETURN
TO COMMAND POST. LAURIE NOTES DRUM w/5ppm
w/ HNU LABELLED "XYLOL, ALCOHOLS, ACETATES,
KETONES, & STYRENES (RESIN SOLUTION)".
LAURIE SAYS PATCHES OF PURPLE SLUDGE
OFF AIR @ 1220
BACK ON AIR @ 1225 (GB, LG, MR).
RESUMING AIR MONITORING SURVEY WHILE
INSPECTING DRUM AREA ON WEST
SIDE OF AISLE.

DC 3/15/85

J. Hogan 3/25/85

TRENTON DRUM CO., LAWRENCE MD

02-8409-13A

1228 LAURIE GETS HNU READING OF 17ppm IN MOUTH OF DRUM LABELLED "LEAD 40% NUACT (LOSS OF DRYING INHIBITOR)"

PHOTO #13 M.R. & LG. TAKING READINGS NEAR ROLLOFF

SMALL YELLOW PUDDLE NEAR ROLLOFF INDICATES pH OF N 5.9 Day C 3/15

1232 pH BETWEEN 9 & 10 OF ANOTHER PUDDLE NEAR ROLLOFF

1234 SCBA WARNING BELL ON M. ROSENBERGS. GOES OFF. MIKE EVACUATES DRUM AREA.

PHOTO #15 SMALL PUDDLE pH 12-13

PHOTO #16, 17 } SMALL PUDDLE pH 12-13

G. BRING & L. GREIDING RETURN OFF AIR @ 1238

DC 3/15/85

J. [illegible] 3/25/85

SCIENTIFIC BINDERY PRODUCTS CHICAGO 5

(51)

TRENTON DRUM CO., LAWRENCE TWP.

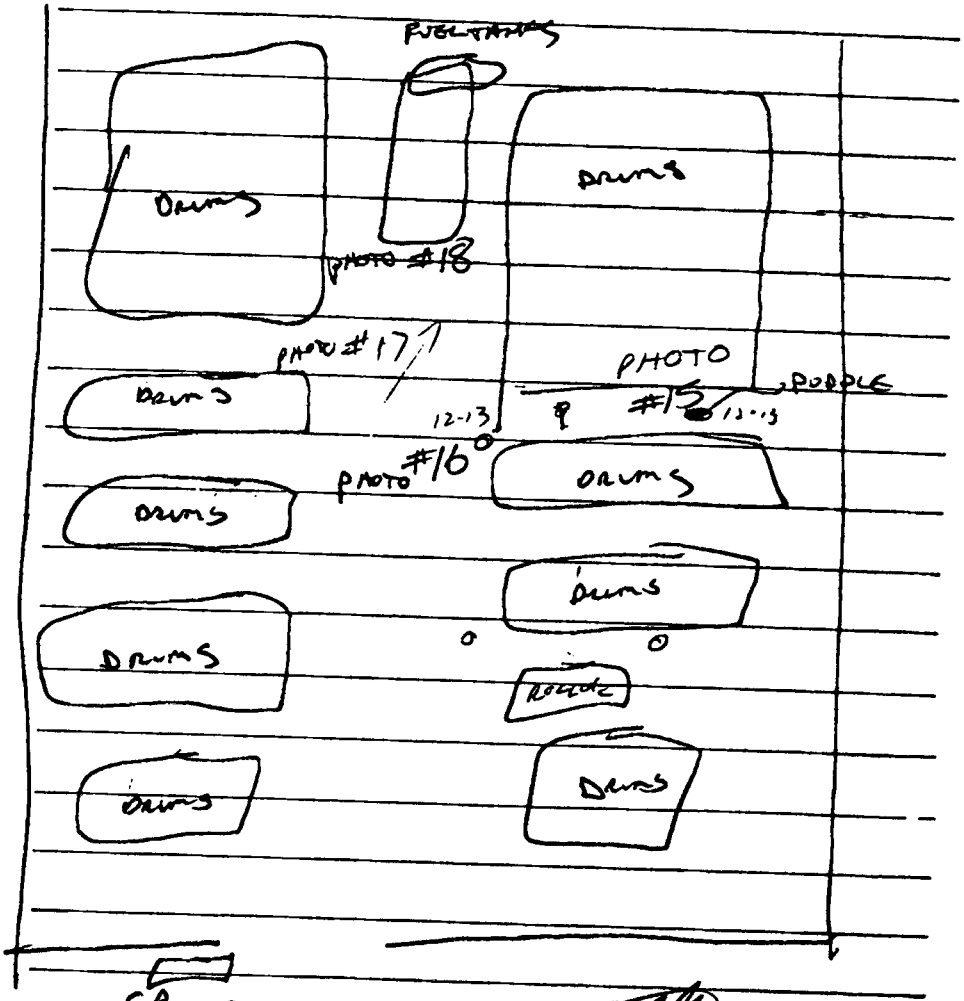
02-8409-13A

11

3/15 PHOTO LOG

1 & 2 FROM OHIO AVE GATE

4 DRUM w/500 ppm



SCIENTIFIC BINDERY PRODUCTS CHICAGO 8

(52)

3/15/85

Logan 3/25/85

TRENTON DRUM CO., LAWRENCE TWP
02-8409-13A

L. GNEIDING ~~INA~~ JC 3/5 INFORMS ME OF BLUE SLUDGE ON GROUND (PHOTO #18) TANK CHANGED

IN BETWEEN STACKS GROUND IS SATURATED W/OIL SHEEN ON SURFACE. PURPLE PUDDLES NEAR FUEL TANKS

- MANY DRUMS ARE UPSIDE DOWN OR SEEM TO BE "THROWN ON TOP OF EACHOTHER" ACCORDING TO LAURIE GNEIDING.
- G. BRINE & L.G. BACK ON AIR @ 1250 & RESUMING AIR MON. SURVEY NEAR BURNT BUILDING.

1255. M. ROSENBERG INFORMS ME THAT ROLLOFF CONTAINS BLACK SLUDGE & CRUSHED DRUMS W/ OVA READING 1-2 ppm. NEAR TOP OF ROLLOFF

DOZENS OF BURNT & RUSTED DRUMS INSIDE REMAINS OF BUILDING.

FENCE IS 5 ft HIGH POORLY MAINTAINED BARB WIRE IS LOOSE OR NON EXISTENT; GATE ON OHIO AVE IS MISSING.

SCIENTIFIC BINDERY PRODUCTS CHICAGO

[signature] 02-8409-13A 3/15/85 [signature] 3/25/85

(53)

TRENTON DRUM CO., LAWRENCE TWP.
02-8409-13A

G. BRING & L. GNEIDING RETURN TO COMMAND POST.

OFF AIR @ 1300

M.R & G.B CONDUCT LEVEL D AIR MON. SURVEY IN HAMNET PARK.

1-2 ppm IN PARK NEAR TENNIS COURT RUNNING WATER ~~ALON~~ SC 3/15 OUTSIDE FENCE ON EAST PROPERTY LINE ABOUT 3" DEEP HOLE IN FENCE HALFWAY DOWN.
M. ROSENBERG, L. GNEIDING, AND GLENN BRING RETURN @ 1310

1320 SPOKE WITH A PERSON WHO IDENTIFIED HIMSELF AS A FORMER EMPLOYEE OF TRENTON DRUM. IN YELLOW DODGE PICK-UP TRUCK NJ LIC. XF81BR HE SAID "THEY WASHED BARRELS DIRECTLY INTO THE STREAM" "CHECK STREAM AT OTHER END NEAR NY AVENUE".

Michael Rosenberg

[signature] 3/15/85

J. [signature] 3/15/85

SCIENTIFIC BINDERY PRODUCTS CHICAGO 5

TRENTON DRUM CO, LAWRENCE TWP, 028409-13A

DECONED & DISROBED @ 1320

LEFT OHIO AVE GATE @ 1325 AND DROVE AROUND TO FRONT OFFICE.

SPOKE W/AL WESTFALL & HAROLD ARANOW. LARRY PERTNOY ALSO PRESENT IN TRAILER. SET UP SITE INSPECTION FOR WEDNESDAY MARCH 20 @ 1 p.m. (i.e. 1300). WILL CALL & CONFIRM NEXT WEEK.

WESTFALL SAID THAT TRANSPORTING OF DRUMS & SITE GENERATED WASTE ~~FT~~ JC 3/15 (WHEN THEY USED TO CLEAN DRUMS) ARE TRANSPORTED BY THEIR OWN TRUCKS - WESTFALL-ACE CO.

1502 THE FOLLOWING IS A SUMMARY OF A CONVERSATION BETWEEN AL WESTFALL AND HAROLD ARANOW OF TRENTON DRUM CO AND Jay CRYSTALL AND MIKE ROSENBERG OF NUS

1) The site, NOW CALLED WESTFALL-ACE, NO LONGER RECONDITIONS DRUMS. IT DOES HOWEVER STORE THEM, SUBCONTRACT A PLACE TO CLEAN THEM AND DISTRIBUTE THEM FROM THEIR YARD. COMPANIES SUBCONTRACTED TO RECONDITION DRUMS ARE 1) METRO CONTAINER

SCIENTIFIC BINDERY PRODUCTS CHICAGO

Jay Crystall 3/15/85 (55) J. Rosenberg 3/25/85

TRENTON DRUM CO. LAWRENCE, TWP
02-8409-13A

LOCATED IN TRAINER, PA. 2) QUALITY CONTAINER IN PHILADELPHIA, PA 3) ST CONTAINER IN BERLIN, NJ
WESTFALL-ACE DOES ALL TRANSPORTING THEMSELVES.

2) ARANON & WESTFALL SAYS THAT ON THE 2 ACRE LOT THERE ARE BETWEEN 5000 & 7000 'EMPTY' DRUMS STACKED ON SITE.
3) DRUMS THAT COULD NOT BE RECONDITIONED WERE SHIPPED TO DELAWARE CONTAINER CO. IN PA.
4) ABOUT 4000 DRUMS ARE MOVED INTO AND OUT OF TDC EVERY WEEK
5) THEY HAVE NO PERMITS, 'TO THEIR KNOWLEDGE' REGARDING TRANSPORTATION OR STORAGE OF HAZARDOUS WASTES AND DISCHARGE OF SITE GENERATED WASTE.
6) THEY DO NOT DESIRE SPLIT SAMPLES.

The original NOTES FROM WHICH THIS SUMMARY IS TRANSCRIBED CAN BE FOUND IN PROJECT FILE 02-8409-13A BACKGROUND.

3/15/85

3/25/85

SCIENTIFIC BINDERY PRODUCTS CHICAGO 8

TRENTON DRUM COMPANY, LAWRENCE TWP, NJ

02-8409-13A

3/20/85 SITE INSPECTION

NUS PERSONNEL: JAY CRYSTALL - PM. DOC

MIKE ROSENBERG - PHOTOGRAPHER, LINE OF SIGHT

PAUL McNALLY - SSO

LAURIE ENGDING - SAMPLER, RECON

BUDDY LOBUE - SAMPLER, RECON

MARK GALLAGHER - RECON, DECON

ART CLARKE - SMO

VEHICLES USED: EPA-952 FIT VAN

EPA-1119 SUBURBAN

OVA*G USED

HNU*B

1210 FIT TEAM ARRIVES ON SITE, PARKS FIT VAN ON EAST SIDE OF OHIO AVE GATE. MIKE R. AND JAY C. WALK AROUND FRONT AND ARE GREETED BY AL WESTFALL.

WALKED ALONG NY AVE DRAINAGE DITCH LOOKING FOR UNKNOWN SOURCE DISCHARGE PIPE. WATER IS STAGNANT - FROM 0 - 5" DEEP W/ OIL SHEEN AND YELLOW TINT.

1225 BEGIN SETTING UP DECON AREA

3/20/85

3/25/85

SCIENTIFIC SUPPLY PRODUCTS CORPORATE

TRENTON DRUM CO., LAWRENCE TWP, NJ
02-8409-13A

STREAM IN HAMNET MEMORIAL PARK WILL BE SAMPLED FIRST.

1230 B. LOBUE RETURNS TO COMMAND POST w/ OVA & HNU WHICH HE ZEROED 1 BLOCK DOWN PURITAN AVE IN RESIDENTIAL NEIGHBORHOOD.

WEATHER: OVERCAST, 50°F, 5mph BREEZE FROM THE WEST.

THERE ARE 2 MEN LOADING TRUCKS IN REAR DRUM STORAGE AREA.

LIGHT DRIZZLE BEGINS.

1242 B. LOBUE + M. GALLAGHER PREPARE TO DO AN AIR MONITORING SURVEY ALONG STREAM IN PARK. LEVEL D RESPIRATORY PROTECTION AND BOOT COVERS, WILL EVACUATE AREA IF ANY READINGS ON HNU AND OVA. LAURIE G. ACCOMPANIES THEM

1250 CREW RETURNS. REPORTS NO READINGS ABOVE BACKGROUND. NOT ENOUGH WATER NEAR DRAINAGE DITCH EFFLUENT PIPE.

3/20/85

SCIENTIFIC STANDARD PRODUCTS, CHICAGO 3

TRENTON DRUM CO., LAWRENCE TWP, NJ

07-8409-13A

BY OHIO AVE. WILL TAKE SEDIMENT SAMPLE NEAR PIPE, THOUGH. WILL TAKE WATER SAMPLE FURTHER DOWN STREAM.

1257 B. COBOE, PAUL M., LAURIE G, MARK G SUIT UP SARANEX AND PREPARE FOR ~~SOI~~ SEDIMENT AND WATER SAMPLING.

CASE # 4040 1315 MOBILIZE FOR SAMPLING

NJL3 SED 1 @ 1318

DRY SANDY CLAY

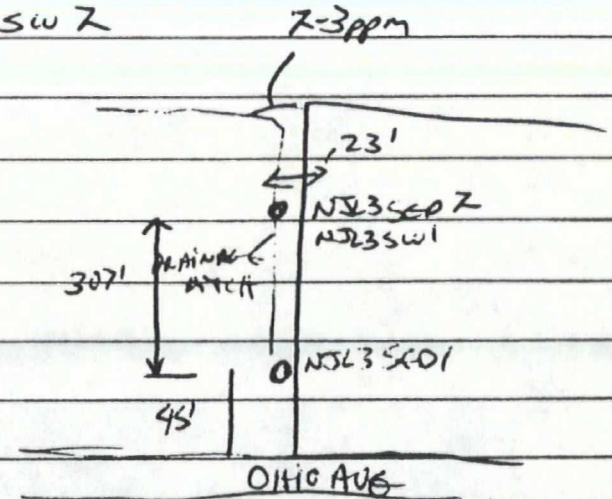
NJL3 SW1 @ 1322 23' FROM FENCE

WATER IS STANDING, ABOUT 4" DEEP

ORGANIC DEBRIS IN STREAM. WATER RELATIVELY CLEAR

NJL3 SED 2 TAKEN 3 FT DOWNSTREAM OF NJL3 SW1. SED IS CLAYEY AND ORANGE

NJL3 SW 2



SCIENTIFIC BINDERY PRODUCTS CHICAGO

[signature] 3/20/85 (59) J. Kuyer 3/25/85

TRENTON DRUM CO.

LAWRENCE TWP, NJ

02-8409-13A

1335 WALKED THROUGH PARK (L.G, J.C. P.M, AND MR) TO LOOK FOR 2nd WATER SAMPLE LOCATION. OVA INDICATED 2-3 ppm ON N.Y. AVE BY DRAINAGE DITCH. ALL PERSONNEL LEAVE AREA AND WALK BACK TO COMMAND POST.

BECAUSE SAMPLERS HAVE TO USE SCBA'S WE WILL SAMPLE STORAGE YARD FIRST AND THEN PROCEED TO N.Y. AVE DITCH.

LAURIE G & BUDDY L. WILL WALK DOWN AISLES OF DRUM AREA w/ Paul M. MAINTAINING LINE OF SIGHT

LAURIE G USES SCBA# 192035

BUDDY L USES SCBA# 192063

PAUL M USES SCBA # 165530

1352 ALL 3 RECON PEOPLE X,L 3/20 ON AIR. AND ENTERING DRUM STORAGE YARD.

- TRUCK IS UNLOADING EMPTY DRUMS ON SITE - WESTPALL - ACE LIC PLATE XD-27JC

3/20/85

3/25/85

TRENTON DRUM CO.

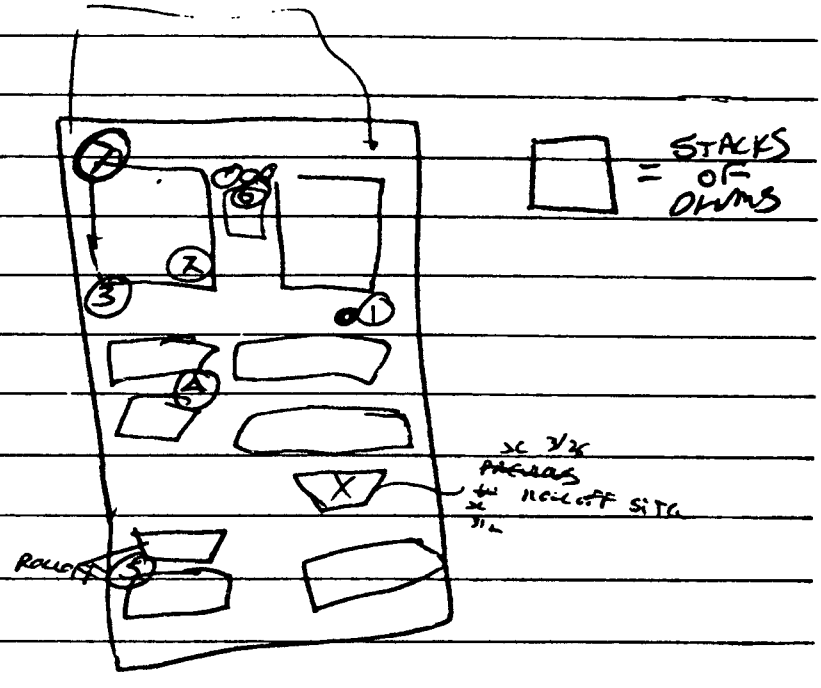
LAWRENCE TWP., NJ

02-8909-13A

1405 RAIN HAS CEASED

1410 PAUL M, LAURIE G AND BUDDY L RETURN. OFF AIR @ 1410.

LAURIE SAYS AN OILY SLUDGE ON GROUND AT (1)



(2) PURPLE SLUDGE-LADEN SOIL ON GROUND 10ppm OVA READING

(3) 2"-3" DEEP YELLOWISH SOIL

3/20/85

3/25/85

SCIENTIFIC SURVEY PRODUCTS

TRENTON DRUM CO, ~~LAWRENCE TWP NJ~~
02-8409-13A

(4) BLUE & WHITE LATEX-LIKE SLUDGE ON TOP OF SOIL.

(5) RED CRYSTALLINE SOLID ON GROUND, 0ppm READINGS.

(6) SILVERY SUBSTANCE ON GROUND WITH PURPLE SLUDGE MIXED IN IT. Jay C 3/21/85

(7) MANY DRUMS SCATTERED AND PILED ON TOP OF EACHOTHER.

STACKS OF DRUMS HAVE BEEN MOVED AROUND SINCE 3/15 RECON. ~~ROLLOFF HAD BEEN MOVED ACROSS AISLE.~~ Jay C 3/21/85 Jay C 3/21/85 AREAS THAT WERE PREVIOUSLY COVERED WITH PURPLE SLUDGE (6) ARE NOW COVERED WITH STANDING DRUMS. ~~MOCH~~ JC 3/20 MANY AREAS OF SPILLED SOLIDS ON GROUND - GREEN, YELLOW ESPECIALLY.

1470 LAURIE G, ~~PAUL~~ J.C. 3/20 DUDDY L, & MIKE R. ON AIR AND PAUL M ON AIR.

MIKE R. USES SCBA #- 307171

SOIL SAMPLES NJL351, NJL352, NJL353

SCIENTIFIC BINDERY PRODUCTS CHICAGO

(62) 3/20/85 3/25/85

TRENTON DRUM CO., LAWRENCE TWP, NJ

07-8909-13A

WILL BE TAKEN. MEDIUM CONCENTRATION SAMPLE LOCATIONS ~~SAMPLES~~ WILL BE LOOKED FOR AND SAMPLED

JC 7/20

SAMPLERS BRING ph PAPER & SURVEYING TAPE IN ADDITION TO SAMPLING GEAR AND CONTAINERS.

1430 FROM OHIO AVE. GATE I CAN SEE CRUSHED DRUMS PILED OVER THE TOP OF THE ROLLOFF.

1431 NJL351 TAKEN BY LAURIE G & BUDDY L. A ~~BLACK~~ CLEAR OIL SATURATED SOIL FROM 50 sq FT AREA.

JGC 7/20

1435 NJL352 TAKEN BY LAURIE G & BUDDY L SAMPLE WAS A BRIGHT BLUE SLUDGE FROM A ~ 4 sq FT SPILL AREA ON GROUND. STICKY AND VISCOUS

1438 NJL353 TAKEN BY LAURIE G & BUDDY L. A RED POWDERY SOLID W/ YELLOW CRYSTALS FROM A 10 sq FT AREA NEAR PILE OF DRUMS.

1445 TRUCK THAT WAS UNLOADED LEAVES SITE.

LAURIE OFF AIR @ 1445

CHARLES OFF AIR @ 1453

PAUL & MIKE OFF AIR @ 1454

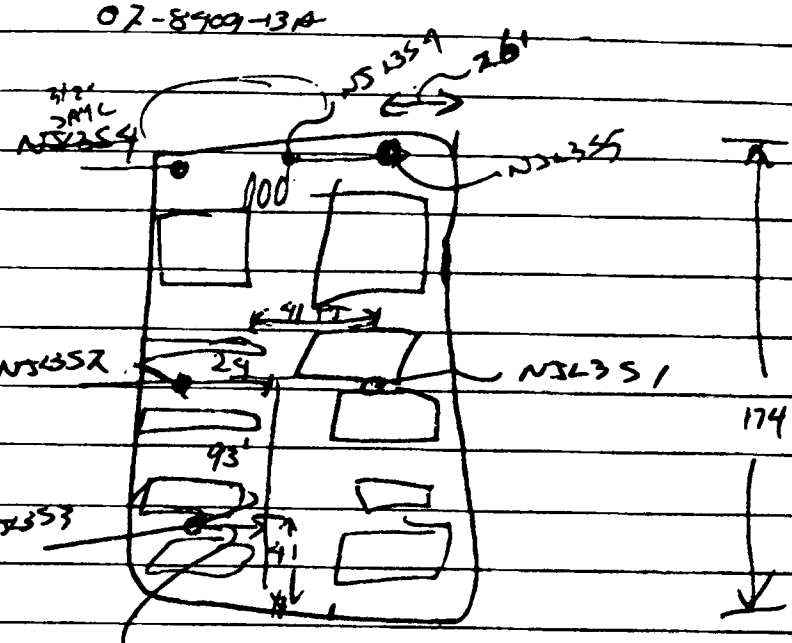
[signature] 3/20/85

[signature] 3/25/85

SCIENTIFIC BINDERY PRODUCTS CHICAGO

Trenton Drum Co, LAWRENCE TWP, NJ

07-8909-13A



1452 WESTFALL ACE TRUCK BACKS INTO YARD

"INMONT" LABELLED DRUMS BROUGHT ON SITE BY ~~PICKUP~~ TRUCK

1506 BUDDY L, LAURIE G, MIKE R, AND PAUL M PREPARE TO ENTER STORAGE AREA AGAIN. SOIL SAMPLES WILL BE FROM FURTHEST PT OF YARD (NEAR CHARRED BUILDING) BY FENCE AND FROM TRUCK LOADING AREA.

1510. LAURIE G. ON AIR

1511 PAUL M, MIKE R, AND BUDDY L ON AIR

3/20/85

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3/25/85

SCIENTIFIC BINDERY PRODUCTS CHICAGO

TRENTON DRUM CO.
LAWRENCE, TWP., NJ
02-8409-13A

1513 SUN IS OUT WIND IS STILL
FROM WEST BUT HAS PICKED UP TO
10 MPH

1515 SAMPLE NJL354 TAKEN BY
LAURIE G AND CHARLES L.
BROWN SANDY SOIL W/CHARRED WOOD IN IT
1518 SAMPLE NJL3 5A TAKEN, SILVERY SOIL 2"-3" DEEP
1525 SAMPLING CREW RETURNS
LAURIE G. & MIKE R. OFF AIR
BUDDY L AND PAUL M REENTER
SITE TO MEASURE SAMPLE LOCATIONS.
MARK G. DECONS SAMPLES
1528 BUDDY L AND PAUL M
ENTER DECON AREA AND GO
OFF AIR.

1535 BUDDY L. AND PAUL M. WALK
AROUND TO NY AVE ENTRANCE TO

3/20/85

SCIENTIFIC BINDERY PRODUCTS CHICAGO 8

(LJ)

TRENTON DRUM CO., LAWRENCE TWP., NJ 02-8409-13A

25

MONITOR AIR FOR FRONT STORAGE YARD SOIL SAMPLE - NJL35~~S~~6 - WITH OVA & HNU

PAUL M. & BUDDY L. ON AIR @ 1~~3~~5 37

LAURIE INFORMS ~~A~~ X 3/20 THAT SOME DRUMS WERE LABELLED 'METHANE SULFONIC ACID'

1550 MET OWNER HAROLD ARANOW AROUND FRONT. CONVERSATION WAS FRIENDLY AND COMPLETELY UNRELATED TO THE INSPECTION OR THE OPERATION OF TDC.

1552 PAUL M & BUDDY L. RETURN

1553 PAUL M., BUDDY L, MIKE R, AND LAURIE G. WALK TO FRONT OF PROPERTY (NY AVE) FOR DRAINAGE DITCH SAMPLING. NJL3SW2 AND NJL3SED~~2~~3 JGC 3/21/85

1604 SAMPLING OF DRAINAGE DITCH BY NY AVE GATE

SAMPLE NJL3SW3 TAKEN BY LAURIE G. & BUDDY L

[signature] 3/20/85 [signature] 3/25/86

SCIENTIFIC BINDERY PRODUCTS, INC.

TRENTON DRUM CO

LAWRENCE TWP., NJ

02-8409-13A

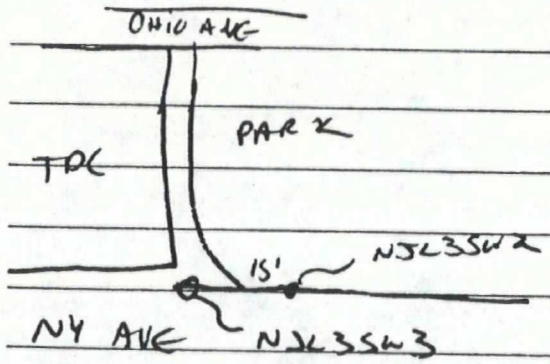
WATER HAD OIL SHEEN AND WAS ~5" DEEP; W/A LOT OF DETRITUS.

1605 SEDIMENT SAMPLE NJ3SED3 TAKEN BY LAURIE G. AND BUDDY L. SEDIMENT WAS BLACK & OILY ON TOP AND CLAYEY 3" DOWN.

1610 RETURN TO DECON AND OFF AIR. MARK G. IS DECONING SAMPLES.

1622 LAURIE G, PAUL M, MIKE R, BUDDY L AND JAY C WALK ALONG NY AVE DRAINAGE DITCH. NO AIR READINGS ON OVA.

NJL3SW2 WILL BE TAKEN ABOUT 15' FROM JUNCTION OF TWO STREAMS



3/20/85

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TRENTON DRUM CO., LAWRENCE TWP, NJ
02-8409-13A

1631 SAMPLE NJL3SW2 TAKEN BY LAURIE G AND PAUL M. WATER IS 4" DEEP, VERY TURBID AND HAS OIL SHEEN. THERE IS ABOUT 6 OR 7 FIBER DRUMS (OR PIECES OF THEM) IN DRAINAGE DITCH. MUCH VEGETATION ON BANKS OF STREAM AND MUCH DETRITUS IN STREAM

1636 ~~SAMPLE NJL3SED2 TAKEN BY LAURIE G~~ & PAUL M. Jay C 3/21/85

1638 CREW RETURNS TO DECON AREA OFF AIR @ 1640
RAIN HAS STARTED TO FALL

1645 SOIL SAMPLE NJL3S6 TAKEN NEXT TO WHAT USED TO BE A FIBER DRUM STORAGE BUILDING. BUDDY L & PAUL M TAKE SAMPLE ON AIR. SOIL IS DARK AND COMPACTED, GRASS INCHES AWAY FROM SAMPLE LOCATION.

1650 BUDDY L AND PAUL M. OFF AIR CREW RETURNS TO DECON AREA AND DECONS SAMPLES AND CLOTHING.

Jay Cystatt 3/20/85 J. Rogers 3/25/85

1700 JAY C LEAVES SITE FOR ICE
FIT TEAM IS PREPARING SAMPLES
FOR SHIPMENT.
1740 ALL NUS PERSONNEL LEAVE AREA.

Jay Cystatt 3/20/85 J Hoyer 3/25/85

JC

Jay Cystatt 3/22/85 (69) Joe Hoyer 3/25/85

TRENTON DRUM CO., LAWRENCE TWP, NJ

02-8409-13A

PHOTOLOG 3/70

TIME	PHOTO	ROLL	SLIDE	FRAME	DESCRIPTION
1242	1	1	P	1x	SETUP OF
1242	1		S	1x	DECON AREA
1245	2		P		W A TRUCK
1245	2		S		PARK DECON
1250	3		P		CREW RETURNING
1250	3		S		
1318	4		P		NJ3 SED 1
1318	4		S		"
1325	5		P		NJL3 SW1
1325	5		S		NJL3 SW1
1326	6		P		NJL3 SW1 w/ FENCE
1326	6		S		NJL3 SW1 w/ FENCE
1331	7		P		LONG DISTANCE
1331	7		S		SHOT OF LAURIE G,
					CHARLES L. AND PAUL M
					COLLECTING NJL3SED2
1344	8		P		PICKUP TRUCK ENTERING
1344	8		S		OHIO AVE GATE W/ DRUMS
					THAT APPEAR TO BE
					EMPTY

[illegible] 3/26/70

SCIENTIFIC BINDERY PRODUCTS CHICAGO 8

(70)

[illegible] 3/25/70

TRENTON DRUM CO LAWRENCE TWP, NJ

OZ8409-13A

PHOTO LOG 3/20

TIME	PHOTO	P or S	ROLL	DESCRIPTION
1356	9	P	1	AIR MON REFON
1356	9	S	1	IN YARD W/TRUCK
				BEING LOADED
1431	10	P	1	SAMPLE NJL351
1431	10	S	1	TAKEN
1436	~~10~~ 11	P	1	SAMPLE NJL352
1436	11	S	1	↓
1438	~~11~~ 12	P	1	SAMPLE NJL352
1438	~~11~~ 12	S	1	TAKEN
1440	~~12~~ 13	P	1	SAMPLE NJL353
1440	13	S	1	TAKEN
1442	14	P	1	STACKED DRUMS
1442	14	S	1	NEAR NJL353
1450	15			ROLLOFF
1450	15			↓
1452	16			SURVEYING THE
	16			SAMPLE LOCATIONS

3/20/85

(71)

3/25/85

SCIENTIFIC SUPPLY PRODUCTS CHICAGO 5

TRENTON DRUM CO., LAWRENCE TWP. NJ

SAMPLE SUMMARY OZ-8409-13A

SAMPLE #	TYPE	TRAFFIC REPORT #	AIRBILL #	TIME	DESCRIPTION
NJ23-S1	MED CONC org soil	BA044	769544845	1431	AISLE ON
	MED. CONC INORG. soil	MBB187	769544856		PURITAN AVE SIDE
					OF REAR STORAGE AREA
S2	MED. CONC org. soil	BA045	769544845	1435	AISLE NEAR
	MED. CONC. INORG. soil	MBB188	769544856		HANNER PK SIDE
					OF REAR STORAGE AREA.
S3	MED. CONC ORG. soil	B3908	769544845	1438	AISLE NEAR
	MED CONC. INORG soil	MBB189	769544856		OHIO AVE. GATE.
S4	ORG soil	B3940	923032460	1518	BEHIND
	INORG soil	MBB196	923032471		FUEL TANKS
S5	ORG. soil	B3904	923032460	1525	NEAR FOUN-
	INORG. soil	MBB191	923032471		DATION OF BUILDING.
S6	org soil	BA127	923032460	1645	NEAR FIBER
	inorg soil	MBB192	923032460		DRUM STORAGE
SED-1	org soil	BA128	923032460	1318	DRAINAGE
	inorg soil	MBB193	923032471		DITCH IN PARK
					45' from OHIO AVE.

3/25/85

SCIENTIFIC BINDERY PRODUCTS CHICAGO

TRENTON DRUM CO., LAWRENCE TWP, NJ

02-8409-13A

SED2 org soil BA129 923032460 1322 IN DRAINAGE
inorg soil MBB194 923032471 DITCH NEXT TO
CHARRED BUILDING

SED3 org soil BA130 923032460 1605 SMALL POOL
inorg soil MBB195 923032471 NEAR FIBER DRUM
STORAGE AREA.

SW1 org aqueous B4143 923032460 1322 SAME AS
inorg AQUEOUS MBB196 923032471 SED-2

SW2 ORG. AQUEOUS B4145 923032460 1622 DRAINAGE
INORG AQUEOUS MBB198 923032471 DITCH ON N.Y. AVE

SW3 org AQUEOUS B4144 923032460 1604 ~~SMALL~~
INORG AQUEOUS MBB197 923032471 SAME AS
SED-3

WB1 org BLANK B4146 923032460 N/A. —
INORG BLANK MBB199 923032471

(73) 7/25/85

GEOLOGY OF THE GROUND WATER RESOURCES OF MERCER COUNTY

GEOLOGIC REPORT SERIES NO. 7

NEW JERSEY GEOLOGICAL SURVEY

DEPARTMENT OF CONSERVATION AND ECONOMIC DEVELOPMENT

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PRECAMBRIAN (PRE-TRIASSIC) ROCKS

Pre-Triassic rocks are found exposed in the Delaware River opposite Trenton, within the bed of Assunpink Creek and elsewhere in excavations in the city, eastward in Lawrence Township, and formerly as far east as Princeton Junction. This group of rocks consists of the Cambrian Chickies or Hardyston quartzite, an alleged equivalent of the Wissahickon schists which may be either Precambrian or early Paleozoic (post-Hardyston) and a meta-gabbro and other igneous rocks such as pegmatite and granite gneiss, which are generally classed as Precambrian in age. The outcrops in Mercer County are too sparse to permit the correlation with certainty of these formations to the more extensive outcrop area and exposures west of the Delaware River. The quartzite has a rather striking continuous outcrop across the river on either side of the Calhoun Street Bridge to Morrisville.

In the 1909 Trenton Folio these rocks are shown as outcropping from beneath the Pleistocene formations as far east as Bakers Basin. On the 1950 State Geologic Map, an outcrop area is indicated just west of Princeton Junction. Well drilling operations in the past few years in the area between Princeton Junction, Edinburg and Trenton suggest that the crystalline rocks lie close to the surface below a thin cover of Pleistocene deposits and underlie a much more extensive area and are much nearer the surface than has heretofore been indicated.

Since all of these rocks are hard crystallines, yielding water only from fractures, the age and lithologic differences are not important for the present study. However, when these rocks are close to the surface, are not capped by Triassic sandstones or Raritan sands and are covered only by Raritan clays or thin Pleistocene deposits containing much silt, the area underlain by these pre-Triassic rocks becomes important in studies of the ground water potential of Mercer County. For convenience in this study, in maps, sections, and discussion, these crystalline rocks are hereafter referred to as Precambrian without regard as to whether they are actually Precambrian gneisses or meta-gabbros, Cambrian quartzites, or younger gneisses and schists.

Field reconnaissance was conducted by the New Jersey Geological Survey in Mercer County during May, 1960 as a preliminary step in the preparation of a geologic base map for the ground water report on the area. The existing geologic maps did not seem to agree with information from new exposures and well data that were not available when the geologic map was revised in 1950.

Prior to commencement of field work, considerable research was conducted on published data on the pre-Triassic rocks shown in the Trenton and Princeton Junction areas on the State Geologic Map. Outcrop localities given in the permanent notes were noted on the new U.S.G.S. 1:24000 quadrangle sheets.

Field checking was started in the Trenton area. Precambrian gneiss in a highly weathered state was found beneath a few feet of overburden in the excavation for a large building 1,500 feet southeast of U. S. Route #1 on that part of the highway between Texas Avenue and the Lawrence Drive-In Theatre. This area was formerly mapped as Triassic on the geologic map. The occurrence of Precambrian gneiss at this locality and as outcrops to the west necessitated moving the Triassic-Precambrian contact in a northwesterly direction nearly one-fourth of a mile.

Reconnaissance was continued in a zone about three miles wide from Trenton to Princeton Junction on both sides but chiefly southeast of U. S. Route #1. All roads in this area crossing the Cretaceous-Triassic contact as shown on the geologic map were traveled. All areas of potential outcrop or exposure were examined including road cuts, stream banks, and excavations for buildings and garbage burial. It soon became evident that the contact zone as mapped was based on inference rather than on outcrop. No identifiable outcrops of Cretaceous or Triassic deposits were found within one-fourth mile of either side of the contact zone as previously mapped. Intensive search disclosed only Pleistocene deposits at or near the surface. Clay was found in the area between the Delaware and Raritan Canal and Assunpink Creek just south of Bakersville. The white and gray clay, upon cursory examination, appeared to be Cretaceous, however, detailed examination and comparison of samples suggests that this clay is a Pleistocene deposit, consisting largely of reworked Raritan Formation and/or Precambrian saprolite materials.

Mention was made in the permanent geologic notes of several Precambrian outcrop areas which apparently were utilized in preparing the State Geologic Map. All of these localities were visited and field-checked for this report, and all apparently have been covered by sanitary land fill or other construction in recent years. One of these locations was on the north side of the railroad at a crossing near Duckpond Run, two miles southwest of Princeton Junction. This, apparently, was concealed by the fill for the construction of a highway overpass. The most famous locality, a few hundred yards southwest of the Princeton Junction Station, is now utilized by West Windsor Township as a dump, and the Precambrian outcropping is no longer visible. However, the yellow and white conglomerate, typical of the basal Triassic, is still visible north of the dump. A newly constructed farm pond, south of the railroad

tracks on the Old Post Road several hundred yards southwest of the above-mentioned dump, showed that it bottomed in clays containing blue quartz pebbles characteristic of the nearby Precambrian. All of the area listed as Precambrian was very carefully searched for outcrop, and it is concluded that earlier mapping was based on information from well logs, just as in the case in this report, and on now-vanished outcrops.

Simultaneously with the field check operations, all well records on file in the office were consulted for the area between Trenton and Princeton Junction on either side of the Pennsylvania Railroad main line. The study of well records was made over an area sufficiently wide so that all areas which anyone had previously mapped as Precambrian, as well as those areas where there was reason to believe that the Precambrian was close to the surface, were encompassed.

Twenty-one well records were found adjacent to but outside of the areas formerly mapped as Precambrian. All of these wells first penetrate Pleistocene deposits of one kind or another. Some end in identifiable Precambrian rock, while others penetrate a few feet of either gray or yellow clay. In some of the records, this clay has been interpreted as Cretaceous. It is believed, in view of the material found in other wells in the general area which have penetrated thick sequences of Pleistocene and in view of the character of some of the clays observed at the surface in known Pleistocene deposits, that these clays in the above-mentioned wells are probably reworked Precambrian material. Some of the well logs for these wells were prepared by geologists, but others were prepared by the local drillers who are believed to have sufficient experience in the area to be able to identify the various geologic materials. Only those drillers' logs whose location was surrounded by reliable sample logs which had been described by geologists were used in the study and in the preparation of the geologic cross-sections.

West Windsor Township well 25, although a drillers' log, seems to indicate the existence of a Cretaceous filling in a channel in the Precambrian because the interval between 25 and 80 feet is described as white clay and white sand.

There is a lack of reliable subsurface information in the Great Bear Swamp area. Hamilton Township wells 73, 74, and 75 to the south and southeast of the swamp according to the drillers' logs may penetrate a thin section of Cretaceous before ending in Precambrian rocks. Hamilton Township well 76 appears to penetrate Pleistocene for its entire depth. The Precambrian-Cretaceous contact has therefore been arbitrarily located along the southern portion of Great Bear Swamp. A well drilled in November, 1960 after the revised contact had been drawn in was located just north of the inferred Precambrian boundary. The well struck dark green Precambrian schist at a depth of nine feet.

The shape of the Precambrian outcrop area beneath the Pleistocene suggests that, at several points, valleys or channels trending north-south, or northeast-southwest may have been eroded in the Precambrian basement. One such channel filled with Pleistocene may be indicated by West Windsor well 64 and 95 drilled for Wing Hing Farms. Other well records and geophysical traverses in the area suggest that there are other such channels which may have thin deposits of Cretaceous sediments, a thin residual layer of Triassic rocks, or uneroded weathered Precambrian material in the valley bottom. However, in most of this area between Trenton and Princeton Junction the Cretaceous or Triassic cover has apparently been eroded away until the Precambrian has been exposed and the valleys thus formed have been entirely filled with Pleistocene sediments.

Wells Tapping the Precambrian

In the study of the Precambrian rock area of Mercer County, 119 wells and test borings were plotted on the 1:2400 scale U.S.G.S. Quadrangle maps of the area. Of this group 26 domestic and 41 industrial wells were found to be getting their water from the Precambrian. Twenty other wells were drilled to the Precambrian but secure their water from the overlying formation.

Only four industrial wells in Ewing Township, all close to the Trenton City line draw from the Precambrian. Twenty of the Precambrian wells are industrial wells in Trenton. There are 17 domestic and 7 industrial wells in West Windsor Township all in or around Princeton Junction. The remainder of the Precambrian wells with one exception are in Hamilton and Lawrence Township within a mile of the Pennsylvania Railroad main line. The exception is an unsuccessful irrigation test well in Washington Township nearly three and a half miles south of the railroad.

Domestic wells tapping the joints and fissures in the Precambrian may be expected to yield about 10 gallons per minute from a depth of about 120 feet as shown on the tables below.

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LAWRENCE TOWNSHIP

Well Number	Casing Diam. (Inches)	GPM	Well Depth (Feet)	Fm.	Casing Length (Feet)	Static Water Level (Feet)	Owner	Year Drilled	Use	Water Level/ Hours Pumped
1	12–8	45	248	Trl	45	13	Education Testing Service	'57	I	161/48
2	12–8	20	281	"	45	13	"	"	I	158/18
3	12–8	2	317	"	45	26	"	"	I	
4	12–8	50	223	"	50	5	"	'56	I	160/18
5	8–6	6	350	"	21	6	Woods	"		245/4
6	6	30	103	Trs	26	40	Albert Chemical	'57		45/4
7	8–6	5	100	Trl	18	22	Thompson	'54		90/—
8	8–6	10	169	"	28	22	Rusling	"		70/—
9	6	18	146	Trs	23		Cashvan	'59		....
10	6	15	146	"	38	20	"	"		...
11	8	30	230	"			Lawrenceville Water Co. #2	'24	I	
12	6	6	123	"	36	10	Charles Long (Bldr.)	'62		100/4
13	6	20	75	"	27	18	Wenzel	'56		48/4
14	8	25	121	"	42	10	Darby	'54		19/6
15	6	20	80	"	32	9	Campbell	'56		30/4
16	8	5	304	pC	31	11	Colonial Bowling Alley	'49	I	
17	12–8	300	150	Trs		8	Lawrenceville Water Co.	'37	I	35/—
18	8	75	164	"	57	flowed	N. J. Motor Vehicle Station	'56	I	69/24
19	12–8	70	350	pC	87	9	Curtiss Wright	'58	I	150/48
20	12	60	59	"	29	7	Curtiss Wright	'58	I	50/24
21	6	6	123	"	55	14	Halper	'59		97/6
22	6	50	145	Trs		4	Para Lab Supply Co.	'48	I	31/8
23	6	14	113	pC	35	17	Cunningham	'51		80/4
24	8	15	253	"	30	12	Colonial Bowling Lanes	'56	I	134/8
25	8–6	7	80	Trl	21	5	LaPlaca	'51		35/—
26	8	15	337	"	24	4	Schleuter	"		140/6
27	6	25	103	"	22	10	Goldstine	'50		45/6
28	8–6	9	130	"	22	5	Beacraft	'51		50/—
29	6	7	130	"	21	10	Hannah	'29		100/8
30	6	15	119	"	24	9	Cowan	"		60/6
31	6	2	199	"	24	15	Katzenbach	'41		150/—
32		6	201	"		18	Batton	'30		127/—
33	10	340	212	Trs		13	Lawrence Hose Co.	'47	I	65/9
34		25	185	Trl		11	Goodridge	'38		108/—

LAWRENCE TOWNSHIP (Continued)

Well Number	Casing Diam. (Inches)	GPM	Well Depth (Feet)	Fm.	Casing Length (Feet)	Static Water Level (Feet)	Owner	Year Drilled	Use	Water Level/ Hours Pumped
69	12	90	286	Trs	..	8	Lawrenceville Water Co. No. 4	'51	I	50/24
70	8	60	110	"	..	6	" No. 3	'32	I	18/—
71	6	33	112	"	50	..	Green Acres	'31	I	26/—
72	6	9	123	Trl		20	*Houghton	'34		
73	10	152	402	Trs	41	8	Lawrenceville School	'47	I	115/24
74	6	18	65	"	..	8	Aldrich	'51		12/4
75	6	7	108	"	..	10	Bayless	..		
76	6	8	122	"	20	20	Biddle	'51		40/4
77	6	6	65	"	..	15	Commiso	"		30/—
78	8	33	265	Trs (P) pC (B)	55	15	Integro Inc. #2	'52	I	140/6
79	6	25	70	Trs	34	6	Thompson	'52		30/4
80	8	30	85	"	41	17	Clarksville Diner	'60	I	23/6
81	6	8	73	"	..	3	Nadi	'29		
82	6	45	180	Trs (P) pC (B)	23	7	Transport Mfg. & Equip. Co.	'52	I	15/8
83	6	7	72	Trs	..	10	Gallimore	'51		25/—
84	6	30	187	"	59	19	Integro Inc.	'50	I	63/4
85	6	15	78	"	32	15	Schino	..		15/5
86	6	5	65	pC	34	9	Seaman	'51		60/½
87	8	90	147	Trs		18	Howard Johnson Rest. #1	'41	I	92/—
88	8	30	156	"	..	..	" #2	"	I	
89	8	75	86	"	..	30	Mrs. W. Ziegler #1	'36	I	
90	8	80	117	"	47	38	" #2	'37	I	
91	6	25	104	"	40	20	H. Fackler	'35		70/—
92	8	160	204	"	32	18	Green Acres Country Club	'46	I	50/—
93	6	10	55	"	32	12	J. Antoniszym	'51		....
94	6	20	65	"	37	3	C. Rossa	'52		12/4
95	6	10	61	"	35	10	W. J. Takash	'51		22/6
96	6	10	100	Trl	23	8	A. Maruca	'61		50/—
97	6	10	95	"	22	18	F. Lonska	"		"
98	6	2	250	"	25	2	J. Kerney, Jr.	'60		
99	6	8	145	"	26	20	J. Lovero	'62		100/4
100	6	30	105	Trs	55	10	Hester Realty Corp.	'60		80/4
101	8	79	195	"	37	11	National Guard	'27	I	65/9

LAWRENCE TOWNSHIP (Continued)

Well Number	Casing Diam. (Inches)	GPM	Well Depth (Feet)	Fm.	Casing Length (Feet)	Static Water Level (Feet)	Owner	Year Drilled	Use	Water Level/ Hours Pumped
35	6	12	248	Trl	22	62	Gemmell	'49		....
36	..	18	242	Trs	..	..	Rakin	'29		....
37	6	10	95	"	34	22	Hance	'51		50/—
38	6	5	157	"	35	16	Hunter	'49		60/6
39	6	12	83	Trl	22	14	Kocon	'51		50/—
40	6	20	70	Trs	..	19	Muskewitz	"		33/4
41	6	20	90	Trl	28	5	Newman	'47		20/—
42	6	7	100	Trs	..	11	Rich	'52		50/—
43	6	12	63	"	35	14	Robinson	'51		14/8
44	6	8	140	"	57	6	F. Carlisi	'61		68/6
45	6	5	77	Trl	24	8	Vanderbilt	'52		76/2
46	6	4	121	"	23	6	VanDoren	'52		40/2
47	6	8	90	Trs	20	12	VanSyckle	'51		25/—
48	6	8	106	Trl	44	25	Raymond	'53		60/—
49	6	4	100	"	35	28	D. Penrose	'53		70/—
50	8	19	250	"	26	2½	Buxton Dairy	'48	I	140/—
51	6	25	60	Trs	..	6	Costello	'51		8/4
52	6	13	144	Trl	22	8	Demowski	'53		84/2
53	8	15	250	"	..	30	Buxton's Dairy	'38	I	...
54	6	125	201	Trs	..	..	Lawrenceville School	'14 or '15	I	15/—
55	6	15	56	"	35	12	Bruschi	'52		12/5
56	6	15	72	"	38	8	A. Colligan	'51		30/—
57	6	7	198	Trl	23	22	Lauck	'50		104/6
58	6	20	115	Trs	17	45	Luccarelli	'52		90/—
59	4	5	204	Trb	..	35	Prickett	'34		150/—
60	6	30	105	"	28	3	Hazeltine	'49		15/—
61	6	6	76	Trl	..	4	LaPlaca	'51		55/—
62	6	7	131	Trb	18	12	J. Kelly	'52		70/—
63	6	35	116	Trs	33	1	Kaplan	'49		40/8
64	6	72	150	"	34	4	S & F Theatres Inc.	"	I	58/4
65	6	5	149	Trl	24	18	Hutchinson	'52		90/3
66	6	15	125	"	31	26	Houghton	'53		70/—
67	6	7	160	"	22	10	Mitchell	'50		100/1
68	6	8	152	"	..	70	Waring	'51		70/1

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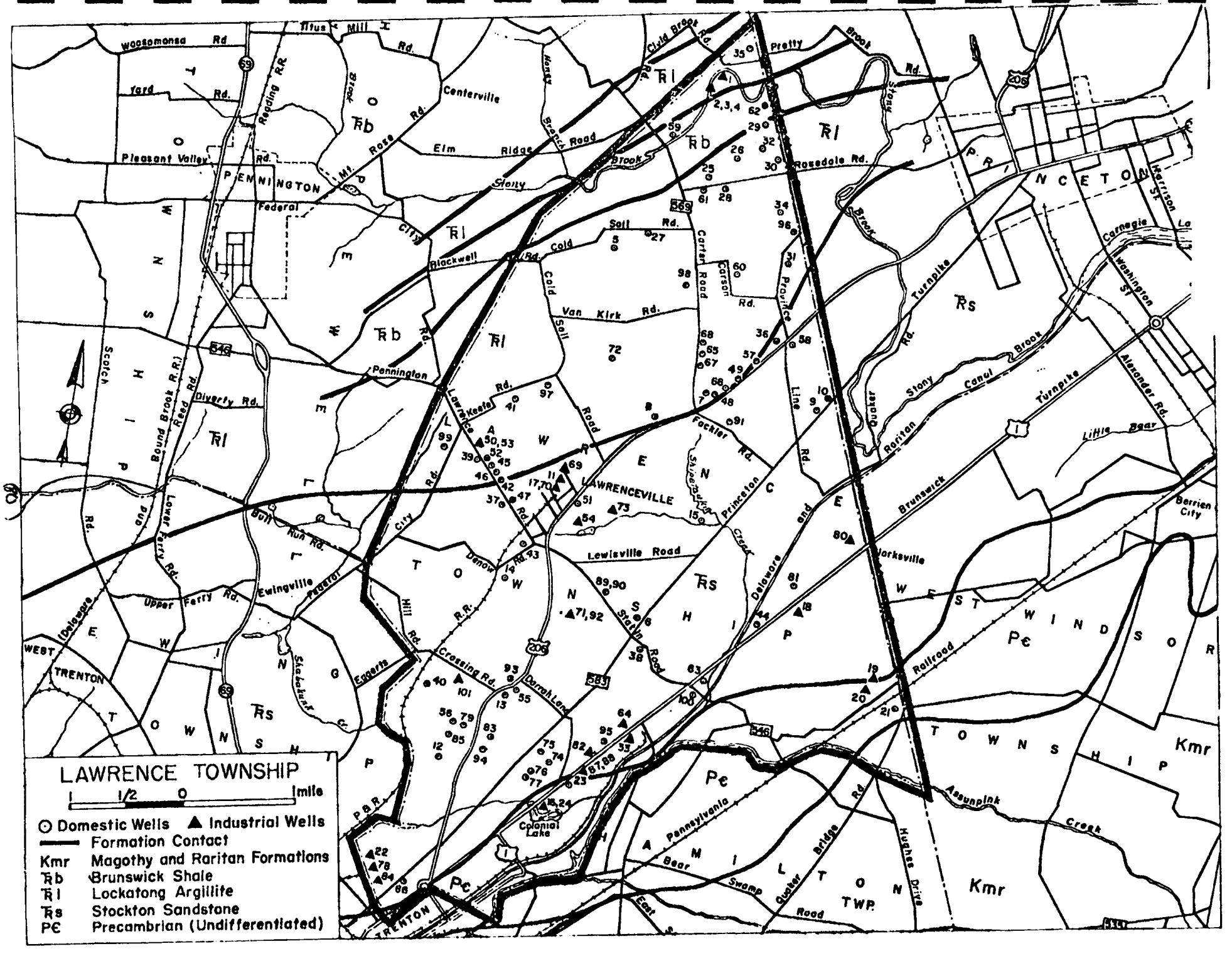
LAWRENCE TOWNSHIP
1 1/2 0 1 mile
Domestic Wells
Industrial Wells
Formation Contact
Kmr Magothy and Raritan Formations
Ꞧb Brunswick Shale
Ꞧl Lockatong Argillite
Ꞧs Stockton Sandstone
PЄ Precambrian (Undifferentiated)
LAWRENCEVILLE
PENNINGTON
PRINCETON
WEST WINDSOR
HAMILTON TWP.
TRENTON
Colonial Lake
Pennington
Federal City
Lawrence Rd.
Princeton Pike
Brunswick Pike
Quakerbridge Rd.
Lewisville Road
Van Kirk Rd.
Cold Soil Road
Carter Road
Rosedale Rd.
Pretty Brook Rd.
Stony Brook
Raritan Canal
Stony Brook
Little Bear Creek
Assunpink Creek
Pennsylvania Railroad
Delaware and Raritan Canal
Delaware River
Reading R.R.
Bound Brook R.R.
Lower Ferry Rd.
Upper Ferry Rd.
Ewingville
Bull Run Rd.
Diverty Rd.
Reed Rd.
Scotch Rd.
Woosamonsa Rd.
Yard Rd.
Pleasant Valley Rd.
Titus Mill Rd.
Centerville
Elm Ridge Road
Mt. Rose Rd.
Blackwell Rd.
Cold Soil Rd.
Fackler Rd.
Princeton Line Rd.
Quaker Rd.
Washington St.
Harrison St.
Carnegie La.
Alexander Rd.
Berrien City
Jarksville
Hughes Drive
Quakerbridge Rd.
Bear Swamp Road
East
Darrah Lane
Crossing Rd.
Hill Rd.
Eggerts
Denow Rd.
Statin Road
Shabakunk Cr.
Delaware
WEST TRENTON
P.&R.R.
Kmr
Pє
Ꞧb
Ꞧl
Ꞧs

LAWRENCEVILLE
PRINCESSVILLE
LAWRENCE TOWNSHIP
EWINGVILLE
Bakersville
Colonial Lake
MERCERVILLE
HAMILTON SQUARE
TRENTON
HAMILTON TOWNSHIP
WEST TOWN
LAKESIDE PARK
WHITE HORSE
Spring Lake
Crapper Lake
Maplashade
Princeton Junction
Princeton Ave.
Hamilton Square
Klockner Rd.
Cypress La.
Kuser Rd.
Cedar Lane
Liberty St.
Chambers St.
Greenwood Ave.
Olden Ave.
Hamilton Square Rd.
Hutchinson Rd.
Nottingham Way
Sharps Ave.
Hughes Dr.
Pennsylvania
Raritan
Stony Brook
Quaker Rd.
Province Line Rd.
Van Kirk Rd.
Cold Soil Rd.
Keefe Rd.
Denow Rd.
Crossing Rd.
Eggerts
Brunswick
Calhoun St.
Rail Road
Lalor St.
S. Broad St.
White Horse
Yardville
Assunpink
Mirry
E. State St.
Delaware
Princeton
Stony
Soil Road
Carson Rd.
Blackwells Rd.
Cold
Fackler Rd.
Princeton
Shipetown
Creek
Hamilton
Square
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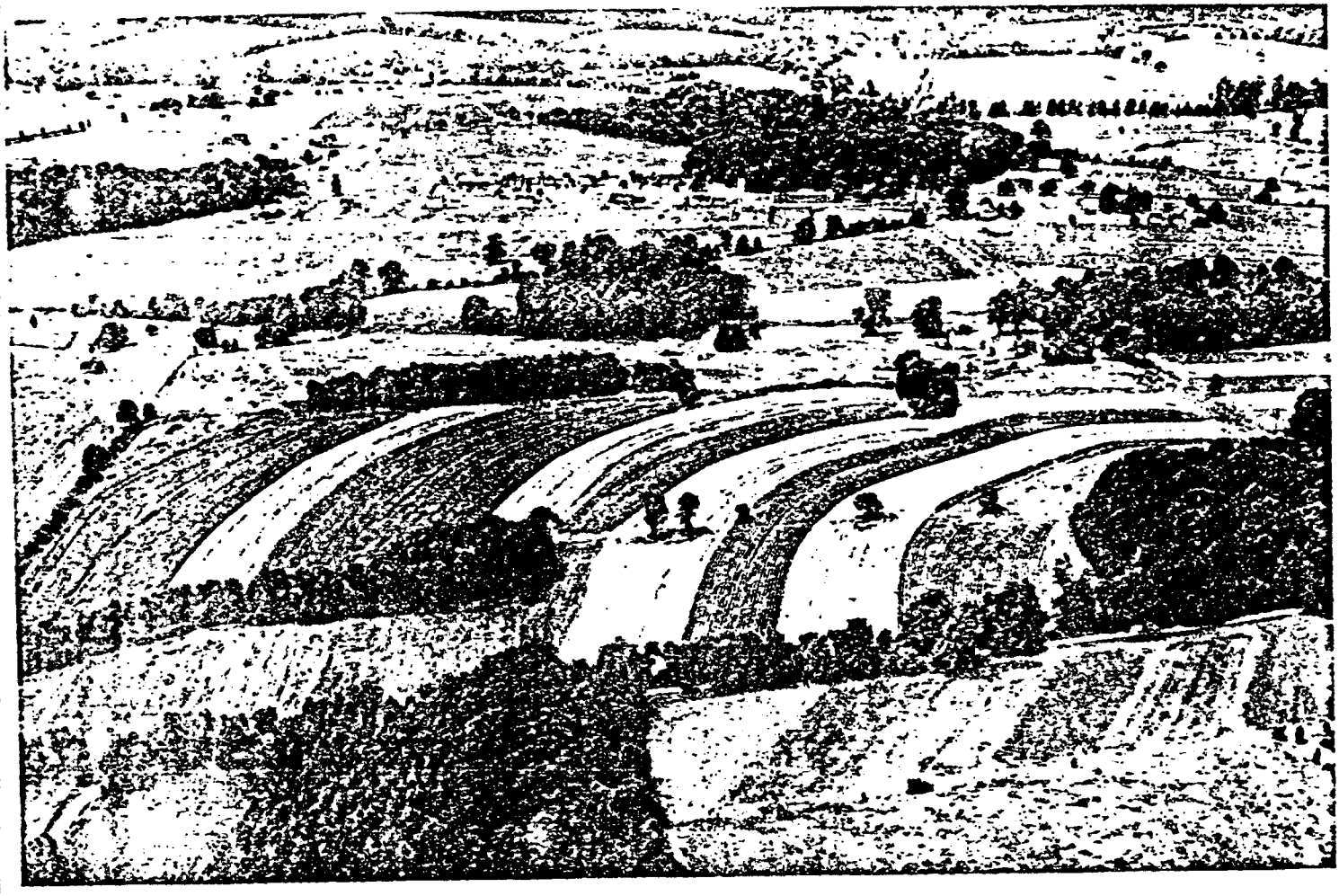
SOIL SURVEY OF

Mercer County, New Jersey



United States Department of Agriculture
Soil Conservation Service

In cooperation with
New Jersey Agricultural Experiment Station

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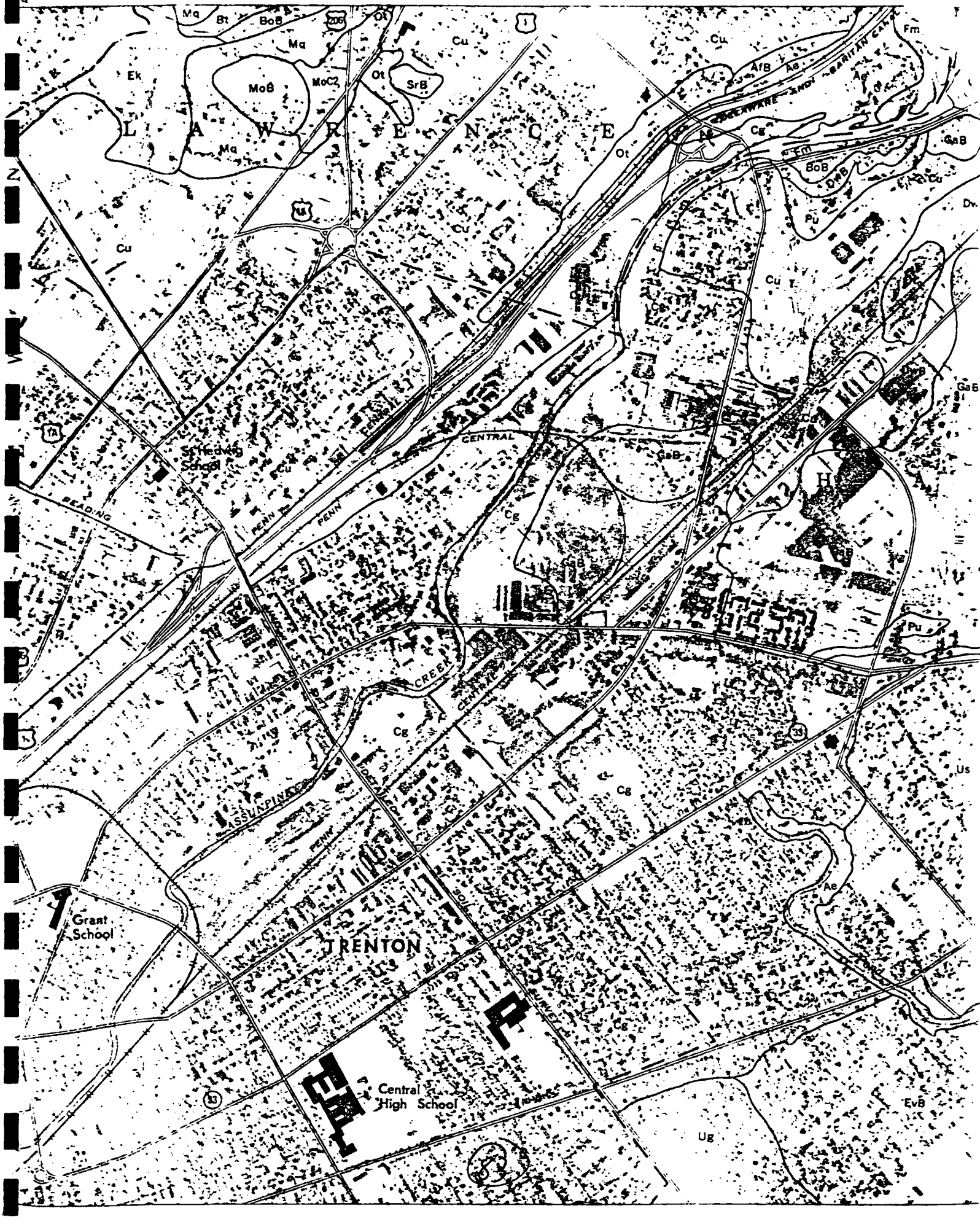
Issued January 1972


L A W R E N C E
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Dv
St Hedwig School
PENN CENTRAL
READING
CREEK
ASSUNPINK
TRENTON
Grant School
Central High School
Us
EvB
Ug

here this soil is farmed, wetness is the main limita-
. The firm subsoil is also a limitation. Legumes and
es that tolerate wetness are well suited to this soil.
can be grown for hay and pasture. Open ditches
diversions generally are needed to remove excess
ace water if corn and small grains are grown.
ability unit IIIw-70; woodland group 3w1)

halfont silt loam, 2 to 6 percent slopes, eroded (ChB2).—The profile of this soil is similar to the one described as representative of the series, except that the layer has been thinned several inches by erosion. ome places part of the more clayey subsoil has been ed into the plow layer. Shallow gullies are common. luded in mapping were small areas where the surface r is shaly silt loam or channery silt loam.

his soil is suited to the same crops as the less eroded alfont soils. Because the original surface layer has n thinned, crops do not grow so well as on the less ed soils. The difficulties of maintaining fertility and ood supply of organic matter are greater than on the s eroded Chalfont soils. Rapid runoff, the results of t erosion, and the risk of further erosion require eful management and some erosion control measures cultivation without damage. Open ditches to improve drainage will reduce the difficulties of farm operations that are caused by wetness. (Capability unit IIIw-n woodland group 3w1)

Chalfont silt loam, 6 to 12 percent slopes, eroded (ChC2).—The profile of this soil is similar to the one described as representative of the series, except that erosion s thinned the original surface layer. Small, more ongly sloping areas were included in mapping. Included also in mapping were small areas of shaly silt am and channery silt loam.

Runoff and the hazard of erosion are severe on this il, and rather intensive conservation measures must be sed to control erosion. Some areas, mainly seepy spots, e excessively wet.

This soil is well suited to hay and pasture plants that e tolerant of wetness. Corn and small grains do moderately well if erosion is controlled. (Capability unit IIIe-70; woodland group 3w1)

Chalfont very stoney silt loam, 0 to 6 percent slopes (CeB).—This soil has a profile similar to the one described as typical of the series, except that many stones and aller fragments of rock are scattered over the surface nd throughout the profile. The amount of stones is enough to hinder farmwork. Included in mapping were small areas having slopes greater than 6 percent. Erosion s slight, and runoff is moderate.

This soil is too stony to be cultivated, and removal of the stones is expensive. If stones have not been removed, the soil is well suited to pasture or trees. (Capability unit VIs-75; woodland group 3w1)

Cut and Fill Land

Cut and fill land consists of soil materials that have been so mixed by excavation, filling, or other disturbance that the original soil horizons have been destroyed. Because the areas consist of variable materials, the mapping units have not been placed in capability units or woodland suitability groups. Four mapping units of Cut and fill land were defined and mapped.

Cut and fill land, clayey substratum (Cf).—This land type consists of areas in which the original soil material has been removed or soil material has been brought in as a fill. The depth to the clayey substratum ranges from 1 foot to 2 feet where a cut has been made and from 4 to 8 feet where the area has been filled. The texture of the fill material ranges from silt to gravelly sand. Slopes of this mapping unit range from 0 to 5 percent.

The clayey substratum of this land type is firm and slowly permeable. Water remains perched above the clayey layer for some time after a heavy rain. Most of the areas have been developed as residential, commercial, or industrial sites. Some areas have not been developed. Onsite inspection is needed to determine the limitations of a site for most uses. (Capability unit and woodland group not assigned)

Cut and fill land, gravelly material (Cg).—This land type consists of mixed gravelly and sandy materials. In some places the original soil was removed, and the underlying gravelly sand was exposed. In other places gravelly sand was brought in as fill material. Slopes range from 0 to 5 percent.

The permeability of the gravelly sand is rapid in most places unless compaction has occurred by the use of heavy equipment. Most sites are well drained or excessively drained, except those areas where thin deposits of gravelly sand were made over wet sites in which the water table is high.

Most areas of this land type have been developed for residential, commercial, or industrial uses. Onsite inspection is needed to determine the limitations for homesites and for septic fields. (Capability unit and woodland group not assigned)

Cut and fill land, rock substratum (Ct).—This land type consists of areas in which the original soil material was removed and the underlying bedrock was exposed and areas where soil material was brought in as fill and spread over the rock. Slopes range from 0 to 6 percent.

In areas where soil was removed, the rock substratum is now at the surface. Vegetation is sparse to absent. The permeability ranges from moderate to slow, depending on the density of the rock, the slope of the bedding planes, and the degree to which the rock has been shattered.

In filled areas the depth to rock ranges from 2 to 8 feet. The texture of the fill material ranges from sand to clay, or the material may be mostly stone. The permeability is variable.

Most of the areas of this land type have been developed for residential, commercial, or industrial uses. Onsite inspection is needed at all sites to determine the degree of limitation for any proposed use. (Capability unit and woodland group not assigned)

Cut and fill land, stratified substratum (Cu).—This land type consists of areas in which the original soil was removed and the underlying substratum, which is mostly sandy and stratified, was exposed; and areas in which sandy soil material was brought in as fill and deposited over the original soil. Slopes generally range from 0 to 5 percent, although small areas in which slopes are between 5 and 10 percent are also in this mapping unit.

In the cut areas the texture of the material exposed is dominantly sandy. There are some areas, however, that

TABLE I

SAMPLE DESCRIPTIONS
TRENTON DRUM COMPANY
LAWRENCE TWP., NEW JERSEY
CASE #4040
3/20/85

Sample Number	Sample Type	Traffic Report Number	Federal Express Airbill Number	Time Hours	Location
NJL3-S1	Med. Conc. Organic Soil Med. Conc. Inorganic Soil	BA044 MBB187	769544845 769544856	1431	Taken from aisle in between stacked drums on Puritan Ave. side of rear drum storage area.
NJL3-S2	Med. Conc. Organic Soil Bed. Conc. Inorganic Soil	BA045 MBB188	769544845 769544856	1435	Taken from aisle in between stacked drums near Hamnet Memorial Park fence
NJL3-S3	Med. Conc. Organic Soil Med. Conc. Inorganic Soil	B3908 MBB189	769544845 769544856	1438	Taken from aisle in between stacked drums near Ohio Ave gate.
NJL3-S4	Organic Soil Inorganic Soil	B3940 MBB190	923032460 923032471	1518	Taken from behind fuel tanks near foundation of former process building.
NJL3-S5	Organic Soil Inorganic Soil	B3904 MBB191	923032460 923032471	1525	Taken from western side of rear drum storage area near foundation of former process building.
NJL3-S6	Organic Soil Inorganic Soil	BA127 MBB192	923032460 923032471	1645	Taken from New York Ave. drum storage area near former fiber drum storage building.

TABLE 1 (CONT'D)

SAMPLE DESCRIPTIONS
TRENTON DRUM COMPANY
LAWRENCE TWP., NEW JERSEY
CASE #4040
3/20/85

Sample Number	Sample Type	Traffic Report Number	Federal Express Airbill Number	Time Hours	Location
NJL3-SED1	Organic Soil/ Sediment Inorganic Soil/ Sediment	BA128 MBB193	923032460 923032471	1318	Taken from drainage ditch in Hamnet Memorial Park 45, feet from Ohio Ave.
NJL3-SED2	Organic Soil/ Sediment Inorganic Soil/ Sediment	BA129 MBB194	923032460 923032471	1322	Taken from drainage ditch in Hamnet Memorial Park across from charred remains of former process building.
NJL3-SED3	Organic Soil/ Sediment Inorganic Soil/ Sediment	BA130 MBB195	923032460 923032471	1605	Taken from small pool at end of drainage ditch adjacent to fiber drum storage area.
NJL3-SW1	Organic Aqueous Inorganic Aqueous	B4143 MBB196	923032460 923032471	1322	Taken from drainage ditch in Hamnet Memorial Park half-way between Ohio Ave. and New York Ave.
NJL3-SW2	Organic Aqueous Inorganic Soil	B4145 MBB198	923032460 923032471	1622	Taken from drainage ditch along New York Ave.
NJL3-SW3	Organic Aqueous Inorganic Aqueous	B4144 MBB197	923032460 923032471	1604	Taken from small pool at end of drainage ditch, adjacent to fiber drum storage area.

TABLE I (CONT'D)

SAMPLE DESCRIPTIONS
TRENTON DRUM COMPANY
LAWRENCE TWP., NEW JERSEY
CASE #4040
3/20/85

Sample Number	Sample Type	Traffic Report Number	Federal Express Airbill Number	Time Hours	Location
NJL3-WB1	Organic Blank [a]	B4146	923032460	N/A [b]	
	Inorganic Blank	MBB199	923032471		

NOTES:

(a) Inorganic and organic blanks contained doubly-deionized, distilled water blanks obtained from U.S. EPA, Edison, New Jersey on 3/19/85.

(b) N/A = Not applicable.

ANALYTICAL DATA
TRENTON DRUM COMPANY
SAMPLING DATE: 03/20/8[illegible]
CASE: 4040

VOLATILES				
SAMPLE NO.	NJL3-S1	NJL3-S2	NJL3-S3	NJL3-S4
TRAFFIC REPORT NO.	BA044	BA045	B3908	B394[illegible]
MATRIX	SOIL	SOIL	SOIL	SOIL
UNITS	UG/KG	UG/KG	UG/KG	UG/KG
Chloromethane				
Bromomethane				
Vinyl Chloride				
Chloroethane				
Methylene Chloride	17000B	150	16B	16
Acetone	44000B	450		25
Carbondisulfide		J		
1,1-Dichloroethene		7		
1,1-Dichloroethane		J		
Trans-1,2-Dichloroethene				
Chloroform				
1,2-Dichloroethane				
2-Butanone	92000B			
1,1,1-Trichloroethane		94		
Carbon Tetrachloride				
Vinyl Acetate				
Bromodichloromethane				
1,1,2,2-Tetrachloroethane				
1,2-Dichloropropane				
Trans-1,3-Dichloropropene				
Trichloroethene		6		5
Dibromochloromethane		7		
1,1,2-Trichloroethane				
Benzene	270000			
Cis-1,3-Dichloropropene				
2-Chloroethylvinylether				
Bromoform				
2-Hexanone		83		
4-Methyl-2-Pentanone		11		
Tetrachloroethene		170		11
Toluene	320000	460	J	J
Chlorobenzene				
Ethylbenzene		85		
Styrene	J	710		
Total Xylenes		340		

NOTES:
Blank space - compound analyzed for but not detected
E - analysis did not pass QA/QC requirements
J - compound present below the specified detection limit
B - found in blank as well as sample

ANALYTICAL DATA
TRENTON [illegible] COMPANY
SAMPLING DATE: 03/20/85
CASE: 4040

SEMI-VOLATILES

SAMPLE NO.	NJL3-S1	NJL3-S2	NJL3-S3	NJL3-S4
TRAFFIC REPORT NO.	BA044	BA045	B3908	B3940
MATRIX	SOIL	SOIL	SOIL	SOIL
UNITS	UG/KG	UG/KG	UG/KG	UG/KG
N-Nitrosodimethylamine			J	
Phenol				J
Aniline				
Bis(2-Chloroethyl)Ether				
2-Chlorophenol				
1,3-Dichlorobenzene				
1,4-Dichlorobenzene				
Benzyl Alcohol				
1,2-Dichlorobenzene				
2-Methylphenol				
Bis(2-Chloroisopropyl)Ether				
4-Methylphenol				
N-Nitroso-Di-n-Propylamine				
Hexachloroethane				
Nitrobenzene				
Isophorone	J			6700
2-Nitrophenol				
2,4-Dimethylphenol				
Benzoic Acid				
Bis(2-Chloroethoxy)Methane				
2,4-Dichlorophenol				
1,2,4-Trichlorobenzene				
Naphthalene				J
4-Chloroaniline				
Hexachlorobutadiene				
4-Chloro-3-Methylphenol				
2-Methylnaphthalene				J
Hexachlorocyclopentadiene				
2,4,6-Trichlorophenol				
2,4,5-Trichlorophenol				
2-Chloronaphthalene				
2-Nitroaniline				
Dimethyl Phthalate				
Acenaphthylene				
3-Nitroaniline			34000	
Acenaphthene				
2,4-Dinitrophenol				
4-Nitrophenol				
Dibenzofuran				
2,4-Dinitrotoluene				
2,6-Dinitrotoluene				
Diethyl Phthalate				
4-Chlorophenyl phenyl ether				
Fluorene				
4-Nitroaniline				
4,6-Dinitro-2-Methylphenol				
N-Nitrosodiphenylamine				
4-Bromophenyl phenyl ether				
Hexachlorobenzene				
Pentachlorophenol				
Phenanthrene		J		J

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ANALYTICAL DATA
TRENTON DRUM COMPANY
SAMPLING DATE: 03/20/85
CASE: 4040

SEMI-VOLATILES

SAMPLE NO.	NJL3-S1	NJL3-S2	NJL3-S3	NJL3-S4
TRAFFIC REPORT NO.	BA044	BA045	B3908	B3940
MATRIX	SOIL	SOIL	SOIL	SOIL
UNITS	UG/KG	UG/KG	UG/KG	UG/KG
Fluoranthene	J			J
Benzidine				
Pyrene	J		J	J
Butylbenzylphthalate	J	J	990,000	4500
3,3'-Dichlorobenzidine				
Benzo(a)Anthracene	J			J
Bis(2 Ethylhexyl)Phthalate	120,000	76,000	150,000	8900
Chrysene	J			J
Di-n-Octyl Phthalate			J	J
Benzo(b)Fluoranthene	J			J
Benzo(k)Fluoranthene	J			
Benzo(a)Pyrene				J
Indeno(1,2,3-cd)Pyrene				
Dibenzo(a,h)Anthracene				
Benzo(ghi)Perylene				

NOTES:
Blank space - compound analyzed for but not detected
E - analysis did not pass QA/QC requirements
J - compound present below the specified detection limit

PESTICIDES/PCBs

SAMPLE NO.	NJL3 51	NJL3 52	NJL3 53	NJL3 [illegible]
TRAFFIC REPORT NO.	BA044	BA045	B3900	B394[illegible]
MATRIX	SOIL	SOIL	SOIL	SOIL
UNITS	UG/KG	UG/KG	UG/KG	UG/KG
Alpha-BHC	E			E
Beta-BHC	E			E
Delta-BHC	E			E
Gamma-BHC (Lindane)	E			E
Heptachlor	E			E
Aldrin	E			E
Heptachlor Epoxide	E			E
Endosulfan I	E			E
Dieldrin	E			E
4,4'-DDE	E		960	E
Endrin	E			E
Endosulfan II	E			E
4,4'-DDD	E			E
Endrin Aldehyde	E			E
4,4'-DDT	E			E
Methoxychlor	E			E
Endrin Ketone	E			E
Chlordane	E			E
Toxophene	E			E
Arochlor-1016	E			E
Arochlor-1221	E			E
Arochlor-1232	E			E
Arochlor-1242	E			E
Arochlor-1248	E	5000		E
Arochlor-1254	E	13,000		E
Arochlor-1260	E		650	E

NOTES:
Blank space - compound analyzed for but not detected
E - analysis did not pass QA/QC requirements
J - compound present below the specified detection limit

ANALYTICAL DATA
TRENTON DRUG COMPANY
SAMPLING DATE: 03/20/85
CASE: 4040

INORGANICS				
SAMPLE NO.	NJL3-S1	NJL3-S2	NJL3-S3	NJL3-S4
TRAFFIC REPORT NO.	MBB187	MBB188	MBB189	MBB190
MATRIX	SOIL	SOIL	SOIL	SOIL
UNITS	MG/KG	MG/KG	MG/KG	MG/KG
Aluminum	4399	9670	7518	6632
Antimony	J	J	J	
Arsenic	J	J	J	J
Barium	259	166	268	274
Beryllium	J	J	J	J
Cadmium	68.8	6.8	7.5	25.5
Calcium	J	22478	13072	4863
Chromium	67	110	1716	46
Cobalt	J	58	35	J
Copper	62	1036	146	106
Iron	55154	52286	66928	48701
Lead	440	455	6307	263
Magnesium	J	8989	3445	J
Manganese	J	J	J	359
Mercury	0.3	2	1.7	0.4
Nickel	28	51	33	35
Potassium	J	J	J	J
Selenium	J	J	J	J
Silver	J	10	J	16.4
Sodium	J	J	J	J
Thallium				6
Tin		24		
Vanadium	25.1	43	J	31.2
Zinc	682	375	436	382

NOTES:
Blank space - compound analyzed for but not detected
E - analysis did not pass QA/QC requirements
J - compound present below the specified detection limit

ANALYTICAL DATA
TRENTON DRUM COMPANY
SAMPLING DATE: 03/20/85
CASE: 4040

VOLATILES

SAMPLE NO.	NJL3-S5	NJL3-S6	NJL3-SED1	NJL3-SED2
TRAFFIC REPORT NO.	B3904	BA127	BA128	BA129
MATRIX	SOIL	SOIL	SOIL	SOIL
UNITS	UG/KG	UG/KG	UG/KG	UG/KG
Chloromethane				
Bromomethane				
Vinyl Chloride				
Chloroethane				
Methylene Chloride	23	E	E	E
Acetone	J	E	E	E
Carbondisulfide				
1,1-Dichloroethene				
1,1-Dichloroethane				
Trans-1,2-Dichloroethene				
Chloroform				
1,2-Dichloroethane				
2 Butanone	J	E	E	
1,1,1-Trichloroethane	J			
Carbon Tetrachloride				
Vinyl Acetate				J
Bromodichloromethane				
1,1,2,2-Tetrachloroethane				
1,2-Dichloropropane				
Trans-1,3-Dichloropropene				
Trichloroethene				
Dibromochloromethane				
1,1,2-Trichloroethane				
Benzene				
Cis-1,3-Dichloropropene				
2-Chloroethylvinylether				
Bromoform				
2 Hexanone				
4-Methyl-2-Pentanone				
Tetrachloroethene	7			
Toluene	6		J	
Chlorobenzene				
Ethylbenzene				
Styrene				
Total Xylenes				

NOTES:
Blank space - compound analyzed for but not detected
E - analysis did not pass QA/QC requirements
J - compound present below the specified detection limit
B - found in blank as well as sample

ANALYTICAL DATA
TRENTON DRUM COMPANY
SAMPLING DATE: 03/20/85
CASE: 4040

SEMI-VOLATILES

SAMPLE NO.	NJL3-S5	NJL3-S6	NJL3-SED1	NJL3-SED2
TRAFFIC REPORT NO.	M3904	BA127	BA128	BA129
MATRIX	SOIL	SOIL	SOIL	SOIL
UNITS	UG/KG	UG/KG	UG/KG	UG/KG
N-Nitrosodimethylamine				
Phenol				
Aniline				
Bis(2-Chloroethyl)Ether				
2-Chlorophenol				
1,3-Dichlorobenzene				
1,4-Dichlorobenzene				
Benzyl Alcohol				
1,2-Dichlorobenzene				
2-Methylphenol				
Bis(2-Chloroisopropyl)Ether				
4-Methylphenol				
N-Nitroso-Di-n-Propylamine				
Hexachloroethane				
Nitrobenzene				
Isophorone		J		
2-Nitrophenol				
2,4-Dimethylphenol				
Benzoic Acid	J	J		
Bis(2-Chloroethoxy)Methane				
2,4-Dichlorophenol				
1,2,4-Trichlorobenzene				
Naphthalene		J		
4-Chloroaniline				
Hexachlorobutadiene				
4-Chloro-3-Methylphenol				
2-Methylnaphthalene		J		
Hexachlorocyclopentadiene				
2,4,6-Trichlorophenol				
2,4,5-Trichlorophenol				
2-Chloronaphthalene				
2-Nitroaniline				
Dimethyl Phthalate				
Acenaphthylene			6900	
3-Nitroaniline				
Acenaphthene			8700	
2,4-Dinitrophenol				
4-Nitrophenol				
Dibenzofuran			5500	
2,4-Dinitrotoluene				
2,6-Dinitrotoluene				
Diethyl Phthalate	J		12000	790
4-Chlorophenyl phenyl ether				
Fluorene			10000	
4-Nitroaniline				
4,6-Dinitro-2-Methylphenol				
N-Nitrosodiphenylamine				
4 Bromophenyl phenyl ether				
Hexachlorobenzene				
Pentachlorophenol	94			
Phenanthrene		J	120,000	790

ANALYTICAL DATA
TRENTON DRUM COMPANY
SAMPLING DATE: 03/20/85
CASE: 4040

SEMI-VOLATILES

SAMPLE NO.	NJL3-S5	NJL3-S6	NJL3-SED1	NJL3-SED2
TRAFFIC REPORT NO.	B3904	BA127	BA128	BA129
MATRIX	SOIL	SOIL	SOIL	SOIL
UNITS	UG/KG	UG/KG	UG/KG	UG/KG
Fluoranthene				1300
Benzidine				
Pyrene		J	24000	1100
Butylbenzylphthalate		4900	25000	1200
3,3'-Dichlorobenzidine				
Benzo(a)Anthracene			250,000	560
Bis(2-Ethylhexyl)Phthalate		7200	39000	120[illegible]
Chrysene			92000	690
Di-n-Octyl Phthalate	J	J	4500	
Benzo(b)Fluoranthene		J	58000	530
Benzo(k)Fluoranthene			54000	460
Benzo(a)Pyrene		J	55000	450
Indeno(1,2,3-cd)Pyrene			41000	300
Dibenzo(a,h)Anthracene			14000	
Benzo(ghi)Perylene			36000	270

NOTES:
Blank space - compound analyzed for but not detected
E - analysis did not pass QA/QC requirements
J - compound present below the specified detection limit

PESTICIDES

SAMPLE NO.	NJL3-S5	NJL3-S6	NJL3-SEM	NJL3-[illegible]
TRAFFIC REPORT NO.	BS904	BM127	BA120	BA12[illegible]
MATRIX	SOIL	SOIL	SOIL	SOIL
UNITS	UG/KG	UG/MG	UG/KG	UG/KG
Alpha-BHC	E	E		
Beta-BHC	E	E		
Delta-BHC	E	E		
Gamma-BHC (Lindane)	E	E		
Heptachlor	E	E		
Aldrin	E	E		
Heptachlor Epoxide	E	E		
Endosulfan I	E	E		
Dieldrin	E	E		
4,4'-DDE	E	E	10	11
Endrin	E	E		
Endosulfan II	E	E		
4,4'-DDD	E	E		20
Endrin Aldehyde	E	E		
4,4'-DDT	E	E		35
Methoxychlor	E	E		
Endrin Ketone	E	E		
Chlordane	E	E	340	J
Toxaphene	E	E		
Arochlor-1016	E	E		
Arochlor-1221	E	E		
Arochlor-1232	E	E		
Arochlor-1242	E	E		
Arochlor-1248	E	E		
Arochlor-1254	E	E		
Arochlor-1260	E	E	170	J

NOTES:

Blank space - compound analyzed for but not detected
E - analysis did not pass QA/QC requirements
J - compound present below the specified detection limit

ANALYTICAL DATA
TRENTON DRUM COMPANY
SAMPLING DATE: 03/20/85
CASE: 4040

INORGANICS

SAMPLE NO.	NJL3-S5	NJL3-S6	NJL3-SED1	NJL3-S102
TRAFFIC REPORT NO.	MBB191	MBB192	MBB193	MBB194
MATRIX	SOIL	SOIL	SOIL	SOIL
UNITS	MG/KG	MG/KG	MG/KG	MG/KG
Aluminum	138529	18111	2786	10750
Antimony				
Arsenic	J	J	J	J
Barium	115	845	J	J
Beryllium	J	3.4	J	J
Cadmium	7.3	9.0		
Calcium	7030	21986	5847	J
Chromium	139	92	14	21
Cobalt	30	J	J	J
Copper	250	296	25	18
Iron	109044	48951	9239	21112
Lead	494	450	187	51
Magnesium	5049	4826	3001	J
Manganese	746	953	138	21[illegible]
Mercury	0.6	0.3		
Nickel	43	63		J
Potassium	J	5818	J	J
Selenium	J	J	J	J
Silver	8.5	J	J	J
Sodium	J	J		
Thallium				
Tin				
Vanadium	56.8	51.3	J	J
Zinc	824	1173	145	190

NOTES:
Blank space - compound analyzed for but not detected
E - analysis did not pass QA/QC requirements
J compound present below the specified detection limit

ANALYTICAL DATA
TRENTON DRUM COMPANY
SAMPLING DATE: 03/20/85
CASE: 4040

VOLATILES

SAMPLE NO.	NJL3-SED3	NJL3-SW1	NJL3-SW2	NJL3-[illegible]
TRAFFIC REPORT NO.	B4130	B4143	B4145	B4144
MATRIX	SOIL	WATER	WATER	WATER
UNITS	UG/KG	UG/L	UG/L	UG/L
Chloromethane				
Bromomethane				
Vinyl Chloride				
Chloroethane				
Methylene Chloride	32	E	67B	E
Acetone	120	E	E	E
Carbondisulfide				
1,1-Dichloroethene				J
1,1-Dichloroethane			9	20
Trans-1,2-Dichloroethene				18
Chloroform				
1,2-Dichloroethane				
2 Butanone	200	E	E	[illegible]
1,1,1-Trichloroethane			8	36
Carbon Tetrachloride				
Vinyl Acetate				
Bromodichloromethane				
1,1,2,2-Tetrachloroethane				
1,2-Dichloropropane				
Trans-1,3-Dichloropropene				
Trichloroethene			J	14
Dibromochloromethane				
1,1,2 Trichloroethane				
Benzene				
Cis-1,3-Dichloropropene				
2-Chloroethylvinylether				
Bromoform				
2-Hexanone			J	J
4-Methyl-2-Pentanone			J	J
Tetrachloroethene				J
Toluene	150	J		J
Chlorobenzene				
Ethylbenzene	170			
Styrene				
Total Xylenes	300		J	J

NOTES:
Blank space - compound analyzed for but not detected
E - analysis did not pass QA/QC requirements
J - compound present below the specified detection limit
B - found in blank as well as sample

ANALYTICAL DATA
TRENTON DRUM COMPANY
SAMPLING DATE: 03/20/91
CASE: 1040

SEMI-VOLATILES

SAMPLE NO.	NJL3-SED3	NJL3-SW1	NJL3-SW2	NJL3-SW3
TRAFFIC REPORT NO.	B4130	B4143	B4145	B4144
MATRIX	SOIL	WATER	WATER	WATER
UNITS	UG/KG	UG/L	UG/L	UG/L
N-Nitrosodimethylamine				
Phenol	J			
Aniline				
Bis(2-Chloroethyl)Ether				
2-Chlorophenol				
1,3-Dichlorobenzene	3200			
1,4-Dichlorobenzene				
Benzyl Alcohol				
1,2-Dichlorobenzene	J			
2-Methylphenol				
Bis(2-Chloroisopropyl)Ether			J	
4-Methylphenol				
N-Nitroso-Di-n-Propylamine				
Hexachloroethane				
Nitrobenzene				
Isophorone	J		21	150
2-Nitrophenol				
2,4-Dimethylphenol				
Benzoic Acid			J	
Bis(2-Chloroethoxy)Methane				
2,4-Dichlorophenol				
1,2,4-Trichlorobenzene				
Naphthalene	J			
4-Chloroaniline				
Hexachlorobutadiene				
4-Chloro 3-Methylphenol				
2-Methylnaphthalene	5200			
Hexachlorocyclopentadiene				
2,4,6-Trichlorophenol				
2,4,5-Trichlorophenol				
2-Chloronaphthalene				
2-Nitroaniline				
Dimethyl Phthalate				
Acenaphthylene	J			
3-Nitroaniline				
Acenaphthene				
2,4-Dinitrophenol				
4-Nitrophenol				
Dibenzofuran	J			
2,4-Dinitrotoluene				
2,6-Dinitrotoluene				
Diethyl Phthalate	J			
4-Chlorophenyl phenyl ether				
Fluorene	J			
4-Nitroaniline				
4,6-Dinitro-2-Methylphenol				
N-Nitrosodiphenylamine				
4-Bromophenyl phenyl ether				
Hexachlorobenzene	3500			
Pentachlorophenol				
Phenanthrene	2700			

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ANALYTICAL DATA
TRENTON DRUM COMPANY
SAMPLING DATE: 03/20/85
CASE: 4040

SEMI-VOLATILES

SAMPLE NO.	NJL3-SED3	NJL3-SW1	NJL3-SW2	NJL3-SW3
TRAFFIC REPORT NO.	B4130	B4143	B4145	B4144
MATRIX	SOIL	WATER	WATER	WATER
UNITS	UG/KG	UG/L	UG/L	UG/L
Fluoranthene	J			
Benzidine				
Pyrene	J			
Butylbenzylphthalate	6300			
3,3'-Dichlorobenzidine				
Benzo(a)Anthracene	J			
Bis(2-Ethylhexyl)Phthalate	100,000		J	J
Chrysene	J			
Di-n-Octyl Phthalate	J			
Benzo(b)Fluoranthene	J			
Benzo(k)Fluoranthene	J			
Benzo(a)Pyrene	J			
Indeno(1,2,3-cd)Pyrene				
Dibenzo(a,h)Anthracene				
Benzo(ghi)Perylene				

NOTES:
Blank space - compound analyzed for but not detected
E - analysis did not pass QA/QC requirements
J - compound present below the specified detection limit

PESTICIDES/PCBs

SAMPLE NO.	NJL3-SL03	NJL3-SW1	NJL3-SW2	NJL3-SW3
TRAFFIC REPORT NO.	B4130	B4143	B4145	B4144
MATRIX	SOIL	WATER	WATER	WATER
UNITS	UG/KG	UG/L	UG/L	UG/L
Alpha-BHC	E	E	E	E
Beta-BHC	E	E	E	E
Delta-BHC	E	E	E	E
Gamma-BHC (Lindane)	E	E	E	E
Heptachlor	E	E	E	E
Aldrin	E	E	E	E
Heptachlor Epoxide	E	E	E	E
Endosulfan I	E	E	E	E
Dieldrin	E	E	E	E
4,4'-DDE	E	E	E	E
Endrin	E	E	E	E
Endosulfan II	E	E	E	E
4,4'-DDD	E	E	E	E
Endrin Aldehyde	E	E	E	E
4,4'-DDT	E	E	E	E
Methoxychlor	E	E	E	E
Endrin Ketone	E	E	E	E
Chlordane	E	E	E	E
Toxophene	E	E	E	E
Arochlor-1016	E	E	E	E
Arochlor-1221	E	E	E	E
Arochlor-1232	E	E	E	E
Arochlor-1242	E	E	E	E
Arochlor-1248	E	E	E	E
Arochlor-1254	E	E	E	E
Arochlor-1260	E	E	E	E

NOTES:
Blank space - compound analyzed for but not detected
E - analysis did not pass QA/QC requirements
J - compound present below the specified detection limit

ANALYTICAL DATA
TRENTON DRUM COMPANY
SAMPLING DATE: 03/20/95
CASE: 4040

INORGANICS

SAMPLE NO.	NJL3-SED3	NJL3-SW1	NJL3-SW2	NJL3-SW3
TRAFFIC REPORT NO.	MBR193	MBR196	MBR198	MBR[illegible]
MATRIX	SOIL	WATER	WATER	WATE
UNITS	MG/KG	UG/L	UG/L	UG/L
Aluminum	8493	1874	8680	1086
Antimony				
Arsenic	J		23	11
Barium	J	J	J	J
Beryllium	J		J	
Cadmium	8		7.7	J
Calcium	J	32950	44820	42800
Chromium	33	12	30	31
Cobalt	J		J	J
Copper	32	J	44	J
Iron	15833	E	E	E
Lead	152	94	214	151
Magnesium	J	3362	11510	9577
Manganese	150	106	818	672
Mercury	1.8	0.4	0.6	2.9
Nickel	J			
Potassium	J	J	6431	5397
Selenium	J			
Silver	J	11.2	J	J
Sodium	J	47410	104000	91820
Thallium			10	
Tin		E	E	E
Vanadium	J	J	J	J
Zinc	265	216	468	233

NOTES:
Blank space - compound analyzed for but not detected
E - analysis did not pass QA/QC requirements
J - compound present below the specified detection limit

ANALYTICAL DATA
TRENTON DRUM COMPANY
SAMPLING DATE: 03/20/85
CASE: 4040

VOLATILES

SAMPLE NO.	NJL3 WB1
TRAFFIC REPORT NO.	B4146
MATRIX	WATER
UNITS	UG/L
Chloromethane	
Bromomethane	
Vinyl Chloride	
Chloroethane	
Methylene Chloride	E
Acetone	
Carbondisulfide	
1,1-Dichloroethene	
1,1-Dichloroethane	
Trans-1,2-Dichloroethene	
Chloroform	
1,2-Dichloroethane	
2-Butanone	2208
1,1,1-Trichloroethane	
Carbon Tetrachloride	
Vinyl Acetate	
Bromodichloromethane	
1,1,2,2-Tetrachloroethane	
1,2-Dichloropropane	
Trans-1,3-Dichloropropene	
Trichloroethene	
Dibromochloromethane	
1,1,2-Trichloroethane	
Benzene	
Cis-1,3-Dichloropropene	
2-Chloroethylvinylether	
Bromoform	
2-Hexanone	
4-Methyl-2-Pentanone	
Tetrachloroethene	
Toluene	J
Chlorobenzene	
Ethylbenzene	
Styrene	
Total Xylenes	

NOTES:
Blank space - compound analyzed for but not detected
E - analysis did not pass QA/QC requirements
J - compound present below the specified detection limit
B - found in blank as well as sample

ANALYTICAL DATA
TRENTON DRUM COMPANY
SAMPLING DATE: 03/20/85
CASE: 4040

SEMI-VOLATILES

SAMPLE NO.	NJL3-WB1
TRAFFIC REPORT NO.	B4146
MATRIX	WATER
UNITS	UG/L
N Nitrosodimethylamine	
Phenol	
Aniline	
Bis(2-Chloroethyl)Ether	
2-Chlorophenol	
1,3-Dichlorobenzene	
1,4-Dichlorobenzene	
Benzyl Alcohol	
1,2-Dichlorobenzene	
2-Methylphenol	
Bis(2-Chloroisopropyl)Ether	
4-Methylphenol	
N-Nitroso-Di-n-Propylamine	
Hexachloroethane	
Nitrobenzene	
Isophorone	
2 Nitrophenol	
2,4-Dimethylphenol	
Benzoic Acid	
Bis(2-Chloroethoxy)Methane	
2,4-Dichlorophenol	
1,2,4-Trichlorobenzene	
Naphthalene	
4-Chloroaniline	
Hexachlorobutadiene	
4-Chloro-3-Methylphenol	
2-Methylnaphthalene	
Hexachlorcyclopentadiene	
2,4,6-Trichlorophenol	
2,4,5-Trichlorophenol	
2-Chloronaphthalene	
2-Nitroaniline	
Dimethyl Phthalate	
Acenaphthylene	
3-Nitroaniline	
Acenaphthene	
2,4-Dinitrophenol	
4-Nitrophenol	
Dibenzofuran	
2,4-Dinitrotoluene	
2,6-Dinitrotoluene	
Diethyl Phthalate	
4-Chlorophenyl phenyl ether	
Fluorene	
4-Nitroaniline	
4,6-Dinitro-2-Methylphenol	
N-Nitrosodiphenylamine	
4-Bromophenyl phenyl ether	
Hexachlorobenzene	
Pentachlorophenol	
Phenanthrene	

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ANALYTICAL DATA
TRENTON DRUM COMPANY
SAMPLING DATE: 03/20/85
CASE: 4040

SEMI-VOLATILES

SAMPLE NO.	NJL3-WB1
TRAFFIC REPORT NO.	B4146
MATRIX	WATER
UNITS	UG/L
Fluoranthene	
Benzidine	
Pyrene	
Butylbenzylphthalate	
3,3'-Dichlorobenzidine	
Benzo(a)Anthracene	
Bis(2-Ethylhexyl)Phthalate	J7
Chrysene	
Di-n-Octyl Phthalate	
Benzo(b)Fluoranthene	
Benzo(k)Fluoranthene	
Benzo(a)Pyrene	
Indeno(1,2,3-cd)Pyrene	
Dibenzo(a,h)Anthracene	
Benzo(ghi)Perylene	

NOTES:
Blank space - compound analyzed for but not detected
F - analysis did not pass QA/QC requirements
J - compound present below the specified detection limit

PESTICIDES/PCBs

SAMPLE NO.	NJL3-WB1
TRAFFIC REPORT NO.	B4146
MATRIX	WATER
UNITS	UG/L
Alpha-BHC	
Beta-BHC	
Delta-BHC	
Gamma-BHC (Lindane)	
Heptachlor	
Aldrin	
Heptachlor Epoxide	
Endosulfan I	
Dieldrin	
4,4'-DDE	
Endrin	
Endosulfan II	
4,4'-DDD	
Endrin Aldehyde	
4,4'-DDT	
Methoxychlor	
Endrin Ketone	
Chlordane	
Toxaphene	
Arochlor-1016	
Arochlor-1221	
Arochlor-1232	
Arochlor-1242	
Arochlor-1248	
Arochlor-1254	
Arochlor-1260	

NOTES:
Blank space - compound analyzed for but not detected
E - analysis did not pass QA/QC requirements
J - compound present below the specified detection limit

ANALYTICAL DATA
ISELIN DRUM COMPANY
SAMPLING DATE: 03/20/86
CASE: 4040

INORGANICS

SAMPLE NO.	NJL3-WB1
TRAFFIC REPORT NO.	MBB122
MATRIX	WATER
UNITS	UG/L
Aluminum	J
Antimony	
Arsenic	
Barium	
Beryllium	
Cadmium	
Calcium	
Chromium	J
Cobalt	
Copper	J
Iron	E
Lead	
Magnesium	
Manganese	J
Mercury	
Nickel	
Potassium	J
Selenium	
Silver	
Sodium	
Thallium	
Tin	E
Vanadium	
Zinc	27

NOTES:
Blank space - compound analyzed for but not detected
E - analysis did not pass QA/QC requirements
J - compound present below the specified detection limit

ANALYTICAL DATA
TRENTON DRUM COMPANY
SAMPLING DATE: 03/20/85
CASE: 4040

VOLATILES

SAMPLE NUMBER MATRIX UNITS	BA044 SOIL UG/KG	BA045 SOIL UG/KG	BA127 SOIL UG/KG	BA12[illegible] SOI[illegible] UG/[illegible]
Chloromethane				
Bromomethane				
Vinyl Chloride				
Chloroethane				
Methylene Chloride	17000B	150	E	E
Acetone	44000B	450	E	E
Carbondisulfide		J		
1,1-Dichloroethene		7		
1,1-Dichloroethane		J		
Trans-1,2-Dichloroethene				
Chloroform				
1,2-Dichloroethane				
2-Butanone	92000B		E	E
1,1,1-Trichloroethane		24		
Carbon Tetrachloride				
Vinyl Acetate				
Bromodichloromethane				
1,1,2,2-Tetrachloroethane				
1,2-Dichloropropane				
Trans-1,3-Dichloropropene				
Trichloroethene		6		
Dibromochloromethane		7		
1,1,2-Trichloroethane				
Benzene	270000			
Cis-1,3-Dichloropropene				
2-Chloroethylvinylether				
Bromoform				
2-Hexanone		83		
4-Methyl-2-Pentanone		11		
Tetrachloroethene		170		
Toluene	320000	460		[illegible]
Chlorobenzene				
Ethylbenzene		85		
Styrene	J	710		
Total Xylenes		340		

NOTES:
Blank space - compound analyzed for but not detected
E - analysis did not pass QA/QC requirements
J - compound present below the specified detection limit
B - found in blank as well as sample

[illegible]
[illegible] COMPANY
[illegible]
[illegible] 4040

SEMI-VOLATILES

SAMPLE NUMBER	BA044	BA045	BA127	BA123
MATRIX	SOIL	SOIL	SOIL	SOIL
UNITS	UG/KG	UG/KG	UG/KG	UG/KG
N-Nitrosodimethylamine				
Phenol				
Aniline				
Bis(2-Chloroethyl)Ether				
2-Chlorophenol				
1,3-Dichlorobenzene				
1,4-Dichlorobenzene				
Benzyl Alcohol				
1,2-Dichlorobenzene				
2-Methylphenol				
Bis(2-Chloroisopropyl)Ether				
4-Methylphenol				
N-Nitroso-Di-n-Propylamine				
Hexachloroethane				
Nitrobenzene				
Isophorone	J		J	
2-Nitrophenol				
2,4-Dimethylphenol				
Benzoic Acid			J	
Bis(2-Chloroethoxy)Methane				
2,4-Dichlorophenol				
1,2,4-Trichlorobenzene				
Naphthalene			J	
4-Chloroaniline				
Hexachlorobutadiene				
4-Chloro-3-Methylphenol				
2-Methylnaphthalene			J	
Hexachlorocyclopentadiene				
2,4,6-Trichlorophenol				
2,4,5-Trichlorophenol				
2-Chloronaphthalene				
2-Nitroaniline				
Dimethyl Phthalate				
Acenaphthylene				6900
3-Nitroaniline				
Acenaphthene				8700
2,4-Dinitrophenol				
4-Nitrophenol				
Dibenzofuran				5500
2,4-Dinitrotoluene				
2,6-Dinitrotoluene				
Diethyl Phthalate				12000
4-Chlorophenyl phenyl ether				
Fluorene				10000
4-Nitroaniline				
4,6-Dinitro-2-Methylphenol				
N-Nitrosodiphenylamine				
4-Bromophenyl phenyl ether				
Hexachlorobenzene				
Pentachlorophenol				
Phenanthrene	109	J	J	120,000
Anthracene				

ANALYTICAL DATA
TRENTON DRUM COMPANY
SAMPLING DATE: 05/20/89
CASE: 1040

SEMI-VOLATILES

SAMPLE NUMBER	BA044	BA045	BA127	BA123
MATRIX	SOIL	SOIL	SOIL	SOIL
UNITS	UG/KG	UG/KG	UG/KG	UG/KG
Benzidine				
Pyrene	J		J	24000
Butylbenzylphthalate	J	J	4900	25000
3,3'-Dichlorobenzidine				
Benzo(a)Anthracene	J			250,000
Bis(2-Ethylhexyl)Phthalate	120,000	76,000	7700	89000
Chrysene	J			92000
Di-n-Octyl Phthalate			J	4500
Benzo(b)Fluoranthene	J		J	58000
Benzo(k)Fluoranthene	J			54000
Benzo(a)Pyrene			J	55000
Indeno(1,2,3-cd)Pyrene				41000
Dibenzo(a,h)Anthracene				14000
Benzo(ghi)Perylene				36000

NOTES:
Blank space - compound analyzed for but not detected
E - analysis did not pass QA/QC requirements
J - compound present below the specified detection limit

[illegible]
[illegible]
[illegible]
[illegible]

[illegible]				
SAMPLE NUMBER MATRIX UNITS	BA044 SOIL UG/KG	BA045 SOIL UG/KG	BA127 SOIL UG/KG	BA127 SOIL UG/[illegible]
Alpha-BHC	E		E	
Beta-BHC	E		E	
Delta-BHC	E		E	
Gamma-BHC (Lindane)	E		E	
Heptachlor	E		E	
Aldrin	E		E	
Heptachlor Epoxide	E		E	
Endosulfan I	E		E	
Dieldrin	E		E	
4,4'-DDE	E		E	10
Endrin	E		E	
Endosulfan II	E		E	
4,4'-DDD	E		E	
Endrin Aldehyde	E		E	
4,4'-DDT	E		E	
Methoxychlor	E		E	
Endrin Ketone	E		E	
Chlordane	E		E	340
Toxaphene	E		E	
Aroclor-1016	E		E	
Aroclor-1221	E		E	
Aroclor-1232	E		E	
Aroclor-1242	E		E	
Aroclor-1248	E	5000	E	
Aroclor-1254	E	17,000	E	
Aroclor-1260	E		E	17[illegible]

NOTES:
Blank space - compound analyzed for but not detected
E - analysis did not pass QA/QC requirements
J - compound present below the specified detection limit

ANALYTICAL [illegible]
[illegible]
SAMPLING DATE 03/[illegible]/[illegible]
CASE: 1010

INORGANICS

SAMPLE NUMBER	MBB187	MBB188	MBB189	MBB[illegible]
MATRIX	SOIL	SOIL	SOIL	SOIL
UNITS	MG/KG	MG/KG	MG/KG	MG/KG
Aluminum	4399	9670	7518	66[illegible]
Antimony	J	J	J	
Arsenic	J	J	J	J
Barium	259	166	268	274
Beryllium	J	J	J	J
Cadmium	68.8	6.8	7.5	25.[illegible]
Calcium	J	22478	13072	486[illegible]
Chromium	67	110	1716	46
Cobalt	J	58	35	J
Copper	62	1036	146	106
Iron	55154	52286	66928	4870[illegible]
Lead	440	455	6307	263
Magnesium	J	9959	3445	J
Manganese	J	J	J	35[illegible]
Mercury	0.3	2	1.7	0.[illegible]
Nickel	28	51	33	[illegible]
Potassium	J	J	J	J
Selenium	J	J	J	J
Silver	J	10	J	16.4
Sodium	J	J	J	J
Thallium				6
Tin		24		
Vanadium	25.1	43	J	31.[illegible]
Zinc	682	375	436	38[illegible]

NOTES:
Blank space - compound analyzed for but not detected
F - analysis did not pass QA/QC requirements
J - compound present below the specified detection limit

[illegible] Data
FR NTON BEIM COM A[illegible]
[illegible]
[illegible] 4040

SEMI VOLATILES

SAMPLE NUMBER	BA129	BA130	B3904	B390P
MATRIX	SOIL	SOIL	SOIL	SOIL
UNITS	UG/KG	UG/KG	UG/KG	UG/KG
N-Nitrosodimethylamine				J
Phenol		J		
Aniline				
Bis(2-Chloroethyl)Ether				
2-Chlorophenol				
1,3-Dichlorobenzene		3200		
1,4-Dichlorobenzene				
Benzyl Alcohol				
1,2-Dichlorobenzene		J		
2-Methylphenol				
Bis(2-Chloroisopropyl)Ether				
4-Methylphenol				
N-Nitroso-Di-n-Propylamine				
Hexachloroethane				
Nitrobenzene				
Isophorone		J		
2-Nitrophenol				
2,4-Dimethylphenol				
Benzoic Acid			J	
Bis(2-Chloroethoxy)Methane				
2,4-Dichlorophenol				
1,2,4-Trichlorobenzene				
Naphthalene		J		
4-Chloroaniline				
Hexachlorobutadiene				
4-Chloro 3-Methylphenol				
2-Methylnaphthalene		5200		
Hexachlorocyclopentadiene				
2,4,6-Trichlorophenol				
2,4,5-Trichlorophenol				
2-Chloronaphthalene				
2-Nitroaniline				
Dimethyl Phthalate				
Acenaphthylene		J		
3-Nitroaniline				3400
Acenaphthene				
2,4-Dinitrophenol				
4-Nitrophenol				
Dibenzofuran		J		
2,4-Dinitrotoluene				
2,6-Dinitrotoluene				
Diethyl Phthalate	790	J	J	
4-Chlorophenyl phenyl ether				
Fluorene		J		
4-Nitroaniline				
4,6-Dinitro-2-Methylphenol				
N-Nitrosodiphenylamine				
4-Bromophenyl phenyl ether				
Hexachlorobenzene	113	3500		
Pentachlorophenol				
Phenanthrene	790	2700		
Anthracene		J		

[illegible]
TRENTON [illegible] COMPANY
SAMPLING DATE: 03/20/85
CASE: 4040

VOLATILES

SAMPLE NUMBER MATRIX UNITS	B0129 SOIL UG/KG	B0130 SOIL UG/KG	B3904 SOIL UG/KG	B3[illegible] SOIL UG/KG
Chloromethane				
Bromomethane				
Vinyl Chloride				
Chloroethane				
Methylene Chloride	E	32	23	16[illegible]
Acetone	E	120	J	
Carbondisulfide				
1,1-Dichloroethene				
1,1-Dichloroethane				
Trans-1,2-Dichloroethene				
Chloroform				
1,2-Dichloroethane				
2-Butanone		200	J	
1,1,1-Trichloroethane			J	
Carbon Tetrachloride				
Vinyl Acetate	J			
Bromodichloromethane				
1,1,2,2-Tetrachloroethane				
1,2-Dichloropropane				
Trans-1,3-Dichloropropene				
Trichloroethene				
Dibromochloromethane				
1,1,2-Trichloroethane				
Benzene				
Cis-1,3-Dichloropropene				
2-Chloroethylvinylether				
Bromoform				
2-Hexanone				
4-Methyl-2-Pentanone				
Tetrachloroethene			7	
Toluene		150	6	J
Chlorobenzene				
Ethylbenzene		170		
Styrene				
Total Xylenes		300		

NOTES:
Blank space - compound analyzed for but not detected
E - analysis did not pass QA/QC requirements
J - compound present below the specified detection limit
B - found in blank as well as sample

ANALYTICAL DATA
[illegible]
SAMPLING DATE: 03/20/85
CASE: 1040

SEMI-VOLATILES

SAMPLE NUMBER	BA129	BA130	B3904	B3903
MATRIX	SOIL	SOIL	SOIL	SOIL
UNITS	UG/KG	UG/KG	UG/KG	UG/KG
Benzidine				
Pyrene	1100	J		J
Butylbenzylphthalate	1200	6300		990,000
3,3'-Dichlorobenzidine				
Benzo(a)Anthracene	560	J		
Bis(2-Ethylhexyl)Phthalate	1200	90,000		150,000
Chrysene	520	J		
[illegible]				
Benzo(b)Fluoranthene	560	J		
Benzo(k)Fluoranthene	460	J		
Benzo(a)Pyrene	450	J		
Indeno(1,2,3-cd)Pyrene	300			
Dibenzo(a,h)Anthracene				
Benzo(ghi)Perylene	270			

NOTES:
Blank space = compound analyzed for but not detected
E = analysis did not pass QA/QC requirements
J = compound present below the specified detection limit

[illegible]
[illegible]
[illegible]
CASE [illegible]

PESTICIDES/PCB:

SAMPLE NUMBER MATRIX UNITS	BA[illegible] SOIL UG/KG	BA[illegible]30 SOIL UG/KG	B[illegible] SOIL UG/KG	B[illegible] SOIL UG/KG
Alpha-BHC		E	E	
Beta-BHC		E	E	
Delta-BHC		E	E	
Gamma-BHC (Lindane)		E	E	
Heptachlor		E	E	
Aldrin		E	E	
Heptachlor Epoxide		E	E	
Endosulfan I		E	E	
Dieldrin		E	E	
4,4'-DDE	11	E	E	960
Endrin		E	E	
Endosulfan II		E	E	
4,4'-DDD	[illegible]	[illegible]	E	
[illegible]			E	
4,4'-DDT	[illegible]	[illegible]	E	
Methoxychlor		E	E	
Endrin Ketone		E	E	
Chlordane	J	E	E	
Toxaphene		E	E	
Arochlor-1016		E	E	
Arochlor-1221		E	E	
Arochlor-1232		E	E	
Arochlor-1242		E	E	
Arochlor-1248		E	E	
Arochlor-1254		E	E	
Arochlor-1260	J	E	E	[illegible]

NOTES:
Blank space - compound analyzed for but not detected
E - analysis did not pass QA/QC requirements
J - compound present below the specified detection limit

ANALYTICAL DATA
[illegible]
SAMPLING DATE: [illegible]
CASE: 3030

INORGANICS

SAMPLE NUMBER	MBB191	MBB192	MBB193	MBB [illegible]
MATRIX	SOIL	SOIL	SOIL	SOIL
UNITS	MG/KG	MG/KG	MG/KG	MG/KG
Aluminum	138529	18111	2736	107[illegible]
Antimony				
Arsenic	J	J	J	J
Barium	115	845	J	J
Beryllium	J	3.4	J	J
Cadmium	7.3	9.0		
Calcium	7030	21986	5847	J
Chromium	139	92	14	21
Cobalt	30	J	J	J
Copper	250	296	25	18
Iron	109044	48951	9239	211.2
Lead	494	450	187	5[illegible]
Magnesium	5049	4826	3001	J
Manganese	7[illegible]6	[illegible]	139	2[illegible]
[illegible]	[illegible]	[illegible]		
Nickel	43	33		J
Potassium	J	5818	J	J
Selenium	J	J	J	J
Silver	8.5	J	J	J
Sodium	J	J		
Thallium				
Tin				
Vanadium	56.8	51.3	J	J
Zinc	824	1173	145	190

NOTES:
Blank space - compound analyzed for but not detected
E - analysis did not pass QA/QC requirements
J - compound present below the specified detection limit

[illegible]
[illegible]
[illegible]
CASE: 4040

VOLATILES

SAMPLE NUMBER	[illegible]	[illegible]	[illegible]	[illegible]
MATRIX	SOIL	WATER	WATER	WATER
UNITS	UG/KG	UG/L	UG/L	UG/L
Chloromethane				
Bromomethane				
Vinyl Chloride				
Chloroethane				
Methylene Chloride	14	67%	F	5
Acetone	25	E		3
Carbondisulfide				
1,1-Dichloroethene				J
1,1-Dichloroethane		9		2[illegible]
Trans-1,2-Dichloroethene				1[illegible]
Chloroform				
1,2-Dichloroethane				
2-Butanone		[illegible]	[illegible]	[illegible]
[illegible]				
Carbon Tetrachloride				
Vinyl Acetate				
Bromodichloromethane				
1,1,2,2-Tetrachloroethane				
1,2-Dichloropropane				
Trans-1,3-Dichloropropene				
Trichloroethene	5	J		1
Dibromochloromethane				
1,1,2-Trichloroethane				
Benzene				
Cis-1,3-Dichloropropene				
2-Chloroethylvinylether				
Bromoform				
2-Hexanone		J		J
4-Methyl-2-Pentanone		J		J
Tetrachloroethene	11			J
Toluene	J		J	J
Chlorobenzene				
Ethylbenzene				
Styrene				
Total Xylenes		J		J

NOTES:
Blank space - compound analyzed for but not detected
E - analysis did not pass QA/QC requirements
J - compound present below the specified detection limit
B - found in blank as well as sample

SEMI VOLATILES

SAMPLE NUMBER	B3940	B4145	B4146	B4144
MATRIX	SOIL	WATER	WATER	WATER
UNITS	UG/G	UG/L	UG/L	UG/L
N-Nitrosodimethylamine				
Phenol	J			
Aniline				
Bis(2-Chloroethyl)Ether				
2-Chlorophenol				
1,3-Dichlorobenzene				
1,4-Dichlorobenzene				
Benzyl Alcohol				
1,2-Dichlorobenzene				
2-Methylphenol				
Bis(2-Chloroisopropyl)Ether		J		
4-Methylphenol				
N-Nitroso-Di-n-Propylamine				
Hexachloroethane				
Nitrobenzene				
[illegible]	[illegible]	[illegible]		[illegible]
[illegible]				
2,4-Dimethylphenol				
Benzoic Acid		[illegible]		
Bis(2-Chloroethoxy)Methane				
2,4-Dichlorophenol				
1,2,4-Trichlorobenzene				
Naphthalene	J			
4-Chloroaniline				
Hexachlorobutadiene				
4-Chloro-3-Methylphenol				
2-Methylnaphthalene	J			
Hexachlorocyclopentadiene				
2,4,6-Trichlorophenol				
2,4,5-Trichlorophenol				
2-Chloronaphthalene				
2-Nitroaniline				
Dimethyl Phthalate				
Acenaphthylene				
3-Nitroaniline				
Acenaphthene				
2,4-Dinitrophenol				
4-Nitrophenol				
Dibenzofuran				
2,4-Dinitrotoluene				
2,6-Dinitrotoluene				
Diethyl Phthalate				
4-Chlorophenyl phenyl ether				
Fluorene				
4-Nitroaniline				
4,6-Dinitro-2-Methylphenol				
N-Nitrosodiphenylamine				
4-Bromophenyl phenyl ether				
Hexachlorobenzene				
Pentachlorophenol		119		
Phenanthrene	J			
Anthracene				

ANALYTICAL DATA
TRENTON DRUM COMPANY
SAMPLING DATE: 03/20/85
CASE: 4040

SEMI-VOLATILES

SAMPLE NUMBER	B3940	B4145	B4146	B4143
MATRIX	SOIL	WATER	WATER	WAT
UNITS	UG/KG	UG/L	UG/L	UG/L
Benzidine				
Pyrene	J			
Butylbenzylphthalate	4500			
3,3'-Dichlorobenzidine				
Benzo(a)Anthracene	J			
Bis(2-Ethylhexyl)Phthalate	89000	J	69	J
[illegible]	[illegible]			
[illegible]	[illegible]			
[illegible]	J			
Benzo(k)Fluoranthene				
Benzo(a)Pyrene	J			
Indeno(1,2,3-cd)Pyrene				
Dibenzo(a,h)Anthracene				
Benzo(ghi)Perylene				

NOTES:
Blank space - compound analyzed for but not detected
E - analysis did not pass RAS/RC requirements
J - compound present below the specified detection limit

[illegible]

[illegible]

[illegible]

PESTICIDES

SAMPLE NUMBER	B3946	[illegible]	B4346	B4344
MATRIX	SOIL	[illegible]	WATER	[illegible]
UNITS	UG/KG	[illegible]	UG/L	[illegible]
Alpha-BHC	E	E		E
Beta-BHC	E	E		E
Delta-BHC	E	E		E
Gamma-BHC (Lindane)	E	E		E
Heptachlor	E	E		E
Aldrin	E	E		E
Heptachlor Epoxide	E	E		E
Endosulfan I	E	E		E
Dieldrin	E	E		E
4,4'-DDE	E	E		E
Endrin	E	E		E
Endosulfan II	[illegible]	[illegible]		[illegible]
4,4'-DDD				[illegible]
Endrin Aldehyde	E	E		E
4,4'-DDT	E	E		[illegible]
Methoxychlor	E	E		[illegible]
Endrin Ketone	E	E		E
Chlordane	E	E		E
Toxaphene	E	E		E
Aroclor-1016	E	E		E
Aroclor-1221	E	E		E
Aroclor-1232	E	E		E
Aroclor-1242	E	E		E
Aroclor-1248	E	E		E
Aroclor-1254	E	E		E
Aroclor-1260	E	E		E

NOTES:
Blank space - compound analyzed for but not detected
E - analysis did not pass QA/QC requirements
J - compound present below the specified detection limit

[illegible]
[illegible]
[illegible]
CASE: [illegible]

INORGANICS

SAMPLE NUMBER	MBB[illegible]	MBB[illegible]	MBB197	MBB[illegible]
MATRIX	SOIL	WATER	WATER	WATER
UNITS	MG/KG	UG/L	UG/L	UG/L
Aluminum	[illegible]	[illegible]	1036	[illegible]
Antimony				
Arsenic	J		11	[illegible]
Barium	J	J	J	J
Beryllium	J			J
Cadmium	8		J	[illegible]
Calcium	J	[illegible]	42800	[illegible]
Chromium	33	12	31	30
Cobalt	J		J	J
Copper	32	J	J	44
Iron	15833	E	E	E
Lead	152	94	151	214
Magnesium	J	[illegible]	9577	[illegible]
Manganese	150	106	672	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Nickel				
Potassium	J	J	[illegible]	[illegible]
Selenium	J			
Silver	J	[illegible]	J	J
Sodium	J	47410	91820	104000
Thallium				10
Tin		E	E	E
Vanadium	J	J	J	J
Zinc	235	216	233	468

NOTES:
Blank space - compound analyzed for but not detected
E - [illegible]
J - compound present below the specified detection limit

[illegible]
[illegible]
SAMPLING DATE: 05/20/[illegible]
CASE: 4040

[illegible]

SAMPLE NUMBER	R4143
MATRIX	WATER
UNITS	UG/L
Chloromethane	
Bromomethane	
Vinyl Chloride	
Chloroethane	
Methylene Chloride	E
Acetone	E
Carbondisulfide	
1,1-Dichloroethene	
1,1-Dichloroethane	
Trans-1,2-Dichloroethene	
Chloroform	
[illegible]	
[illegible]	
[illegible]	
Carbon Tetrachloride	
[illegible]	
Bromodichloromethane	
1,1,2,2-Tetrachloroethane	
1,2-Dichloropropane	
Trans-1,3-Dichloropropene	
Trichloroethene	
Dibromochloromethane	
[illegible]	
Benzene	
[illegible]	
2-Chloroethylvinylether	
Bromoform	
2-Hexanone	
4-Methyl 2-Pentanone	
Tetrachloroethene	
Toluene	J
Chlorobenzene	
Ethylbenzene	
Styrene	
Total Xylenes	

NOTES:
Blank space - compound analyzed for but not detected
E - analysis did not pass QA/QC requirements
J compound present below the specified detection limit
B - found in blank as well as sample

[illegible]

SEMI VOLATILES

SAMPLE NUMBER	B4143
MATRIX	WATER
[illegible]	[illegible]
N-Nitrosodimethylamine	
Phenol	
Aniline	
Bis(2-Chloroethyl)Ether	
2-Chlorophenol	
1,3-Dichlorobenzene	
1,4-Dichlorobenzene	
Benzyl Alcohol	
1,2-Dichlorobenzene	
2-Methylphenol	
Bis(2-Chloroisopropyl)Ether	
4-Methylphenol	
N-Nitroso-Di-n-Propylamine	
Hexachloroethane	
Nitrobenzene	
Isophorone	
2-Nitrophenol	
2,4-Dimethylphenol	
Benzoic Acid	
Bis(2-Chloroethoxy)Methane	
2,4-Dichlorophenol	
1,2,4-Trichlorobenzene	
Naphthalene	
4-Chloroaniline	
Hexachlorobutadiene	
4-Chloro-3-Methylphenol	
2-Methylnaphthalene	
Hexachlorocyclopentadiene	
2,4,6-Trichlorophenol	
2,4,5-Trichlorophenol	
2-Chloronaphthalene	
2-Nitroaniline	
Dimethyl Phthalate	
Acenaphthylene	
3-Nitroaniline	
Acenaphthene	
2,4-Dinitrophenol	
4-Nitrophenol	
Dibenzofuran	
2,4-Dinitrotoluene	
2,6-Dinitrotoluene	
Diethyl Phthalate	
4-Chlorophenyl phenyl ether	
Fluorene	
4-Nitroaniline	
4,6-Dinitro-2-Methylphenol	
N-Nitrosodiphenylamine	
4-Bromophenyl phenyl ether	
Hexachlorobenzene	
Pentachlorophenol	
Phenanthrene	
Anthracene	

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[illegible]
[illegible] COMPANY
SAMPLING DATE: 03/20/85
CASE: 4040

SEMI-VOLATILES	
SAMPLE NUMBER	B4143
MATRIX	WATER
UNITS	UG/L
Benzidine	
Pyrene	
Butylbenzylphthalate	
3,3'-Dichlorobenzidine	
Benzo(a)Anthracene	
Bis(2-Ethylhexyl)Phthalate	
Chrysene	
[illegible]	
Benzo(b)Fluoranthene	
Benzo(k)Fluoranthene	
Benzo(a)Pyrene	
Indeno(1,2,3-cd)Pyrene	
Dibenzo(a,h)Anthracene	
Benzo(ghi)Perylene	

NOTES:
Blank space - compound analyzed for but not detected
F - analysis did not pass QA/QC requirements
J - compound present below the specified detection limit

[illegible]
TRENTON [illegible] COMPANY
SAMPLING DATE: 05/20/[illegible]
CASE: 4040

PESTICIDES/PCBs	
SAMPLE NUMBER	B4143
MATRIX	WATER
UNITS	UG/L
Alpha-BHC	E
Beta-BHC	E
Delta-BHC	E
Gamma-BHC (Lindane)	E
Heptachlor	E
Aldrin	E
Heptachlor Epoxide	E
Endosulfan I	E
Dieldrin	E
4,4'-DDE	E
Endrin	E
Endosulfan II	
4,4'-DDD	E
Endrin Aldehyde	E
4,4'-DDT	E
Methoxychlor	E
Endrin Ketone	E
Chlordane	E
Toxaphene	E
Aroclor-1016	E
Aroclor-1221	E
Aroclor-1232	E
Aroclor-1242	E
Aroclor-1248	E
Aroclor-1254	E
Aroclor-1260	E

NOTES:
Blank space - compound analyzed for but not detected
E - analysis did not pass QA/QC requirements
J - compound present below the specified detection limit

[illegible]
[illegible] COMPANY
[illegible] DATE: [illegible]
CASE: 4040

INORGANICS	
SAMPLE NUMBER	M[illegible]
MATRIX	WATER
UNITS	UG/L
Aluminum	J
Antimony	
Arsenic	
Barium	
Beryllium	
Cadmium	
Calcium	
Chromium	J
Cobalt	
Copper	J
Iron	E
Lead	
Magnesium	
Manganese	J
Mercury	
Nickel	
Potassium	J
Selenium	
Silver	
Sodium	
Thallium	
Tin	E
Vanadium	
Zinc	[illegible]

NOTES:
Blank space - compound analyzed for but not detected
E - analysis did not pass QA/QC requirements
J - compound present below the specified detection limit

Environmental Protection Agency. CLP Sample Management Office.
P.O. Box 818. Alexandria, Virginia 22313 703/557-2490

0026

Sample Number BA044

Organics Analysis Data Sheet
(Page 1)

Laboratory Name: Radian
Case No: 4040
Lab Sample ID No: 4EU03214V01
QC Report No: S4
Sample Matrix: Soil
Contract No: 68-01-6853
Data Release Authorized By: K. Hinkelmann
Date Sample Received: 3-21-85

Volatile Compounds

Concentration: Low (Medium) (Circle One)
Date Extracted/Prepared: 3-29-85
Date Analyzed: 3-29-85
Conc/Dil Factor: 2.68/10ML pH 5.9
Percent Moisture: 30
Percent Moisture (Decanted): ——

CAS Number		ug/l or (ug/Kg) (Circle One)
74-87-3	Chloromethane	25000 u
74-83-9	Bromomethane	25000 u
75-01-4	Vinyl Chloride	25000 u
75-00-3	Chloroethane	25000 u
75-09-2	Methylene Chloride	17000 B ✓
67-64-1	Acetone	44000 B ✓
75-15-0	Carbon Disulfide	12500 u
75-35-4	1, 1-Dichloroethene	12500 u
75-34-3	1, 1-Dichloroethane	12500 u
156-60-5	Trans-1, 2-Dichloroethene	12500 u
67-66-3	Chloroform	12500 u
107-06-2	1, 2-Dichloroethane	12500 u
78-93-3	2-Butanone	92000 B ✓
71-55-6	1, 1, 1-Trichloroethane	12500 u
56-23-5	Carbon Tetrachloride	12500 u
108-05-4	Vinyl Acetate	25000 u
75-27-4	Bromodichloromethane	12500 u

CAS Number		ug/l or (ug/Kg) (Circle One)
79-34-5	1, 1, 2, 2-Tetrachloroethane	12500 u
78-87-5	1, 2-Dichloropropane	12500 u
10061-02-6	Trans-1, 3-Dichloropropene	12500 u
79-01-6	Trichloroethene	12500 u
124-48-1	Dibromochloromethane	12500 u
79-00-5	1, 1, 2-Trichloroethane	12500 u
71-43-2	Benzene	270000 ✓
10061-01-5	cis-1, 3-Dichloropropene	12500 u
110-75-8	2-Chloroethylvinylether	25000 u
75-25-2	Bromoform	12500 u
591-78-6	2-Hexanone	25000 u
108-10-1	4-Methyl-2-Pentanone	25000 u
127-18-4	Tetrachloroethene	12500 u
108-88-3	Toluene	320000 ✓
108-90-7	Chlorobenzene	12500 u
100-41-4	Ethylbenzene	12500 u
100-42-5	Styrene	12500 J ✓
	Total Xylenes	12500 u

Data Reporting Qualifiers

For reporting results to EPA, the following results qualifiers are used. Additional flags or footnotes explaining results are encouraged. However, the definition of each flag must be explicit.

Value If the result is a value greater than or equal to the detection limit, report the value.

U Indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U (e.g., 10U) based on necessary concentration/dilution actions. (This is not necessarily the instrument detection limit.) The footnote should read: U-Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample.

J Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicates the presence of a compound that meets the identification criteria but

C This flag applies to pesticide parameters where the identification has been confirmed by GC/MS. Single component pesticides ≥10 ng/ul in the final extract should be confirmed by GC/MS.

B This flag is used when the analyte is found in the blank as well as a sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.

Other Other specific flags and footnotes may be required to properly define the results. If used, they must be fully described and such description attached to the data summary report.

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onmental Protection Agency. CLP Sample Management Office.
J. Box 818, Alexandria, Virginia 22313 703/557-2490

Sample Number
BA 044

Organics Analysis Data Sheet
(Page 2)

Semivolatile Compounds

Concentration: Low Medium (Circle One)

Date Extracted/Prepared: 3-28-85

Date Analyzed: 4-9-85

Conc/Dil Factor: 0.31g : 1ml

CAS Number		ug/l or ug/Kg (Circle One)
62-75-9	N-Nitrosodimethylamine	46,000U
108-95-2	Phenol	46,000U
62-53-3	Aniline	46,000U
111-44-4	bis(-2-Chloroethyl)Ether	46,000U
95-57-8	2-Chlorophenol	46,000U
541-73-1	1, 3-Dichlorobenzene	46,000U
106-46-7	1, 4-Dichlorobenzene	46,000U
100-51-6	Benzyl Alcohol	46,000U
95-50-1	1, 2-Dichlorobenzene	46,000U
95-48-7	2-Methylphenol	46,000U
39638-32-9	bis(2-chloroisopropyl)Ether	46,000U
106-44-5	4-Methylphenol	46,000U
621-64-7	N-Nitroso-Di-n-Propylamine	46,000U
67-72-1	Hexachloroethane	46,000U
98-95-3	Nitrobenzene	46,000U
78-59-1	Isophorone	46,000J ✓
88-75-5	2-Nitrophenol	46,000U
105-67-9	2, 4-Dimethylphenol	46,000U
65-85-0	Benzoic Acid	230,000U
111-91-1	bis(-2-Chloroethoxy)Methane	46,000U
120-83-2	2, 4-Dichlorophenol	46,000U
120-82-1	1, 2, 4-Trichlorobenzene	46,000U
91-20-3	Naphthalene	46,000U
106-47-8	4-Chloroaniline	46,000U
87-68-3	Hexachlorobutadiene	46,000U
59-50-7	4-Chloro-3-Methylphenol	46,000U
91-57-6	2-Methylnaphthalene	46,000U
77-47-4	Hexachlorocyclopentadiene	46,000U
88-06-2	2, 4, 6-Trichlorophenol	46,000U
95-95-4	2, 4, 5-Trichlorophenol	230,000U
91-58-7	2-Chloronaphthalene	46,000U
88-74-4	2-Nitroaniline	230,000U
131-11-3	Dimethyl Phthalate	46,000U
208-96-8	Acenaphthylene	46,000U
99-09-2	3-Nitroaniline	230,000U

CAS Number		ug/l or ug/Kg (Circle One)
83-32-9	Acenaphthene	46,000U
51-28-5	2, 4-Dinitrophenol	230,000U
100-02-7	4-Nitrophenol	230,000U
132-64-9	Dibenzofuran	46,000U
121-14-2	2, 4-Dinitrotoluene	46,000U
606-20-2	2, 6-Dinitrotoluene	46,000U
84-66-2	Diethylphthalate	46,000U
7005-72-3	4-Chlorophenyl-phenylether	46,000U
86-73-7	Fluorene	46,000U
100-01-6	4-Nitroaniline	230,000U
534-52-1	4, 6-Dinitro-2-Methylphenol	230,000U
86-30-6	N-Nitrosodiphenylamine (1)	46,000U
101-55-3	4-Bromophenyl-phenylether	46,000U
118-74-1	Hexachlorobenzene	46,000U
87-86-5	Pentachlorophenol	230,000U
85-01-8	Phenanthrene	46,000U
120-12-7	Anthracene	46,000U
84-74-2	Di-n-Butylphthalate	46,000J ✓
206-44-0	Fluoranthene	46,000J ✓
92-87-5	Benzidine	230,000U
129-00-0	Pyrene	46,000J ✓
85-68-7	Butylbenzylphthalate	46,000J ✓
91-94-1	3, 3'-Dichlorobenzidine	92,000U
56-55-3	Benzo(a)Anthracene	46,000J ✓
117-81-7	bis(2-Ethylhexyl)Phthalate	120,000 ✓
218-01-9	Chrysene	46,000J ✓
117-84-0	Di-n-Octyl Phthalate	46,000U
205-99-2	Benzo(b)Fluoranthene	46,000J ✓
207-08-9	Benzo(k)Fluoranthene	46,000J ✓
50-32-8	Benzo(a)Pyrene	46,000U
193-39-5	Indeno(1, 2, 3-cd)Pyrene	46,000U
53-70-3	Dibenz(a, h)Anthracene	46,000U
191-24-2	Benzo(g, h, i)Perylene	46,000U

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(1)-Cannot be separated from diphenylamine

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P.O. Box 818. Alexandria, Virginia 22313 703/557-2490

0025

Sample Number
BA044

Organics Analysis Data Sheet
(Page 3)

Pesticides/PCBs

Concentration: Low Medium (Circle One)

Date Extracted/Prepared: 3-28-85

Date Analyzed: 4-10-85

Conc/Dil Factor: 1 g : 5ml

CAS Number		ug/l or ug/Kg (Circle One)
319-84-6	Alpha-BHC	100 u
319-85-7	Beta-BHC	100 u
319-86-8	Delta-BHC	100 u
58-89-9	Gamma-BHC (Lindane)	100 u
76-44-8	Heptachlor	100 u
309-00-2	Aldrin	100 u
1024-57-3	Heptachlor Epoxide	100 u
959-98-8	Endosulfan I	100 u
60-57-1	Dieldrin	200 u
72-55-9	4, 4'-DDE	200 u
72-20-8	Endrin	200 u
33213-65-9	Endosulfan II	200 u
72-54-8	4, 4'-DDD	200 u
7421-93-4	Endrin Aldehyde	200 u
1031-07-8	Endosulfan Sulfate	200 u
50-29-3	4, 4'-DDT	200 u
72-43-5	Methoxychlor	1000 u
53494-70-5	Endrin Ketone	1000 u
57-74-9	Chlordane	2000 u
8001-35-2	Toxaphene	1000 u
12674-11-2	Aroclor-1016	1000 u
11104-28-2	Aroclor-1221	1000 u
11141-16-5	Aroclor-1232	1000 u
53469-21-9	Aroclor-1242	1000 u
12672-29-6	Aroclor-1248	34000
11097-69-1	Aroclor-1254	74000
11096-82-5	Aroclor-1260	2000 u

V_i = Volume of extract injected (ul)

V_s = Volume of water extracted (ml)

W_s = Weight of sample extracted (g)

V_t = Volume of total extract (ul)

V_s _____ or W_s 1 g V_t 5000 ml V_i 2 ml

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Protection Agency. CLP Sample Management Office.
Alexandria, Virginia 22313 703/557-2490

0091

Sample Number
BAC45

Organics Analysis Data Sheet
(Page 1)

Laboratory Name: Radian
Lab Sample ID No: 4E1L03214VC2
Sample Matrix: Soil
Data Release Authorized By: K. Ghilarducci

Case No: 4040
QC Report No: 54
Contract No: 68-01-6853
Date Sample Received: 3-21-85

Volatile Compounds

Concentration: Low Medium (Circle One)
Date Extracted/Prepared: 3-28-85
Date Analyzed: 3-28-85
Conc/Dil Factor: 1:1 pH 6.4
Percent Moisture: 3%
Percent Moisture (Decanted): —

CAS Number		ug/l or ug/Kg (Circle One)	
74-87-3	Chloromethane	10U	
74-83-9	Bromomethane	10U	
75-01-4	Vinyl Chloride	10U	
75-00-3	Chloroethane	10U	
75-09-2	Methylene Chloride	150	✓
67-64-1	Acetone	450	✓
75-15-0	Carbon Disulfide	5J	✓
75-35-4	1, 1-Dichloroethene	7	✓
75-34-3	1, 1-Dichloroethane	5J	✓
156-60-5	Trans-1, 2-Dichloroethene	5U	
67-66-3	Chloroform	5U	
107-06-2	1, 2-Dichloroethane	5U	
78-93-3	2-Butanone	10U	
71-55-6	1, 1, 1-Trichloroethane	94	✓
56-23-5	Carbon Tetrachloride	5U	
108-05-4	Vinyl Acetate	10U	
75-27-4	Bromodichloromethane	5U	

CAS Number		ug/l or ug/Kg (Circle One)	
79-34-5	1, 1, 2, 2-Tetrachloroethane	5U	
78-87-5	1, 2-Dichloropropane	5U	
10061-02-6	Trans-1, 3-Dichloropropene	5U	
79-01-6	Trichloroethene	6	✓
124-48-1	Dibromochloromethane	5U	
79-00-5	1, 1, 2-Trichloroethane	5U	
71-43-2	Benzene	7	✓
10061-01-5	cis-1, 3-Dichloropropene	5U	
110-75-8	2-Chloroethylvinylether	10U	
75-25-2	Bromoform	5U	
591-78-6	2-Hexanone	83	✓
108-10-1	4-Methyl-2-Pentanone	11	✓
127-18-4	Tetrachloroethene	170	✓
108-88-3	Toluene	460	✓
108-90-7	Chlorobenzene	5U	
100-41-4	Ethylbenzene	85	✓
100-42-5	Styrene	710	✓
	Total Xylenes	340	✓

Data Reporting Qualifiers

For reporting results to EPA, the following results qualifiers are used. Additional flags or footnotes explaining results are encouraged. However, the definition of each flag must be explicit.

Value If the result is a value greater than or equal to the detection limit, report the value.

U Indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U (e.g., 10U) based on necessary concentration/dilution actions. (This is not necessarily the instrument detection limit.) The footnote should read: U-Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample.

J Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicates the presence of a compound that meets the identification criteria but [illegible]

C This flag applies to pesticide parameters where the identification has been confirmed by GC/MS. Single component pesticides ≥10 ng/ul in the final extract should be confirmed by GC/MS.

B This flag is used when the analyte is found in the blank as well as a sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.

Other Other specific flags and footnotes may be required to properly define the results. If used, they must be fully described and such description attached to the data summary report.

l Protection Agency. CLP Sample Management Office.
8. Alexandria, Virginia 22313 703/557-2490

Sample Number
BA045

Organics Analysis Data Sheet
(Page 2)

Semivolatile Compounds

Concentration: Low Medium (Circle One)

Date Extracted/Prepared: 3-28-85

Date Analyzed: 4-9-85

Conc/Dil Factor: 0.31 g : 1 ml

CAS Number		ug/l or ug/Kg (Circle One)
62-75-9	N-Nitrosodimethylamine	25,000U
108-95-2	Phenol	25,000U
62-53-3	Aniline	25,000U
111-44-4	bis(-2-Chloroethyl)Ether	25,000U
95-57-8	2-Chlorophenol	25,000U
541-73-1	1, 3-Dichlorobenzene	25,000U
106-46-7	1, 4-Dichlorobenzene	25,000U
100-51-6	Benzyl Alcohol	25,000U
95-50-1	1, 2-Dichlorobenzene	25,000U
95-48-7	2-Methylphenol	25,000U
39638-32-9	bis(2-chloroisopropyl)Ether	25,000U
106-44-5	4-Methylphenol	25,000U
621-64-7	N-Nitroso-Di-n-Propylamine	25,000U
67-72-1	Hexachloroethane	25,000U
98-95-3	Nitrobenzene	25,000U
78-59-1	Isophorone	25,000U
88-75-5	2-Nitrophenol	25,000U
105-67-9	2, 4-Dimethylphenol	25,000U
65-85-0	Benzoic Acid	140,000U
111-91-1	bis(-2-Chloroethoxy)Methane	25,000U
120-83-2	2, 4-Dichlorophenol	25,000U
120-82-1	1, 2, 4-Trichlorobenzene	25,000U
91-20-3	Naphthalene	25,000U
106-47-8	4-Chloroaniline	25,000U
87-68-3	Hexachlorobutadiene	25,000U
59-50-7	4-Chloro-3-Methylphenol	25,000U
91-57-6	2-Methylnaphthalene	25,000U
77-47-4	Hexachlorocyclopentadiene	25,000U
88-06-2	2, 4, 6-Trichlorophenol	25,000U
95-95-4	2, 4, 5-Trichlorophenol	140,000U
91-58-7	2-Chloronaphthalene	25,000U
88-74-4	2-Nitroaniline	140,000U
131-11-3	Dimethyl Phthalate	25,000U
208-96-8	Acenaphthylene	25,000U
99-09-2	3-Nitroaniline	140,000U

CAS Number		ug/l or ug/Kg (Circle One)
83-32-9	Acenaphthene	25,000U
51-28-5	2, 4-Dinitrophenol	140,000U
100-02-7	4-Nitrophenol	140,000U
132-64-9	Dibenzofuran	25,000U
121-14-2	2, 4-Dinitrotoluene	25,000U
606-20-2	2, 6-Dinitrotoluene	25,000U
84-66-2	Diethylphthalate	25,000U
7005-72-3	4-Chlorophenyl-phenylether	25,000U
86-73-7	Fluorene	25,000U
100-01-6	4-Nitroaniline	140,000U
534-52-1	4, 6-Dinitro-2-Methylphenol	140,000U
86-30-6	N-Nitrosodiphenylamine (1)	25,000U
101-55-3	4-Bromophenyl-phenylether	25,000U
118-74-1	Hexachlorobenzene	25,000U
87-86-5	Pentachlorophenol	140,000U
85-01-8	Phenanthrene	25,000J ✓
120-12-7	Anthracene	25,000U
84-74-2	Di-n-Butylphthalate	240,000 ✓
206-44-0	Fluoranthene	25,000U
92-87-5	Benzidine	140,000U
129-00-0	Pyrene	25,000U
85-68-7	Butylbenzylphthalate	38,000J ✓
91-94-1	3, 3'-Dichlorobenzidine	50,000U
56-55-3	Benzo(a)Anthracene	25,000U
117-81-7	bis(2-Ethylhexyl)Phthalate	76,000 ✓
218-01-9	Chrysene	25,000U
117-84-0	Di-n-Octyl Phthalate	25,000U
205-99-2	Benzo(b)Fluoranthene	25,000U
207-08-9	Benzo(k)Fluoranthene	25,000U
50-32-8	Benzo(a)Pyrene	25,000U
193-39-5	Indeno(1, 2, 3-cd)Pyrene	25,000U
53-70-3	Dibenz(a, h)Anthracene	25,000U
191-24-2	Benzo(g, h, i)Perylene	25,000U

(1) Cannot be separated from diphenylamine

Protection Agency. CLP Sample Management Office.
Alexandria, Virginia 22313 703/557-2490

0093

Sample Number
BA 045

Organics Analysis Data Sheet
(Page 3)

Pesticide/PCBs

Concentration: Low Medium (Circle One)

Date Extracted/Prepared: 3-28-85

Date Analyzed: 4-10-85

Conc/Dil Factor: 1g : 5ml

Values are of CSE

CAS Number		ug/l or ug/Kg (Circle One)
319-84-6	Alpha-BHC	100u
319-85-7	Beta-BHC	100u
319-86-8	Delta-BHC	100u
58-89-9	Gamma-BHC (Lindane)	100u
76-44-8	Heptachlor	100u
309-00-2	Aldrin	100u
1024-57-3	Heptachlor Epoxide	100u
959-98-8	Endosulfan I	100u
60-57-1	Dieldrin	200u
72-55-9	4, 4'-DDE	200u
72-20-8	Endrin	200u
33213-65-9	Endosulfan II	200u
72-54-8	4, 4'-DDD	200u
7421-93-4	Endrin Aldehyde	200u
1031-07-8	Endosulfan Sulfate	200u
50-29-3	4, 4'-DDT	200u
72-43-5	Methoxychlor	1000u
53494-70-5	Endrin Ketone	1000u
57-74-9	Chlordane	2000u
8001-35-2	Toxaphene	1000u
12674-11-2	Aroclor-1016	1000u
11104-28-2	Aroclor-1221	1000u
11141-16-5	Aroclor-1232	1000u
53469-21-9	Aroclor-1242	1000u
12672-29-6	Aroclor-1248	5,000
11097-69-1	Aroclor-1254	13,000
11096-82-5	Aroclor-1260	2,000u

V_i = Volume of extract injected (ul)

V_s = Volume of water extracted (ml)

W_s = Weight of sample extracted (g)

V_t = Volume of total extract (ul)

V_s _____ or W_s 1g V_t 5000ml V_i 2ml

Environmental Protection Agency, CLP Sample Management Office,
P. O. Box 818, Alexandria, Virginia 22313 703/557-2490

0165

Sample Number BA127

Organics Analysis Data Sheet
(Page 1)

Laboratory Name: Radian
Lab Sample ID No: 4ER03210V01
Sample Matrix: Soil
Data Release Authorized By: K Shlendwick

Case No: 4040
QC Report No: 54
Contract No: 68-01-6853
Date Sample Received: 3-21-85

Volatile Compounds

Concentration: Low Medium (Circle One)
Date Extracted/Prepared: 3-27-85
Date Analyzed: 3-27-85
Conc/Dil Factor: 1:1 pH 7.1
Percent Moisture: 29
Percent Moisture (Decanted): —

CAS Number		ug/l or ug/Kg (Circle One)
74-87-3	Chloromethane	10U
74-83-9	Bromomethane	10U
75-01-4	Vinyl Chloride	10U
75-00-3	Chloroethane	10U
75-09-2	Methylene Chloride	~~26~~ B ✓
67-64-1	Acetone	~~25~~ B ✓
75-15-0	Carbon Disulfide	5U
75-35-4	1, 1-Dichloroethene	5U
75-34-3	1, 1-Dichloroethane	5U
156-60-5	Trans-1, 2-Dichloroethene	5U
67-66-3	Chloroform	5U
107-06-2	1, 2-Dichloroethane	5U
78-93-3	2-Butanone	~~42~~ B ✓
71-55-6	1, 1, 1-Trichloroethane	5U
56-23-5	Carbon Tetrachloride	5U
108-05-4	Vinyl Acetate	10U
75-27-4	Bromodichloromethane	5U

CAS Number		ug/l or ug/Kg (Circle One)
79-34-5	1, 1, 2, 2-Tetrachloroethane	5U
78-87-5	1, 2-Dichloropropane	5U
10061-02-6	Trans-1, 3-Dichloropropene	5U
79-01-6	Trichloroethene	5U
124-48-1	Dibromochloromethane	5U
79-00-5	1, 1, 2-Trichloroethane	5U
71-43-2	Benzene	5U
10061-01-5	cis-1, 3-Dichloropropene	5U
110-75-8	2-Chloroethylvinylether	10U
75-25-2	Bromoform	5U
591-78-6	2-Hexanone	10U
108-10-1	4-Methyl-2-Pentanone	10U
127-18-4	Tetrachloroethene	5U
108-88-3	Toluene	5U
108-90-7	Chlorobenzene	5U
100-41-4	Ethylbenzene	5U
100-42-5	Styrene	5U
	Total Xylenes	5U

Data Reporting Qualifiers

For reporting results to EPA, the following results qualifiers are used. Additional flags or footnotes explaining results are encouraged. However, the definition of each flag must be explicit.

Value If the result is a value greater than or equal to the detection limit, report the value.

U Indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U (e.g., 10U) based on necessary concentration/dilution actions. (This is not necessarily the instrument detection limit.) The footnote should read U-Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample.

J Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicates the presence of a compound that meets the identification criteria but

C This flag applies to pesticide parameters where the identification has been confirmed by GC/MS. Single component pesticides ≥10 ng/ul in the final extract should be confirmed by GC/MS.

B This flag is used when the analyte is found in the blank as well as a sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.

Other Other specific flags and footnotes may be required to properly define the results. If used, they must be fully described and such description attached to the data summary report.

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ronmental Protection Agency, CLP Sample Management Office,
O. Box 818, Alexandria, Virginia 22313 703/557-2490

Sample Number
BA127

Organics Analysis Data Sheet
(Page 2)

Semivolatile Compounds

Concentration: Low Medium (Circle One)

Date Extracted/Prepared: 3-28-85

Date Analyzed: 4-9-85

Conc/Dil Factor: 29.5g : 5ml

CAS Number		ug/l or ug/Kg (Circle One)	
62-75-9	N-Nitrosodimethylamine	1700U	
108-95-2	Phenol	1700U	
62-53-3	Aniline	1700U	
111-44-4	bis(-2-Chloroethyl)Ether	1700U	
95-57-8	2-Chlorophenol	1700U	
541-73-1	1, 3-Dichlorobenzene	1700U	
106-46-7	1, 4-Dichlorobenzene	1700U	
100-51-6	Benzyl Alcohol	1700U	
95-50-1	1, 2-Dichlorobenzene	1700U	
95-48-7	2-Methylphenol	1700U	
39638-32-9	bis(2-chloroisopropyl)Ether	1700U	
106-44-5	4-Methylphenol	1700U	
621-64-7	N-Nitroso-Di-n-Propylamine	1700U	
67-72-1	Hexachloroethane	1700U	
98-95-3	Nitrobenzene	1700U	
78-59-1	Isophorone	1700J	✓
88-75-5	2-Nitrophenol	1700U	
105-67-9	2, 4-Dimethylphenol	1700U	
65-85-0	Benzoic Acid	8,000J	✓
111-91-1	bis(-2-Chloroethoxy)Methane	1700U	
120-83-2	2, 4-Dichlorophenol	1700U	
120-82-1	1, 2, 4-Trichlorobenzene	1700U	
91-20-3	Naphthalene	1700J	✓
106-47-8	4-Chloroaniline	1700U	
87-68-3	Hexachlorobutadiene	1700U	
59-50-7	4-Chloro-3-Methylphenol	1700U	
91-57-6	2-Methylnaphthalene	1700J	✓
77-47-4	Hexachlorocyclopentadiene	1700U	
88-06-2	2, 4, 6-Trichlorophenol	1700U	
95-95-4	2, 4, 5-Trichlorophenol	8,000U	
91-58-7	2-Chloronaphthalene	1700U	
88-74-4	2-Nitroaniline	8,000U	
131-11-3	Dimethyl Phthalate	1700U	
208-96-8	Acenaphthylene	1700U	
99-09-2	3-Nitroaniline	8,000U	

CAS Number		ug/l or ug/Kg (Circle One)	
83-32-9	Acenaphthene	1700U	
51-28-5	2, 4-Dinitrophenol	8,000U	
100-02-7	4-Nitrophenol	8,000U	
132-64-9	Dibenzofuran	1700U	
121-14-2	2, 4-Dinitrotoluene	1700U	
606-20-2	2, 6-Dinitrotoluene	1700U	
84-66-2	Diethylphthalate	1700U	
7005-72-3	4-Chlorophenyl-phenylether	1700U	
86-73-7	Fluorene	1700U	
100-01-6	4-Nitroaniline	8,000U	
534-52-1	4, 6-Dinitro-2-Methylphenol	8,000U	
86-30-6	N-Nitrosodiphenylamine (1)	1700U	
101-55-3	4-Bromophenyl-phenylether	1700U	
118-74-1	Hexachlorobenzene	1700U	
87-86-5	Pentachlorophenol	8,000U	
85-01-8	Phenanthrene	1700J	✓
120-12-7	Anthracene	1700U	
84-74-2	Di-n-Butylphthalate	1700J	✓
206-44-0	Fluoranthene	1700J	✓
92-87-5	Benzidine	8,000U	
129-00-0	Pyrene	1700J	✓
85-68-7	Butylbenzylphthalate	7900	✓
91-94-1	3, 3'-Dichlorobenzidine	3300U	
56-55-3	Benzo(a)Anthracene	1700U	
117-81-7	bis(2-Ethylhexyl)Phthalate	7900	✓
218-01-9	Chrysene	1700U	
117-84-0	Di-n-Octyl Phthalate	1700J	✓
205-99-2	Benzo(b)Fluoranthene	1700J	✓
207-08-9	Benzo(k)Fluoranthene	1700U	
50-32-8	Benzo(a)Pyrene	1700J	✓
193-39-5	Indeno(1, 2, 3-cd)Pyrene	1700U	
53-70-3	Dibenz(a, h)Anthracene	1700U	
191-24-2	Benzo(g, h, i)Perylene	1700U	

(1)-Cannot be separated from diphenylamine

Environmental Protection Agency, CLP Sample Management Office,
P.O. Box 818, Alexandria, Virginia 22313 703/557-2490

Sample Number
BA127

Organics Analysis Data Sheet
(Page 3)

Pesticide/PCBs

Concentration: Low Medium (Circle One)

Date Extracted/Prepared: 3-28-85

Date Analyzed: 4-10-85

Conc/Dil Factor: 30g : 5ml / 1:4

CAS Number		ug/l or ug/Kg (Circle One)
319-84-6	Alpha-BHC	16 u
319-85-7	Beta-BHC	16 u
319-86-8	Delta-BHC	16 u
58-89-9	Gamma-BHC (Lindane)	16 u
76-44-8	Heptachlor	16 u
309-00-2	Aldrin	16 u
1024-57-3	Heptachlor Epoxide	16 u
959-98-8	Endosulfan I	16 u
60-57-1	Dieldrin	32 u
72-55-9	4, 4'-DDE	32 u
72-20-8	Endrin	32 u
33213-65-9	Endosulfan II	32 u
72-54-8	4, 4'-DDD	32 u
7421-93-4	Endrin Aldehyde	32 u
1031-07-8	Endosulfan Sulfate	32 u
50-29-3	4, 4'-DDT	32 u
72-43-5	Methoxychlor	160 u
53494-70-5	Endrin Ketone	160 u
57-74-9	Chlordane	2300
8001-35-2	Toxaphene	160 u
12674-11-2	Aroclor-1016	160 u
11104-28-2	Aroclor-1221	160 u
11141-16-5	Aroclor-1232	160 u
53469-21-9	Aroclor-1242	160 u
12672-29-6	Aroclor-1248	160 u
11097-69-1	Aroclor-1254	320 u
11096-82-5	Aroclor-1260	3200

V_i = Volume of extract injected (ul)

V_s = Volume of water extracted (ml)

W_s = Weight of sample extracted (g)

V_t = Volume of total extract (ul)

V_s _____ or W_s 30g V_t 5000 ml V_i 2 ul

Form 1

tal Protection Agency. CLP Sample Management Office.
8. Alexandria, Virginia 22313 703/557-2490

0241

Sample Number BA128

Organics Analysis Data Sheet
(Page 1)

Laboratory Name: Radian
Lab Sample ID No: 4FU03210V02
Sample Matrix: Soil
Data Release Authorized By: K Umlandrica

Case No: 4040
QC Report No: 54
Contract No: 68-01-6853
Date Sample Received: 3-21-85

Volatile Compounds

Concentration: Low Medium (Circle One)
Date Extracted/Prepared: 3-27-85
Date Analyzed: 3-27-85
Conc/Dil Factor: 1:1 pH 6.7
Percent Moisture: 7
Percent Moisture (Decanted): —

CAS Number		ug/l or ug/Kg (Circle One)
74-87-3	Chloromethane	10U
74-83-9	Bromomethane	10U
75-01-4	Vinyl Chloride	10U
75-00-3	Chloroethane	10U
75-09-2	Methylene Chloride	~~12B~~ ✓
67-64-1	Acetone	~~17B~~ ✓
75-15-0	Carbon Disulfide	5U
75-35-4	1, 1-Dichloroethene	5U
75-34-3	1, 1-Dichloroethane	5U
156-60-5	Trans-1, 2-Dichloroethene	5U
67-66-3	Chloroform	5U
107-06-2	1, 2-Dichloroethane	5U
78-93-3	2-Butanone	~~20B~~ ✓
71-55-6	1, 1, 1-Trichloroethane	5U
56-23-5	Carbon Tetrachloride	5U
108-05-4	Vinyl Acetate	10U
75-27-4	Bromodichloromethane	5U

CAS Number		ug/l or ug/Kg (Circle One)
79-34-5	1, 1, 2, 2-Tetrachloroethane	5U
78-87-5	1, 2-Dichloropropane	5U
10061-02-6	Trans-1, 3-Dichloropropene	5U
79-01-6	Trichloroethene	5U
124-48-1	Dibromochloromethane	5U
79-00-5	1, 1, 2-Trichloroethane	5U
71-43-2	Benzene	5U
10061-01-5	cis-1, 3-Dichloropropene	5U
110-75-8	2-Chloroethylvinylether	10U
75-25-2	Bromoform	5U
591-78-6	2-Hexanone	10U
108-10-1	4-Methyl-2-Pentanone	10U
127-18-4	Tetrachloroethene	5U
108-88-3	Toluene	5J ✓
108-90-7	Chlorobenzene	5U
100-41-4	Ethylbenzene	5U
100-42-5	Styrene	5U
	Total Xylenes	5U

Data Reporting Qualifiers

For reporting results to EPA, the following results qualifiers are used. Additional flags or footnotes explaining results are encouraged. However, the definition of each flag must be explicit.

Value If the result is a value greater than or equal to the detection limit, report the value.

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J Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicates the presence of a compound that meets the identification criteria but

C This flag applies to pesticide parameters where the identification has been confirmed by GC/MS. Single component pesticides ≥10 ng/ul in the final extract should be confirmed by GC/MS.

B This flag is used when the analyte is found in the blank as well as a sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.

Other Other specific flags and footnotes may be required to properly define the results. If used, they must be fully described and such description attached to the data summary report.

0242

Sample Number
BA128

ntal Protection Agency, CLP Sample Management Office,
818, Alexandria, Virginia 22313 703/557-2490

Organics Analysis Data Sheet
(Page 2)

Semivolatile Compounds

Concentration: Low Medium (Circle One)

Date Extracted/Prepared: 3-28-85

Date Analyzed: 4-9-85

Conc/Dil Factor: 30.2 g : 1 ml

CAS Number		ug/l or ug/Kg (Circle One)
62-75-9	N-Nitrosodimethylamine	330u
108-95-2	Phenol	330u
62-53-3	Aniline	330u
111-44-4	bis(-2-Chloroethyl)Ether	330u
95-57-8	2-Chlorophenol	330u
541-73-1	1, 3-Dichlorobenzene	330u
106-46-7	1, 4-Dichlorobenzene	330u
100-51-6	Benzyl Alcohol	330u
95-50-1	1, 2-Dichlorobenzene	330u
95-48-7	2-Methylphenol	330u
39638-32-9	bis(2-chloroisopropyl)Ether	330u
106-44-5	4-Methylphenol	330u
621-64-7	N-Nitroso-Di-n-Propylamine	330u
67-72-1	Hexachloroethane	330u
98-95-3	Nitrobenzene	330u
78-59-1	Isophorone	330u
88-75-5	2-Nitrophenol	330u
105-67-9	2, 4-Dimethylphenol	330u
65-85-0	Benzoic Acid	1600u
111-91-1	bis(-2-Chloroethoxy)Methane	330u
120-83-2	2, 4-Dichlorophenol	330u
120-82-1	1, 2, 4-Trichlorobenzene	330u
91-20-3	Naphthalene	330u
106-47-8	4-Chloroaniline	330u
87-68-3	Hexachlorobutadiene	330u
59-50-7	4-Chloro-3-Methylphenol	330u
91-57-6	2-Methylnaphthalene	330u
77-47-4	Hexachlorocyclopentadiene	330u
88-06-2	2, 4, 6-Trichlorophenol	330u
95-95-4	2, 4, 5-Trichlorophenol	1600u
91-58-7	2-Chloronaphthalene	330u
88-74-4	2-Nitroaniline	1600u
131-11-3	Dimethyl Phthalate	330u
208-96-8	Acenaphthylene	6900
99-09-2	3-Nitroaniline	1600u

CAS Number		ug/l or ug/Kg (Circle One)
83-32-9	Acenaphthene	5700
51-28-5	2, 4-Dinitrophenol	1600u
100-02-7	4-Nitrophenol	1600u
132-64-9	Dibenzofuran	5500
121-14-2	2, 4-Dinitrotoluene	330u
606-20-2	2, 6-Dinitrotoluene	330u
84-66-2	Diethylphthalate	12,000
7005-72-3	4-Chlorophenyl-phenylether	330u
86-73-7	Fluorene	10,000
100-01-6	4-Nitroaniline	1600u
534-52-1	4, 6-Dinitro-2-Methylphenol	1600u
86-30-6	N-Nitrosodiphenylamine (1)	330u
101-55-3	4-Bromophenyl-phenylether	330u
118-74-1	Hexachlorobenzene	330u
87-86-5	Pentachlorophenol	1600u
85-01-8	Phenanthrene	120,000
120-12-7	Anthracene	330u
84-74-2	Di-n-Butylphthalate	330u
206-44-0	Fluoranthene	330u
92-87-5	Benzidine	1600u
129-00-0	Pyrene	24,000
85-68-7	Butylbenzylphthalate	25,000
91-94-1	3, 3'-Dichlorobenzidine	660u
56-55-3	Benzo(a)Anthracene	250,000
117-81-7	bis(2-Ethylhexyl)Phthalate	89,000
218-01-9	Chrysene	92,000
117-84-0	Di-n-Octyl Phthalate	4500
205-99-2	Benzo(b)Fluoranthene	55,000
207-08-9	Benzo(k)Fluoranthene	54,000
50-32-8	Benzo(a)Pyrene	55,000
193-39-5	Indeno(1, 2, 3-cd)Pyrene	41,000
53-70-3	Dibenz(a, h)Anthracene	14,000
191-24-2	Benzo(g, h, i)Perylene	36,000

(1) Cannot be separated from diphenylamine

Protection Agency. CLP Sample Management Office.
Alexandria, Virginia 22313 703/557-2490

0243

Sample Number
BA 128

Organics Analysis Data Sheet
(Page 3)

Pesticide/PCBs

Concentration: Low Medium (Circle One)

Date Extracted/Prepared: 3-28-85

Date Analyzed: 4-10-85

Conc/Dil Factor: 30g : 5ml

CAS Number		ug/l or ug/Kg (Circle One)
319-84-6	Alpha-BHC	4.0 u
319-85-7	Beta-BHC	4.0 u
319-86-8	Delta-BHC	4.0 u
58-89-9	Gamma-BHC (Lindane)	4.0 u
76-44-8	Heptachlor	4.0 u
309-00-2	Aldrin	4.0 u
1024-57-3	Heptachlor Epoxide	4.0 u
959-98-8	Endosulfan I	4.0 u
60-57-1	Dieldrin	8.0 u
72-55-9	4, 4'-DDE	10.0
72-20-8	Endrin	8.0 u
33213-65-9	Endosulfan II	8.0 u
72-54-8	4, 4'-DDD	8.0 u
7421-93-4	Endrin Aldehyde	8.0 u
1031-07-8	Endosulfan Sulfate	8.0 u
50-29-3	4, 4'-DDT	8.0 u
72-43-5	Methoxychlor	40.0 u
53494-70-5	Endrin Ketone	40.0 u
57-74-9	Chlordane	340.0
8001-35-2	Toxaphene	40.0 u
12674-11-2	Aroclor-1016	40.0 u
11104-28-2	Aroclor-1221	40.0 u
11141-16-5	Aroclor-1232	40.0 u
53469-21-9	Aroclor-1242	40.0 u
12672-29-6	Aroclor-1248	40.0 u
11097-69-1	Aroclor-1254	80.0 u
11096-82-5	Aroclor-1260	170.0

V_i = Volume of extract injected (ul)

V_s = Volume of water extracted (ml)

W_s = Weight of sample extracted (g)

V_t = Volume of total extract (ul)

V_s _____ or W_s 30g V_t 5000 µL V_i 2 µL

Environmental Protection Agency. CLP Sample Management Office.
P. O. Box 818. Alexandria, Virginia 22313 703/557-2490

0325

Sample Number BA129

Organics Analysis Data Sheet
(Page 1)

Laboratory Name: Radian
Case No: 4040
Lab Sample ID No: 4EV03210V03
QC Report No: 54
Sample Matrix: Soil
Contract No: 68-01-6953
Data Release Authorized By: K. Mahadevan
Date Sample Received: 3-21-85

Volatile Compounds

Concentration: (Low) Medium (Circle One)
Date Extracted/Prepared: 3-27-85
Date Analyzed: 3-27-85
Conc/Dil Factor: 1:1 pH 6.4
Percent Moisture: 31
Percent Moisture (Decanted): —

CAS Number		ug/l or ug/Kg (Circle One)
74-87-3	Chloromethane	10U
74-83-9	Bromomethane	10U
75-01-4	Vinyl Chloride	10U
75-00-3	Chloroethane	10U
75-09-2	Methylene Chloride	~~15 B~~ ✓
67-64-1	Acetone	~~17 B~~ ✓
75-15-0	Carbon Disulfide	5U
75-35-4	1, 1-Dichloroethene	5U
75-34-3	1, 1-Dichloroethane	5U
156-60-5	Trans-1, 2-Dichloroethene	5U
67-66-3	Chloroform	5U
107-06-2	1, 2-Dichloroethane	5U
78-93-3	2-Butanone	10U
71-55-6	1, 1, 1-Trichloroethane	5U
56-23-5	Carbon Tetrachloride	5U
108-05-4	Vinyl Acetate	10J ✓
75-27-4	Bromodichloromethane	5U

CAS Number		ug/l or ug/Kg (Circle One)
79-34-5	1, 1, 2, 2-Tetrachloroethane	5U
78-87-5	1, 2-Dichloropropane	5U
10061-02-6	Trans-1, 3-Dichloropropene	5U
79-01-6	Trichloroethene	5U
124-48-1	Dibromochloromethane	5U
79-00-5	1, 1, 2-Trichloroethane	5U
71-43-2	Benzene	5U
10061-01-5	cis-1, 3-Dichloropropene	5U
110-75-8	2-Chloroethylvinylether	10U
75-25-2	Bromoform	5U
591-78-6	2-Hexanone	10U
108-10-1	4-Methyl-2-Pentanone	10U
127-18-4	Tetrachloroethene	5U
108-88-3	Toluene	5U
108-90-7	Chlorobenzene	5U
100-41-4	Ethylbenzene	5U
100-42-5	Styrene	5U
	Total Xylenes	5U

Data Reporting Qualifiers

For reporting results to EPA, the following results qualifiers are used. Additional flags or footnotes explaining results are encouraged. However, the definition of each flag must be explicit.

Value If the result is a value greater than or equal to the detection limit, report the value.

U Indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U (e.g., 10U) based on necessary concentration/dilution actions. (This is not necessarily the instrument detection limit.) The footnote should read: U-Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample.

J Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicates the presence of a compound that meets the identification criteria but

C This flag applies to pesticide parameters where the identification has been confirmed by GC/MS. Single component pesticides ≥10 ng/ul in the final extract should be confirmed by GC/MS.

B This flag is used when the analyte is found in the blank as well as a sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.

Other Other specific flags and footnotes may be required to properly define the results. If used, they must be fully described and such description attached to the data summary report.

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032J

Environmental Protection Agency. CLP Sample Management Office.
P.O. Box 818. Alexandria, Virginia 22313 703/557-2490

Sample Number
BA 129

Organics Analysis Data Sheet
(Page 2)

Semivolatile Compounds

Concentration: Low Medium (Circle One)

Date Extracted/Prepared: 3-28-85

Date Analyzed: 4-9-85

Conc/Dil Factor: 31g : 1 ml

CAS Number		ug/l or ug/Kg (Circle One)
62-75-9	N-Nitrosodimethylamine	330u
108-95-2	Phenol	330u
62-53-3	Aniline	330u
111-44-4	bis(-2-Chloroethyl)Ether	330u
95-57-8	2-Chlorophenol	330u
541-73-1	1, 3-Dichlorobenzene	330u
106-46-7	1, 4-Dichlorobenzene	330u
100-51-6	Benzyl Alcohol	330u
95-50-1	1, 2-Dichlorobenzene	330u
95-48-7	2-Methylphenol	330u
39638-32-9	bis(2-chloroisopropyl)Ether	330u
106-44-5	4-Methylphenol	330u
621-64-7	N-Nitroso-Di-n-Propylamine	330u
67-72-1	Hexachloroethane	330u
98-95-3	Nitrobenzene	330u
78-59-1	Isophorone	330u
88-75-5	2-Nitrophenol	330u
105-67-9	2, 4-Dimethylphenol	330u
65-85-0	Benzoic Acid	1600u
111-91-1	bis(-2-Chloroethoxy)Methane	330u
120-83-2	2, 4-Dichlorophenol	330u
120-82-1	1, 2, 4-Trichlorobenzene	330u
91-20-3	Naphthalene	330u
106-47-8	4-Chloroaniline	330u
87-68-3	Hexachlorobutadiene	330u
59-50-7	4-Chloro-3-Methylphenol	330u
91-57-6	2-Methylnaphthalene	330u
77-47-4	Hexachlorocyclopentadiene	330u
88-06-2	2, 4, 6-Trichlorophenol	330u
95-95-4	2, 4, 5-Trichlorophenol	1600u
91-58-7	2-Chloronaphthalene	330u
88-74-4	2-Nitroaniline	1600u
131-11-3	Dimethyl Phthalate	330u
208-96-8	Acenaphthylene	330u
99-09-2	3-Nitroaniline	1600u

CAS Number		ug/l or ug/Kg (Circle One)
83-32-9	Acenaphthene	330u
51-28-5	2, 4-Dinitrophenol	1600u
100-02-7	4-Nitrophenol	1600u
132-64-9	Dibenzofuran	330u
121-14-2	2, 4-Dinitrotoluene	330u
606-20-2	2, 6-Dinitrotoluene	330u
84-66-2	Diethylphthalate	790 ✓
7005-72-3	4-Chlorophenyl-phenylether	330u
86-73-7	Fluorene	330u
100-01-6	4-Nitroaniline	1600u
534-52-1	4, 6-Dinitro-2-Methylphenol	1600u
86-30-6	N-Nitrosodiphenylamine (1)	330u
101-55-3	4-Bromophenyl-phenylether	330u
118-74-1	Hexachlorobenzene	330u
87-86-5	Pentachlorophenol	1600u
85-01-8	Phenanthrene	790 ✓
120-12-7	Anthracene	330u
84-74-2	Di-n-Butylphthalate	1200 ✓
206-44-0	Fluoranthene	1300 ✓
92-87-5	Benzidine	1600u
129-00-0	Pyrene	1100 ✓
85-68-7	Butylbenzylphthalate	1200 ✓
91-94-1	3, 3'-Dichlorobenzidine	660u
56-55-3	Benzo(a)Anthracene	560 ✓
117-81-7	bis(2-Ethylhexyl)Phthalate	1200 ✓
218-01-9	Chrysene	690 ✓
117-84-0	Di-n-Octyl Phthalate	330u
205-99-2	Benzo(b)Fluoranthene	530 ✓
207-08-9	Benzo(k)Fluoranthene	460 ✓
50-32-8	Benzo(a)Pyrene	450 ✓
193-39-5	Indeno(1, 2, 3-cd)Pyrene	300 ✓
53-70-3	Dibenz(a, h)Anthracene	330u
191-24-2	Benzo(g, h, i)Perylene	270 ✓

(1) N-Cannot be separated from diphenylamine

/onmental Protection Agency. CLP Sample Management Office.
J. Box 818. Alexandria, Virginia 22313 703/557-2490

0330

Sample Number
BA 129

Organics Analysis Data Sheet
(Page 3)

Pesticide/PCBs

Concentration: Low Medium (Circle One)

Date Extracted/Prepared: 3-28-85

Date Analyzed: 4-10-85

Conc/Dil Factor: 31g : 5ml

CAS Number		ug/l or ug/Kg (Circle One)
319-84-6	Alpha-BHC	4.0
319-85-7	Beta-BHC	4.0
319-86-8	Delta-BHC	4.0
58-89-9	Gamma-BHC (Lindane)	4.0
76-44-8	Heptachlor	4.0
309-00-2	Aldrin	4.0
1024-57-3	Heptachlor Epoxide	4.0
959-98-8	Endosulfan I	4.0
60-57-1	Dieldrin	8.0
72-55-9	4, 4'-DDE	11.0
72-20-8	Endrin	8.0
33213-65-9	Endosulfan II	8.0
72-54-8	4, 4'-DDD	20.0
7421-93-4	Endrin Aldehyde	8.0
1031-07-8	Endosulfan Sulfate	8.0
50-29-3	4, 4'-DDT	35.0
72-43-5	Methoxychlor	40.0
53494-70-5	Endrin Ketone	40.0
57-74-9	Chlordane	80.0 J
8001-35-2	Toxaphene	40.0 u
12674-11-2	Aroclor-1016	40.0 u
11104-28-2	Aroclor-1221	40.0 u
11141-16-5	Aroclor-1232	40.0 u
53469-21-9	Aroclor-1242	40.0 u
12672-29-6	Aroclor-1248	40.0 u
11097-69-1	Aroclor-1254	80.0 u
11096-82-5	Aroclor-1260	80.0 J

V_i = Volume of extract injected (ul)

V_s = Volume of water extracted (ml)

W_s = Weight of sample extracted (g)

V_t = Volume of total extract (ul)

V_s _____ or W_s 31g V_t 5000 ml V_i 2 ml

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Environmental Protection Agency. CLP Sample Management Office.
P.O. Box 818. Alexandria, Virginia 22313 703/557-2490

Sample Number
BA130

Organics Analysis Data Sheet
(Page 1)

0394

Laboratory Name: Radian
Case No: 4040
Lab Sample ID No: HE W0321 0V04
QC Report No: 54
Sample Matrix: Soil
Contract No: 68-01-6553
Data Release Authorized By: K. Wardwell
Date Sample Received: 3-21-85

Volatile Compounds

Concentration: Low Medium (Circle One)
Date Extracted/Prepared: 3-28-85
Date Analyzed: 3-25-85
Conc/Dil Factor: 1:10 pH 6.9
Percent Moisture: 30%
Percent Moisture (Decanted): —

CAS Number		ug/l or ug/Kg (Circle One)
74-87-3	Chloromethane	100U
74-83-9	Bromomethane	100U
75-01-4	Vinyl Chloride	100U
75-00-3	Chloroethane	100U
75-09-2	Methylene Chloride	32 ✓
67-64-1	Acetone	120 ✓
75-15-0	Carbon Disulfide	50U
75-35-4	1, 1-Dichloroethene	50U
75-34-3	1, 1-Dichloroethane	50U
156-60-5	Trans-1, 2-Dichloroethene	50U
67-66-3	Chloroform	50U
107-06-2	1, 2-Dichloroethane	50U
78-93-3	2-Butanone	200 ✓
71-55-6	1, 1, 1-Trichloroethane	50U
56-23-5	Carbon Tetrachloride	50U
108-05-4	Vinyl Acetate	100U
75-27-4	Bromodichloromethane	50U

CAS Number		ug/l or ug/Kg (Circle One)
79-34-5	1, 1, 2, 2-Tetrachloroethane	50U
78-87-5	1, 2-Dichloropropane	50U
10061-02-6	Trans-1, 3-Dichloropropene	50U
79-01-6	Trichloroethene	50U
124-48-1	Dibromochloromethane	50U
79-00-5	1, 1, 2-Trichloroethane	50U
71-43-2	Benzene	50U
10061-01-5	cis-1, 3-Dichloropropene	50U
110-75-8	2-Chloroethylvinylether	100U
75-25-2	Bromoform	50U
591-78-6	2-Hexanone	100U
108-10-1	4-Methyl-2-Pentanone	100U
127-18-4	Tetrachloroethene	50U
108-88-3	Toluene	150 ✓
108-90-7	Chlorobenzene	50U
100-41-4	Ethylbenzene	170 ✓
100-42-5	Styrene	50U
	Total Xylenes	300 ✓

Data Reporting Qualifiers

For reporting results to EPA, the following results qualifiers are used. Additional flags or footnotes explaining results are encouraged. However, the definition of each flag must be explicit.

Value If the result is a value greater than or equal to the detection limit, report the value.

U Indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U (e.g., 10U) based on necessary concentration/dilution actions. (This is not necessarily the instrument detection limit.) The footnote should read: U-Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample.

J Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicates the presence of a compound that meets the identification criteria but

C This flag applies to pesticide parameters where the identification has been confirmed by GC/MS. Single component pesticides ≥10 ng/ul in the final extract should be confirmed by GC/MS.

B This flag is used when the analyte is found in the blank as well as a sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.

Other Other specific flags and footnotes may be required to properly define the results. If used, they must be fully described and such description attached to the data summary report.

.vironmental Protection Agency. CLP Sample Management Office.
/. O. Box 318. Alexandria, Virginia 22313 703/557-2490

Sample Number
BA130

Organics Analysis Data Sheet
(Page 2)

Semivolatile Compounds

Concentration: (Low) Medium (Circle One)
Date Extracted/Prepared: 3-28-84
Date Analyzed: 4-10-85
Conc/Dil Factor: 30.06 a 15.91

CAS Number		ug/l or ug/Kg (Circle One)	
62-75-9	N-Nitrosodimethylamine	2400 u	
108-95-2	Phenol	2400 J	✓
62-53-3	Aniline	2400 u	
111-44-4	bis(-2-Chloroethyl)Ether	2400 u	
95-57-8	2-Chlorophenol	2400 u	
541-73-1	1, 3-Dichlorobenzene	3200	✓
106-46-7	1, 4-Dichlorobenzene	2400 u	
100-51-6	Benzyl Alcohol	2400 u	
95-50-1	1, 2-Dichlorobenzene	2400 J	✓
95-48-7	2-Methylphenol	2400 u	
39638-32-9	bis(2-chloroisopropyl)Ether	2400 u	
106-44-5	4-Methylphenol	2400 u	
621-64-7	N-Nitroso-Di-n-Propylamine	2400 u	
67-72-1	Hexachloroethane	2400 u	
98-95-3	Nitrobenzene	2400 u	
78-59-1	Isophorone	2400 J	✓
88-75-5	2-Nitrophenol	2400 u	
105-67-9	2, 4-Dimethylphenol	2400 u	
65-85-0	Benzoic Acid	12000 u	
111-91-1	bis(-2-Chloroethoxy)Methane	2400 u	
120-83-2	2, 4-Dichlorophenol	2400 u	
120-82-1	1, 2, 4-Trichlorobenzene	2400 u	
91-20-3	Naphthalene	2400 J	✓
106-47-8	4-Chloroaniline	2400 u	
87-68-3	Hexachlorobutadiene	2400 u	
59-50-7	4-Chloro-3-Methylphenol	2400 u	
91-57-6	2-Methylnaphthalene	5200	✓
77-47-4	Hexachlorocyclopentadiene	2400 u	
88-06-2	2, 4, 6-Trichlorophenol	2400 u	
95-95-4	2, 4, 5-Trichlorophenol	12000 u	
91-58-7	2-Chloronaphthalene	2400 u	
88-74-4	2-Nitroaniline	12000 u	
131-11-3	Dimethyl Phthalate	2400 u	
208-96-8	Acenaphthylene	2400 J	✓
99-09-2	3-Nitroaniline	12000 u	

CAS Number		ug/l or ug/Kg (Circle One)	
83-32-9	Acenaphthene	2400 u	
51-28-5	2, 4-Dinitrophenol	12000 u	
100-02-7	4-Nitrophenol	12000 u	
132-64-9	Dibenzofuran	2400 J	✓
121-14-2	2, 4-Dinitrotoluene	2400 u	
606-20-2	2, 6-Dinitrotoluene	2400 u	
84-66-2	Diethylphthalate	2400 J	✓
7005-72-3	4-Chlorophenyl-phenylether	2400 u	
86-73-7	Fluorene	2400 J	✓
100-01-6	4-Nitroaniline	12000 u	
534-52-1	4, 6-Dinitro-2-Methylphenol	12000 u	
86-30-6	N-Nitrosodiphenylamine (1)	2400 u	
101-55-3	4-Bromophenyl-phenylether	2400 u	
118-74-1	Hexachlorobenzene	3500	✓
87-86-5	Pentachlorophenol	12000 u	
85-01-8	Phenanthrene	2700	✓
120-12-7	Anthracene	2400 J	✓
84-74-2	Di-n-Butylphthalate	2400 J	✓
206-44-0	Fluoranthene	2400 J	✓
92-87-5	Benzidine	12000 u	
129-00-0	Pyrene	2400 J	✓
85-68-7	Butylbenzylphthalate	6300	✓
91-94-1	3, 3'-Dichlorobenzidine	4800 u	
56-55-3	Benzo(a)Anthracene	2400 J	✓
117-81-7	bis(2-Ethylhexyl)Phthalate	10000	✓
218-01-9	Chrysene	2400 J	✓
117-84-0	Di-n-Octyl Phthalate	2400 J	✓
205-99-2	Benzo(b)Fluoranthene	2400 J	✓
207-08-9	Benzo(k)Fluoranthene	2400 J	✓
50-32-8	Benzo(a)Pyrene	2400 J	✓
193-39-5	Indeno(1, 2, 3-cd)Pyrene	2400 u	
53-70-3	Dibenz(a, h)Anthracene	2400 u	
191-24-2	Benzo(g, h, i)Perylene	2400 u	

(1) Cannot be separated from diphenylamine

ironmental Protection Agency. CLP Sample Management Office.
O. Box 818. Alexandria, Virginia 22313 703/557-2490

0396

Sample Number
BA 130

Organics Analysis Data Sheet
(Page 3)

Pesticide/PCBs

Concentration: Low Medium (Circle One)

Date Extracted/Prepared: 3-28-85

Date Analyzed:

Conc/Dil Factor: 30g : 5mL / 1:10

CAS Number		ug/l or ug/Kg (Circle One)
319-84-6	Alpha-BHC	~~40~~
319-85-7	Beta-BHC	~~40~~
319-86-8	Delta-BHC	~~40~~
58-89-9	Gamma-BHC (Lindane)	~~40~~
76-44-8	Heptachlor	~~40~~
309-00-2	Aldrin	~~40~~
1024-57-3	Heptachlor Epoxide	~~40~~
959-98-8	Endosulfan I	~~40~~
60-57-1	Dieldrin	~~80~~
72-55-9	4, 4'-DDE	~~80~~
72-20-8	Endrin	~~80~~
33213-65-9	Endosulfan II	~~80~~
72-54-8	4, 4'-DDD	~~80~~
7421-93-4	Endrin Aldehyde	~~80~~
1031-07-8	Endosulfan Sulfate	~~80~~
50-29-3	4, 4'-DDT	~~80~~
72-43-5	Methoxychlor	~~400~~
53494-70-5	Endrin Ketone	~~400~~
57-74-9	Chlordane	~~34,000~~
8001-35-2	Toxaphene	~~400~~
12674-11-2	Aroclor-1016	~~400~~
11104-28-2	Aroclor-1221	~~400~~
11141-16-5	Aroclor-1232	~~400~~
53469-21-9	Aroclor-1242	~~400~~
12672-29-6	Aroclor-1248	~~400~~
11097-69-1	Aroclor-1254	~~800~~
11096-82-5	Aroclor-1260	~~7,200~~

V_i = Volume of extract injected (ul)

V_s = Volume of water extracted (ml)

W_s = Weight of sample extracted (g)

V_t = Volume of total extract (ul)

V_s _____ or W_s 30g V_t 5000uL V_i 2uL

145

Environmental Protection Agency, CLP Sample Management Office,
P. O. Box 818, Alexandria, Virginia 22313 703/557-2490

0489

Sample Number
B3904

Organics Analysis Data Sheet
(Page 1)

Laboratory Name: Radian
Lab Sample ID No: 4ER03210V05
Sample Matrix: Soil
Data Release Authorized By: K. [illegible]

Case No: 4040
QC Report No: 54
Contract No: 68-01-6853
Date Sample Received: 3-21-85

Volatile Compounds

Concentration: Low Medium (Circle One)
Date Extracted/Prepared: 3-28-85
Date Analyzed: 3-28-85
Conc/Dil Factor: 1:1 pH 5.3
Percent Moisture: 29 %
Percent Moisture (Decanted): —

CAS Number		ug/l or ug/Kg (Circle One)
74-87-3	Chloromethane	10U
74-83-9	Bromomethane	10U
75-01-4	Vinyl Chloride	10U
75-00-3	Chloroethane	10U
75-09-2	Methylene Chloride	23 ✓
67-64-1	Acetone	10J ✓
75-15-0	Carbon Disulfide	5U
75-35-4	1, 1-Dichloroethene	5U
75-34-3	1, 1-Dichloroethane	5U
156-60-5	Trans-1, 2-Dichloroethene	5U
67-66-3	Chloroform	5U
107-06-2	1, 2-Dichloroethane	5U
78-93-3	2-Butanone	10J ✓
71-55-6	1, 1, 1-Trichloroethane	5J ✓
56-23-5	Carbon Tetrachloride	5U
108-05-4	Vinyl Acetate	10U
75-27-4	Bromodichloromethane	5U

CAS Number		ug/l or ug/Kg (Circle One)
79-34-5	1, 1, 2, 2-Tetrachloroethane	5U
78-87-5	1, 2-Dichloropropane	5U
10061-02-6	Trans-1, 3-Dichloropropene	5U
79-01-6	Trichloroethene	5U
124-48-1	Dibromochloromethane	5U
79-00-5	1, 1, 2-Trichloroethane	5U
71-43-2	Benzene	5U
10061-01-5	cis-1, 3-Dichloropropene	5U
110-75-8	2-Chloroethylvinylether	10U
75-25-2	Bromoform	5U
591-78-6	2-Hexanone	10U
108-10-1	4-Methyl-2-Pentanone	10U
127-18-4	Tetrachloroethene	7 ✓
108-88-3	Toluene	6 ✓
108-90-7	Chlorobenzene	5U
100-41-4	Ethylbenzene	5U
100-42-5	Styrene	5U
	Total Xylenes	5U

Data Reporting Qualifiers

For reporting results to EPA, the following results qualifiers are used. Additional flags or footnotes explaining results are encouraged. However, the definition of each flag must be explicit.

Value If the result is a value greater than or equal to the detection limit, report the value.

U Indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U (e.g., 10U) based on necessary concentration/dilution actions. (This is not necessarily the instrument detection limit.) The footnote should read: U-Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample.

J Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicates the presence of a compound that meets the identification criteria but

C This flag applies to pesticide parameters where the identification has been confirmed by GC/MS. Single component pesticides ≥10 ng/ul in the final extract should be confirmed by GC/MS.

B This flag is used when the analyte is found in the blank as well as a sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.

Other Other specific flags and footnotes may be required to properly define the results. If used, they must be fully described and such description attached to the data summary report.

Environmental Protection Agency. CLP Sample Management Office.
P. O. Box 818. Alexandria, Virginia 22313 703/557-2490

0490

Sample Number
B3904

Organics Analysis Data Sheet
(Page 2)

Semivolatile Compounds

Concentration: Low Medium (Circle One)

Date Extracted/Prepared: 3-25-85

Date Analyzed: 4-10-85

Conc/Dil Factor: 8g/15mL

CAS Number		ug/l or ug/Kg (Circle One)
62-75-9	N-Nitrosodimethylamine	8800U
108-95-2	Phenol	8800U
62-53-3	Aniline	8800U
111-44-4	bis(-2-Chloroethyl)Ether	8800U
95-57-8	2-Chlorophenol	8800U
541-73-1	1, 3-Dichlorobenzene	8800U
106-46-7	1, 4-Dichlorobenzene	8800U
100-51-6	Benzyl Alcohol	8800U
95-50-1	1, 2-Dichlorobenzene	8800U
95-48-7	2-Methylphenol	8800U
39638-32-9	bis(2-chloroisopropyl)Ether	8800U
106-44-5	4-Methylphenol	8800U
621-64-7	N-Nitroso-Di-n-Propylamine	8800U
67-72-1	Hexachloroethane	8800U
98-95-3	Nitrobenzene	8800U
78-59-1	Isophorone	8800U
88-75-5	2-Nitrophenol	8800U
105-67-9	2, 4-Dimethylphenol	8800U
65-85-0	Benzoic Acid	44,000J ✓
111-91-1	bis(-2-Chloroethoxyl)Methane	8800U
120-83-2	2, 4-Dichlorophenol	8800U
120-82-1	1, 2, 4-Trichlorobenzene	8800U
91-20-3	Naphthalene	8800U
106-47-8	4-Chloroaniline	8800U
87-68-3	Hexachlorobutadiene	8800U
59-50-7	4-Chloro-3-Methylphenol	8800U
91-57-6	2-Methylnaphthalene	8800U
77-47-4	Hexachlorocyclopentadiene	8800U
88-06-2	2, 4, 6-Trichlorophenol	8800U
95-95-4	2, 4, 5-Trichlorophenol	44,000U
91-58-7	2-Chloronaphthalene	8800U
88-74-4	2-Nitroaniline	44,000U
131-11-3	Dimethyl Phthalate	8800U
208-96-8	Acenaphthylene	8800U
99-09-2	3-Nitroaniline	44,000U

CAS Number		ug/l or ug/Kg (Circle One)
83-32-9	Acenaphthene	8800U
51-28-5	2, 4-Dinitrophenol	44,000U
100-02-7	4-Nitrophenol	44,000U
132-64-9	Dibenzofuran	8800U
121-14-2	2, 4-Dinitrotoluene	8800U
606-20-2	2, 6-Dinitrotoluene	8800U
84-66-2	Diethylphthalate	8800J ✓
7005-72-3	4-Chlorophenyl-phenylether	8800U
86-73-7	Fluorene	8800U
100-01-6	4-Nitroaniline	44,000U
534-52-1	4, 6-Dinitro-2-Methylphenol	44,000U
86-30-6	N-Nitrosodiphenylamine (1)	8800U
101-55-3	4-Bromophenyl-phenylether	8800U
118-74-1	Hexachlorobenzene	8800U
87-86-5	Pentachlorophenol	44,000U
85-01-8	Phenanthrene	8800U
120-12-7	Anthracene	8800U
84-74-2	Di-n-Butylphthalate	8800U
206-44-0	Fluoranthene	8800U
92-87-5	Benzidine	44,000U
129-00-0	Pyrene	8800U
85-68-7	Butylbenzylphthalate	8800U
91-94-1	3, 3'-Dichlorobenzidine	15,000U
56-55-3	Benzo(a)Anthracene	8800U
117-81-7	bis(2-Ethylhexyl)Phthalate	8800U
218-01-9	Chrysene	8800U
117-84-0	Di-n-Octyl Phthalate	8800J ✓
205-99-2	Benzo(b)Fluoranthene	8800U
207-08-9	Benzo(k)Fluoranthene	8800U
50-32-8	Benzo(a)Pyrene	8800U
193-39-5	Indeno(1, 2, 3-cd)Pyrene	8800U
53-70-3	Dibenz(a, h)Anthracene	8800U
191-24-2	Benzo(g, h, i)Perylene	8800U

(1)-Cannot be separated from diphenylamine

Environmental Protection Agency. CLP Sample Management Office.
P. O. Box 818. Alexandria, Virginia 22313 703/557-2490

0491

Sample Number
B3904

Organics Analysis Data Sheet
(Page 3)

Pesticide/PCBs

Concentration: Low Medium (Circle One)

Date Extracted/Prepared: 3-28-85

Date Analyzed: 4-10-85

Conc/Dil Factor: 8g : 5ml / 1:10

CAS Number		ug/l or ug/Kg (Circle One)
319-84-6	Alpha-BHC	~~120~~ u
319-85-7	Beta-BHC	~~120~~ u
319-86-8	Delta-BHC	~~120~~ u
58-89-9	Gamma-BHC (Lindane)	~~120~~ u
76-44-8	Heptachlor	~~120~~ u
309-00-2	Aldrin	~~120~~ u
1024-57-3	Heptachlor Epoxide	~~120~~ u
959-98-8	Endosulfan I	~~120~~ u
60-57-1	Dieldrin	~~240~~ u
72-55-9	4, 4'-DDE	~~240~~ u
72-20-8	Endrin	~~240~~ u
33213-65-9	Endosulfan II	~~240~~ u
72-54-8	4, 4'-DDD	~~240~~ u
7421-93-4	Endrin Aldehyde	~~240~~ u
1031-07-8	Endosulfan Sulfate	~~240~~ u
50-29-3	4, 4'-DDT	~~240~~ u
72-43-5	Methoxychlor	~~1200~~ u
53494-70-5	Endrin Ketone	~~1200~~ u
57-74-9	Chlordane	~~2400~~ u
8001-35-2	Toxaphene	~~1200~~ u
12674-11-2	Aroclor-1016	~~1200~~ u
11104-28-2	Aroclor-1221	~~1200~~ u
11141-16-5	Aroclor-1232	~~1200~~ u
53469-21-9	Aroclor-1242	~~1200~~ u
12672-29-6	Aroclor-1248	~~1200~~ u
11097-69-1	Aroclor-1254	~~1200~~ u
11096-82-5	Aroclor-1260	~~12,000~~

V_i = Volume of extract injected (ul)

V_s = Volume of water extracted (ml)

W_s = Weight of sample extracted (g)

V_t = Volume of total extract (ul)

V_s _____ or W_s 8g V_t 5000 ul V_i 2 ul

Environmental Protection Agency, CLP Sample Management Office,
P. O. Box 818, Alexandria, Virginia 22313 703/557-2490

Sample Number
B3908

Organics Analysis Data Sheet 0538
(Page 1)

Laboratory Name: Radian
Lab Sample ID No: 4ER03214V03
Sample Matrix: Soil
Data Release Authorized By: K. Nhiambuni

Case No: 4040
QC Report No: 54
Contract No: 68-01-6953
Date Sample Received: 3-21-85

Volatile Compounds

Concentration: (Low) Medium (Circle One)
Date Extracted/Prepared: 3-29-85
Date Analyzed: 3-29-85
Conc/Dil Factor: 1:1 pH 5.8
Percent Moisture: 17
Percent Moisture (Decanted): —

CAS Number		ug/l or (ug/Kg) (Circle One)
74-87-3	Chloromethane	10U
74-83-9	Bromomethane	10U
75-01-4	Vinyl Chloride	10U
75-00-3	Chloroethane	10U
75-09-2	Methylene Chloride	16 JB
67-64-1	Acetone	10U
75-15-0	Carbon Disulfide	5U
75-35-4	1, 1-Dichloroethene	5U
75-34-3	1, 1-Dichloroethane	5U
156-60-5	Trans-1, 2-Dichloroethene	5U
67-66-3	Chloroform	5U
107-06-2	1, 2-Dichloroethane	5U
78-93-3	2-Butanone	10U
71-55-6	1, 1, 1-Trichloroethane	5U
56-23-5	Carbon Tetrachloride	5U
108-05-4	Vinyl Acetate	10U
75-27-4	Bromodichloromethane	5U

CAS Number		ug/l or (ug/Kg) (Circle One)
79-34-5	1, 1, 2, 2-Tetrachloroethane	5U
78-87-5	1, 2-Dichloropropane	5U
10061-02-6	Trans-1, 3-Dichloropropene	5U
79-01-6	Trichloroethene	5U
124-48-1	Dibromochloromethane	5U
79-00-5	1, 1, 2-Trichloroethane	5U
71-43-2	Benzene	5U
10061-01-5	cis-1, 3-Dichloropropene	5U
110-75-8	2-Chloroethylvinylether	10U
75-25-2	Bromoform	5U
591-78-6	2-Hexanone	10U
108-10-1	4-Methyl-2-Pentanone	10U
127-18-4	Tetrachloroethene	5U
108-88-3	Toluene	5J
108-90-7	Chlorobenzene	5U
100-41-4	Ethylbenzene	5U
100-42-5	Styrene	5U
	Total Xylenes	5U

Data Reporting Qualifiers

For reporting results to EPA, the following results qualifiers are used. Additional flags or footnotes explaining results are encouraged. However, the definition of each flag must be explicit.

Value If the result is a value greater than or equal to the detection limit, report the value.

U Indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U (e.g., 10U) based on necessary concentration/dilution actions. (This is not necessarily the instrument detection limit.) The footnote should read U-Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample.

J Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicates the presence of a compound that meets the identification criteria but

C This flag applies to pesticide parameters where the identification has been confirmed by GC/MS. Single component pesticides ≥10 ng/ul in the final extract should be confirmed by GC/MS.

B This flag is used when the analyte is found in the blank as well as a sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.

Other Other specific flags and footnotes may be required to properly define the results. If used, they must be fully described and such description attached to the data summary report.

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Environmental Protection Agency, CLP Sample Management Office,
P. O. Box 818, Alexandria, Virginia 22313 703/557-2490

Sample Number
B3908

Organics Analysis Data Sheet
(Page 2)

Semivolatile Compounds

Concentration: Low Medium (Circle One)

Date Extracted/Prepared: 3-28-85

Date Analyzed: 4-10-85

Conc/Dil Factor: 8.58g/5ML

CAS Number		ug/l or ug/Kg (Circle One)
62-75-9	N-Nitrosodimethylamine	6800J
108-95-2	Phenol	6800u
62-53-3	Aniline	6800u
111-44-4	bis(-2-Chloroethyl)Ether	6800u
95-57-8	2-Chlorophenol	6800u
541-73-1	1, 3-Dichlorobenzene	6800u
106-46-7	1, 4-Dichlorobenzene	6800u
100-51-6	Benzyl Alcohol	6800u
95-50-1	1, 2-Dichlorobenzene	6800u
95-48-7	2-Methylphenol	6800u
39638-32-9	bis(2-chloroisopropyl)Ether	6800u
106-44-5	4-Methylphenol	6800u
621-64-7	N-Nitroso-Di-n-Propylamine	6800u
67-72-1	Hexachloroethane	6800u
98-95-3	Nitrobenzene	6800u
78-59-1	Isophorone	6800u
88-75-5	2-Nitrophenol	6800u
105-67-9	2, 4-Dimethylphenol	6800u
65-85-0	Benzoic Acid	34000u
111-91-1	bis(-2-Chloroethoxy)Methane	6800u
120-83-2	2, 4-Dichlorophenol	6800u
120-82-1	1, 2, 4-Trichlorobenzene	6800u
91-20-3	Naphthalene	6800u
106-47-8	4-Chloroaniline	6800u
87-68-3	Hexachlorobutadiene	6800u
59-50-7	4-Chloro-3-Methylphenol	6800u
91-57-6	2-Methylnaphthalene	6800u
77-47-4	Hexachlorocyclopentadiene	6800u
88-06-2	2, 4, 6-Trichlorophenol	6800u
95-95-4	2, 4, 5-Trichlorophenol	34000
91-58-7	2-Chloronaphthalene	6800u
88-74-4	2-Nitroaniline	34000
131-11-3	Dimethyl Phthalate	6800u
208-96-8	Acenaphthylene	6800u
99-09-2	3-Nitroaniline	34000

CAS Number		ug/l or ug/Kg (Circle One)
83-32-9	Acenaphthene	6800u
51-28-5	2, 4-Dinitrophenol	34000u
100-02-7	4-Nitrophenol	34000u
132-64-9	Dibenzofuran	6800u
121-14-2	2, 4-Dinitrotoluene	6800u
606-20-2	2, 6-Dinitrotoluene	6800u
84-66-2	Diethylphthalate	6800u
7005-72-3	4-Chlorophenyl-phenylether	6800u
86-73-7	Fluorene	6800u
100-01-6	4-Nitroaniline	34000u
534-52-1	4, 6-Dinitro-2-Methylphenol	34000u
86-30-6	N-Nitrosodiphenylamine (1)	6800u ✓
101-55-3	4-Bromophenyl-phenylether	6800u
118-74-1	Hexachlorobenzene	6800u
87-86-5	Pentachlorophenol	34000u
85-01-8	Phenanthrene	6800u
120-12-7	Anthracene	6800u
84-74-2	Di-n-Butylphthalate	6900 ✓
206-44-0	Fluoranthene	6800u
92-87-5	Benzidine	34000u
129-00-0	Pyrene	6800J ✓
85-68-7	Butylbenzylphthalate	990000 ✓
91-94-1	3, 3'-Dichlorobenzidine	14000u
56-55-3	Benzo(a)Anthracene	6800u
117-81-7	bis(2-Ethylhexyl)Phthalate	150000 ✓
218-01-9	Chrysene	6800u
117-84-0	Di-n-Octyl Phthalate	6800J ✓
205-99-2	Benzo(b)Fluoranthene	6800u
207-08-9	Benzo(k)Fluoranthene	6800u
50-32-8	Benzo(a)Pyrene	6800u
193-39-5	Indeno(1, 2, 3-cd)Pyrene	6800u
53-70-3	Dibenz(a, h)Anthracene	6800u
191-24-2	Benzo(g, h, i)Perylene	6800u

(1)-Cannot be separated from diphenylamine

Environmental Protection Agency, CLP Sample Management Office,
P. O. Box 818, Alexandria, Virginia 22313 703/557-2490

0540

Sample Number
B3908

Organics Analysis Data Sheet
(Page 3)

Pesticide/PCBs

Concentration: Low Medium (Circle One)

Date Extracted/Prepared: 3-28-85

Date Analyzed: 4-10-85

Conc/Dil Factor: 1g:5ml

CAS Number		ug/l or ug/Kg (Circle One)
319-84-6	Alpha-BHC	100 u
319-85-7	Beta-BHC	100 u
319-86-8	Delta-BHC	100 u
58-89-9	Gamma-BHC (Lindane)	100 u
76-44-8	Heptachlor	100 u
309-00-2	Aldrin	100 u
1024-57-3	Heptachlor Epoxide	100 u
959-98-8	Endosulfan I	100 u
60-57-1	Dieldrin	200 u
72-55-9	4, 4'-DDE	960
72-20-8	Endrin	200 u
33213-65-9	Endosulfan II	200 u
72-54-8	4, 4'-DDD	200 u
7421-93-4	Endrin Aldehyde	200 u
1031-07-8	Endosulfan Sulfate	200 u
50-29-3	4, 4'-DDT	200 u
72-43-5	Methoxychlor	1000 u
53494-70-5	Endrin Ketone	1000 u
57-74-9	Chlordane	2000 u
8001-35-2	Toxaphene	1000 u
12674-11-2	Aroclor-1016	1000 u
11104-28-2	Aroclor-1221	1000 u
11141-16-5	Aroclor-1232	1000 u
53469-21-9	Aroclor-1242	1000 u
12672-29-6	Aroclor-1248	1000 u
11097-69-1	Aroclor-1254	2000 u
11096-82-5	Aroclor-1260	650

V_i = Volume of extract injected (ul)

V_s = Volume of water extracted (ml)

W_s = Weight of sample extracted (g)

V_t = Volume of total extract (ul)

V_s _____ or W_s 1g V_t 5000ml V_i 2ml

Environmental Protection Agency. CLP Sample Management Office.
P. O. Box 818. Alexandria, Virginia 22313 703/557-2490

0580

Sample Number
B3940

Organics Analysis Data Sheet
(Page 1)

Laboratory Name: Radian
Case No: 4040
Lab Sample ID No: 4ER03210V06
QC Report No: 54
Sample Matrix: Soil
Contract No: 68-01-6853
Data Release Authorized By: K. Ulbardari
Date Sample Received: 3-21-85

Volatile Compounds

Concentration: (Low) Medium (Circle One)
Date Extracted/Prepared: 3-28-85
Date Analyzed: 3-28-85
Conc/Dil Factor: 1:1 pH 6.5
Percent Moisture: 19%
Percent Moisture (Decanted): —

CAS Number		ug/l or ug/Kg (Circle One)
74-87-3	Chloromethane	10u
74-83-9	Bromomethane	10u
75-01-4	Vinyl Chloride	10u
75-00-3	Chloroethane	10u
75-09-2	Methylene Chloride	16
67-64-1	Acetone	125
75-15-0	Carbon Disulfide	5u
75-35-4	1, 1-Dichloroethene	5u
75-34-3	1, 1-Dichloroethane	5u
156-60-5	Trans-1, 2-Dichloroethene	5u
67-66-3	Chloroform	5u
107-06-2	1, 2-Dichloroethane	5u
78-93-3	2-Butanone	10u
71-55-6	1, 1, 1-Trichloroethane	5u
56-23-5	Carbon Tetrachloride	5u
108-05-4	Vinyl Acetate	10u
75-27-4	Bromodichloromethane	5u

CAS Number		ug/l or ug/Kg (Circle One)
79-34-5	1, 1, 2, 2-Tetrachloroethane	5u
78-87-5	1, 2-Dichloropropane	5u
10061-02-6	Trans-1, 3-Dichloropropene	5u
79-01-6	Trichloroethene	5
124-48-1	Dibromochloromethane	5u
79-00-5	1, 1, 2-Trichloroethane	5u
71-43-2	Benzene	5u
10061-01-5	cis-1, 3-Dichloropropene	5u
110-75-8	2-Chloroethylvinylether	10u
75-25-2	Bromoform	5u
591-78-6	2-Hexanone	10u
108-10-1	4-Methyl-2-Pentanone	10u
127-18-4	Tetrachloroethene	11
108-88-3	Toluene	5J
108-90-7	Chlorobenzene	5u
100-41-4	Ethylbenzene	5u
100-42-5	Styrene	5u
	Total Xylenes	5u

Data Reporting Qualifiers

For reporting results to EPA, the following results qualifiers are used. Additional flags or footnotes explaining results are encouraged. However, the definition of each flag must be explicit.

Value If the result is a value greater than or equal to the detection limit, report the value.

U Indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U (e.g., 10U) based on necessary concentration/dilution actions. (This is not necessarily the instrument detection limit.) The footnote should read U-Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample.

J Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicates the presence of a compound that meets the identification criteria but

C This flag applies to pesticide parameters where the identification has been confirmed by GC/MS. Single component pesticides ≥10 ng/ul in the final extract should be confirmed by GC/MS.

B This flag is used when the analyte is found in the blank as well as a sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.

Other Other specific flags and footnotes may be required to properly define the results. If used, they must be fully described and such description attached to the data summary report.

0581

Sample Number
B3940

ıental Protection Agency, CLP Sample Management Office,
ox 818, Alexandria, Virginia 22313 703/557-2490

Organics Analysis Data Sheet
(Page 2)

Semivolatile Compounds

Concentration: Low Medium (Circle One)

Date Extracted/Prepared: 3-28-85

Date Analyzed: 4-10-85

Conc/Dil Factor: 29.79 g : 10 ml

CAS Number		ug/l or ug/Kg (Circle One)
62-75-9	N-Nitrosodimethylamine	3300U
108-95-2	Phenol	9300J
62-53-3	Aniline	3300U
111-44-4	bis(-2-Chloroethyl)Ether	3300U
95-57-8	2-Chlorophenol	3300U
541-73-1	1, 3-Dichlorobenzene	3300U
106-46-7	1, 4-Dichlorobenzene	3300U
100-51-6	Benzyl Alcohol	3300U
95-50-1	1, 2-Dichlorobenzene	3300U
95-48-7	2-Methylphenol	3300U
39638-32-9	bis(2-chloroisopropyl)Ether	3300U
106-44-5	4-Methylphenol	3300U
621-64-7	N-Nitroso-Di-n-Propylamine	3300U
67-72-1	Hexachloroethane	3300U
98-95-3	Nitrobenzene	3300U
78-59-1	Isophorone	6700
88-75-5	2-Nitrophenol	3300U
105-67-9	2, 4-Dimethylphenol	3300U
65-85-0	Benzoic Acid	16,000U
111-91-1	bis(-2-Chloroethoxy)Methane	3300U
120-83-2	2, 4-Dichlorophenol	3300U
120-82-1	1, 2, 4-Trichlorobenzene	3300U
91-20-3	Naphthalene	3300J
106-47-8	4-Chloroaniline	3300U
87-68-3	Hexachlorobutadiene	3300U
59-50-7	4-Chloro-3-Methylphenol	3300U
91-57-6	2-Methylnaphthalene	3300J
77-47-4	Hexachlorocyclopentadiene	3300U
88-06-2	2, 4, 6-Trichlorophenol	3300U
95-95-4	2, 4, 5-Trichlorophenol	16,000U
91-58-7	2-Chloronaphthalene	3300U
88-74-4	2-Nitroaniline	16,000U
131-11-3	Dimethyl Phthalate	3300U
208-96-8	Acenaphthylene	3300U
99-09-2	3-Nitroaniline	16,000U

CAS Number		ug/l or ug/Kg (Circle One)
83-32-9	Acenaphthene	3300U
51-28-5	2, 4-Dinitrophenol	16,000U
100-02-7	4-Nitrophenol	16,000U
132-64-9	Dibenzofuran	3300U
121-14-2	2, 4-Dinitrotoluene	3300U
606-20-2	2, 6-Dinitrotoluene	3300U
84-66-2	Diethylphthalate	3300U
7005-72-3	4-Chlorophenyl-phenylether	3300U
86-73-7	Fluorene	3300U
100-01-6	4-Nitroaniline	16,000U
534-52-1	4, 6-Dinitro-2-Methylphenol	16,000U
86-30-6	N-Nitrosodiphenylamine (1)	3300U
101-55-3	4-Bromophenyl-phenylether	3300U
118-74-1	Hexachlorobenzene	3300U
87-86-5	Pentachlorophenol	16,000U
85-01-8	Phenanthrene	3300J
120-12-7	Anthracene	3300U
84-74-2	Di-n-Butylphthalate	4700
206-44-0	Fluoranthene	3300J
92-87-5	Benzidine	3300U
129-00-0	Pyrene	3300J
85-68-7	Butylbenzylphthalate	4500
91-94-1	3, 3'-Dichlorobenzidine	6600U
56-55-3	Benzo(a)Anthracene	3300J
117-81-7	bis(2-Ethylhexyl)Phthalate	89,000
218-01-9	Chrysene	3300J
117-84-0	Di-n-Octyl Phthalate	3300J
205-99-2	Benzo(b)Fluoranthene	3300J
207-08-9	Benzo(k)Fluoranthene	3300U
50-32-8	Benzo(a)Pyrene	3300J
193-39-5	Indeno(1, 2, 3-cd)Pyrene	3300U
53-70-3	Dibenz(a, h)Anthracene	3300U
191-24-2	Benzo(g, h, i)Perylene	3300U

(1)-Cannot be separated from diphenylamine

mental Protection Agency. CLP Sample Management Office,
Box 818, Alexandria, Virginia 22313 703/557-2490

0582

Sample Number
B3940

Organics Analysis Data Sheet
(Page 3)

Pesticide/PCBs

Concentration: Low Medium (Circle One)

Date Extracted/Prepared: 3-28-85

Date Analyzed: 4-10-85

Conc/Dil Factor: 30g : 5ml / 1:20

CAS Number		ug/l or ug/Kg (Circle One)
319-84-6	Alpha-BHC	8.0 u
319-85-7	Beta-BHC	8.0 u
319-86-8	Delta-BHC	8.0 u
58-89-9	Gamma-BHC (Lindane)	8.0 u
76-44-8	Heptachlor	8.0 u
309-00-2	Aldrin	8.0 u
1024-57-3	Heptachlor Epoxide	8.0 u
959-98-8	Endosulfan I	8.0 u
60-57-1	Dieldrin	16.0 u
72-55-9	4, 4'-DDE	16.0 u
72-20-8	Endrin	16.0 u
33213-65-9	Endosulfan II	16.0 u
72-54-8	4, 4'-DDD	16.0 u
7421-93-4	Endrin Aldehyde	16.0 u
1031-07-8	Endosulfan Sulfate	16.0 u
50-29-3	4, 4'-DDT	16.0 u
72-43-5	Methoxychlor	80.0 u
53494-70-5	Endrin Ketone	80.0 u
57-74-9	Chlordane	160.0 u
8001-35-2	Toxaphene	800 u
12674-11-2	Aroclor-1016	80.0 u
11104-28-2	Aroclor-1221	80.0 u
11141-16-5	Aroclor-1232	80.0 u
53469-21-9	Aroclor-1242	80.0 u
12672-29-6	Aroclor-1248	80.0 u
11097-69-1	Aroclor-1254	160.0 u
11096-82-5	Aroclor-1260	340.0 u

V_i = Volume of extract injected (ul)

V_s = Volume of water extracted (ml)

W_s = Weight of sample extracted (g)

V_t = Volume of total extract (ul)

V_s _____ or W_s 30g V_t 5000 ml V_i 2 ml

Environmental Protection Agency, CLP Sample Management Office,
P. O. Box 818, Alexandria, Virginia 22313 703/557-2490

0655

Sample Number B4143

Organics Analysis Data Sheet
(Page 1)

Laboratory Name: Radian
Case No: 4040
Lab Sample ID No: 4FR03215V01
QC Report No: 54
Sample Matrix: Water
Contract No: 68-01-6953
Data Release Authorized By: K Whitmarsh
Date Sample Received: 3-21-85

Volatile Compounds

Concentration: Low Medium (Circle One)
Date Extracted/Prepared: 3-22-85
Date Analyzed: 3-22-85
Conc/Dil Factor: 1:1 pH —
Percent Moisture: 100
Percent Moisture (Decanted): —

CAS Number		ug/l or ug/Kg (Circle One)
74-87-3	Chloromethane	10U
74-83-9	Bromomethane	10U
75-01-4	Vinyl Chloride	10U
75-00-3	Chloroethane	10U
75-09-2	Methylene Chloride	~~5J B~~ ✓
67-64-1	Acetone	~~10J B~~ ✓
75-15-0	Carbon Disulfide	5U
75-35-4	1, 1-Dichloroethene	5U
75-34-3	1, 1-Dichloroethane	5U
156-60-5	Trans-1, 2-Dichloroethene	5U
67-66-3	Chloroform	5U
107-06-2	1, 2-Dichloroethane	5U
78-93-3	2-Butanone	~~15 B~~ ✓
71-55-6	1, 1, 1-Trichloroethane	5U
56-23-5	Carbon Tetrachloride	5U
108-05-4	Vinyl Acetate	10U
75-27-4	Bromodichloromethane	5U

CAS Number		ug/l or ug/Kg (Circle One)
79-34-5	1, 1, 2, 2-Tetrachloroethane	5U
78-87-5	1, 2-Dichloropropane	5U
10061-02-6	Trans-1, 3-Dichloropropene	5U
79-01-6	Trichloroethene	5U
124-48-1	Dibromochloromethane	5U
79-00-5	1, 1, 2-Trichloroethane	5U
71-43-2	Benzene	5U
10061-01-5	cis-1, 3-Dichloropropene	5U
110-75-8	2-Chloroethylvinylether	10U
75-25-2	Bromoform	5U
591-78-6	2-Hexanone	10U
108-10-1	4-Methyl-2-Pentanone	10U
127-18-4	Tetrachloroethene	5U
108-88-3	Toluene	5J ✓
108-90-7	Chlorobenzene	5U
100-41-4	Ethylbenzene	5U
100-42-5	Styrene	5U
	Total Xylenes	5U

Data Reporting Qualifiers

For reporting results to EPA, the following results qualifiers are used. Additional flags or footnotes explaining results are encouraged. However, the definition of each flag must be explicit.

Value If the result is a value greater than or equal to the detection limit, report the value.

U Indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U (e.g., 10U) based on necessary concentration/dilution actions. (This is not necessarily the instrument detection limit.) The footnote should read U-Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample.

J Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicates the presence of a compound that meets the identification criteria but

C This flag applies to pesticide parameters where the identification has been confirmed by GC/MS. Single component pesticides ≥10 ng/ul in the final extract should be confirmed by GC/MS.

B This flag is used when the analyte is found in the blank as well as a sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.

Other Other specific flags and footnotes may be required to properly define the results. If used, they must be fully described and such description attached to the data summary report.

0656

Sample Number
B4143

Environmental Protection Agency. CLP Sample Management Office.
P. O. Box 818. Alexandria, Virginia 22313 703/557-2490

Organics Analysis Data Sheet
(Page 2)

Semivolatile Compounds

Concentration: Low Medium (Circle One)
Date Extracted/Prepared: 3-25-85
Date Analyzed: 3-29-85
Conc/Dil Factor: 1000ml/1ml

CAS Number		ug/l or ug/Kg (Circle One)
62-75-9	N-Nitrosodimethylamine	10u
108-95-2	Phenol	10u
62-53-3	Aniline	10u
111-44-4	bis(-2-Chloroethyl)Ether	10u
95-57-8	2-Chlorophenol	10u
541-73-1	1, 3-Dichlorobenzene	10u
106-46-7	1, 4-Dichlorobenzene	10u
100-51-6	Benzyl Alcohol	10u
95-50-1	1, 2-Dichlorobenzene	10u
95-48-7	2-Methylphenol	10u
39638-32-9	bis(2-chloroisopropyl)Ether	10u
106-44-5	4-Methylphenol	10u
621-64-7	N-Nitroso-Di-n-Propylamine	10u
67-72-1	Hexachloroethane	10u
98-95-3	Nitrobenzene	10u
78-59-1	Isophorone	10u
88-75-5	2-Nitrophenol	10u
105-67-9	2, 4-Dimethylphenol	10u
65-85-0	Benzoic Acid	50u
111-91-1	bis(-2-Chloroethoxy)Methane	10u
120-83-2	2, 4-Dichlorophenol	10u
120-82-1	1, 2, 4-Trichlorobenzene	10u
91-20-3	Naphthalene	10u
106-47-8	4-Chloroaniline	10u
87-68-3	Hexachlorobutadiene	10u
59-50-7	4-Chloro-3-Methylphenol	10u
91-57-6	2-Methylnaphthalene	10u
77-47-4	Hexachlorocyclopentadiene	10u
88-06-2	2, 4, 6-Trichlorophenol	10u
95-95-4	2, 4, 5-Trichlorophenol	50u
91-58-7	2-Chloronaphthalene	10u
88-74-4	2-Nitroaniline	50u
131-11-3	Dimethyl Phthalate	10u
208-96-8	Acenaphthylene	10u
99-09-2	3-Nitroaniline	50u

CAS Number		ug/l or ug/Kg (Circle One)
83-32-9	Acenaphthene	10u
51-28-5	2, 4-Dinitrophenol	50u
100-02-7	4-Nitrophenol	50u
132-64-9	Dibenzofuran	10u
121-14-2	2, 4-Dinitrotoluene	10u
606-20-2	2, 6-Dinitrotoluene	10u
84-66-2	Diethylphthalate	10u
7005-72-3	4-Chlorophenyl-phenylether	10u
86-73-7	Fluorene	10u
100-01-6	4-Nitroaniline	50u
534-52-1	4, 6-Dinitro-2-Methylphenol	50u
86-30-6	N-Nitrosodiphenylamine (1)	10u
101-55-3	4-Bromophenyl-phenylether	10u
118-74-1	Hexachlorobenzene	10u
87-86-5	Pentachlorophenol	50u
85-01-8	Phenanthrene	10u
120-12-7	Anthracene	10u
84-74-2	Di-n-Butylphthalate	10J
206-44-0	Fluoranthene	10u
92-87-5	Benzidine	50u
129-00-0	Pyrene	10u
85-68-7	Butylbenzylphthalate	10u
91-94-1	3, 3'-Dichlorobenzidine	20u
56-55-3	Benzo(a)Anthracene	10u
117-81-7	bis(2-Ethylhexyl)Phthalate	10u
218-01-9	Chrysene	10u
117-84-0	Di-n-Octyl Phthalate	10u
205-99-2	Benzo(b)Fluoranthene	10u
207-08-9	Benzo(k)Fluoranthene	10u
50-32-8	Benzo(a)Pyrene	10u
193-39-5	Indeno(1, 2, 3-cd)Pyrene	10u
53-70-3	Dibenz(a, h)Anthracene	10u
191-24-2	Benzo(g, h, i)Perylene	10u

(1)-Cannot be separated from diphenylamine

Environmental Protection Agency, CLP Sample Management Office,
P. O. Box 818, Alexandria, Virginia 22313 703/557-2490

0657

Sample Number
B4143

Organics Analysis Data Sheet
(Page 3)

Pesticide/PCBs

Concentration: Low Medium (Circle One)

Date Extracted/Prepared: 3-25-85

Date Analyzed: 4-10-85

Conc/Dil Factor: 1000ml : 5ml / 1:4

CAS Number		ug/l or ug/Kg (Circle One)
319-84-6	Alpha-BHC	0.10 U
319-85-7	Beta-BHC	0.10 U
319-86-8	Delta-BHC	0.10 U
58-89-9	Gamma-BHC (Lindane)	0.10 U
76-44-8	Heptachlor	0.10 U
309-00-2	Aldrin	0.10 U
1024-57-3	Heptachlor Epoxide	0.10 U
959-98-8	Endosulfan I	0.10 U
60-57-1	Dieldrin	0.20 U
72-55-9	4, 4'-DDE	0.20 U
72-20-8	Endrin	0.20 U
33213-65-9	Endosulfan II	0.20 U
72-54-8	4, 4'-DDD	0.20 U
7421-93-4	Endrin Aldehyde	0.20 U
1031-07-8	Endosulfan Sulfate	0.20 U
50-29-3	4, 4'-DDT	0.20 U
72-43-5	Methoxychlor	1.0 U
53494-70-5	Endrin Ketone	1.0 U
57-74-9	Chlordane	2.0 U
8001-35-2	Toxaphene	1.0 U
12674-11-2	Aroclor-1016	1.0 U
11104-28-2	Aroclor-1221	1.0 U
11141-16-5	Aroclor-1232	1.0 U
53469-21-9	Aroclor-1242	1.0 U
12672-29-6	Aroclor-1248	1.0 U
11097-69-1	Aroclor-1254	2.0 U
11096-82-5	Aroclor-1260	2.0 U

V_i = Volume of extract injected (ul)

V_s = Volume of water extracted (ml)

W_s = Weight of sample extracted (g)

V_t = Volume of total extract (ul)

V_s 1000 ml or W_s _____ V_t 5000 ul V_i 2 ul

157

Form 1

4/84

0693

s Data Sheet

Sample Number
B4144

Case No: 4040

Report No: 54

Contract No: 68-01-6853

te Sample Received: 3-21-85

ounds

m (Circle One)

-26-85

pH

s

ber		ug/l or ug/Kg (Circle One)
-5	1, 1, 2, 2-Tetrachloroethane	5u
87-5	1, 2-Dichloropropane	5u
1-02-6	Trans-1, 3-Dichloropropene	5u
-6	Trichloroethene	5u
-48-1	Dibromochloromethane	14
0-5	1, 1, 2-Trichloroethane	5u
2	Benzene	5u
1-01-5	cis-1, 3-Dichloropropene	5u
75-8	2-Chloroethylvinylether	5u
2	Bromoform	10u
8-6	2-Hexanone	5u
0-1	4-Methyl-2-Pentanone	10J
4	Tetrachloroethene	10J
3	Toluene	5J
0-7	Chlorobenzene	5J
	Ethylbenzene	5u
	Styrene	5u
	Total Xylenes	5u
		5J

are used.

raged. However, the

This flag applies to pesticide parameters where the identification has been confirmed by GC/MS. Single component pesticides ≥10 ng/ul in the final extract should be confirmed by GC/MS.

3 This flag is used when the analyte is found in the blank as well as a sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.

er Other specific flags and footnotes may be required to properly define the results. If used, they must be fully described and such description attached to the data summary report.

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Environmental Protection Agency, CLP Sample Management Office,
P. O. Box 818, Alexandria, Virginia 22313 703/557-2490

0001
Sample Number
B 4144

Organics Analysis Data Sheet
(Page 2)

Semivolatile Compounds

Concentration: Low Medium (Circle One)

Date Extracted/Prepared: 3-25-85

Date Analyzed: 3-29-85

Conc/Dil Factor: 1000 : 1

CAS Number		ug/l or ug/Kg (Circle One)
62-75-9	N-Nitrosodimethylamine	10u
108-95-2	Phenol	10u
62-53-3	Aniline	10u
111-44-4	bis(-2-Chloroethyl)Ether	10u
95-57-8	2-Chlorophenol	10u
541-73-1	1, 3-Dichlorobenzene	10u
106-46-7	1, 4-Dichlorobenzene	10u
100-51-6	Benzyl Alcohol	10u
95-50-1	1, 2-Dichlorobenzene	10u
95-48-7	2-Methylphenol	10u
39638-32-9	bis(2-chloroisopropyl)Ether	10u
106-44-5	4-Methylphenol	10u
621-64-7	N-Nitroso-Di-n-Propylamine	10u
67-72-1	Hexachloroethane	10u
98-95-3	Nitrobenzene	10u
78-59-1	Isophorone	150
88-75-5	2-Nitrophenol	10u
105-67-9	2, 4-Dimethylphenol	10u
65-85-0	Benzoic Acid	50u
111-91-1	bis(-2-Chloroethoxy)Methane	10u
120-83-2	2, 4-Dichlorophenol	10u
120-82-1	1, 2, 4-Trichlorobenzene	10u
91-20-3	Naphthalene	10u
106-47-8	4-Chloroaniline	10u
87-68-3	Hexachlorobutadiene	10u
59-50-7	4-Chloro-3-Methylphenol	10u
91-57-6	2-Methylnaphthalene	10u
77-47-4	Hexachlorocyclopentadiene	10u
88-06-2	2, 4, 6-Trichlorophenol	10u
95-95-4	2, 4, 5-Trichlorophenol	50u
91-58-7	2-Chloronaphthalene	10u
88-74-4	2-Nitroaniline	50u
131-11-3	Dimethyl Phthalate	10u
208-96-8	Acenaphthylene	10u
99-09-2	3-Nitroaniline	50u

CAS Number		ug/l or ug/Kg (Circle One)
83-32-9	Acenaphthene	10u
51-28-5	2, 4-Dinitrophenol	50u
100-02-7	4-Nitrophenol	50u
132-64-9	Dibenzofuran	10u
121-14-2	2, 4-Dinitrotoluene	10u
606-20-2	2, 6-Dinitrotoluene	10u
84-66-2	Diethylphthalate	10u
7005-72-3	4-Chlorophenyl-phenylether	10u
86-73-7	Fluorene	10u
100-01-6	4-Nitroaniline	50u
534-52-1	4, 6-Dinitro-2-Methylphenol	50u
86-30-6	N-Nitrosodiphenylamine (1)	10u
101-55-3	4-Bromophenyl-phenylether	10u
118-74-1	Hexachlorobenzene	10u
87-86-5	Pentachlorophenol	50u
85-01-8	Phenanthrene	10u
120-12-7	Anthracene	10u
84-74-2	Di-n-Butylphthalate	10u
206-44-0	Fluoranthene	10u
92-87-5	Benzidine	50u
129-00-0	Pyrene	10u
85-68-7	Butylbenzylphthalate	10u
91-94-1	3, 3'-Dichlorobenzidine	20u
56-55-3	Benzo(a)Anthracene	10u
117-81-7	bis(2-Ethylhexyl)Phthalate	10J
218-01-9	Chrysene	10u
117-84-0	Di-n-Octyl Phthalate	10u
205-99-2	Benzo(b)Fluoranthene	10u
207-08-9	Benzo(k)Fluoranthene	10u
50-32-8	Benzo(a)Pyrene	10u
193-39-5	Indeno(1, 2, 3-cd)Pyrene	10u
53-70-3	Dibenz(a, h)Anthracene	10u
191-24-2	Benzo(g, h, i)Perylene	10u

(1)-Cannot be separated from diphenylamine

Environmental Protection Agency, CLP Sample Management Office,
P. O. Box 818, Alexandria, Virginia 22313 703/557-2490

0695

Sample Number
B4144

Organics Analysis Data Sheet
(Page 3)

Pesticide/PCBs

Concentration: Low Medium (Circle One)

Date Extracted/Prepared: 3-25-85

Date Analyzed: 4-10-85

Conc/Dil Factor: 1000ml : 5ml / 1:5

CAS Number		ug/L or ug/Kg (Circle One)
319-84-6	Alpha-BHC	0.125 U
319-85-7	Beta-BHC	0.125 U
319-86-8	Delta-BHC	0.125 U
58-89-9	Gamma-BHC (Lindane)	0.125 U
76-44-8	Heptachlor	0.125 U
309-00-2	Aldrin	0.125 U
1024-57-3	Heptachlor Epoxide	0.125 U
959-98-8	Endosulfan I	0.125 U
60-57-1	Dieldrin	0.250 U
72-55-9	4, 4'-DDE	0.250 U
72-20-8	Endrin	0.250 U
33213-65-9	Endosulfan II	0.250 U
72-54-8	4, 4'-DDD	0.250 U
7421-93-4	Endrin Aldehyde	0.250 U
1031-07-8	Endosulfan Sulfate	0.250 U
50-29-3	4, 4'-DDT	0.250 U
72-43-5	Methoxychlor	1.25 U
53494-70-5	Endrin Ketone	1.25 U
57-74-9	Chlordane	9.0
8001-35-2	Toxaphene	1.25 U
12674-11-2	Aroclor-1016	1.25 U
11104-28-2	Aroclor-1221	1.25 U
11141-16-5	Aroclor-1232	1.25 U
53469-21-9	Aroclor-1242	1.25 U
12672-29-6	Aroclor-1248	1.25 U
11097-69-1	Aroclor-1254	2.50 U
11096-82-5	Aroclor-1260	2.50 U

V_i = Volume of extract injected (ul)

V_s = Volume of water extracted (ml)

W_s = Weight of sample extracted (g)

V_t = Volume of total extract (ul)

V_s 1000ml or W_s _____ V_t 5000 ul V_i 2 ml

Environmental Protection Agency. CLP Sample Management Office.
P. O. Box 818. Alexandria, Virginia 22313 703/557-2490

0762

Sample Number B4145

Organics Analysis Data Sheet
(Page 1)

Laboratory Name: Radian
Case No: 4040
Lab Sample ID No: 4ER03215V03
QC Report No: 54
Sample Matrix: Water
Contract No: 68-01-6853
Data Release Authorized By: R. Mulvaney
Date Sample Received: 3-21-85

Volatile Compounds

Concentration: (Low) Medium (Circle One)
Date Extracted/Prepared: 3-22-85
Date Analyzed: 3-22-85
Conc/Dil Factor: 1:1 pH —
Percent Moisture: 100
Percent Moisture (Decanted): —

CAS Number		(ug/l) or ug/Kg (Circle One)
74-87-3	Chloromethane	10U
74-83-9	Bromomethane	10U
75-01-4	Vinyl Chloride	10U
75-00-3	Chloroethane	10U
75-09-2	Methylene Chloride	67 B
67-64-1	Acetone	~~50 B~~
75-15-0	Carbon Disulfide	5U
75-35-4	1, 1-Dichloroethene	5U
75-34-3	1, 1-Dichloroethane	9
156-60-5	Trans-1, 2-Dichloroethene	5U
67-66-3	Chloroform	5U
107-06-2	1, 2-Dichloroethane	5U
78-93-3	2-Butanone	~~20 B~~
71-55-6	1, 1, 1-Trichloroethane	8
56-23-5	Carbon Tetrachloride	5U
108-05-4	Vinyl Acetate	10U
75-27-4	Bromodichloromethane	5U

CAS Number		(ug/l) or ug/Kg (Circle One)
79-34-5	1, 1, 2, 2-Tetrachloroethane	5U
78-87-5	1, 2-Dichloropropane	5U
10061-02-6	Trans-1, 3-Dichloropropene	5U
79-01-6	Trichloroethene	5J
124-48-1	Dibromochloromethane	5U
79-00-5	1, 1, 2-Trichloroethane	5U
71-43-2	Benzene	5U
10061-01-5	cis-1, 3-Dichloropropene	5U
110-75-8	2-Chloroethylvinylether	10U
75-25-2	Bromoform	5U
591-78-6	2-Hexanone	10J
108-10-1	4-Methyl-2-Pentanone	10J
127-18-4	Tetrachloroethene	5U
108-88-3	Toluene	5U
108-90-7	Chlorobenzene	5U
100-41-4	Ethylbenzene	5U
100-42-5	Styrene	5U
	Total Xylenes	5J

Data Reporting Qualifiers

For reporting results to EPA, the following results qualifiers are used. Additional flags or footnotes explaining results are encouraged. However, the definition of each flag must be explicit.

Value If the result is a value greater than or equal to the detection limit, report the value.

U Indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U (e.g., 10U) based on necessary concentration/dilution actions. (This is not necessarily the instrument detection limit.) The footnote should read U-Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample.

J Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicates the presence of a compound that meets the identification criteria but

C This flag applies to pesticide parameters where the identification has been confirmed by GC/MS. Single component pesticides ≥10 ng/ul in the final extract should be confirmed by GC/MS.

B This flag is used when the analyte is found in the blank as well as a sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.

Other Other specific flags and footnotes may be required to properly define the results. If used, they must be fully described and such description attached to the data summary report.

Environmental Protection Agency, CLP Sample Management Office,
P. O. Box 818, Alexandria, Virginia 22313 703/557-2490

0763

Sample Number
B4145

Organics Analysis Data Sheet
(Page 2)

Semivolatile Compounds

Concentration: Low Medium (Circle One)

Date Extracted/Prepared: 3-25-85

Date Analyzed: 3-29-85

Conc/Dil Factor: 1000:1

CAS Number		ug/l or ug/Kg (Circle One)
62-75-9	N-Nitrosodimethylamine	10u
108-95-2	Phenol	10u
62-53-3	Aniline	10u
111-44-4	bis(-2-Chloroethyl)Ether	10u
95-57-8	2-Chlorophenol	10u
541-73-1	1, 3-Dichlorobenzene	10u
106-46-7	1, 4-Dichlorobenzene	10u
100-51-6	Benzyl Alcohol	10u
95-50-1	1, 2-Dichlorobenzene	10u
95-48-7	2-Methylphenol	10u
39638-32-9	bis(2-chloroisopropyl)Ether	10J
106-44-5	4-Methylphenol	10u
621-64-7	N-Nitroso-Di-n-Propylamine	10u
67-72-1	Hexachloroethane	10u
98-95-3	Nitrobenzene	10u
78-59-1	Isophorone	21
88-75-5	2-Nitrophenol	10u
105-67-9	2, 4-Dimethylphenol	10u
65-85-0	Benzoic Acid	50J
111-91-1	bis(-2-Chloroethoxy)Methane	10u
120-83-2	2, 4-Dichlorophenol	10u
120-82-1	1, 2, 4-Trichlorobenzene	10u
91-20-3	Naphthalene	10u
106-47-8	4-Chloroaniline	10u
87-68-3	Hexachlorobutadiene	10u
59-50-7	4-Chloro-3-Methylphenol	10u
91-57-6	2-Methylnaphthalene	10u
77-47-4	Hexachlorocyclopentadiene	10u
88-06-2	2, 4, 6-Trichlorophenol	10u
95-95-4	2, 4, 5-Trichlorophenol	50u
91-58-7	2-Chloronaphthalene	10u
88-74-4	2-Nitroaniline	50u
131-11-3	Dimethyl Phthalate	10u
208-96-8	Acenaphthylene	10u
99-09-2	3-Nitroaniline	50u

CAS Number		ug/l or ug/Kg (Circle One)
83-32-9	Acenaphthene	10u
51-28-5	2, 4-Dinitrophenol	50u
100-02-7	4-Nitrophenol	50u
132-64-9	Dibenzofuran	10u
121-14-2	2, 4-Dinitrotoluene	10u
606-20-2	2, 6-Dinitrotoluene	10u
84-66-2	Diethylphthalate	10u
7005-72-3	4-Chlorophenyl-phenylether	10u
86-73-7	Fluorene	10u
100-01-6	4-Nitroaniline	50u
534-52-1	4, 6-Dinitro-2-Methylphenol	50u
86-30-6	N-Nitrosodiphenylamine (1)	10u
101-55-3	4-Bromophenyl-phenylether	10u
118-74-1	Hexachlorobenzene	10u
87-86-5	Pentachlorophenol	50u
85-01-8	Phenanthrene	10u
120-12-7	Anthracene	10u
84-74-2	Di-n-Butylphthalate	10J
206-44-0	Fluoranthene	10u
92-87-5	Benzidine	50u
129-00-0	Pyrene	10u
85-68-7	Butylbenzylphthalate	10u
91-94-1	3, 3'-Dichlorobenzidine	20u
56-55-3	Benzo(a)Anthracene	10u
117-81-7	bis(2-Ethylhexyl)Phthalate	10J
218-01-9	Chrysene	10u
117-84-0	Di-n-Octyl Phthalate	10u
205-99-2	Benzo(b)Fluoranthene	10u
207-08-9	Benzo(k)Fluoranthene	10u
50-32-8	Benzo(a)Pyrene	10u
193-39-5	Indeno(1, 2, 3-cd)Pyrene	10u
53-70-3	Dibenz(a, h)Anthracene	10u
191-24-2	Benzo(g, h, i)Perylene	10u

(1) Cannot be separated from diphenylamine

Environmental Protection Agency, CLP Sample Management Office,
P.O. Box 818, Alexandria, Virginia 22313 703/557-2490

0764

Sample Number
B4145

Organics Analysis Data Sheet
(Page 3)

Pesticide/PCBs

Concentration: Low Medium (Circle One)

Date Extracted/Prepared: 3-25-85

Date Analyzed: 4-10-85

Conc/Dil Factor: 1000ml:5ml / 1:4

CAS Number		ug/l or ug/Kg (Circle One)
319-84-6	Alpha-BHC	~~0.10 ug~~
319-85-7	Beta-BHC	~~0.10 ug~~
319-86-8	Delta-BHC	~~0.10 ug~~
58-89-9	Gamma-BHC (Lindane)	~~0.10 ug~~
76-44-8	Heptachlor	~~0.10 ug~~
309-00-2	Aldrin	~~0.10 ug~~
1024-57-3	Heptachlor Epoxide	~~0.10 ug~~
959-98-8	Endosulfan I	~~0.10 ug~~
60-57-1	Dieldrin	~~0.20 ug~~
72-55-9	4, 4'-DDE	~~0.20 ug~~
72-20-8	Endrin	~~0.20 ug~~
33213-65-9	Endosulfan II	~~0.20 ug~~
72-54-8	4, 4'-DDD	~~0.20 ug~~
7421-93-4	Endrin Aldehyde	~~0.20 ug~~
1031-07-8	Endosulfan Sulfate	~~0.20 ug~~
50-29-3	4, 4'-DDT	~~0.20 ug~~
72-43-5	Methoxychlor	~~1.0 ug~~
53494-70-5	Endrin Ketone	~~1.0 ug~~
57-74-9	Chlordane	~~2.0 ug~~
8001-35-2	Toxaphene	~~1.0 ug~~
12674-11-2	Aroclor-1016	~~1.0 ug~~
11104-28-2	Aroclor-1221	~~1.0 ug~~
11141-16-5	Aroclor-1232	~~1.0 ug~~
53469-21-9	Aroclor-1242	~~1.0 ug~~
12672-29-6	Aroclor-1248	~~1.0 ug~~
11097-69-1	Aroclor-1254	~~2.0 ug~~
11096-82-5	Aroclor-1260	~~2.0 ug~~

V_i = Volume of extract injected (ul)

V_s = Volume of water extracted (ml)

W_s = Weight of sample extracted (g)

V_t = Volume of total extract (ul)

V_s 1000 ml or W_s _____ V_t 5000 ml V_i 2 ul

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Environmental Protection Agency. CLP Sample Management Office.
P. O. Box 818. Alexandria, Virginia 22313 703/557-2490

0828

Sample Number B4146

Organics Analysis Data Sheet
(Page 1)

Laboratory Name: Radian
Case No: 4040
Lab Sample ID No: 4FU03215V04
QC Report No: 54
Sample Matrix: Water
Contract No: 68-01-6853
Data Release Authorized By: K. [illegible]
Date Sample Received: 3-21-85

Volatile Compounds

Concentration: Low Medium (Circle One)
Date Extracted/Prepared: 3-22-85
Date Analyzed: 3-22-85
Conc/Dil Factor: 1:1 pH —
Percent Moisture: 100
Percent Moisture (Decanted): —

CAS Number		ug/l or ug/Kg (Circle One)
74-87-3	Chloromethane	10U
74-83-9	Bromomethane	10U
75-01-4	Vinyl Chloride	10U
75-00-3	Chloroethane	10U
75-09-2	Methylene Chloride	6JB
67-64-1	Acetone	10U
75-15-0	Carbon Disulfide	5U
75-35-4	1, 1-Dichloroethene	5U
75-34-3	1, 1-Dichloroethane	5U
156-60-5	Trans-1, 2-Dichloroethene	5U
67-66-3	Chloroform	5U
107-06-2	1, 2-Dichloroethane	5U
78-93-3	2-Butanone	220B
71-55-6	1, 1, 1-Trichloroethane	5U
56-23-5	Carbon Tetrachloride	5U
108-05-4	Vinyl Acetate	10U
75-27-4	Bromodichloromethane	5U

CAS Number		ug/l or ug/Kg (Circle One)
79-34-5	1, 1, 2, 2-Tetrachloroethane	5U
78-87-5	1, 2-Dichloropropane	5U
10061-02-6	Trans-1, 3-Dichloropropene	5U
79-01-6	Trichloroethene	5U
124-48-1	Dibromochloromethane	5U
79-00-5	1, 1, 2-Trichloroethane	5U
71-43-2	Benzene	5U
10061-01-5	cis-1, 3-Dichloropropene	5U
110-75-8	2-Chloroethylvinylether	10U
75-25-2	Bromoform	5U
591-78-6	2-Hexanone	10U
108-10-1	4-Methyl-2-Pentanone	10U
127-18-4	Tetrachloroethene	5U
108-88-3	Toluene	5J
108-90-7	Chlorobenzene	5U
100-41-4	Ethylbenzene	5U
100-42-5	Styrene	5U
	Total Xylenes	5U

Data Reporting Qualifiers

For reporting results to EPA, the following results qualifiers are used. Additional flags or footnotes explaining results are encouraged. However, the definition of each flag must be explicit.

Value If the result is a value greater than or equal to the detection limit, report the value.

U Indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U (e.g., 10U) based on necessary concentration/dilution actions. (This is not necessarily the instrument detection limit.) The footnote should read U-Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample.

J Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicates the presence of a compound that meets the identification criteria [illegible]

C This flag applies to pesticide parameters where the identification has been confirmed by GC/MS. Single component pesticides ≥10 ng/ul in the final extract should be confirmed by GC/MS.

B This flag is used when the analyte is found in the blank as well as a sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.

Other Other specific flags and footnotes may be required to properly define the results. If used, they must be fully described and such description attached to the data summary report.

...al Protection Agency. CLP Sample Management Office.
818. Alexandria, Virginia 22313 703/557-2490

0829

Sample Number
B4146.

Organics Analysis Data Sheet
(Page 2)

Semivolatile Compounds

Concentration: Low Medium (Circle One)

Date Extracted/Prepared: 3-25-85

Date Analyzed: 3-29-85

Conc/Dil Factor: 1000 : 1 ml

CAS Number		ug/l or ug/Kg (Circle One)
62-75-9	N-Nitrosodimethylamine	10u
108-95-2	Phenol	10u
62-53-3	Aniline	10u
111-44-4	bis(-2-Chloroethyl)Ether	10u
95-57-8	2-Chlorophenol	10u
541-73-1	1, 3-Dichlorobenzene	10u
106-46-7	1, 4-Dichlorobenzene	10u
100-51-6	Benzyl Alcohol	10u
95-50-1	1, 2-Dichlorobenzene	10u
95-48-7	2-Methylphenol	10u
39638-32-9	bis(2-chloroisopropyl)Ether	10u
106-44-5	4-Methylphenol	10u
621-64-7	N-Nitroso-Di-n-Propylamine	10u
67-72-1	Hexachloroethane	10u
98-95-3	Nitrobenzene	10u
78-59-1	Isophorone	10u
88-75-5	2-Nitrophenol	10u
105-67-9	2, 4-Dimethylphenol	10u
65-85-0	Benzoic Acid	50u
111-91-1	bis(-2-Chloroethoxy)Methane	10u
120-83-2	2, 4-Dichlorophenol	10u
120-82-1	1, 2, 4-Trichlorobenzene	10u
91-20-3	Naphthalene	10u
106-47-8	4-Chloroaniline	10u
87-68-3	Hexachlorobutadiene	10u
59-50-7	4-Chloro-3-Methylphenol	10u
91-57-6	2-Methylnaphthalene	10u
77-47-4	Hexachlorocyclopentadiene	10u
88-06-2	2, 4, 6-Trichlorophenol	10u
95-95-4	2, 4, 5-Trichlorophenol	50u
91-58-7	2-Chloronaphthalene	10u
88-74-4	2-Nitroaniline	50u
131-11-3	Dimethyl Phthalate	10u
208-96-8	Acenaphthylene	10u
99-09-2	3-Nitroaniline	50u

CAS Number		ug/l or ug/Kg (Circle One)
83-32-9	Acenaphthene	10u
51-28-5	2, 4-Dinitrophenol	50u
100-02-7	4-Nitrophenol	50u
132-64-9	Dibenzofuran	10u
121-14-2	2, 4-Dinitrotoluene	10u
606-20-2	2, 6-Dinitrotoluene	10u
84-66-2	Diethylphthalate	10u
7005-72-3	4-Chlorophenyl-phenylether	10u
86-73-7	Fluorene	10u
100-01-6	4-Nitroaniline	50u
534-52-1	4, 6-Dinitro-2-Methylphenol	50u
86-30-6	N-Nitrosodiphenylamine (1)	10u
101-55-3	4-Bromophenyl-phenylether	10u
118-74-1	Hexachlorobenzene	10u
87-86-5	Pentachlorophenol	50u
85-01-8	Phenanthrene	10u
120-12-7	Anthracene	10u
84-74-2	Di-n-Butylphthalate	10J ✓
206-44-0	Fluoranthene	10u
92-87-5	Benzidine	50u
129-00-0	Pyrene	10u
85-68-7	Butylbenzylphthalate	10u
91-94-1	3, 3'-Dichlorobenzidine	20u
56-55-3	Benzo(a)Anthracene	10u
117-81-7	bis(2-Ethylhexyl)Phthalate	69 ✓
218-01-9	Chrysene	10u
117-84-0	Di-n-Octyl Phthalate	10u
205-99-2	Benzo(b)Fluoranthene	10u
207-08-9	Benzo(k)Fluoranthene	10u
50-32-8	Benzo(a)Pyrene	10u
193-39-5	Indeno(1, 2, 3-cd)Pyrene	10u
53-70-3	Dibenz(a, h)Anthracene	10u
191-24-2	Benzo(g, h, i)Perylene	10u

(1)-Cannot be separated from diphenylamine

...al Protection Agency, CLP Sample Management Office,
...818, Alexandria, Virginia 22313 703/557-2490

0830

Sample Number
B4146

Organics Analysis Data Sheet
(Page 3)

Pesticide/PCBs

Concentration: Low Medium (Circle One)

Date Extracted/Prepared: 3-25-85

Date Analyzed: 4-10-85

Conc/Dil Factor: 1000ml : 5ml

CAS Number		ug/l or ug/Kg (Circle One)
319-84-6	Alpha-BHC	0.025 U
319-85-7	Beta-BHC	0.025 U
319-86-8	Delta-BHC	0.025 U
58-89-9	Gamma-BHC (Lindane)	0.025 U
76-44-8	Heptachlor	0.025 U
309-00-2	Aldrin	0.025 U
1024-57-3	Heptachlor Epoxide	0.025 U
959-98-8	Endosulfan I	0.025 U
60-57-1	Dieldrin	0.050 U
72-55-9	4, 4'-DDE	0.050 U
72-20-8	Endrin	0.050 U
33213-65-9	Endosulfan II	0.050 U
72-54-8	4, 4'-DDD	0.050 U
7421-93-4	Endrin Aldehyde	0.050 U
1031-07-8	Endosulfan Sulfate	0.050 U
50-29-3	4, 4'-DDT	0.050 U
72-43-5	Methoxychlor	0.250 U
53494-70-5	Endrin Ketone	0.250 U
57-74-9	Chlordane	0.500 U
8001-35-2	Toxaphene	0.250 U
12674-11-2	Aroclor-1016	0.250 U
11104-28-2	Aroclor-1221	0.250 U
11141-16-5	Aroclor-1232	0.250 U
53469-21-9	Aroclor-1242	0.250 U
12672-29-6	Aroclor-1248	0.250 U
11097-69-1	Aroclor-1254	0.500 U
11096-82-5	Aroclor-1260	0.500 U

V_i = Volume of extract injected (ul)

V_s = Volume of water extracted (ml)

W_s = Weight of sample extracted (g)

V_t = Volume of total extract (ul)

V_s 1000 ml or W_s _____ V_t 5000 ml V_i 2 ml

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U.S. EPA CONTRACT LABORATORY PROGRAM
SAMPLE MANAGEMENT OFFICE
P.O. BOX 818 ALEXANDRIA,VA 22313
703/557-2490 FTS:8-557-2490

EPA SAMPLE NO:
MBB189
DATE:5/14/85

3

INORGANIC ANALYSIS SHEET

LAB NAME: CALIF.ANAL.LAB.
SOW NO.: 784
LAB.SAMPLE NO.: P2355

CASE NO:4040
QC RPT.#4040

ELEMENTS IDENTIFIED AND MEASURED

CONC.: LOW: ~~XX~~ SB MEDIUM: X
MATRIX: SOIL: XX

ELEMENTS..METHOD		MG/KG	DRY WEIGHT
1. ALUMINIUM...P		7518	
2. ANTIMONY....P		<7 U	RJ
3. ARSENIC.....F	<	5.0	RJ
4. BARIUM.....P		268	
5. BERYLLIUM...P	[	1.0]	
6. CADMIUM.....P		7.5 *SL	
7. CALCIUM.....P		13072	*
8. CHROMIUM....P		1716	
9. COBALT.....P		35	
10.COPPER.....P		146	
11.IRON.....P		66928	
12.LEAD.....P		6307	
13.MAGNESIUM...P		3445	
14.MANGANESE...P		498	RJ
15.MERCURY....CV		1.7	
16.NICKEL.....P		33	
17.POTASSIUM...P	[	1357]	
18.SELENIUM....F	<	2.5	RJ
19.SILVER.....P	[	4.3]	
20.SODIUM.....P	[	453]	
21.THALLIUM....F	<	5 ~~6~~ LSZ	
22.TIN.....P		<18 U	
23.VANADIUM....P	[	23.8]	
24.ZINC.....P		436	
25.CYANIDE.....C		N/R	
% SOLID		83	

COMMENTS:

LAB MANAGER: JRB

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U.S. EPA CONTRACT LABORATORY PROGRAM
SAMPLE MANAGEMENT OFFICE
P.O. BOX 818 ALEXANDRIA,VA 22313
703/557-2490 FTS:8-557-2490

EPA SAMPLE NO:
MBB190
DATE:5/14/85

4

INORGANIC ANALYSIS SHEET

LAB NAME: CALIF.ANAL.LAB. CASE NO:4040
SOW NO.: 784 QC RPT.#4040
LAB.SAMPLE NO.: P2356

ELEMENTS IDENTIFIED AND MEASURED

CONC.: LOW: XX MEDIUM:
MATRIX: SOIL: XX

ELEMENTS..METHOD		MG/KG	DRY WEIGHT
1. ALUMINIUM...P		6632	
2. ANTIMONY....P		<7 U	
3. ARSENIC.....F		32.8	R J
4. BARIUM.....P		274	
5. BERYLLIUM...P	[	1.7]	
6. CADMIUM.....P		25.5	*
7. CALCIUM.....P		4863	
8. CHROMIUM....P		46	*
9. COBALT.....P	[	14]	
10.COPPER.....P		106	*
11.IRON.....P		48701	*
12.LEAD.....P		263	
13.MAGNESIUM...P	[	837]	
14.MANGANESE...P		359	*
15.MERCURY....CV		0.4	*
16.NICKEL.....P		33	*
17.POTASSIUM...P	[	1889]	
18.SELENIUM....F	<	2.5	R J
19.SILVER.....P		16.4	*
20.SODIUM.....P	[	492]	
21.THALLIUM....F		6	
22.TIN.....P		<18 U	
23.VANADIUM....P		31.2	
24.ZINC.....P		382	*
25.CYANIDE.....C		N/R	
% SOLID		87	

COMMENTS:

LAB MANAGER: JRB

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U.S. EPA CONTRACT LABORATORY PROGRAM
SAMPLE MANAGEMENT OFFICE
P.O. BOX 818 ALEXANDRIA,VA 22313
703/557-2490 FTS:8-557-2490

EPA SAMPLE NO:
MBB191
DATE:5/14/85

INORGANIC ANALYSIS SHEET

LAB NAME: CALIF.ANAL.LAB.
SOW NO.: 784
LAB.SAMPLE NO.: P2357

CASE NO:4040
QC RPT.#4040

ELEMENTS IDENTIFIED AND MEASURED

CONC.: LOW: XX MEDIUM:
MATRIX: SOIL: XX

ELEMENTS..METHOD		MG/KG		DRY WEIGHT
1. ALUMINIUM...P		138529		
2. ANTIMONY....P		<7 U		
3. ARSENIC.....F		26.5	S	R J
4. BARIUM.....P		115		
5. BERYLLIUM...P	[	1.0]		
6. CADMIUM.....P		7.3		*
7. CALCIUM.....P		7030		
8. CHROMIUM....P		139		*
9. COBALT.....P		30		
10.COPPER.....P		250		*
11.IRON.....P		109044		*
12.LEAD.....P		494		
13.MAGNESIUM...P		5049		
14.MANGANESE...P		746		*
15.MERCURY....CV		0.6		*
16.NICKEL.....P		43		*
17.POTASSIUM...P	[	1153]		
18.SELENIUM....F	<	12.5		R J
19.SILVER.....P		8.5		*
20.SODIUM.....P	[	568]		
21.THALLIUM....F	<	~~5~~ <5		
22.TIN.....P		<18 U		
23.VANADIUM....P		56.8		
24.ZINC.....P		824		*
25.CYANIDE.....C		N/R		
% SOLID		68		

COMMENTS:

LAB MANAGER: JRB

U.S. EPA CONTRACT LABORATORY PROGRAM
SAMPLE MANAGEMENT OFFICE
P.O. BOX 818 ALEXANDRIA,VA 22313
703/557-2490 FTS:8-557-2490

EPA SAMPLE NO:
MBB192
DATE:5/14/85

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INORGANIC ANALYSIS SHEET

LAB NAME: CALIF.ANAL.LAB.
SOW NO.: 784
LAB.SAMPLE NO.: P2358

CASE NO:4040
QC RPT.#4040

ELEMENTS IDENTIFIED AND MEASURED

CONC.: LOW: XX MEDIUM:
MATRIX: SOIL: XX

ELEMENTS..METHOD		MG/KG		DRY WEIGHT
1. ALUMINIUM...P		18111		
2. ANTIMONY....P		<7 U		
3. ARSENIC.....F		41.0	S	R J
4. BARIUM.....P		845		
5. BERYLLIUM...P		3.4		
6. CADMIUM.....P		9.0		*
7. CALCIUM.....P		21986		
8. CHROMIUM....P		92		*
9. COBALT.....P	[	20]		
10.COPPER.....P		296		*
11.IRON.....P		48951		*
12.LEAD.....P		450		
13.MAGNESIUM...P		4826		
14.MANGANESE...P		853		*
15.MERCURY....CV		0.3		*
16.NICKEL.....P		63		*
17.POTASSIUM...P		5818		
18.SELENIUM....F	<	2.5		R J
19.SILVER.....P	[	3.5]		*
20.SODIUM.....P	[	1610]		
21.THALLIUM....F	<	57		
22.TIN.....P		<18 U		
23.VANADIUM....P		51.3		
24.ZINC.....P		1173		*
25.CYANIDE.....C		N/R		
% SOLID		72		

COMMENTS:

LAB MANAGER: JRB

U.S. EPA CONTRACT LABORATORY PROGRAM
SAMPLE MANAGEMENT OFFICE
P.O. BOX 818 ALEXANDRIA,VA 22313
703/557-2490 FTS:8-557-2490

EPA SAMPLE NO: MBB193
DATE:5/14/85

INORGANIC ANALYSIS SHEET

LAB NAME: CALIF.ANAL.LAB.
SOW NO.: 784
LAB.SAMPLE NO.: P2359

CASE NO:4040
QC RPT.#4040

ELEMENTS IDENTIFIED AND MEASURED

CONC.: LOW: XX MEDIUM:
MATRIX: SOIL: XX

ELEMENTS..METHOD		MG/KG	DRY WEIGHT
1. ALUMINIUM...P		2786	
2. ANTIMONY....P		<7 U	
3. ARSENIC.....F	<	5.0	R J
4. BARIUM.....P	[	16]	
5. BERYLLIUM...P	[	0.6]	
6. CADMIUM.....P		<2.0	*
7. CALCIUM.....P		5847	
8. CHROMIUM....P		14	*
9. COBALT.....P	[	4]	
10.COPPER.....P		25	*
11.IRON.....P		9239	*
12.LEAD.....P		187	
13.MAGNESIUM...P		3001	
14.MANGANESE...P		138	*
15.MERCURY....CV		<0.1 U	*
16.NICKEL.....P		<17 U	*
17.POTASSIUM...P	[	794]	
18.SELENIUM....F	<	2.5	R J
19.SILVER.....P	[	1.5]	*
20.SODIUM.....P		<293 U	
21.THALLIUM....F	<	5 ~~8~~ est	
22.TIN.....P		<18 U	
23.VANADIUM....P	[	21.9]	
24.ZINC.....P		145	*
25.CYANIDE.....C		N/R	
% SOLID		88	

COMMENTS:

LAB MANAGER: JRB

U.S. EPA CONTRACT LABORATORY PROGRAM
SAMPLE MANAGEMENT OFFICE
P.O. BOX 818 ALEXANDRIA,VA 22313
703/557-2490 FTS:8-557-2490

EPA SAMPLE NO: MBB194
DATE:5/14/85

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INORGANIC ANALYSIS SHEET

LAB NAME: CALIF.ANAL.LAB. CASE NO:4040
SOW NO.: 784 QC RPT.#4040
LAB.SAMPLE NO.: P2360

ELEMENTS IDENTIFIED AND MEASURED

CONC.: LOW: XX MEDIUM:
MATRIX: SOIL: XX

ELEMENTS..METHOD		MG/KG	DRY WEIGHT
1. ALUMINIUM...P		10750	
2. ANTIMONY....P		<7 U	
3. ARSENIC.....F		7.2	R J
4. BARIUM.....P	[	49]	
5. BERYLLIUM...P	[	0.9]	
6. CADMIUM.....P		<2.0	*
7. CALCIUM.....P	[	1341]	
8. CHROMIUM....P		21	*
9. COBALT.....P	[	8]	
10.COPPER.....P		18	*
11.IRON.....P		21112	*
12.LEAD.....P		51	
13.MAGNESIUM...P	[	2055]	
14.MANGANESE...P		211	*
15.MERCURY....CV		<0.1 U	*
16.NICKEL.....P	[	18]	*
17.POTASSIUM...P	[	1452]	
18.SELENIUM....F	<	2.5	R J
19.SILVER.....P	[	2.7]	*
20.SODIUM.....P		<293 U	
21.THALLIUM....F	<	5 ~~7~~ est	
22.TIN.....P		<18 U	
23.VANADIUM....P	[	24.5]	
24.ZINC.....P		190	*
25.CYANIDE.....C		N/R	
% SOLID		76	

COMMENTS:

LAB MANAGER: JRB

U.S. EPA CONTRACT LABORATORY PROGRAM
SAMPLE MANAGEMENT OFFICE
P.O. BOX 818 ALEXANDRIA,VA 22313
703/557-2490 FTS:8-557-2490

EPA SAMPLE NO: MBB195
DATE:5/14/85

INORGANIC ANALYSIS SHEET

LAB NAME: CALIF.ANAL.LAB.
SOW NO.: 784
LAB.SAMPLE NO.: P2361

CASE NO:4040
QC RPT.#4040

ELEMENTS IDENTIFIED AND MEASURED

CONC.: LOW: XX MEDIUM:
MATRIX: SOIL: XX

ELEMENTS..METHOD		MG/KG	DRY WEIGHT
1. ALUMINIUM...P		8493	
2. ANTIMONY....P		<7 U	
3. ARSENIC.....F	<	5.0	R J
4. BARIUM.....P	[	82]	
5. BERYLLIUM...P	[	0.9]	
6. CADMIUM.....P		8.0	*
7. CALCIUM.....P	[	2409]	
8. CHROMIUM....P		33	*
9. COBALT.....P	[	12]	
10.COPPER.....P		32	*
11.IRON.....P		15833	*
12.LEAD.....P		152	
13.MAGNESIUM...P	[	1788]	
14.MANGANESE...P		150	*
15.MERCURY....CV		1.8	*
16.NICKEL.....P	[	19]	*
17.POTASSIUM...P	[	1284]	
18.SELENIUM....F	<	2.5	R J
19.SILVER.....P	[	3.1]	*
20.SODIUM.....P	[	389]	
21.THALLIUM....F	<	57	
22.TIN.....P		<18 U	
23.VANADIUM....P	[	23.1]	
24.ZINC.....P		265	*
25.CYANIDE.....C		N/R	
% SOLID		72	

COMMENTS:

LAB MANAGER: JRB

U.S. EPA CONTRACT LABORATORY PROGRAM
SAMPLE MANAGEMENT OFFICE
P.O. BOX 818 ALEXANDRIA,VA 22313
703/557-2490 FTS:8-557-2490

EPA SAMPLE NO:
MBB196
DATE:5/14/85

INORGANIC ANALYSIS SHEET

LAB NAME: CALIF.ANAL.LAB. CASE NO:4040
SOW NO.: 784 QC RPT.#4040
LAB.SAMPLE NO.: P2362

ELEMENTS IDENTIFIED AND MEASURED

CONC.: LOW: XX MEDIUM
MATRIX: WATER: XX

ELEMENTS..METHOD		UG/L
1. ALUMINIUM...P		1874
2. ANTIMONY....P		<14 U
3. ARSENIC.....F	<	10.0
4. BARIUM.....P	[	74]
5. BERYLLIUM...P		<0.60 U
6. CADMIUM.....P		<4.0 U
7. CALCIUM.....P		32950
8. CHROMIUM....P		12
9. COBALT.....P		<6.9 U
10.COPPER.....P	[	17]
~~11.IRON.....P~~		~~3090~~ R
12.LEAD.....P		94
13.MAGNESIUM...P		8362
14.MANGANESE...P		106
15.MERCURY....CV		0.4
16.NICKEL.....P		<34 U
17.POTASSIUM...P	[	3836]
18.SELENIUM....F	<	5.0
19.SILVER.....P		11.2
20.SODIUM.....P		47410
21.THALLIUM....F	<	10
~~22.TIN.....P~~		~~<36 U~~ R
23.VANADIUM....P	[	4.0]
24.ZINC.....P		216
25.CYANIDE.....C		N/R

COMMENTS:

LAB MANAGER: JRB

[illegible]8-557-2490 [illegible] 22313

EPA SAMPLE NO: MBB197

DATE: 5/14/85

INORGANIC ANALYSIS SHEET

LAB NAME: CALIF.ANAL.LAB.
SOW NO.: 784
LAB.SAMPLE NO.: P2363

CASE NO: 4040
QC RPT.#4040

ELEMENTS IDENTIFIED AND MEASURED

CONC.: LOW: XX
MATRIX: WATER: XX MEDIUM

ELEMENTS..METHOD		UG/L	
1. ALUMINIUM...P		1086	
2. ANTIMONY....P		<14 U	
3. ARSENIC.....F		11.0	
4. BARIUM.....P	[	112]	
5. BERYLLIUM...P		<0.60 U	
6. CADMIUM.....P	[	4.3]	
7. CALCIUM.....P		42800	
8. CHROMIUM....P		31	
9. COBALT.....P	[	29]	
10.COPPER.....P	[	23]	
~~11.IRON.....P~~		6365	R
12.LEAD.....P		151	~~R~~ LSE
13.MAGNESIUM...P		9577	
14.MANGANESE...P		672	
15.MERCURY....CV		2.9	
16.NICKEL.....P		<34 U	
17.POTASSIUM...P		5393	
18,SELENIUM....F	<	5.0	
19.SILVER.....P	[	7.5]	
20.SODIUM.....P		91820	
21.THALLIUM....F	<	10	
~~22.TIN.....P~~		<36 U	
23.VANADIUM....P	[	4.1]	R
24.ZINC.....P		233	
25.CYANIDE.....C		N/R	

COMMENTS:

LAB MANAGER: JRB

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U.S. EPA CONTRACT LABORATORY PROGRAM
SAMPLE MANAGEMENT OFFICE
P.O. BOX 818 ALEXANDRIA,VA 22313
703/557-2490 FTS:8-557-2490

EPA SAMPLE NO:
MBB198
DATE:5/14/85

INORGANCC ANALYSIS SHEET

LAB NAME: CALIF.ANAL.LAB.
SOW NO.: 784
LAB.SAMPLE NO.: P2364

CASE NO:4040
QC RPT.#4040

ELEMENTS IDENTIFIED AND MEASURED

CONC.: LOW: XX MEDIUM
MATRIX: WATER: XX

ELEMENTS..METHOD		UG/L	
1. ALUMINIUM...P		8680	
2. ANTIMONY....P		<14 U	
3. ARSENIC.....F		23.0	
4. BARIUM.....P	[	186]	
5. BERYLLIUM...P	[	0.7]	
6. CADMIUM.....P		7.7	
7. CALCIUM.....P		44820	
8. CHROMIUM....P		30	
9. COBALT.....P	[	33]	
10.COPPER.....P		44	
~~11.IRON.....P~~		~~20520~~	R
12.LEAD.....P		214	R 252
13.MAGNESIUM...P		11510	
14.MANGANESE...P		818	
15.MERCURY....CV		0.6	
16.NICKEL.....P		<34 U	
17.POTASSIUM...P		6431	
18,SELENIUM....F	<	5.0	
19.SILVER.....P	[	5.4]	
20.SODIUM.....P		104000	
21.THALLIUM....F	<	10	
~~22.TIN.....P~~		~~<36 U~~	R
23.VANADIUM....P	[	19.9]	
24.ZINC.....P		468	
25.CYANIDE.....C		N/R	

COMMENTS:

LAB MANAGER: JRB

SAMPLE MANAGEMENT OFFICE
P.O. BOX 818 ALEXANDRIA, VA 22313
703/557-2490 FTS:8-557-2490

EPA SAMPLE NO:
MBB199
DATE:5/14/85

INORGANIC ANALYSIS SHEET

LAB NAME: CALIF.ANAL.LAB.
SOW NO.: 784
LAB.SAMPLE NO.: P2365

CASE NO:4040
QC RPT.#4040

ELEMENTS IDENTIFIED AND MEASURED

CONC.: LOW: XX
MATRIX: WATER: XX MEDIUM

ELEMENTS..METHOD		UG/L	
1. ALUMINIUM...P	[	199]	
2. ANTIMONY....P		<14 U	
3. ARSENIC.....F	<	10.0	
4. BARIUM.....P		<18 U	
5. BERYLLIUM...P		<0.60 U	
6. CADMIUM.....P		<4.0 U	
7. CALCIUM.....P		<427 U	
8. CHROMIUM....P	[	5]	
9. COBALT.....P		<6.9 U	
10.COPPER.....P	[	4]	
~~11. IRON.....P~~		~~210~~	R
12.LEAD.....F	<	5.0	
13.MAGNESIUM...P		<368 U	
14.MANGANESE...P	[	2]	
15.MERCURY....CV		<0.2 U	
16.NICKEL.....P		<34 U	
17.POTASSIUM...P	[	615]	
18,SELENIUM....F	<	5.0	
19.SILVER.....P		<2.6 U	
20.SODIUM.....P		<585 U	
21.THALLIUM....F	<	10	
~~22. TIN.....P~~		~~258~~	
23.VANADIUM....P		<3.5 U	R
24.ZINC.....P		27	
25.CYANIDE.....C		N/R	

COMMENTS:

LAB MANAGER: JRB

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U.S. EPA CONTRACT LABORATORY PROGRAM
SAMPLE MANAGEMENT OFFICE
P.O. BOX 818 ALEXANDRIA,VA 22313
703/557-2490 FTS:8-557-2490

EPA SAMPLE NO:
MBB188
DATE:5/14/85

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INORGANIC ANALYSIS SHEET

LAB NAME: CALIF.ANAL.LAB. CASE NO:4040
SOW NO.: 784 QC RPT.#4040
LAB.SAMPLE NO.: P2354

ELEMENTS IDENTIFIED AND MEASURED

CONC.: LOW: ~~XX~~ SB MEDIUM: X
MATRIX: SOIL: XX

ELEMENTS..METHOD		MG/KG	DRY WEIGHT
1. ALUMINIUM...P		9670	
2. ANTIMONY....P		50	R J
3. ARSENIC.....F	<	5.0	R J
4. BARIUM.....P		166	
5. BERYLLIUM...P	[	0.8]	
6. CADMIUM.....P		6.8 *	
7. CALCIUM.....P		22478	*
8. CHROMIUM....P		110	
9. COBALT.....P		58	
10.COPPER.....P		1036	
11.IRON.....P		52286	
12.LEAD.....P		455	
13.MAGNESIUM...P		8989	
14.MANGANESE...P		404	R J
15.MERCURY....CV		2.0	
16.NICKEL.....P		51	
17.POTASSIUM...P	[	1377]	
18.SELENIUM....F	<	2.5	R J
19.SILVER.....P		10.0	
20.SODIUM.....P	[	1112]	
21.THALLIUM....F	<	5	
22.TIN.....P		24	
23.VANADIUM....P		43.0	
24.ZINC.....P		375	
25.CYANIDE.....C		N/R	
% SOLID		91	

COMMENTS:

LAB MANAGER: JRB

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EPA CONTRACT LABORATORY PROGRAM
LE MANAGEMENT OFFICE
BOX 818 ALEXANDRIA, VA 22313
557-2490 FTS:8-557-2490

EPA SAMPLE NO:
MBB187
DATE: 5/14/85

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INORGANIC ANALYSIS SHEET

NAME: CALIF.ANAL.LAB.
NO.: 784
SAMPLE NO. P2353

Mr. Jay M. Crystal
106-8 Somerset
New Brunswick, NJ 08903

CASE NO: 4040
QC RPT. #4040

ELEMENTS IDENTIFIED AND MEASURED

.: LOW: ~~XX~~ 8B
IX: SOIL: XX

MEDIUM: X

ENTS..METHOD		MG/KG	DRY WEIGHT
UMINIUM...P		4399	
TIMONY....P		<7 U	R J
RSENIC.....F		13.1	S + R J
RIUM.....P		259	
RYLLIUM...P	[	0.8]	
DMIUM.....P		68.8	
LCIUM.....P	[	2164]	*
ROMIUM....P		67	
BALT.....P	[	21]	
PPER.....P		62	
ON.....P		55154	
AD.....P		440	
GNESIUM...P	[	1871]	
NGANESE...P		292	R J
RCURY....CV		0.3	
CKEL.....P		28	
TASSIUM...P	[	1115]	
ENIUM....F	<	2.5	R J
VER.....P	[	3.6]	
DIUM.....P	[	301]	
LLIUM....F	<	~~5.8~~ <5	
.....P		<18 U	
ADIUM....P		25.1	
IC.....P		682	
NIDE.....C		N/R	
OLID		65	

TS:

LAB MANAGER: JRB

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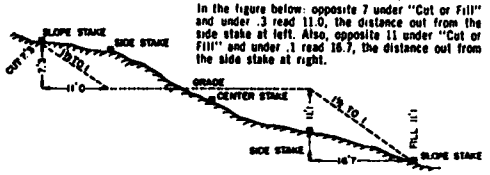
REFERENCE NO. 13

DISTANCES FROM SIDE STAKES FOR CROSS-SECTIONING

Roadway of any Width. Side Slopes 1½ to 1.

In the figure below: opposite 7 under "Cut or Fill" and under .3 read 11.0, the distance out from the side stake at left. Also, opposite 11 under "Cut or Fill" and under .1 read 16.7, the distance out from the side stake at right.



Cut or Fill	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	Cut or Fill
	Distance out from Side or Shoulder Stake										
0	0.0	0.2	0.3	0.5	0.6	0.8	0.9	1.1	1.2	1.4	0
1	1.5	1.7	1.8	2.0	2.1	2.3	2.4	2.6	2.7	2.9	1
2	3.0	3.2	3.3	3.5	3.6	3.8	3.9	4.1	4.2	4.4	2
3	4.5	4.7	4.8	5.0	5.1	5.3	5.4	5.6	5.7	5.9	3
4	6.0	6.2	6.3	6.5	6.6	6.8	6.9	7.1	7.2	7.4	4
5	7.5	7.7	7.8	8.0	8.1	8.3	8.4	8.6	8.7	8.9	5
6	9.0	9.2	9.3	9.5	9.6	9.8	9.9	10.1	10.2	10.4	6
7	10.5	10.7	10.8	11.0	11.1	11.3	11.4	11.6	11.7	11.9	7
8	12.0	12.2	12.3	12.5	12.6	12.8	12.9	13.1	13.2	13.4	8
9	13.5	13.7	13.8	14.0	14.1	14.3	14.4	14.6	14.7	14.9	9
10	15.0	15.2	15.3	15.5	15.6	15.8	15.9	16.1	16.2	16.4	10
11	16.5	16.7	16.8	17.0	17.1	17.3	17.4	17.6	17.7	17.9	11
12	18.0	18.2	18.3	18.5	18.6	18.8	18.9	19.1	19.2	19.4	12
13	19.5	19.7	19.8	20.0	20.1	20.3	20.4	20.6	20.7	20.9	13
14	21.0	21.2	21.3	21.5	21.6	21.8	21.9	22.1	22.2	22.4	14
15	22.5	22.7	22.8	23.0	23.1	23.3	23.4	23.6	23.7	23.9	15
16	24.0	24.2	24.3	24.5	24.6	24.8	24.9	25.1	25.2	25.4	16
17	25.5	25.7	25.8	26.0	26.1	26.3	26.4	26.6	26.7	26.9	17
18	27.0	27.2	27.3	27.5	27.6	27.8	27.9	28.1	28.2	28.4	18
19	28.5	28.7	28.8	29.0	29.1	29.3	29.4	29.6	29.7	29.9	19
20	30.0	30.2	30.3	30.5	30.6	30.8	30.9	31.1	31.2	31.4	20
21	31.5	31.7	31.8	32.0	32.1	32.3	32.4	32.6	32.7	32.9	21
22	33.0	33.2	33.3	33.5	33.6	33.8	33.9	34.1	34.2	34.4	22
23	34.5	34.7	34.8	35.0	35.1	35.3	35.4	35.6	35.7	35.9	23
24	36.0	36.2	36.3	36.5	36.6	36.8	36.9	37.1	37.2	37.4	24
25	37.5	37.7	37.8	38.0	38.1	38.3	38.4	38.6	38.7	38.9	25
26	39.0	39.2	39.3	39.5	39.6	39.8	39.9	40.1	40.2	40.4	26
27	40.5	40.7	40.8	41.0	41.1	41.3	41.4	41.6	41.7	41.9	27
28	42.0	42.2	42.3	42.5	42.6	42.8	42.9	43.1	43.2	43.4	28
29	43.5	43.7	43.8	44.0	44.1	44.3	44.4	44.6	44.7	44.9	29
30	45.0	45.2	45.3	45.5	45.6	45.8	45.9	46.1	46.2	46.4	30
31	46.5	46.7	46.8	47.0	47.1	47.3	47.4	47.6	47.7	47.9	31
32	48.0	48.2	48.3	48.5	48.6	48.8	48.9	49.1	49.2	49.4	32
33	49.5	49.7	49.8	50.0	50.1	50.3	50.4	50.6	50.7	50.9	33
34	51.0	51.2	51.3	51.5	51.6	51.8	51.9	52.1	52.2	52.4	34
35	52.5	52.7	52.8	53.0	53.1	53.3	53.4	53.6	53.7	53.9	35
36	54.0	54.2	54.3	54.5	54.6	54.8	54.9	55.1	55.2	55.4	36
37	55.5	55.7	55.8	56.0	56.1	56.3	56.4	56.6	56.7	56.9	37
38	57.0	57.2	57.3	57.5	57.6	57.8	57.9	58.1	58.2	58.4	38
39	58.5	58.7	58.8	59.0	59.1	59.3	59.4	59.6	59.7	59.9	39
40	60.0	60.2	60.3	60.5	60.6	60.8	60.9	61.1	61.2	61.4	40

HNUS023

HNUS023

TRENTON DRUM COMPANY

J065

The paper in this book is made of 50% high grade rag stock with a WATER RESISTING surface sizing.

KEUFFEL & ESSER CO.

TRENTON DRUM COMPANY
LAWRENCE TOWNSHIP, NJ
J065

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Dennis [illegible] 6/30/92 [illegible] 7/7/92

①

Trenton Drum Company JO65
Lawrence Township, NJ
Town Hall Visit / Residential Soil Sample Requests

June 25, 1992

0800 Departed for Lawrence Township Municipal Bldg.

0930 Town Engineer was not in; Secretary told me to come back after 1:00.

~~* Approx~~

1000 Arrived at residential area to seek access to collect soil samples from properties. There are approximately 5 residences within 200 feet of observed contamination.

— Access was granted to collect samples from the following residences:

- 709 Pilgrim Avenue
- 716 Puritan Avenue

A letter requesting permission to collect a soil sample and a response was left at the following residences:

- 702 Pilgrim Avenue
- 702 Puritan Avenue
- 708 Puritan Avenue

12:00 Departed site for Town Hall.

1300 Met with Town engineer. We reviewed the drainage maps and found the ditch leading from the site East down N.Y. Avenue. Mr. Budzinski, PE., LP told me that the ditch may drain to the D & R Canal, but there was no way to determine this without further field studies. The town engineer is Chris Budzinski, PE, PP

Dennis Foerster 6/25/92 [illegible] 7/7/92

②

Trenton Drum Company JO65
Off-Site Sampling Event
June 30, 1992

Weather - Hazy, Approximately 85°F winds calm.

0815 Stop at 702 Puritan Ave (Okelow Residence). Mrs Okelow gave us permission to collect a soil sample from her property.

0830 Arrive at end of Cherry Hill Lane. Begin setting up Decon Area.

NUS personnel	Responsibility	Initial/Date
D Foerster	Site Manager	DF 6/30/92
A. Bonasera	Site Safety Officer	AB 6/30/92
S. Lewczyk	SMO	SL 6/30/92
C. Barnes	Sampler	CB 6/30/92

- All personnel have read the workplan and understand applicable QA Requirements

Equipment	EPA #	Background
HNU	724622	0 ppm
OVA	724620	0 ppm
Monitor 4	734665	14 counts per minute
Cameras	734743, 734746	—
Compass	—	—

Dennis Foerster 6/30/92 [illegible] 7/7/92

6/30/92 J065 Trenton Drum Company

(3)

0900 S. Lenczyk collects Towel Rinsate Rin 1.
0915 A. Bonasera conducts Site Safety Tailgate Meeting

0930 Leave Decon Area for SED3 Location

Arrive at SED3 Location, which is going to be collected from the Delaware and Raritan Canal (North Bank) ~~approx~~ ~270 feet west ~~east~~ and upstream of the point where Cherry Tree Lane meets the Canal

0950 Claire collects SED3 (sediment sample)

No Readings above background on OVA or HNu from sediment sample SED3

P.S. C. Baruxis collecting sediment sample SED3.
1000 Bowl Rinsate is collected by S. Lenczyk (Rin 2)
1005 Return SED3 to decon Area. Leave for SED 1 location

1020 Arrive at SED1 Location, which is collected from north Bank of D&R Canal approximately 400 feet upstream (west) of east end of steel girder assembly located on Canal, and ~300 feet ~~Southeast South~~ and 160° of Rick Bus Company. A small shed is located due north approximately 20 feet from location

1025 Readings up to 10 ppm on OVA from sample 0 ppm in breathing zone. No Readings on HNu.

Daniel Foerst 6/30/92 [signature] 7/7/92

6/30/92 J065 Trenton Drum Company

(4)

P2S2

1030 Claire Baruxis collecting upstream sediment sample SED1.

Subsequent Screening of sample with OVA and HNu indicate No readings above background.

1045 Arrive at Sediment Sample SED 2 Location located ~~approximately 3 feet east~~ west ~~and~~ ~~upstream of the Cherry Tree Lane/D&R Canal~~ ~~structure, and~~ ~350 feet downstream of girder assembly on the D&R Canal

1055 P3S3 C. Baruxis collecting Sediment Sample SED 2.

No readings from sample on HNu or OVA.

1100 Depart for Decon Pad

1120 Depart for Sediment Sample Sed 4 Location

1125 Arrive at SED 4 Location located ~20 feet and 240° from Pole No. PS3655LA .00 AMP on N.Y. Ave.

1130 P4S4 C. Baruxis Collection sediment sample SED 4 from Drainage ditch on New York Avenue. [signature] 7/7/92

Daniel Foerst 6/30/92

(5) 6/30/92 Trenton Drum Company J065

~~1130~~
1145 Depart for Decon Area

There were no readings on OVA or HNu from the sample or in the Breathing zone.

1205 Arrive at 709 Pilgrim Avenue. The resident, who initially gave us permission, told us that her sons owned the property and did not want their property sampled

1215 Arrive at 702 Puritan Avenue. Mrs. Okeson said we could take the sample in the back yard which is across the street from the Trenton Drum site

1220 P_5S_5 A. Bonasera collects soil sample S1 and duplicate S2 from the property of 702 Puritan Avenue Approximately 56 feet and 290° from Northwest Corner Post of Trenton Drum Site.

* Sample S1 is the MS/MSD

Dennis [signature] 6/30/92 [signature] 7/7/92

(6) 6/30/92 J065 Trenton Drum Company

1225 Arrive at 704 Puritan Avenue.
Sandusky (population 2)
Residence

Mr. Sandusky gives us permission to collect a soil sample from his property
166 feet and 260° from Northwest Corner Post of Trenton Drum Site.

1235 P_6S_6 A. Bonasera collects soil S3 from Sandusky residence on 704 Puritan Avenue

1240 Arrive at 716 Puritan → Sheomet (Population 6)
Mrs. Sheomet gives permission to collect sample S4.

1245 P_7S_7 A. Bonasera collecting Soil sample S4

Sample Located approximately 1 foot north of gas pipe and 1.5 feet South of water line in front yard of 716 Puritan Avenue

* NOTE - All soil samples collected at a depth of 0 to 6 inches. *

1250 Arrive at 702 Pilgrim → Nobody Home

1300 Go back to Decon Area to Clean up Decon pad

Dennis [signature] 6/30/92 [signature] 7/7/92

6/30/92 J065 Trenton Drum Company

(7)

1320 Drive with Decon water to Ewing-Lawrence Sewer Authority to dispose of water used for decon.

1330 Arrive back to Decon area, Finish packing up.

1345 Leave site.

1400 Arrive at Federal Express, 700 Sloan Rd. in Mercerville N.J. to ship samples

- Organics shipped to: Aquatec, Inc.
  55 South Park Drive
  Colchester, VT 05446
  Attn: Janine Banks
  Case No. 18395
  FEDEX Airbill No.: 4306318726
- Inorganics shipped to: American Analytical & Technical Services
  1700 W. Albany, Suite C
  Broken Arrow, OK 74012
  Attn: Sample Custodian
  Case No. 18395
  FedEx Airbill No.: 4306318730

* TRAFFIC REPORTS Attached to page 9 of this logbook

Dennis Foerter 6/30/92 [signature] 7/7/92

(8)

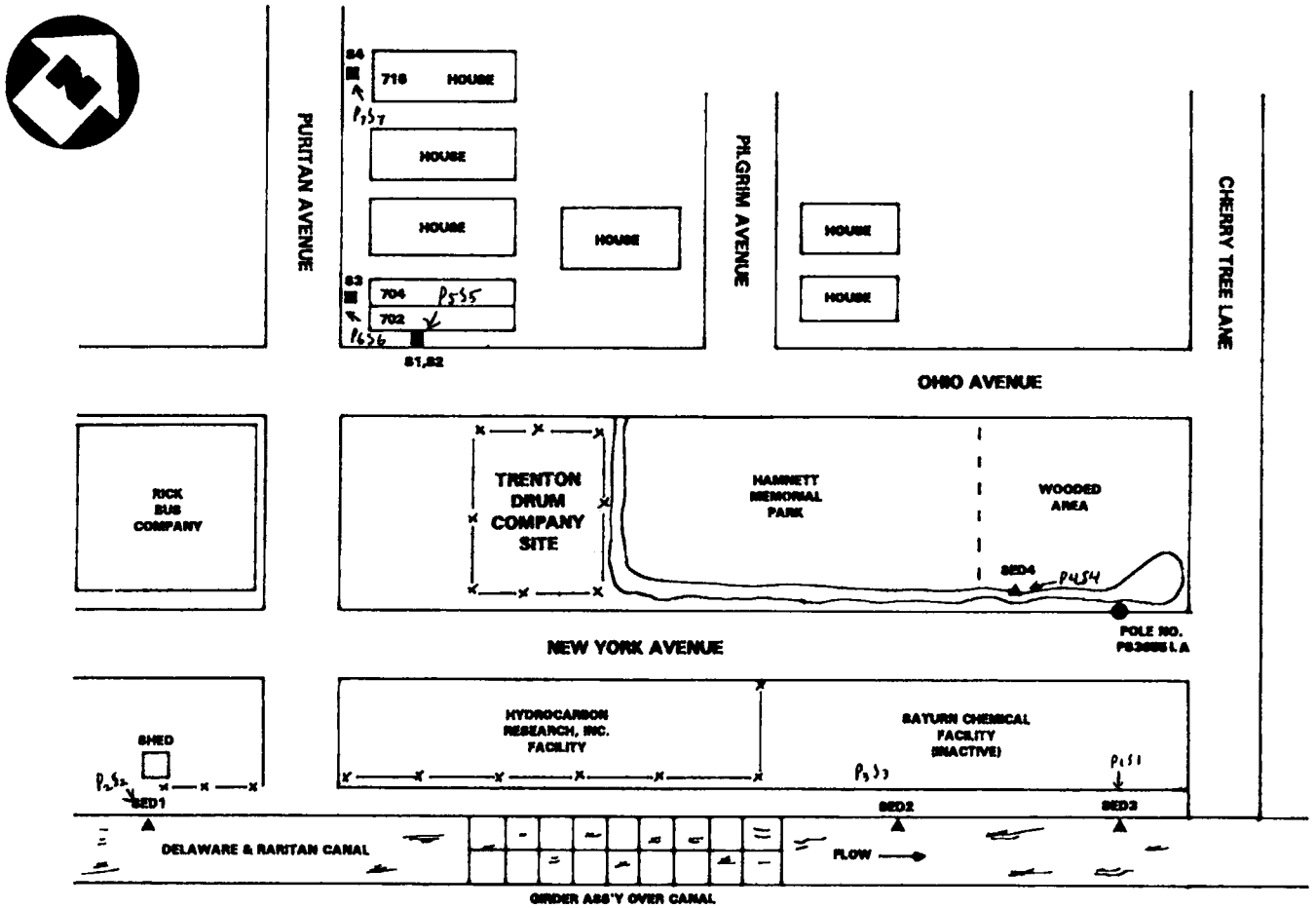
Trenton Drum Company - J065
Lawrence Township, New Jersey

PHOTOGRAPH LOG - June 30, 1992

All Photos taken by Dennis Foerter

PHOTO NUMBER	TIME	DESCRIPTION
1P-1, S-1	0950	C. Baruxis collecting sediment sample SED3.
1P-2, S-2	1030	C. Baruxis collecting sediment sample SED 1
1P-3, S-3	1055	C. Baruxis collecting sediment sample SED-2
1P-4, S-4	1130	C. Baruxis collecting sediment sample SED-4
1P-5, S-5	1220	A. Bonasera collecting soil sample S1 and duplicate sample S2.
1P-6, S-6	1235	A. Bonasera collecting soil sample S3.
1P-7, S-7	1245	A. Bonasera collecting ~~background~~ background soil sample S4

Dennis Foerter 6/30/92 [signature] 7/7/92



LEGEND:

—X— FENCE

■ SOIL SAMPLE

▲ SEDIMENT SAMPLE

NOTE: ALL SAMPLE NUMBERS PRECEDED BY JO6S-

SAMPLE LOCATION MAP

TRENTON DRUM COMPANY

LAWRENCE TOWNSHIP, N.J.

(NOT TO SCALE)

FIGURE 2

REFERENCE NO. 14

SITE NAME: TRENTON DRUM COMPANY
PROJECT #: J065
SAMPLING DATE: JUNE 30, 1992
EPA CASE NO.: 18395 LAB: AQUATEC, INC.

VOLATILES										
Sample ID No.	J065-SED1	J065-SED2	J065-SED3	J065-SED4	J065-S1	J065-S2	J065-S3	J065-S4	J065-RIN1	J065-RIN2
Traffic Report No.	BKA74	BKA75	BKA76	BKA77	BKA79	BKA80	BKA81	BKA82	BKA71	BKA72
Matrix	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	WATER	WATER
Units	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	MG/KG	UG/L	UG/L
Dilution Factor	1	1	1	1	1	1	1	1	1	1
Percent Moisture	64	41	51	36	16	16	8	12		
Chloromethane										
Bromomethane										2 J
Vinyl Chloride										
Chloroethane										
Methylene Chloride										
Acetone									45 B	71 B
Carbon Disulfide									8 J	
1,1-Dichloroethene										
1,1-Dichloroethane										
1,2-Dichloroethene (total)										
Chloroform										
1,2-Dichloroethane										
2-Butanone										
1,1,1-Trichloroethane										
Carbon Tetrachloride										
Bromodichloromethane										
1,2-Dichloropropane										
cis-1,3-Dichloropropene										
Trichloroethene										
Dibromochloromethane										
1,1,2-Trichloroethane										
Benzene										
trans-1,3-Dichloropropene										
Bromoform										
4-Methyl-2-Pentanone										
2-Hexanone										
Tetrachloroethene										
Toluene	16 J									
1,1,2,2-Tetrachloroethane										
Chlorobenzene										
Ethylbenzene										
Styrene										
Xylenes (Total)										

NOTES:
Blank space - compound analyzed for but not detected
B - compound found in lab blank as well as sample, indicates possible/probable blank contamination
E - estimated value
J - estimated value, compound present below CRQL but above IDL
R - analysis did not pass EPA QA/QC
N - Presumptive evidence of the presence of the material
NR - analysis not required
Detection limits elevated if Dilution Factor >1 and/or percent moisture >0%

SITE NAME: TRENTON DRUM COMPANY
PROJECT #: J065
SAMPLING DATE: JUNE 30, 1992
EPA CASE NO.: 18395 LAB: AQUATEC, INC.

SEMI-VOLATILES	J065-SED1	J065-SED2	J065-SED3	J065-SED4	J065-S1	J065-S2	J065-S3	J065-S4	J065-RIN1	J065-RIN2
Sample ID No.	BKA74	BKA75	BKA76	BKA77	BKA79	BKA80	BKA81	BKA82	BKA71	BKA72
Traffic Report No.	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	WATER	WATER
Matrix	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/L	UG/L
Units	1	1	4	1	2	1	1	1	1	1
Dilution Factor/GPC Cleanup (Y)	58	41	46	36	16	17	9	12		
Percent Moisture										
Phenol										
bis(2-Chloroethyl)ether										
2-Chlorophenol										
1,3-Dichlorobenzene										
1,4-Dichlorobenzene										
1,2-Dichlorobenzene										
2-Methylphenol										
2,2'-Oxybis(1-Chloropropane)										
4-Methylphenol										
N-Nitroso-di-n-dipropylamine										
Hexachloroethane										
Nitrobenzene										
Isophorone										
2-Nitrophenol										
2,4-Dimethylphenol										
bis(2-Chloroethoxy)methane										
2,4-Dichlorophenol										
1,2,4-Trichlorobenzene										
Naphthalene	120 J	230 J	170 J	89 J	72 J	79 J				
4-Chloroaniline										
Hexachlorobutadiene										
4-Chloro-3-Methylphenol										
2-Methylnaphthalene	180 J	96 J	160 J	150 J	92 J	85 J				
Hexachlorocyclopentadiene										
2,4,6-Trichlorophenol										
2,4,5-Trichlorophenol										
2-Chloronaphthalene										
2-Nitroaniline										
Dimethylphthalate										
Acenaphthylene	290 J	110 J	640 J	100 J	230 J	130 J	43 J			
2,6-Dinitrotoluene										
3-Nitroaniline										
Acenaphthene	120 J		300 J	160 J	98 J	110 J	76 J			
2,4-Dinitrophenol										
4-Nitrophenol										
Dibenzofuran	90 J	41 J	170 J	54 J	50 J	53 J	22 J			
2,4-Dinitrotoluene										
Diethylphthalate										
4-Chlorophenyl-phenyl ether										
Fluorene	180 J		510 J	110 J	180 J	180 J	86 J			
4-Nitroaniline										
4,6-Dinitro-2-methylphenol										
N-nitrosodiphenylamine										
4-Bromophenyl-phenyl ether										
Hexachlorobenzene				290 J						
Pentachlorophenol										
Phenanthrene	2000 E	470 J	4800	680	2000	2000	1200	7400 J		
Anthracene	460 J	220 J	1100 J	130 J	250 J	290 J	150 J	1100 J		
Carbazole	270 J	68 J	680 J	130 J	200 J	160 J	96 J			
Di-n-butylphthalate	370 J	110 J	140 J	150 J	66 J	52 J				

SITE NAME: TRENTON DRUM COMPANY
PROJECT #: J065
SAMPLING DATE: JUNE 30, 1992
EPA CASE NO.: 18395 LAB: AQUATEC, INC.

SEMI-VOLATILES	J065-SED1	J065-SED2	J065-SED3	J065-SED4	J065-S1	J065-S2	J065-S3	J065-S4	J065-RIN1	J065-RIN2
Sample ID No.	BKA74	BKA75	BKA76	BKA77	BKA79	BKA80	BKA81	BKA82	BKA71	BKA72
Traffic Report No.	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	WATER	WATER
Matrix	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/L	UG/L
Units										
Dilution Factor/GPC Cleanup (Y)	1	1	4	1	2	1	1	1	1	1
Percent Moisture	58	41	46	36	16	17	9	12		
Fluoranthene	4400 E	1300	11000	2100	3800	2800	2000	11000 E		
Pyrene	4300 E	1400	8100	1800	3000	2800	2000	13000 E		
Butylbenzylphthalate	630 J	190 J		160 J			150 J			
3,3'-Dichlorobenzidine										
Benzo(a)anthracene	2400 E	1100	5400	1100	1800	1500	1100	5400 J		
Chrysene	2900 E	1600	5900	910	2200	1800	1200	7100 J		
bis(2-Ethylhexyl)phthalate	1400 E	490 J	1300 J	2400	310 J	300 J	580			
Di-n-octylphthalate										
Benzo(b)fluoranthene	3800 E	2500	7800	1300	2300	1500	1100	4500 J		
Benzo(k)fluoranthene	2300 E	1300	4600	720	1600	1400	950	6600 J		
Benzo(a)pyrene	2600 E	1100	5400	710	1600	1400	940	4600 J		
Indeno(1,2,3-cd)pyrene	2100 E	750	3200	510 J	800	720	490	3100 J		
Dibenz(a,h)anthracene	840 E	360 J	1300 J	240 J	430 J	310 J	210 J			
Benzo(g,h,i)perylene	2000 E	630	2700	490 J	780 J	790	490	2800 J		

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N - Presumptive evidence of the presence of the material
NR - analysis not required
Detection limits elevated if Dilution Factor >1 and/or percent moisture >0%

SITE NAME: TRENTON DRUM COMPANY
PROJECT #: J065
SAMPLING DATE: JUNE 30, 1992
EPA CASE NO.: 18395 LAB: AQUATEC, INC.

PESTICIDES	J065-SED1	J065-SED2	J065-SED3	J065-SED4	J065-S1	J065-S2	J065-S3	J065-S4	J065-RIN1	J065-RIN2
Sample ID No.	BKA74	BKA75	BKA76	BKA77	BKA79	BKA80	BKA81	BKA82	BKA71	BKA72
Traffic Report No.										
Matrix	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	WATER	WATER
Units	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/L	UG/L
Dilution Factor/GPC Cleanup (Y)	2	1	5	5	1	1	2	5	1	1
Percent Moisture	58	41	46	36	16	17	9	12		
alpha-BHC										
beta-BHC										
delta-BHC										
gamma-BHC (Lindane)										
Heptachlor										
Aldrin										
Heptachlor epoxide										
Endosulfan I										
Dieldrin										
4,4'-DDE				R			57 E			
Endrin					R					
Endosulfan II										
4,4'-DDD	55 E		17 R							
Endosulfan sulfate										
4,4'-DDT	17 E				R	R	45 E			
Methoxychlor										
Endrin ketone		14 R			11 EN	13 E			R	
Endrin aldehyde					R	R			R	
alpha-Chlordane	42 E	7.7 R	40 R	680 E	R	R	R		R	
gamma-Chlordane	25 E		22 E	910 E						
Toxaphene										
Aroclor-1016										
Aroclor-1221										
Aroclor-1232										
Aroclor-1242										
Aroclor-1248										
Aroclor-1254	370 E	62 EN	530 E	1200 E	180 E	190 E	81 EN	230 EN		
Aroclor-1260	510 E	110 EN	640 E	600 E	93 EN	150 E	110 E	400 E		

NOTES:
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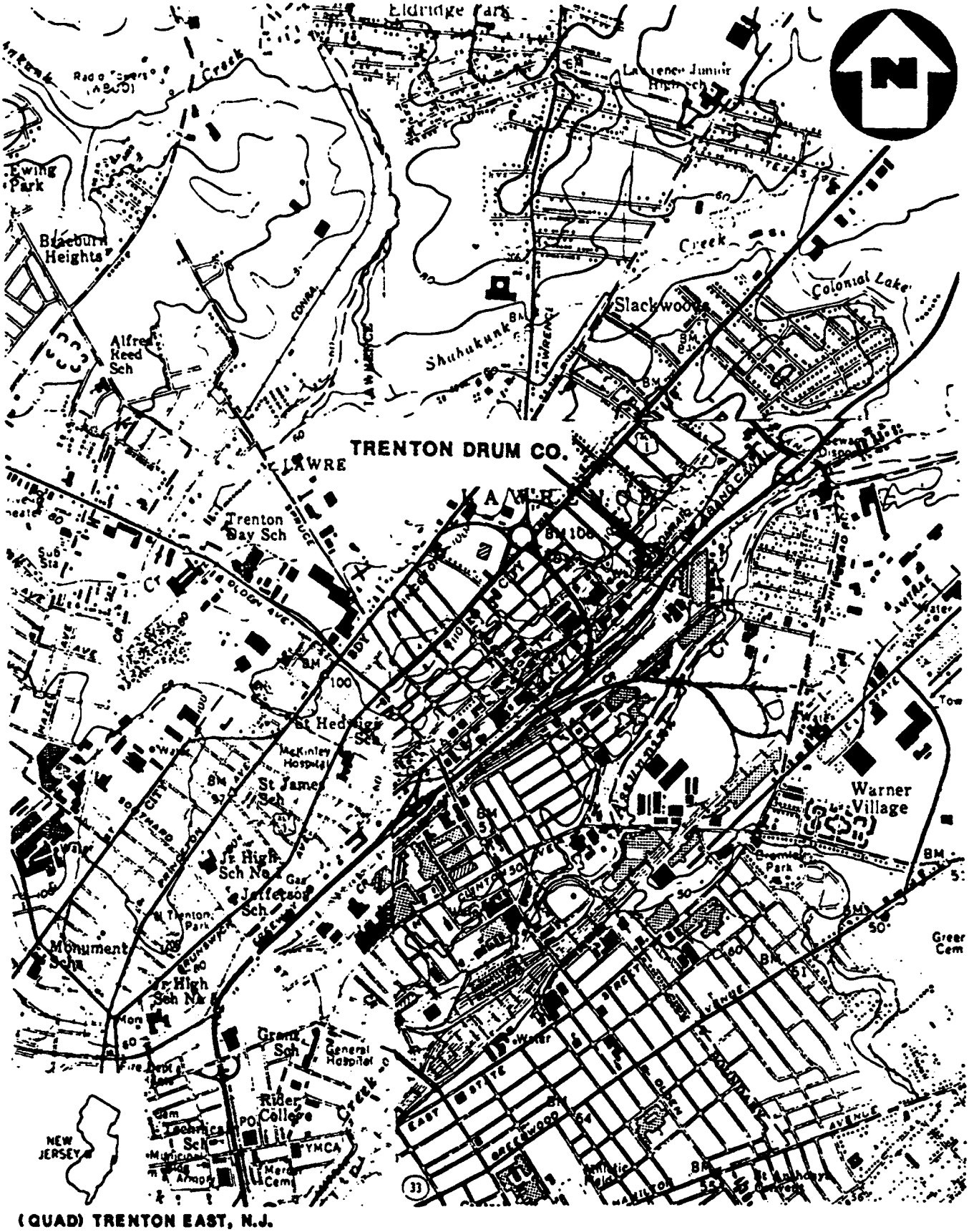
E - estimated value
J - estimated value, compound present below CRQL but above IDL
R - analysis did not pass EPA QA/QC
N - Presumptive evidence of the presence of the material
NR - analysis not required
Detection limits elevated if Dilution Factor >1 and/or percent moisture >0%

SITE NAME: TRENTON DRUM COMPANY
PROJECT#: J065
SAMPLING DATE: JUNE 30, 1992
EPA CASE NO.: 18395
LAB NAME: AMERICAN ANALYTICAL & TECHNICAL SERVICES

INORGANICS Sample ID No. Traffic Report No. Matrix Units	J065-SED1 MBHJ74 SOIL MG/KG	J065-SED2 MBHJ75 SOIL MG/KG	J065-SED3 MBHJ76 SOIL MG/KG	J065-SED4 MBHJ77 SOIL MG/KG	J065-S1 MBHJ79 SOIL MG/KG	J065-S2 MBHJ80 SOIL MG/KG	J065-S3 MBHJ81 SOIL MG/KG	J065-S4 MBHJ82 SOIL MG/KG	J065-RIN1 MBHJ71 WATER UG/L	J065-RIN2 MBHJ72 WATER UG/L
Aluminum	16600 E	6130	14900 E	9720	9170	7560	12300	11800	65 J	70.2 J
Antimony										
Arsenic	7.5 E	3.8	7.5 E	5.7	8.4	7.3	7.4	6.8		
Barium	122 E	43 J	150 E	56.8 J	144	136	72.2	88.4		
Beryllium	1.9 J	0.5 J	2.3 E	0.77 J	0.53 J	0.46 J	0.6 J	0.61 J		
Cadmium	2.9 E		5 E	5.6 E	0.83 J	1.2 E	0.71 J	1.6 E		
Calcium	5990 E	729 J	2160 E	1070 J	2170	2460	2720	2160		
Chromium	44 E	12.2 E	47.2 E	25.3 E	17.2 E	14.1	16.5 E	18.9 E		
Cobalt	11.2 J	4.1 J	14.5 J	29.5	6 J	5.3 J	8.1 J	6.3 J		
Copper	151 E	36.8 E	124 E	44 E	38.8 E	32.8 E	23.2 E	36.4 E		
Iron	19500 E	8940	20800 E	13400	14200	12200	15000	16700		
Lead	878 E	147	1020 E	203	336	307	118	322		
Magnesium	3800 E	1010 J	3540 E	1960	1460	1390	2710	1910		
Manganese	227 E	71.4	235 E	192	229	204	327	347		
Mercury	R		R	R	R	R	R	R	0.26	
Nickel	33.5 E	9.6 J	35.8 E	23.4	11.4	9.4 J	15.3	15.2		
Potassium	1330 J	619 J	1020 J	371 J	517 J	446 J	760 J	768 J		
Selenium	3.2 E		0.87 J		0.55 J					
Silver										
Sodium				2930						
Thallium										
Vanadium	42.6 E	18.1 E	40.6 E	29.3 E	25.8 E	22.7 E	23.2 E	33.9 E		
Zinc	794 E	111	706 E	1110	286	273	191	549		

NOTES:
Blank space - compound analyzed for but not detected
E - estimated value
J - estimated value, compound present below CRDL but above IDL
R - analysis did not pass EPA QA/QC
NR - analysis not required

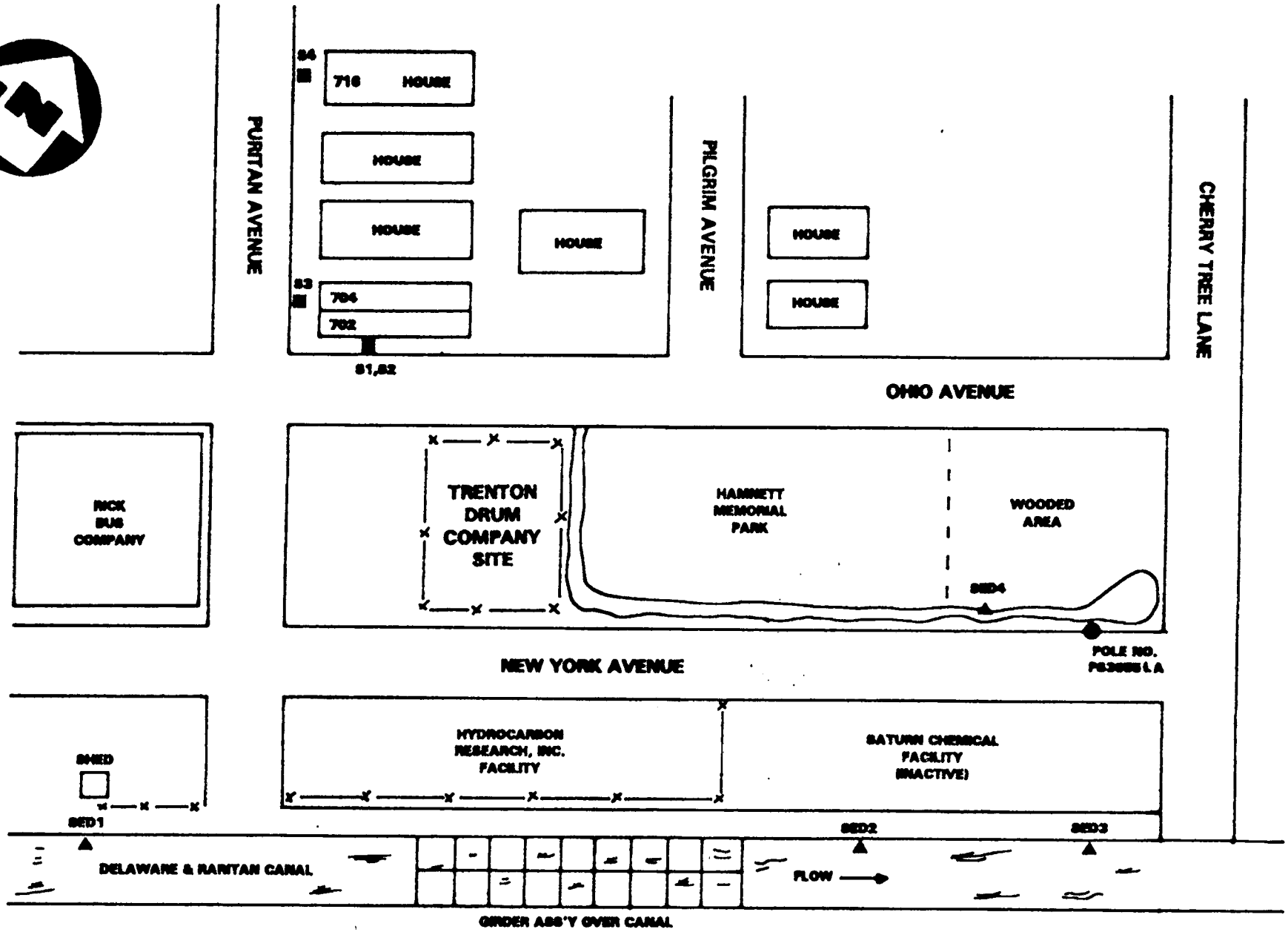


(QUAD) TRENTON EAST, N.J.

FIGURE 1

SITE LOCATION MAP
TRENTON DRUM COMPANY
LAWRENCE TWP., NJ

SCALE: 1" = 2,000'



LEGEND:

—X— FENCE

■ SOIL SAMPLE

▲ SEDIMENT SAMPLE

NOTE: ALL SAMPLE NUMBERS PRECEDED BY JO68-

SAMPLE LOCATION MAP
TRENTON DRUM COMPANY
LAWRENCE TOWNSHIP, N.J.

(NOT TO SCALE)

FIGURE 2

Rev. No. 0

07

TABLE 1
SAMPLE DESCRIPTIONS
TRENTON DRUM COMPANY
LAWRENCE TOWNSHIP, NEW JERSEY
CASE NO. 18395

Sample Number	CLP Organic Sample Number	CLP Inorganic Sample Number	Collection Time	Sample Type	Sample Location
J065-SED1	BKA74	MBHJ74	1030	Sediment	Sediment sample collected from the north bank of the Delaware & Raritan Canal, approximately 400 feet west and upstream of girder assembly on canal and approximately 300 feet and 160° from the Rick Bus Company.
J065-SED2	BKA75	MBHJ75	1055	Sediment	Sediment sample collected form the north bank of the Delaware & Raritan Canal, approximately 350 feet east and downstream of the girder assembly on the canal.
J065-SED3	BKA76	MBHJ76	0950	Sediment	Sediment sample collected from the north bank of the Delaware & Raritan Canal, approximately 270 feet west and upstream of the point where Cherry Tree Lane meets the canal.
J065-SED4	BKA77	MBHJ77	1130	Sediment	Sediment sample collected from drainage ditch which leads from Trenton Drum Company Site down New York Avenue, approximately 20 feet and 240° from Pole No. PS3655LA.
J065-S1*	BKA79	MBHJ79	1220	Soil	Surface soil sample collected from the property of 702 Puritan Avenue, approximately 56 feet and 290° from northwest corner fence post of the Trenton Drum Company Site.
J065-S2**	BKA80	MBHJ80	1220	Soil	Surface soil sample collected from the same location as J065-S1.
J065-S3	BKA81	MBHJ81	1235	Soil	Surface soil sample collected from the property at 704 Puritan Avenue, approximately 160 feet and 260° from the northwest corner fence post of the Trenton Drum Company Site.

* MS/MSD -- Indicates that extra sample volume was collected and shipped to the laboratory for matrix spike (MS) and matrix spike duplicate (MSD) analysis.

** Duplicate -- Indicates that a sample was collected as an environmental duplicate.

TABLE 1 (Cont'd)
SAMPLE DESCRIPTIONS
TRENTON DRUM COMPANY
LAWRENCE TOWNSHIP, NEW JERSEY
CASE NO. 18395

Sample Number	CLP Organic Sample Number	CLP Inorganic Sample Number	Collection Time	Sample Type	Sample Location
J065-S4	BKA82	MBHJ82	1245	Soil	Surface soil sample collected from property at 716 Puritan Avenue approximately 1 foot north of gas cap and 1.5 feet south of water cap located in front of house.
J065-RIN1	BKA71	MBHJ71	0910	Aqueous	Trowel rinsate collected in the field.
J065-RIN2	BKA72	MBHJ72	1000	Aqueous	Bowl rinsate collected in the field.

Note: All surface soil samples were collected at a depth at 0 to 6 inches.

CLP DATA ASSESSMENT

Functional Guidelines for Evaluating Organic Analysis

CASE # 18395 SDG # BKA71 LAB: AQUATEC INC. SITE TRENTON DRUM

The current Functional Guidelines for evaluating organic data have been applied.

All data are valid and acceptable except those analytes which have been qualified with a "J" (estimated), "N" (presumptive evidence for the presence of the material), "U" (non-detects), "R" (unusable), or "JN" (presumptive evidence for the presence of the material at an estimated value). All action is detailed on the attached sheets.

Two facts should be noted by all data users. First, the "R" flag means that the associated value is unusable. In other words, due to significant QC problems, the analysis is invalid and provides no information as to whether the compound is present or not. "R" values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

Reviewer's Signature: _____ Date: 2/25/92

Verified By: _____ Date: ___/___/19__

CLP DATA ASSESSMENT

1. HOLDING TIMES:

The amount of an analyte in a sample can change with time due to chemical instability, degradation, volatilization, etc. If the specified holding time is exceeded, the data may not be valid. Those analytes detected in the samples whose holding time has been exceeded will be qualified as estimated, "J". The non-detects (sample quantitation limits) will be flagged as estimated, "J", or unusable, "R", if the holding times are grossly exceeded.

The following analytes in the samples shown were qualified because of holding time:

Semi-Volatiles
The extraction time was exceeded for sample BKA82, therefore all positive and non-detect results were flagged as estimated "J".

Pesticides/PCBs
The extraction time was exceeded for samples BKA74, 75, 76, 77, 77DL, 79, 80, 81 and 82, therefore all positive and non-detect values were flagged as estimated "J".

CLP DATA ASSESSMENT

2. BLANK CONTAMINATION:

Quality Assurance (QA) blanks, i.e., method, trip, field or rinse blanks are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Trip blanks measure cross-contamination of samples during shipment. Field and rinse blanks measure cross-contamination of samples during field operations. If the concentration of the analyte is less than 5 times the blank contaminant level (10 times for common contaminants), the analytes are qualified as non-detects, "U". The following analytes in the samples shown were qualified with "U" for these reasons:

A) Method Blank Contamination

Volatiles
Methylene chloride in sample BKA75.

Semi-Volatiles
Tentatively Identified Compound(s) that were 5 times the value in the method blank were rejected in sample BKA82.

B) Field or Rinse Blank Contamination ("water blanks" or "distilled water blanks" are validated like any other sample)

Volatiles
Acetone in samples BKA74, 75, and 77.

C) Trip Blank Contamination

CLP DATA ASSESSMENT

3. MASS SPECTROMETER TUNING:

Tuning and performance criteria are established to ensure adequate mass resolution, proper identification of compounds, and to some degree, sufficient instrument sensitivity. These criteria are not sample specific. Instrument performance is determined using standard materials. Therefore, these criteria should be met in all circumstances. The tuning standard for volatile organics is bromofluorobenzene (BFB) and for semi-volatiles is decafluorotriphenyl-phosphine (DFTPP).

If the mass calibration is in error or missing, all associated data will be classified as unusable "R". The following samples shown were qualified with "R" because of tuning:

CLP DATA ASSESSMENT

4. CALIBRATION:

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of giving acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument is giving satisfactory daily performance.

A) Response Factor:

The response factor measures the instrument's response to specific chemical compounds. The response factor for the VOA/BNA Target Compound List (TCL) must be $\geq$ 0.05 in both the initial and continuing calibrations. A value $\leq$ 0.05 indicates a serious detection and quantitation problem (poor sensitivity). If the mean RRF of the initial calibration or the continuing calibration has a response factor $<$0.05 for any analyte, those analytes detected in environmental samples will be qualified as estimated "J". All non-detects for those compounds will be rejected "R". The following analytes in the samples shown were qualified because of response factor:

CLP DATA ASSESSMENT

5. CALIBRATION:

B) PERCENT RELATIVE STANDARD DEVIATION (%RSD) AND PERCENT DIFFERENCE (%D):

Percent RSD is calculated from the initial calibration and is used to indicate the stability of the specific compound response factor over increasing concentration. Percent D compares the response factor of the continuing calibration check to the mean response factor (RRF) from the initial calibration. Percent D is a measure of the instrument's daily performance. Percent RSD must be < 30% and %D must be < 25%. A value outside of these QC limits indicates potential detection and quantitation errors. For these reasons, all positive results are flagged as estimated, "J"; and non-detects are flagged "UJ". If %RSD and/or %D grossly exceed QC criteria, non-detect data may be qualified "R".

For the PESTICIDE/PCB fraction, if %RSD exceeds 20% for all analytes except for the 2 surrogates (which must not exceed 30% RSD), qualify all associated positive results "J" and non-detects "UJ".

The following analytes in the samples shown were qualified for %RSD and %D:

Initial Calibration
Semi-Volatile
3,3-Dichlorobenzidine in samples BKA76, 77, 79, 82, 71 and 72.

Continuing Calibration

Volatiles
Acetone was flagged estimated "J" in samples BKA74 and 75.

Bromoform was flagged estimated "J" in samples BKA76, 77, 79, 80, 81 and 82.

Semi-Volatiles
2,4-dinitrophenol and 3,3'-dichlorobenzidine in samples BKA76, 77 and 79.
(Note: 3,3'-dichlorobenzidine previously flagged due to Initial Calibration criteria out of QC)

Hexachlorocyclopentadiene, 2,4-dinitrophenol, 4-nitroaniline, 4,6-dinitro-2-methylphenol, 3,3'-dichlorobenzidine, and benzo(g,h,i)perylene in sample BKA82. (All analytes previously flagged due to exceeding holding time criteria.)

2,2'-oxybis(1-chloropropane), hexachlorocyclopentadiene, 2,4-dinitrophenol and 3,3,-dichlorobenzidine in samples BKA74, 75, 80 and 81.

CLP DATA ASSESSMENT

6. SURROGATES/SYSTEM MONITORING COMPOUNDS (SMC):

All samples are spiked with surrogate/SMC compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. If the measured surrogate/SMC concentrations were outside contract specifications, qualifications were applied to the samples and analytes as shown below. The following analytes for the samples shown were qualified because of surrogate/SMC recovery:

Pesticides/PCBs
Both surrogates were out of the QC criteria for samples BKA71, 77 and 81, therefore all positive and non-detect analytes were flagged as estimated "J".
(Note: All analytes previously flagged due to exceedance of holding time in samples BKA77 and 81.)

CLP DATA ASSESSMENT

7. INTERNAL STANDARDS PERFORMANCE:

Internal standard (IS) performance criteria ensure that the GC/MS sensitivity and response are stable during every experimental run. The internal standard area count must not vary by more than a factor of 2 (-50% to 100%) from the associated continuing calibration standard. The retention time of the internal standard must not vary more than ± 30 seconds from the associated continuing calibration standard. If the area count is outside the -50% to 100% range of the associated standard, all of the positive results for compounds quantitated using that IS are qualified as estimated "J", and all non-detects as "UJ"only if the IS area is <50% Non-detects are qualified as "R" if there is a severe loss of sensitivity (<25% of associated IS area counts).

If an internal standard retention time varies by more than 30 seconds, the reviewer will use professional judgement to determine either partial or total rejection of the data for that sample fraction. The following analytes in the samples shown were qualified because of internal standard performance:

CLP DATA ASSESSMENT

8. COMPOUND IDENTIFICATION

A) VOLATILE AND SEMI-VOLATILE FRACTIONS:

TCL compounds are identified on the GC/MS by using the analyte's relative retention time (RRT) and by comparison to the ion spectra obtained from known standards. For the results to be a positive hit, the sample peak must be within ± 0.06 RRT units of the standard compound, and have an ion spectra which has a ratio of the primary and secondary m/e intensities within 20% of that in the standard compound. For the Tentatively Identified Compounds (TICs) the ion spectra must match accurately. In the cases where there is not an adequate ion spectrum match, the laboratory may have provided false positive identifications. The following analytes in the samples shown were qualified for compound identification:

B) PESTICIDE FRACTION:

The retention time of the reported compounds must fall within the calculated retention time windows for the two chromatographic columns and a GC/MS confirmation is required if the concentration exceeds 10 ng/ml in the final sample extract. The percent difference (%D) of the positive results obtained on the two GC columns would be ≤25%. The following analytes in the samples shown were qualified because of compound identification:

<u>Pesticides/PCBs</u>
The samples/analytes listed below had a >25% Difference but less than 50% and were therefore flagged estimated "J":

BKA74 and 81 - 4,4'-DDT
BKA76 - Aroclor 1260
BKA77 and 77 DL - alpha chlordane
BKA80 - endrin ketone

The samples/analytes listed below had a >50% Difference but less than 90% and were therefore flagged estimated "J", presumptive evidence "N":

BKA74 - alpha chlordane
BKA75 - Aroclor 1254, Aroclor 1260
BKA79 - endrin ketone, Aroclor 1260
BKA81 and 82 - Aroclor 1254

(Professional judgement was used to "JN" the aroclor compounds in samples BKA75, 81 and 82 rather than reject due to overlapping patterns and matrix interference)

CLP DATA ASSESSMENT

8. COMPOUND IDENTIFICATION (continued)

B) PESTICIDE FRACTION:

The samples/analytes listed below had a >90% Difference were therefore rejected:

BKA75 - endrin ketone and alpha chlordane
BKA76 - 4,4'-DDD and alpha chlordane
BKA77 - 4,4'-DDE
BKA79 - endrin, 4,4'-DDT, endrin aldehyde, alpha chlordane
BKA80 - 4,4'-DDT, endrin aldehyde, alpha chlordane
BKA81 - alpha chlordane
BKA82 - endrin ketone, endrin aldehyde, alpha chlordane

CLP DATA ASSESSMENT

9. MATRIX SPIKE/SPIKE DUPLICATE, MS/MSD:

The MS/MSD data are generated to determine the long-term precision and accuracy of the analytical method in various matrices. The MS/MSD may be used in conjunction with other QC criteria for some additional qualification of the data. The following analytes, for the samples shown, were qualified because of MS/MSD:

CLP DATA ASSESSMENT

10. OTHER QC DATA OUT OF SPECIFICATION:

PERCENT MOISTURE
All analytes were flagged estimated "J" in the samples listed below due to % moisture being greater than 50:

Volatiles
BKA74, 75 and 76

Semi-Volatiles
BKA74

Pesticides/PCBs
BKA74

11. SYSTEM PERFORMANCE AND OVERALL ASSESSMENT:

12. CONTRACT PROBLEMS____NON-COMPLIANCE:

13. **This package contain re-extraction, re-analysis or dilution results. Upon reviewing the QA results, the following Form I(s) are identified to be used:**

Pesticides/PCBs
Sample BKA77 was diluted whereas the diluted values were transferred to the original form I's, which should be used.

ORGANIC REGIONAL DATA ASSESSMENT SUMMARY

CASE/SAS NO. 18395 LABORATORY Aquatec

SDG NO. BKA7 DATA USER Malcolm Turner

SOW Current REVIEW COMPLETION DATE 8/25/92

NO. OF SAMPLES 2 WATER 8 SOIL _____ OTHER

REVIEWER [ ] ESD [ ] ESAT [X] OTHER, CONTRACT/CONTRACTOR APER

	VOA	BNA	PEST	OTHER
HOLDING TIMES	X	O	O	
GC-MS TUNE/GC PERFORMANCE	O	O	O	
INITIAL CALIBRATIONS	X	X	O	
CONTINUING CALIBRATIONS	X	X	O	
FIELD BLANKS ("F" = not applicable)	X	O	O	
LABORATORY BLANKS	X	O	O	
SURROGATES	O	O	M	
MATRIX SPIKE/DUPLICATES	O	O	O	
REGIONAL QC ("F" = not applicable)	F	F	F	
INTERNAL STANDARDS	O	O	O	
COMPOUND IDENTIFICATION	O	O	X	
COMPOUND QUANTITATION	O	O	O	
SYSTEM PERFORMANCE	O	O	O	
OVERALL ASSESSMENT	X	X	M	

O = No problems or minor problems that do not affect data usability.
X = No more than about 5% of the data points are qualified as either estimated or unusable.
M = More than about 5% of the data points are qualified as estimated.
Z = More than about 5% of the data points are qualified as unusable.

DPO ACTION ITEMS: _____

AREAS OF CONCERN: _____

DATA REJECTION SUMMARY

Type of Review: Total

Site Name: Trenton Drum

Reviewer's Initials: VS

Date: 8/24/92

Case/SAS No.: 18395

Lab Name: Aquatec

Number of Samples: 8 soil, 2 water

Analytes Rejected Due to Exceeding Review Criteria for:

No. of Compounds/No. of Fractions (Samples)

	Surrogates	Holding Time	Calibration	Contamination	ID	Internal Standards	Other	Total # Samples	Total # Rejected/ Total # in all Samples
Acids (14)								10	0/140
B/N (50)								10	0/500
VOA (34)				4/4				10	4/340
Pest (21)								11	0/231
PCB (7)								11	0/77
TCDD (1)								0	0/0

Note: Asterisk (*) indicates additional exceedances of review criteria.

Analytes Estimated Due to Exceeding Review Criteria for:

No. of Compounds/No. of Fractions (Samples)

	Surrogates	Holding Time	Calibration	Contamination	ID	Internal Standards	Other	Total # Samples	Total # Rejected/ Total # in all Samples
Acids (14)		14/1	8/6				14/1*	10	36*/140
B/N (49)		50/1	16/1				50/1*	10	116*/500
VOA (33)			8/8				102/3*	10	110*/340
Pest (21)	63/3*	189/9			12/9*	2(5)	21/1*	11	285*/231
PCB (7)	21/3*	63/9			16/7*		7/1*	11	147*/77
TCDD (1)								0	0/0

Note: Asterisk (*) indicates additional exceedances of review criteria.

[redacted]

EPA SAMPLE NO.

BKA74

Lab Name: [redacted] Contract: 68D20019

Lab Code: [redacted] Case No.: 18395 SAS No.: SDG No.: BKA71

Matrix: (soil/water) SOIL Lab Sample ID: 163045

Sample wt/vol: 5.0 (g/mL) G Lab File ID: D163045V

Level: (low/med) LOW Date Received: 07/01/92

% Moisture: not dec. 64 Date Analyzed: 07/07/92

GC Column: PACK ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	28	U
74-83-9	Bromomethane	28	U
75-01-4	Vinyl Chloride	28	U
75-00-3	Chloroethane	28	U
75-09-2	Methylene Chloride	28	U
67-64-1	Acetone	28 ~~15~~	~~U~~ J
75-15-0	Carbon Disulfide	28	U
75-35-4	1,1-Dichloroethene	28	U
75-34-3	1,1-Dichloroethane	28	U
540-59-0	1,2-Dichloroethene (total)	28	U
67-66-3	Chloroform	28	U
107-06-2	1,2-Dichloroethane	28	U
78-93-3	2-Butanone	28	U
71-55-6	1,1,1-Trichloroethane	28	U
56-23-5	Carbon Tetrachloride	28	U
75-27-4	Bromodichloromethane	28	U
78-87-5	1,2-Dichloropropane	28	U
10061-01-5	cis-1,3-Dichloropropene	28	U
79-01-6	Trichloroethene	28	U
124-48-1	Dibromochloromethane	28	U
79-00-5	1,1,2-Trichloroethane	28	U
71-43-2	Benzene	28	U
10061-02-6	trans-1,3-Dichloropropene	28	U
75-25-2	Bromoform	28	U
108-10-1	4-Methyl-2-Pentanone	28	U
591-78-6	2-Hexanone	28	U
127-18-4	Tetrachloroethene	28	U
79-34-5	1,1,2,2-Tetrachloroethane	28	U
108-88-3	Toluene	16	J
108-90-7	Chlorobenzene	28	U
100-41-4	Ethylbenzene	28	U
100-42-5	Styrene	28	U
1330-20-7	Xylene (total)	28	U

FORM I VOA 3/90

[illegible] Contract: 68D20019 BKA74

[illegible] SDG No.: [illegible]

[illegible] Lab Sample ID: 163045

[illegible] Lab File ID: A163045

Level: [illegible] Date Received: 07/01/92

% Moisture: [illegible] Decanted: (Y/N) N Date Extracted: 07/06/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 07/28/92

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.4

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	790	U J
111-44-4	bis(2-Chloroethyl)Ether	790	U
95-57-8	2-Chlorophenol	790	U
541-73-1	1,3-Dichlorobenzene	790	U
106-46-7	1,4-Dichlorobenzene	790	U
95-50-1	1,2-Dichlorobenzene	790	U
95-48-7	2-Methylphenol	790	U
108-60-1	2,2'-oxybis(1-Chloropropane)	790	U J
106-44-5	4-Methylphenol	790	U
621-64-7	N-Nitroso-Di-n-Propylamine	790	U
67-72-1	Hexachloroethane	790	U
98-95-3	Nitrobenzene	790	U
78-59-1	Isophorone	790	U
88-75-5	2-Nitrophenol	790	U
105-67-9	2,4-Dimethylphenol	790	U
111-91-1	bis(2-Chloroethoxy)Methane	790	U
120-83-2	2,4-Dichlorophenol	790	U
120-82-1	1,2,4-Trichlorobenzene	790	U
91-20-3	Naphthalene	120	J
106-47-8	4-Chloroaniline	790	U
87-68-3	Hexachlorobutadiene	790	U
59-50-7	4-Chloro-3-Methylphenol	790	U J
91-57-6	2-Methylnaphthalene	180	J
77-47-4	Hexachlorocyclopentadiene	790	U J
88-06-2	2,4,6-Trichlorophenol	790	U
95-95-4	2,4,5-Trichlorophenol	1900	U
91-58-7	2-Chloronaphthalene	790	U
88-74-4	2-Nitroaniline	1900	U
131-11-3	Dimethylphthalate	790	U J
208-96-8	Acenaphthylene	290	J
606-20-2	2,6-Dinitrotoluene	790	U J
99-09-2	3-Nitroaniline	1900	U J
83-32-9	Acenaphthene	120	J

000336

Contract: 68D20019 BKA74

SDG No.: BK

Lab Sample ID: A163045

Lab File ID: A16304

Date Received: 07/01/92

Date Extracted: 07/06/92

Date Analyzed: 07/28/92

Moisture: 58 Decanted: (Y/N) N

Concentrated Extract Volume: 500.0 (uL)

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.4

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	UG/KG	Q
51-28-5	2,4-Dinitrophenol	1900	U
100-02-7	4-Nitrophenol	1900	U
132-64-9	Dibenzofuran	90	J
121-14-2	2,4-Dinitrotoluene	790	U
84-66-2	Diethylphthalate	790	U
7005-72-3	4-Chlorophenyl-phenylether	790	U
86-73-7	Fluorene	180	J
100-01-6	4-Nitroaniline	1900	U
534-52-1	4,6-Dinitro-2-methylphenol	1900	U
86-30-6	N-Nitrosodiphenylamine (1)	790	U
101-55-3	4-Bromophenyl-phenylether	790	U
118-74-1	Hexachlorobenzene	790	U
87-86-5	Pentachlorophenol	1900	U
85-01-8	Phenanthrene	2000	J
120-12-7	Anthracene	460	J
86-74-8	Carbazole	270	J
84-74-2	Di-n-Butylphthalate	370	J
206-44-0	Fluoranthene	4400	J
129-00-0	Pyrene	4300	J
85-68-7	Butylbenzylphthalate	630	J
91-94-1	3,3'-Dichlorobenzidine	790	U
56-55-3	Benzo(a)Anthracene	2400	J
218-01-9	Chrysene	2900	J
117-81-7	bis(2-Ethylhexyl)Phthalate	1400	J
117-84-0	Di-n-Octyl Phthalate	790	U
205-99-2	Benzo(b)Fluoranthene	3800	J
207-08-9	Benzo(k)Fluoranthene	2300	J
50-32-8	Benzo(a)Pyrene	2600	J
193-39-5	Indeno(1,2,3-cd)Pyrene	2100	J
53-70-3	Dibenz(a,h)Anthracene	840	J
191-24-2	Benzo(g,h,i)Perylene	2000	J

(1) - Cannot be separated from Diphenylamine

000337

BKA74

Contract: 68D20019

SDG No.: BKA

163045

A163045

Date Received: 07/01/92

Date Extracted: 07/06/92

Date Analyzed: 07/28/92

Dilution Factor: 1.0

Cleanup: (Y/N) Y pH: 6.4

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 20

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
832-71-3	3-METHYLPHENANTHRENE	32.38	510	JN
2531-84-2	2-METHYLPHENANTHRENE	32.48	690	JN
203-64-5	4H-CYCLOPENTA(D,E,F)PHENANTH	32.80	570	JN
84-65-1	9,10-ANTHRACENEDIONE	33.52	620	JN
	UNKNOWN DIMETHYLPHENANTHRENE	34.30	400	J
	UNKNOWN BENZOFLUORENE	36.32	640	J
638-67-5	TRICOSANE	36.57	680	JN
238-84-6	11H-BENZO(A)FLUORENE	36.72	1500	JN
	UNKNOWN METHYLPYRENE	37.08	930	J
	UNKNOWN METHYLPYRENE	37.40	590	J
	UNKNOWN METHYLPYRENE	37.50	530	J
	UNKNOWN BENZANTHRACENONE	38.48	730	J
629-99-2	PENTACOSANE	38.78	1500	JN
593-49-7	HEPTACOSANE	40.87	2200	JN
	UNKNOWN C19H14 PNA HYDROCARB	41.00	860	J
630-03-5	NONACOSANE	42.80	5900	JN
	UNKNOWN C20H12 PNA HYDROCARB	43.52	1100	J
192-97-2	BENZO(E)PYRENE	44.12	3800	JN
198-55-0	PERYLENE	44.60	980	JN
	UNKNOWN ALKANE	45.03	2800	J

000338

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BKA74

Lab Name: AQUATEC INC Contract: 68D20019

Lab Code: AQUAI Case No.: 18395 SAS No.: _____ SDG No.: BKA71

Matrix: (soil/water) SOIL Lab Sample ID: 163045

Sample wt/vol: 30.1 (g/mL) G Lab File ID: _____

% Moisture: 58 decanted: (Y/N) N Date Received: 07/01/92

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 07/08/92

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 08/04/92

Injection Volume: 1.00 (uL) Dilution Factor: 2.00

GPC Cleanup: (Y/N) Y pH: 6.4 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	8.1	U
319-85-7	beta-BHC	8.1	U
319-86-8	delta-BHC	8.1	U
58-89-9	gamma-BHC (Lindane)	8.1	U
76-44-8	Heptachlor	8.1	U
309-00-2	Aldrin	8.1	U
1024-57-3	Heptachlor epoxide	8.1	U
959-98-8	Endosulfan I	8.1	U
60-57-1	Dieldrin	16	U
72-55-9	4,4'-DDE	16	U
72-20-8	Endrin	16	U
33213-65-9	Endosulfan II	16	U
72-54-8	4,4'-DDD	55	
1031-07-8	Endosulfan sulfate	16	U
50-29-3	4,4'-DDT	17	P
72-43-5	Methoxychlor	81	U
53494-70-5	Endrin ketone	16	U
7421-36-3	Endrin aldehyde	16	U
5103-71-9	alpha-Chlordane	42	P
5103-74-2	gamma-Chlordane	25	
8001-35-2	Toxaphene	810	U
12674-11-2	Aroclor-1016	160	U
11104-28-2	Aroclor-1221	320	U
11141-16-5	Aroclor-1232	160	U
53469-21-9	Aroclor-1242	160	U
12672-29-6	Aroclor-1248	160	U
11097-69-1	Aroclor-1254	370	
11096-82-5	Aroclor-1260	510	

001118

[redacted]

EPA SAMPLE NO.

BKA75

Lab Name: AQUATIC [redacted] Contract: 68D20019

Lab Code: AQUAT Case No.: 16395 SAS No.: SDG No.: BKA71

Matrix: (soil/water) SOIL Lab Sample ID: 163046

Sample wt/vol: 5.0 (g/mL) G Lab File ID: D163046V

Level: (low/med) LOW Date Received: 07/01/92

% Moisture: not dec. 51 Date Analyzed: 07/07/92

GC Column: PACK ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	20	U
74-83-9	Bromomethane	20	U
75-01-4	Vinyl Chloride	20	U
75-00-3	Chloroethane	20	U
75-09-2	Methylene Chloride	~~2~~ 20	~~BI~~ J
67-64-1	Acetone	~~10~~ 20	~~B~~ J
75-15-0	Carbon Disulfide	20	U
75-35-4	1,1-Dichloroethene	20	U
75-34-3	1,1-Dichloroethane	20	U
540-59-0	1,2-Dichloroethene (total)	20	U
67-66-3	Chloroform	20	U
107-06-2	1,2-Dichloroethane	20	U
78-93-3	2-Butanone	20	U
71-55-6	1,1,1-Trichloroethane	20	U
56-23-5	Carbon Tetrachloride	20	U
75-27-4	Bromodichloromethane	20	U
78-87-5	1,2-Dichloropropane	20	U
10061-01-5	cis-1,3-Dichloropropene	20	U
79-01-6	Trichloroethene	20	U
124-48-1	Dibromochloromethane	20	U
79-00-5	1,1,2-Trichloroethane	20	U
71-43-2	Benzene	20	U
10061-02-6	trans-1,3-Dichloropropene	20	U
75-25-2	Bromoform	20	U
108-10-1	4-Methyl-2-Pentanone	20	U
591-78-6	2-Hexanone	20	U
127-18-4	Tetrachloroethene	20	U
79-34-5	1,1,2,2-Tetrachloroethane	20	U
108-88-3	Toluene	20	U
108-90-7	Chlorobenzene	20	U
100-41-4	Ethylbenzene	20	U
100-42-5	Styrene	20	U
1330-20-7	Xylene (total)	20	U

000055

FORM I VOA 3/90

BKA75

Lab Name: [illegible] Contract: 68D20019

Lab Code: [illegible] Case No.: 18995 SAS No.: SDG No.: BK[illegible]

Matrix (soil/water): [illegible] Lab Sample ID: 163046

Sample wt/vol: [illegible] (g/ml) G Lab File ID: A163046[illegible]

Level: (low/med) [illegible] Date Received: 07/01/92

% Moisture: [illegible] decanted: (Y/N) N Date Extracted: 07/06/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 07/28/92

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 5.6

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	560	U
111-44-4	bis(2-Chloroethyl)Ether	560	U
95-57-8	2-Chlorophenol	560	U
541-73-1	1,3-Dichlorobenzene	560	U
106-46-7	1,4-Dichlorobenzene	560	U
95-50-1	1,2-Dichlorobenzene	560	U
95-48-7	2-Methylphenol	560	U
108-60-1	2,2'-oxybis(1-Chloropropane)	560	U J
106-44-5	4-Methylphenol	560	U
621-64-7	N-Nitroso-Di-n-Propylamine	560	U
67-72-1	Hexachloroethane	560	U
98-95-3	Nitrobenzene	560	U
78-59-1	Isophorone	560	U
88-75-5	2-Nitrophenol	560	U
105-67-9	2,4-Dimethylphenol	560	U
111-91-1	bis(2-Chloroethoxy)Methane	560	U
120-83-2	2,4-Dichlorophenol	560	U
120-82-1	1,2,4-Trichlorobenzene	560	U
91-20-3	Naphthalene	230	J
106-47-8	4-Chloroaniline	560	U
87-68-3	Hexachlorobutadiene	560	U
59-50-7	4-Chloro-3-Methylphenol	560	U
91-57-6	2-Methylnaphthalene	96	J
77-47-4	Hexachlorocyclopentadiene	560	U J
88-06-2	2,4,6-Trichlorophenol	560	U
95-95-4	2,4,5-Trichlorophenol	1400	U
91-58-7	2-Chloronaphthalene	560	U
88-74-4	2-Nitroaniline	1400	U
131-11-3	Dimethylphthalate	560	U
208-96-8	Acenaphthylene	110	J
606-20-2	2,6-Dinitrotoluene	560	U
99-09-2	3-Nitroaniline	1400	U
83-32-9	Acenaphthene	560	U

000411

BKA75

Contract: 68D20019

SDG No.: B[illegible]

[illegible] ID: 163046

[illegible] File ID: A16304[illegible]

Level: [illegible] Date Received: 07/01/92

% Moisture: 41 decanted (Y/N) N Date Extracted: 07/06/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 07/28/92

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 5.6

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	1400	U J
100-02-7	4-Nitrophenol	1400	U
132-64-9	Dibenzofuran	41	J
121-14-2	2,4-Dinitrotoluene	560	U
84-66-2	Diethylphthalate	560	U
7005-72-3	4-Chlorophenyl-phenylether	560	U
86-73-7	Fluorene	560	U
100-01-6	4-Nitroaniline	1400	U
534-52-1	4,6-Dinitro-2-methylphenol	1400	U
86-30-6	N-Nitrosodiphenylamine (1)	560	U
101-55-3	4-Bromophenyl-phenylether	560	U
118-74-1	Hexachlorobenzene	560	U
87-86-5	Pentachlorophenol	1400	U
85-01-8	Phenanthrene	470	J
120-12-7	Anthracene	220	J
86-74-8	Carbazole	68	J
84-74-2	Di-n-Butylphthalate	110	J
206-44-0	Fluoranthene	1300	
129-00-0	Pyrene	1400	
85-68-7	Butylbenzylphthalate	190	J
91-94-1	3,3'-Dichlorobenzidine	560	U J
56-55-3	Benzo(a)Anthracene	1100	
218-01-9	Chrysene	1600	
117-81-7	bis(2-Ethylhexyl)Phthalate	490	J
117-84-0	Di-n-Octyl Phthalate	560	U
205-99-2	Benzo(b)Fluoranthene	2500	
207-08-9	Benzo(k)Fluoranthene	1300	
50-32-8	Benzo(a)Pyrene	1100	
193-39-5	Indeno(1,2,3-cd)Pyrene	750	
53-70-3	Dibenz(a,h)Anthracene	360	J
191-24-2	Benzo(g,h,i)Perylene	630	

(1) - Cannot be separated from Diphenylamine

000412

BKA75

Contract: 68D20019

SDG No.: BKA7

Lab Sample ID: 163046

Lab File ID: A163046

Date Received: 07/01/92

Date Extracted: 07/06/92

Date Analyzed: 07/28/92

Dilution Factor: 1.0

Concentrated Extract Volume: 500.0 (uL)

Injection Volume: 2.0 (uL)

GPC Cleanup: (Y/N) Y pH: 5.6

Number TICs found: 20

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 629-78-7	HEPTADECANE	28.65	170	JN
2. 2531-84-2	2-METHYLPHENANTHRENE	32.48	180	JN
3.	UNKNOWN DIMETHYLPHENANTHRENE	34.30	170	J
4.	UNKNOWN	35.08	400	J
5.	UNKNOWN BENZOFLUORENE	36.33	290	J
6. 238-84-6	11H-BENZO(A)FLUORENE	36.72	530	JN
7.	UNKNOWN METHYLPYRENE	37.08	400	J
8.	UNKNOWN METHYLPYRENE	37.40	340	J
9.	UNKNOWN METHYLPYRENE	37.50	240	J
10.	UNKNOWN BENZANTHRACENONE	38.48	420	J
11. 629-99-2	PENTACOSANE	38.78	360	JN
12.	UNKNOWN BENZANTHRACENONE	39.17	250	J
13. 593-49-7	HEPTACOSANE	40.87	690	JN
14.	UNKNOWN C19H14 PNA HYDROCARB	41.00	550	J
15. 630-03-5	NONACOSANE	42.80	2900	JN
16.	UNKNOWN C20H12 PNA HYDROCARB	43.50	530	J
17. 192-97-2	BENZO(E)PYRENE	44.12	2400	JN
18. 198-55-0	PERYLENE	44.60	470	JN
19.	UNKNOWN ALKANE	45.03	2100	J
20.	UNKNOWN ALKANE	47.98	370	J

000413

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BKA75

Lab Name: AQUATEC INC Contract: 68D20019

Lab Code: AQUAI Case No.: 18395 SAS No.: _____ SDG No.: BKA71

Matrix: (soil/water) SOIL Lab Sample ID: 163046

Sample wt/vol: 30.2 (g/mL) G Lab File ID: _____

% Moisture: 41 decanted: (Y/N) N Date Received: 07/01/92

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 07/08/92

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 08/04/92

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 5.6 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	2.9	UJ
319-85-7	beta-BHC	2.9	U
319-86-8	delta-BHC	2.9	U
58-89-9	gamma-BHC (Lindane)	2.9	U
76-44-8	Heptachlor	2.9	U
309-00-2	Aldrin	2.9	U
1024-57-3	Heptachlor epoxide	2.9	U
959-98-8	Endosulfan I	2.9	U
60-57-1	Dieldrin	5.6	U
72-55-9	4,4'-DDE	5.6	U
72-20-8	Endrin	5.6	U
33213-65-9	Endosulfan II	5.6	U
72-54-8	4,4'-DDD	5.6	U
1031-07-8	Endosulfan sulfate	5.6	U
50-29-3	4,4'-DDT	5.6	U
72-43-5	Methoxychlor	29	UJ
53494-70-5	Endrin ketone	~~14~~	~~PJ~~ R
7421-36-3	Endrin aldehyde	5.6	UJ
5103-71-9	alpha-Chlordane	~~7.7~~	~~PJ~~ R
5103-74-2	gamma-Chlordane	2.9	UJ
8001-35-2	Toxaphene	290	U
12674-11-2	Aroclor-1016	56	U
11104-28-2	Aroclor-1221	110	U
11141-16-5	Aroclor-1232	56	U
53469-21-9	Aroclor-1242	56	U
12672-29-6	Aroclor-1248	56	UJ
11097-69-1	Aroclor-1254	62	PJ N
11096-82-5	Aroclor-1260	110	PJ N

001131

FORM I PEST 3/90

1B
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BKA76

Lab Name: AQUATEC INC. Contract: 68D20019

Lab Code: AQUAI Case No.: 18395 SAS No.: SDG No.: BKA71

Matrix: (soil/water) SOIL Lab Sample ID: 163047

Sample wt/vol: 5.0 (g/mL) G Lab File ID: D163047V

Level: (low/med) LOW Date Received: 07/01/92

% Moisture: not dec. 51 Date Analyzed: 07/08/92

GC Column: PACK ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	20	U
74-83-9	Bromomethane	20	U
75-01-4	Vinyl Chloride	20	U
75-00-3	Chloroethane	20	U
75-09-2	Methylene Chloride	20	U
67-64-1	Acetone	20	U
75-15-0	Carbon Disulfide	20	U
75-35-4	1,1-Dichloroethene	20	U
75-34-3	1,1-Dichloroethane	20	U
540-59-0	1,2-Dichloroethene (total)	20	U
67-66-3	Chloroform	20	U
107-06-2	1,2-Dichloroethane	20	U
78-93-3	2-Butanone	20	U
71-55-6	1,1,1-Trichloroethane	20	U
56-23-5	Carbon Tetrachloride	20	U
75-27-4	Bromodichloromethane	20	U
78-87-5	1,2-Dichloropropane	20	U
10061-01-5	cis-1,3-Dichloropropene	20	U
79-01-6	Trichloroethene	20	U
124-48-1	Dibromochloromethane	20	U
79-00-5	1,1,2-Trichloroethane	20	U
71-43-2	Benzene	20	U
10061-02-6	trans-1,3-Dichloropropene	20	U
75-25-2	Bromoform	20	U
108-10-1	4-Methyl-2-Pentanone	20	U
591-78-6	2-Hexanone	20	U
127-18-4	Tetrachloroethene	20	U
79-34-5	1,1,2,2-Tetrachloroethane	20	U
108-88-3	Toluene	20	U
108-90-7	Chlorobenzene	20	U
100-41-4	Ethylbenzene	20	U
100-42-5	Styrene	20	U
1330-20-7	Xylene (total)	20	U

000064

FORM I VOA

BKA76

Lab Name: AQUATECH [illegible] Contract: 68D20019

Lab Code: AQUA Case No.: 18395 SAS No.: [illegible] SDG No.: BKA7[illegible]

Matrix: (soil/water) SOIL Lab Sample ID: 163047

Sample wt/vol: 30.0 (g/mL) G Lab File ID: A1630478

Level: (low/med) LOW Date Received: 07/01/92

% Moisture: 46 decanted: (Y/N) N Date Extracted: 07/06/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 07/16/92

Injection Volume: 2.0 (uL) Dilution Factor: 4.0

GPC Cleanup: (Y/N) Y pH: 5.8

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	2400	U
111-44-4	bis(2-Chloroethyl)Ether	2400	U
95-57-8	2-Chlorophenol	2400	U
541-73-1	1,3-Dichlorobenzene	2400	U
106-46-7	1,4-Dichlorobenzene	2400	U
95-50-1	1,2-Dichlorobenzene	2400	U
95-48-7	2-Methylphenol	2400	U
108-60-1	2,2'-oxybis(1-Chloropropane)	2400	U
106-44-5	4-Methylphenol	2400	U
621-64-7	N-Nitroso-Di-n-Propylamine	2400	U
67-72-1	Hexachloroethane	2400	U
98-95-3	Nitrobenzene	2400	U
78-59-1	Isophorone	2400	U
88-75-5	2-Nitrophenol	2400	U
105-67-9	2,4-Dimethylphenol	2400	U
111-91-1	bis(2-Chloroethoxy)Methane	2400	U
120-83-2	2,4-Dichlorophenol	2400	U
120-82-1	1,2,4-Trichlorobenzene	2400	U
91-20-3	Naphthalene	170	J
106-47-8	4-Chloroaniline	2400	U
87-68-3	Hexachlorobutadiene	2400	U
59-50-7	4-Chloro-3-Methylphenol	2400	U
91-57-6	2-Methylnaphthalene	160	J
77-47-4	Hexachlorocyclopentadiene	2400	U
88-06-2	2,4,6-Trichlorophenol	2400	U
95-95-4	2,4,5-Trichlorophenol	5900	U
91-58-7	2-Chloronaphthalene	2400	U
88-74-4	2-Nitroaniline	5900	U
131-11-3	Dimethylphthalate	2400	U
208-96-8	Acenaphthylene	640	J
606-20-2	2,6-Dinitrotoluene	2400	U
99-09-2	3-Nitroaniline	5900	U
83-32-9	Acenaphthene	300	J

Lab Name: [illegible] Contract: 68D20019 BKA76

Lab Code: [illegible] Case No.: [illegible] SDG No.: BKA7[illegible]

Matrix: (soil/water) [illegible] Lab Sample ID: 163047[illegible]

Sample wt/vol: [illegible] (g/ml) [illegible] Lab File ID: A1630475

Level: [illegible] (low/med) [illegible] Date Received: 07/01/92

% Moisture: [illegible] 46 decanted: (Y/N) N Date Extracted: 07/06/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 07/16/92

Injection Volume: 2.0(uL) Dilution Factor: 4.0

GPC Cleanup: (Y/N) Y pH: 5.8

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	5900	UJ
100-02-7	4-Nitrophenol	5900	U
132-64-9	Dibenzofuran	170	J
121-14-2	2,4-Dinitrotoluene	2400	U
84-66-2	Diethylphthalate	2400	U
7005-72-3	4-Chlorophenyl-phenylether	2400	U
86-73-7	Fluorene	510	J
100-01-6	4-Nitroaniline	5900	U
534-52-1	4,6-Dinitro-2-methylphenol	5900	U
86-30-6	N-Nitrosodiphenylamine (1)	2400	U
101-55-3	4-Bromophenyl-phenylether	2400	U
118-74-1	Hexachlorobenzene	2400	U
87-86-5	Pentachlorophenol	5900	U
85-01-8	Phenanthrene	4800	
120-12-7	Anthracene	1100	J
86-74-8	Carbazole	680	J
84-74-2	Di-n-Butylphthalate	140	J
206-44-0	Fluoranthene	11000	
129-00-0	Pyrene	8100	
85-68-7	Butylbenzylphthalate	2400	U
91-94-1	3,3'-Dichlorobenzidine	2400	UJ
56-55-3	Benzo(a)Anthracene	5400	
218-01-9	Chrysene	5900	
117-81-7	bis(2-Ethylhexyl)Phthalate	1300	J
117-84-0	Di-n-Octyl Phthalate	2400	U
205-99-2	Benzo(b)Fluoranthene	7800	
207-08-9	Benzo(k)Fluoranthene	4600	
50-32-8	Benzo(a)Pyrene	5400	
193-39-5	Indeno(1,2,3-cd)Pyrene	3200	
53-70-3	Dibenz(a,h)Anthracene	1300	J
191-24-2	Benzo(g,h,i)Perylene	2700	

(1) - Cannot be separated from Diphenylamine

[illegible] 68D20019 | BKA76

[illegible] SDG No.: [illegible]

M[illegible] Sample ID: 163047

[illegible] Lab File ID: A163047

Level: [illegible] Date Received: 07/01/92

Moisture: [illegible] Decanted: (Y/N) N Date Extracted: 07/06/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 07/16/92

Injection Volume: 2.0 (uL) Dilution Factor: 4.0

GPC Cleanup: (Y/N) Y pH: 5.8

Number TICs found: 20

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 832-71-3	3-METHYLPHENANTHRENE	32.00	1100	JN
2. 2531-84-2	2-METHYLPHENANTHRENE	32.10	1400	JN
3.	UNKNOWN METHYLPHENANTHRENE	32.40	1200	J
4. 203-64-5	4H-CYCLOPENTA(D,E,F)PHENANTH	32.42	1600	JN
5. 832-69-9	1-METHYLPHENANTHRENE	32.47	1500	JN
6. 84-65-1	9,10-ANTHRACENEDIONE	33.13	1600	JN
7. 238-84-6	11H-BENZO(A)FLUORENE	36.35	2400	JN
8.	UNKNOWN METHYLPYRENE	36.70	1700	J
9. 239-35-0	BENZO(B)NAPHTHO(1,2-D)THIOPH	38.47	1100	JN
10. 629-99-2	PENTACOSANE	38.48	1700	JN
11. 593-49-7	HEPTACOSANE	40.57	2300	JN
12.	UNKNOWN C19H14 HYDROCARBON	40.63	1500	J
13. 630-03-5	NONACOSANE	42.50	5600	JN
14.	UNKNOWN C20H12 PNA HYDROCARB	43.12	3100	J
15. 192-97-2	BENZO(E)PYRENE	43.70	7800	JN
16. 198-55-0	PERYLENE	44.15	2700	JN
17.	UNKNOWN ALKANE	44.63	4800	J
18.	UNKNOWN POLYCYCLIC HYDROCARB	45.88	3000	J
19.	UNKNOWN POLYCYCLIC HYDROCARB	47.13	4100	J
20.	UNKNOWN ALKANE	47.42	1400	J

000486

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BKA76

Lab Name: AQUATEC INC Contract: 68D20019

Lab Code: AQUAI Case No.: 18395 SAS No.: _____ SDG No.: BKA71

Matrix: (soil/water) SOIL Lab Sample ID: 163047

Sample wt/vol: 30.1 (g/mL) G Lab File ID: _____

% Moisture: 46 decanted: (Y/N) N Date Received: 07/01/92

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 07/08/92

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 08/04/92

Injection Volume: 1.00 (uL) Dilution Factor: 5.00

GPC Cleanup: (Y/N) Y pH: 5.8 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	16	U
319-85-7	beta-BHC	16	U
319-86-8	delta-BHC	16	U
58-89-9	gamma-BHC (Lindane)	16	U
76-44-8	Heptachlor	16	U
309-00-2	Aldrin	16	U
1024-57-3	Heptachlor epoxide	16	U
959-98-8	Endosulfan I	16	U
60-57-1	Dieldrin	30	U
72-55-9	4,4'-DDE	30	U
72-20-8	Endrin	30	U
33213-65-9	Endosulfan II	30	U
72-54-8	4,4'-DDD	~~17~~	~~JP~~ R
1031-07-8	Endosulfan sulfate	30	U
50-29-3	4,4'-DDT	30	U
72-43-5	Methoxychlor	160	U
53494-70-5	Endrin ketone	30	U
7421-36-3	Endrin aldehyde	30	U
5103-71-9	alpha-Chlordane	~~40~~	~~P~~ R
5103-74-2	gamma-Chlordane	22	
8001-35-2	Toxaphene	1600	U
12674-11-2	Aroclor-1016	300	U
11104-28-2	Aroclor-1221	620	U
11141-16-5	Aroclor-1232	300	U
53469-21-9	Aroclor-1242	300	U
12672-29-6	Aroclor-1248	300	U
11097-69-1	Aroclor-1254	530	
11096-82-5	Aroclor-1260	640	P

MARY ANN MASSI ALTANO
NEW JERSEY DEPT. OF LABOR
PUBLIC EMPLOYEE ACCOUNTANT

001144

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BKA77

Lab Name: AQUATEC INC Contract: 68D20019

Lab Code: AQUAT Case No.: 18395 SAS No.: SDG No.: BKA71

Matrix: (soil/water) SOIL Lab Sample ID: 163048

Sample wt/vol: 5.0 (g/mL) G Lab File ID: D163048V

Level: (low/med) LOW Date Received: 07/01/92

% Moisture: not dec. 35 Date Analyzed: 07/08/92

GC Column: PACK ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	15	U
74-83-9	Bromomethane	15	U
75-01-4	Vinyl Chloride	15	U
75-00-3	Chloroethane	15	U
75-09-2	Methylene Chloride	15	U
67-64-1	Acetone	23	U
75-15-0	Carbon Disulfide	15	U
75-35-4	1,1-Dichloroethene	15	U
75-34-3	1,1-Dichloroethane	15	U
540-59-0	1,2-Dichloroethene (total)	15	U
67-66-3	Chloroform	15	U
107-06-2	1,2-Dichloroethane	15	U
78-93-3	2-Butanone	15	U
71-55-6	1,1,1-Trichloroethane	15	U
56-23-5	Carbon Tetrachloride	15	U
75-27-4	Bromodichloromethane	15	U
78-87-5	1,2-Dichloropropane	15	U
10061-01-5	cis-1,3-Dichloropropene	15	U
79-01-6	Trichloroethene	15	U
124-48-1	Dibromochloromethane	15	U
79-00-5	1,1,2-Trichloroethane	15	U
71-43-2	Benzene	15	U
10061-02-6	trans-1,3-Dichloropropene	15	U
75-25-2	Bromoform	15	U
108-10-1	4-Methyl-2-Pentanone	15	U
591-78-6	2-Hexanone	15	U
127-18-4	Tetrachloroethene	15	U
79-34-5	1,1,2,2-Tetrachloroethane	15	U
108-88-3	Toluene	15	U
108-90-7	Chlorobenzene	15	U
100-41-4	Ethylbenzene	15	U
100-42-5	Styrene	15	U
1330-20-7	Xylene (total)	15	U

000071

FORM I VOA 3/90

BKA77

Contract: 68D20019

SAS No.: SDG No.: BKA77

Lab Sample ID: 163048

Lab File ID: A163048

Date Received: 07/01/92

% Moisture: 36 decanted: (Y/N) N Date Extracted: 07/06/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 07/16/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 5.6

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	520	U
111-44-4	bis(2-Chloroethyl)Ether	520	U
95-57-8	2-Chlorophenol	520	U
541-73-1	1,3-Dichlorobenzene	520	U
106-46-7	1,4-Dichlorobenzene	520	U
95-50-1	1,2-Dichlorobenzene	520	U
95-48-7	2-Methylphenol	520	U
108-60-1	2,2'-oxybis(1-Chloropropane)	520	U
106-44-5	4-Methylphenol	520	U
621-64-7	N-Nitroso-Di-n-Propylamine	520	U
67-72-1	Hexachloroethane	520	U
98-95-3	Nitrobenzene	520	U
78-59-1	Isophorone	520	U
88-75-5	2-Nitrophenol	520	U
105-67-9	2,4-Dimethylphenol	520	U
111-91-1	bis(2-Chloroethoxy)Methane	520	U
120-83-2	2,4-Dichlorophenol	520	U
120-82-1	1,2,4-Trichlorobenzene	520	U
91-20-3	Naphthalene	89	J
106-47-8	4-Chloroaniline	520	U
87-68-3	Hexachlorobutadiene	520	U
59-50-7	4-Chloro-3-Methylphenol	520	U
91-57-6	2-Methylnaphthalene	150	J
77-47-4	Hexachlorocyclopentadiene	520	U
88-06-2	2,4,6-Trichlorophenol	520	U
95-95-4	2,4,5-Trichlorophenol	1200	U
91-58-7	2-Chloronaphthalene	520	U
88-74-4	2-Nitroaniline	1200	U
131-11-3	Dimethylphthalate	520	U
208-96-8	Acenaphthylene	100	J
606-20-2	2,6-Dinitrotoluene	520	U
99-09-2	3-Nitroaniline	1200	U
83-32-9	Acenaphthene	160	J

Lab Name: [illegible] Contract: 68D20019

Lab Code: [illegible] Case No.: [illegible] SAS No.: [illegible] SDG No.: BK[illegible]

Matrix: (soil/water) [illegible] Lab Sample ID: 163042[illegible]

Sample wt/vol: [illegible] (g/mL) G Lab File ID: A163046[illegible]

Level: (low/med) LOW Date Received: 07/01/92

% Moisture: 36 decanted: (Y/N) N Date Extracted: 07/06/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 07/16/92

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 5.6

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	1200	UJ
100-02-7	4-Nitrophenol	1200	U
132-64-9	Dibenzofuran	54	J
121-14-2	2,4-Dinitrotoluene	520	U
84-66-2	Diethylphthalate	520	U
7005-72-3	4-Chlorophenyl-phenylether	520	U
86-73-7	Fluorene	110	J
100-01-6	4-Nitroaniline	1200	U
534-52-1	4,6-Dinitro-2-methylphenol	1200	U
86-30-6	N-Nitrosodiphenylamine (1)	520	U
101-55-3	4-Bromophenyl-phenylether	520	U
118-74-1	Hexachlorobenzene	290	J
87-86-5	Pentachlorophenol	1200	U
85-01-8	Phenanthrene	680	
120-12-7	Anthracene	130	J
86-74-8	Carbazole	130	J
84-74-2	Di-n-Butylphthalate	150	J
206-44-0	Fluoranthene	2100	
129-00-0	Pyrene	1800	
85-68-7	Butylbenzylphthalate	160	J
91-94-1	3,3'-Dichlorobenzidine	520	UJ
56-55-3	Benzo(a)Anthracene	1100	
218-01-9	Chrysene	910	
117-81-7	bis(2-Ethylhexyl)Phthalate	2400	
117-84-0	Di-n-Octyl Phthalate	520	U
205-99-2	Benzo(b)Fluoranthene	1300	
207-08-9	Benzo(k)Fluoranthene	720	
50-32-8	Benzo(a)Pyrene	710	
193-39-5	Indeno(1,2,3-cd)Pyrene	510	J
53-70-3	Dibenz(a,h)Anthracene	240	J
191-24-2	Benzo(g,h,i)Perylene	490	J

(1) - Cannot be separated from Diphenylamine

000555

FORM I SV-2 3/90

BKA77

Contract: 68D20019

SDG No.: BKA

Lab Sample ID: 163048

Lab File ID: A163048

Date Received: 07/01/92

% Moisture: decanted: (Y/N) N

Date Extracted: 07/06/92

Concentrated Extract Volume: 500.0 (uL)

Date Analyzed: 07/16/92

Injection Volume: 2.0(uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 5.6

Number TICs found: 20

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 832-71-3	3-METHYLPHENANTHRENE	32.02	400	JN
2. 2531-84-2	2-METHYLPHENANTHRENE	32.10	390	JN
3.	UNKNOWN METHYLPHENANTHRENE	32.42	340	J
4. 84-65-1	9,10-ANTHRACENEDIONE	33.15	340	JN
5. 57-74-9	CHLORDANE	34.83	700	JN
6. 238-84-6	11H-BENZO(A)FLUORENE	36.37	470	JN
7.	UNKNOWN METHYLPYRENE	36.72	390	J
8. 629-99-2	PENTACOSANE	38.50	520	JN
9.	UNKNOWN BENZENE DERIVATIVE	40.28	2800	J
10. 593-49-7	HEPTACOSANE	40.58	1100	JN
11.	UNKNOWN BENZENE DERIVATIVE	40.70	670	J
12. 630-03-5	NONACOSANE	42.53	8400	JN
13.	UNKNOWN C20H12 PNA HYDROCARB	43.12	290	J
14. 638-68-6	TRIACONTANE	43.52	1100	JN
15. 192-97-2	BENZO(E)PYRENE	43.72	1300	JN
16. 198-55-0	PERYLENE	44.17	400	JN
17.	UNKNOWN ALKANE	44.67	6400	J
18.	UNKNOWN POLYCYCLIC HYDROCARB	45.92	1200	J
19.	UNKNOWN POLYCYCLIC HYDROCARB	47.17	1000	J
20.	UNKNOWN ALIPHATIC	47.45	2000	J

000558

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BKA77

Lab Name: AQUATEC INC Contract: 68D20019

Lab Code: AQUAT Case No.: 18395 SAS No.: _____ SDG No.: BKA71

Matrix: (soil/water) SOIL Lab Sample ID: 163048

Sample wt/vol: 30.0 (g/mL) G Lab File ID: B163048I5S

% Moisture: 36 decanted: (Y/N) N Date Received: 07/01/92

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 07/08/92

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 08/05/92

Injection Volume: 1.00 (uL) Dilution Factor: 5.00

GPC Cleanup: (Y/N) Y pH: 5.6 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	13	U J
319-85-7	beta-BHC	13	U
319-86-8	delta-BHC	13	U
58-89-9	gamma-BHC (Lindane)	13	U
76-44-8	Heptachlor	13	U
309-00-2	Aldrin	13	U
1024-57-3	Heptachlor epoxide	13	U
959-98-8	Endosulfan I	13	U
60-57-1	Dieldrin	26	U J
72-55-9	4,4'-DDE	~~48~~	~~P J~~ R
72-20-8	Endrin	26	U J
33213-65-9	Endosulfan II	26	U
72-54-8	4,4'-DDD	26	U
1031-07-8	Endosulfan sulfate	26	U
50-29-3	4,4'-DDT	26	U
72-43-5	Methoxychlor	130	U
53494-70-5	Endrin ketone	26	U
7421-36-3	Endrin aldehyde	26	U
5103-71-9	alpha-Chlordane	680*D ~~660~~	P C J
5103-74-2	gamma-Chlordane	910*D ~~880~~	C J
8001-35-2	Toxaphene	1300	U
12674-11-2	Aroclor-1016	260	U
11104-28-2	Aroclor-1221	520	U
11141-16-5	Aroclor-1232	260	U
53469-21-9	Aroclor-1242	260	U
12672-29-6	Aroclor-1248	260	U
11097-69-1	Aroclor-1254	1200	J
11096-82-5	Aroclor-1260	600	

MANDATORY ANALYSIS METHOD
SUBJECT TO REVISION OF
EPA ROUTINE ANALYTICAL SERVICES

4D value

001156

FORM I PEST 3/90

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO:

BKA79

Lab Name: AQUATEC INC Contract: 68D20019

Lab Code: AQUAI Case No.: 18395 SAS No.: SDG No.: BKA71

Matrix: (soil/water) SOIL Lab Sample ID: 163049

Sample wt/vol: 5.0 (g/mL) G Lab File ID: D163049V

Level: (low/med) LOW Date Received: 07/01/92

% Moisture: not dec. 16 Date Analyzed: 07/08/92

GC Column: PACK ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl Chloride	12	U
75-00-3	Chloroethane	12	U
75-09-2	Methylene Chloride	12	U
67-64-1	Acetone	12	U
75-15-0	Carbon Disulfide	12	U
75-35-4	1,1-Dichloroethene	12	U
75-34-3	1,1-Dichloroethane	12	U
540-59-0	1,2-Dichloroethene (total)	12	U
67-66-3	Chloroform	12	U
107-06-2	1,2-Dichloroethane	12	U
78-93-3	2-Butanone	12	U
71-55-6	1,1,1-Trichloroethane	12	U
56-23-5	Carbon Tetrachloride	12	U
75-27-4	Bromodichloromethane	12	U
78-87-5	1,2-Dichloropropane	12	U
10061-01-5	cis-1,3-Dichloropropene	12	U
79-01-6	Trichloroethene	12	U
124-48-1	Dibromochloromethane	12	U
79-00-5	1,1,2-Trichloroethane	12	U
71-43-2	Benzene	12	U
10061-02-6	trans-1,3-Dichloropropene	12	U
75-25-2	Bromoform	12	U
108-10-1	4-Methyl-2-Pentanone	12	U
591-78-6	2-Hexanone	12	U
127-18-4	Tetrachloroethene	12	U
79-34-5	1,1,2,2-Tetrachloroethane	12	U
108-88-3	Toluene	12	U
108-90-7	Chlorobenzene	12	U
100-41-4	Ethylbenzene	12	U
100-42-5	Styrene	12	U
1330-20-7	Xylene (total)	12	U

000079

BKA79

Contract: 68D20019

SDG No.: BK

Sample ID: 163049

Lab File ID: A163049

Date Received: 07/01/9

Date Extracted: 07/06/9

Date Analyzed: 07/16/92

Concentrated Extract Volume: 500.0 (uL)

Injection Volume: 2.0(uL)

Dilution Factor: 2.0

GPC Cleanup: (Y/N) Y pH: 6.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	790	U
111-44-4	bis(2-Chloroethyl)Ether	790	U
95-57-8	2-Chlorophenol	790	U
541-73-1	1,3-Dichlorobenzene	790	U
106-46-7	1,4-Dichlorobenzene	790	U
95-50-1	1,2-Dichlorobenzene	790	U
95-48-7	2-Methylphenol	790	U
108-60-1	2,2'-oxybis(1-Chloropropane)	790	U
106-44-5	4-Methylphenol	790	U
621-64-7	N-Nitroso-Di-n-Propylamine	790	U
67-72-1	Hexachloroethane	790	U
98-95-3	Nitrobenzene	790	U
78-59-1	Isophorone	790	U
88-75-5	2-Nitrophenol	790	U
105-67-9	2,4-Dimethylphenol	790	U
111-91-1	bis(2-Chloroethoxy)Methane	790	U
120-83-2	2,4-Dichlorophenol	790	U
120-82-1	1,2,4-Trichlorobenzene	790	U
91-20-3	Naphthalene	72	J
106-47-8	4-Chloroaniline	790	U
87-68-3	Hexachlorobutadiene	790	U
59-50-7	4-Chloro-3-Methylphenol	790	U
91-57-6	2-Methylnaphthalene	92	J
77-47-4	Hexachlorocyclopentadiene	790	U
88-06-2	2,4,6-Trichlorophenol	790	U
95-95-4	2,4,5-Trichlorophenol	1900	U
91-58-7	2-Chloronaphthalene	790	U
88-74-4	2-Nitroaniline	1900	U
131-11-3	Dimethylphthalate	790	U
208-96-8	Acenaphthylene	230	J
606-20-2	2,6-Dinitrotoluene	790	U
99-09-2	3-Nitroaniline	1900	U
83-32-9	Acenaphthene	98	J

FORM I SV-1

[illegible]

BKA79

Lab Name: AQUATEC [illegible] Contract: 68D20019

Lab Code: AQUA[illegible] SAS No.: SDG No.: BKA[illegible]

Matrix: (soil/water) [illegible] Lab Sample ID: [illegible]163049

Sample wt/vol: [illegible] (g/mL) G Lab File ID: A163049[illegible]

Level: (low/med) [illegible] Date Received: 07/01/92

% Moisture: 16 decanted: (Y/N) N Date Extracted: 07/06/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 07/16/92

Injection Volume: 2.0(uL) Dilution Factor: 2.0

GPC Cleanup: (Y/N) Y pH: 6.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	1900	U J
100-02-7	4-Nitrophenol	1900	U
132-64-9	Dibenzofuran	50	J
121-14-2	2,4-Dinitrotoluene	790	U
84-66-2	Diethylphthalate	790	U
7005-72-3	4-Chlorophenyl-phenylether	790	U
86-73-7	Fluorene	180	J
100-01-6	4-Nitroaniline	1900	U
534-52-1	4,6-Dinitro-2-methylphenol	1900	U
86-30-6	N-Nitrosodiphenylamine (1)	790	U
101-55-3	4-Bromophenyl-phenylether	790	U
118-74-1	Hexachlorobenzene	790	U
87-86-5	Pentachlorophenol	1900	U
85-01-8	Phenanthrene	2000	
120-12-7	Anthracene	250	J
86-74-8	Carbazole	200	J
84-74-2	Di-n-Butylphthalate	66	J
206-44-0	Fluoranthene	3800	
129-00-0	Pyrene	3000	
85-68-7	Butylbenzylphthalate	790	U
91-94-1	3,3'-Dichlorobenzidine	790	U J
56-55-3	Benzo(a)Anthracene	1800	
218-01-9	Chrysene	2200	
117-81-7	bis(2-Ethylhexyl)Phthalate	310	J
117-84-0	Di-n-Octyl Phthalate	790	U
205-99-2	Benzo(b)Fluoranthene	2300	
207-08-9	Benzo(k)Fluoranthene	1600	
50-32-8	Benzo(a)Pyrene	1600	
193-39-5	Indeno(1,2,3-cd)Pyrene	800	
53-70-3	Dibenz(a,h)Anthracene	430	J
191-24-2	Benzo(g,h,i)Perylene	780	J

(1) - Cannot be separated from Diphenylamine

000623

Contract: 68D20019

BKA79

SAS No.: SDG No.: BK

Lab Sample ID: 163049

Lab File ID: A163049

Date Received: 07/01/92

% Moisture: 16 decanted: (Y/N) N Date Extracted: 07/06/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 07/16/92

Injection Volume: 2.0(uL) Dilution Factor: 2.0

GPC Cleanup: (Y/N) Y pH: 6.0

Number TICs found: 20

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 832-71-3	3-METHYLPHENANTHRENE	32.00	720	JN
2. 2531-84-2	2-METHYLPHENANTHRENE	32.10	850	JN
3. 203-64-5	4H-CYCLOPENTA(D,E,F)PHENANTH	32.42	680	JN
4. 832-69-9	1-METHYLPHENANTHRENE	32.47	540	JN
5. 84-65-1	9,10-ANTHRACENEDIONE	33.13	570	JN
6.	UNKNOWN DIMETHYLPHENANTHRENE	33.92	640	J
7.	UNKNOWN BENZOFLUORENE	35.95	480	J
8. 238-84-6	11H-BENZO(A)FLUORENE	36.33	980	JN
9.	UNKNOWN METHYLPYRENE	36.78	740	J
10.	UNKNOWN METHYLPYRENE	37.02	490	J
11.	UNKNOWN BENZANTHRACENONE	38.12	590	J
12.	UNKNOWN BENZANTHRACENONE	38.80	520	J
13.	UNKNOWN C19H14 PNA HYDROCARB	40.63	630	J
14.	UNKNOWN ALDEHYDE	42.03	1300	J
15. 630-03-5	NONACOSANE	42.48	1800	JN
16.	UNKNOWN C20H12 PNA HYDROCARB	43.10	570	J
17. 192-97-2	BENZO(E)PYRENE	43.68	2100	JN
18. 198-55-0	PERYLENE	44.13	710	JN
19.	UNKNOWN ALKANE	44.63	3100	J
20.	UNKNOWN ALKANE	47.42	910	J

000630

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BKA79

Lab Name: AQUATEC INC Contract: 68D20019

Lab Code: AQUAI Case No.: 18395 SAS No.: _____ SDG No.: BKA71

Matrix: (soil/water) SOIL Lab Sample ID: 163049

Sample wt/vol: 30.1 (g/mL) G Lab File ID: _____

% Moisture: 16 decanted: (Y/N) N Date Received: 07/01/92

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 07/08/92

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 08/04/92

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 6.0 Sulfur Cleanup: (Y/N) N

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND		Q
319-84-6	alpha-BHC	2.0	U J
319-85-7	beta-BHC	2.0	U
319-86-8	delta-BHC	2.0	U
58-89-9	gamma-BHC (Lindane)	2.0	U
76-44-8	Heptachlor	2.0	U
309-00-2	Aldrin	2.0	U
1024-57-3	Heptachlor epoxide	2.0	U
959-98-8	Endosulfan I	2.0	U
60-57-1	Dieldrin	3.9	U
72-55-9	4,4'-DDE	3.9	U J
72-20-8	Endrin	~~4.7~~	~~P~~ R
33213-65-9	Endosulfan II	3.9	U J
72-54-8	4,4'-DDD	3.9	U
1031-07-8	Endosulfan sulfate	3.9	U
50-29-3	4,4'-DDT	~~12~~	~~P~~ R
72-43-5	Methoxychlor	20	U
53494-70-5	Endrin ketone	11	P N
7421-36-3	Endrin aldehyde	~~7.1~~	~~P~~ R
5103-71-9	alpha-Chlordane	~~6.5~~	~~P~~ R
5103-74-2	gamma-Chlordane	2.0	U
8001-35-2	Toxaphene	200	U
12674-11-2	Aroclor-1016	39	U
11104-28-2	Aroclor-1221	80	U
11141-16-5	Aroclor-1232	39	U
53469-21-9	Aroclor-1242	39	U
12672-29-6	Aroclor-1248	39	U
11097-69-1	Aroclor-1254	180	
11096-82-5	Aroclor-1260	93	P JN

MATRIX INTERFERENCE AFFECTS ALL ROSHAN OF ANALYTICAL METHOD

001179

AQ

1B
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BKA80

Lab Name: AQUATEC INC Contract: 68D20019

Lab Code: AQUAI Case No.: 18395 SAS No.: SDG No.: BKA71

Matrix: (soil/water) SOIL Lab Sample ID: 163050

Sample wt/vol: 5.0 (g/mL) G Lab File ID: D163050V

Level: (low/med) LOW Date Received: 07/01/92

% Moisture: not dec. 16 Date Analyzed: 07/08/92

GC Column: PACK ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl Chloride	12	U
75-00-3	Chloroethane	12	U
75-09-2	Methylene Chloride	12	U
67-64-1	Acetone	12	U
75-15-0	Carbon Disulfide	12	U
75-35-4	1,1-Dichloroethene	12	U
75-34-3	1,1-Dichloroethane	12	U
540-59-0	1,2-Dichloroethene (total)	12	U
67-66-3	Chloroform	12	U
107-06-2	1,2-Dichloroethane	12	U
78-93-3	2-Butanone	12	U
71-55-6	1,1,1-Trichloroethane	12	U
56-23-5	Carbon Tetrachloride	12	U
75-27-4	Bromodichloromethane	12	U
78-87-5	1,2-Dichloropropane	12	U
10061-01-5	cis-1,3-Dichloropropene	12	U
79-01-6	Trichloroethene	12	U
124-48-1	Dibromochloromethane	12	U
79-00-5	1,1,2-Trichloroethane	12	U
71-43-2	Benzene	12	U
10061-02-6	trans-1,3-Dichloropropene	12	U
75-25-2	Bromoform	12	U J
108-10-1	4-Methyl-2-Pentanone	12	U
591-78-6	2-Hexanone	12	U
127-18-4	Tetrachloroethene	12	U
79-34-5	1,1,2,2-Tetrachloroethane	12	U
108-88-3	Toluene	12	U
108-90-7	Chlorobenzene	12	U
100-41-4	Ethylbenzene	12	U
100-42-5	Styrene	12	U
1330-20-7	Xylene (total)	12	U

000080

BKA80

Contract: 68D20019

SDG No.: BK

ID: 163050

Lab File ID: A1630508

Date Received: 07/01/92

Date Extracted: 07/06/92

Date Analyzed: 07/28/92

Concentrated Extract Volume: 500.0 (uL)

Injection Volume: 2.0(uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 5.9

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	400	U
111-44-4	bis(2-Chloroethyl)Ether	400	U
95-57-8	2-Chlorophenol	400	U
541-73-1	1,3-Dichlorobenzene	400	U
106-46-7	1,4-Dichlorobenzene	400	U
95-50-1	1,2-Dichlorobenzene	400	U
95-48-7	2-Methylphenol	400	U
108-60-1	2,2'-oxybis(1-Chloropropane)	400	UJ
106-44-5	4-Methylphenol	400	U
621-64-7	N-Nitroso-Di-n-Propylamine	400	U
67-72-1	Hexachloroethane	400	U
98-95-3	Nitrobenzene	400	U
78-59-1	Isophorone	400	U
88-75-5	2-Nitrophenol	400	U
105-67-9	2,4-Dimethylphenol	400	U
111-91-1	bis(2-Chloroethoxy)Methane	400	U
120-83-2	2,4-Dichlorophenol	400	U
120-82-1	1,2,4-Trichlorobenzene	400	U
91-20-3	Naphthalene	79	J
106-47-8	4-Chloroaniline	400	U
87-68-3	Hexachlorobutadiene	400	U
59-50-7	4-Chloro-3-Methylphenol	400	U
91-57-6	2-Methylnaphthalene	85	J
77-47-4	Hexachlorocyclopentadiene	400	UJ
88-06-2	2,4,6-Trichlorophenol	400	U
95-95-4	2,4,5-Trichlorophenol	960	U
91-58-7	2-Chloronaphthalene	400	U
88-74-4	2-Nitroaniline	960	U
131-11-3	Dimethylphthalate	400	U
208-96-8	Acenaphthylene	130	J
606-20-2	2,6-Dinitrotoluene	400	U
99-09-2	3-Nitroaniline	960	U
83-32-9	Acenaphthene	110	J

FORM I SV-1

000695

Contract: 68D20019

SAS No.: SDG No.: BK

Lab Sample ID: 163050

Lab File ID: A163050

Date Received: 07/01/92

% Moisture: 17 decanted: (Y/N) N

Date Extracted: 07/06/92

Concentrated Extract Volume: 500.0 (uL)

Date Analyzed: 07/28/92

Injection Volume: 2.0(uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 5.9

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	960	UJ
100-02-7	4-Nitrophenol	960	U
132-64-9	Dibenzofuran	53	J
121-14-2	2,4-Dinitrotoluene	400	U
84-66-2	Diethylphthalate	400	U
7005-72-3	4-Chlorophenyl-phenylether	400	U
86-73-7	Fluorene	180	J
100-01-6	4-Nitroaniline	960	U
534-52-1	4,6-Dinitro-2-methylphenol	960	U
86-30-6	N-Nitrosodiphenylamine (1)	400	U
101-55-3	4-Bromophenyl-phenylether	400	U
118-74-1	Hexachlorobenzene	400	U
87-86-5	Pentachlorophenol	960	U
85-01-8	Phenanthrene	2000	
120-12-7	Anthracene	290	J
86-74-8	Carbazole	160	J
84-74-2	Di-n-Butylphthalate	52	J
206-44-0	Fluoranthene	2800	
129-00-0	Pyrene	2800	
85-68-7	Butylbenzylphthalate	400	U
91-94-1	3,3'-Dichlorobenzidine	400	UJ
56-55-3	Benzo(a)Anthracene	1500	
218-01-9	Chrysene	1800	
117-81-7	bis(2-Ethylhexyl)Phthalate	300	J
117-84-0	Di-n-Octyl Phthalate	400	U
205-99-2	Benzo(b)Fluoranthene	1500	
207-08-9	Benzo(k)Fluoranthene	1400	
50-32-8	Benzo(a)Pyrene	1400	
193-39-5	Indeno(1,2,3-cd)Pyrene	720	
53-70-3	Dibenz(a,h)Anthracene	310	J
191-24-2	Benzo(g,h,i)Perylene	790	

(1) - Cannot be separated from Diphenylamine

000696

FORM I SV-2

3/90

BKA80

Contract: 68D20019

SDG No.: BK

ID: 163050

Lab File ID: A163050

Date Received: 07/01/92

Moisture: decanted: (Y/N) N

Date Extracted: 07/06/92

Concentrated Extract Volume: 500.0 (uL)

Date Analyzed: 07/28/92

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y

pH: 5.9

Number TICs found: 20

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 832-71-3	3-METHYLPHENANTHRENE	32.38	680	JN
2. 2531-84-2	2-METHYLPHENANTHRENE	32.48	820	JN
3. 203-64-5	4H-CYCLOPENTA(D,E,F)PHENANTH	32.82	550	JN
4. 832-69-9	1-METHYLPHENANTHRENE	32.87	640	JN
5.	UNKNOWN DIMETHYLPHENANTHRENE	34.30	510	J
6.	UNKNOWN BENZOFLUORENE	36.33	510	J
7. 238-84-6	11H-BENZO(A)FLUORENE	36.72	1000	JN
8.	UNKNOWN METHYLPYRENE	37.08	730	J
9.	UNKNOWN METHYLPYRENE	37.40	520	J
10.	UNKNOWN METHYLPYRENE	37.50	490	J
11.	UNKNOWN BENZANTHRACENONE	38.48	460	J
12.	UNKNOWN C19H14 PNA HYDROCARB	41.00	590	J
13.	UNKNOWN C19H14 PNA HYDROCARB	41.13	380	J
14.	UNKNOWN ALDEHYDE	42.33	1500	J
15. 630-03-5	NONACOSANE	42.80	1200	JN
16.	UNKNOWN C20H12 PNA HYDROCARB	43.50	480	J
17. 192-97-2	BENZO(E)PYRENE	44.10	1800	JN
18. 198-55-0	PERYLENE	44.58	500	JN
19.	UNKNOWN ALKANE	45.03	1900	J
20.	UNKNOWN ALKANE	47.98	410	J

000697

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BKA80

Lab Name: AQUATEC INC Contract: 68D20019

Lab Code: AQUAI Case No.: 18395 SAS No.: _____ SDG No.: BKA71

Matrix: (soil/water) SOIL Lab Sample ID: 163050

Sample wt/vol: 30.2 (g/mL) G Lab File ID: _____

% Moisture: 17 decanted: (Y/N) N Date Received: 07/01/92

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 07/08/92

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 08/04/92

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 5.9 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	2.0	U J
319-85-7	beta-BHC	2.0	U
319-86-8	delta-BHC	2.0	U
58-89-9	gamma-BHC (Lindane)	2.0	U
76-44-8	Heptachlor	2.0	U
309-00-2	Aldrin	2.0	U
1024-57-3	Heptachlor epoxide	2.0	U
959-98-8	Endosulfan I	2.0	U
60-57-1	Dieldrin	3.9	U
72-55-9	4,4'-DDE	3.9	U
72-20-8	Endrin	3.9	U
33213-65-9	Endosulfan II	3.9	U
72-54-8	4,4'-DDD	3.9	U
1031-07-8	Endosulfan sulfate	3.9	U J
50-29-3	4,4'-DDT	~~11~~	~~P J~~ R
72-43-5	Methoxychlor	20	U J
53494-70-5	Endrin ketone	13	P J
7421-36-3	Endrin aldehyde	~~8.7~~	~~P J~~ R
5103-71-9	alpha-Chlordane	~~7.3~~	~~P J~~ R
5103-74-2	gamma-Chlordane	2.0	U J
8001-35-2	Toxaphene	200	U
12674-11-2	Aroclor-1016	39	U
11104-28-2	Aroclor-1221	80	U
11141-16-5	Aroclor-1232	39	U
53469-21-9	Aroclor-1242	39	U
12672-29-6	Aroclor-1248	39	U
11097-69-1	Aroclor-1254	190	J
11096-82-5	Aroclor-1260	150	J

QUALITY ASSURANCE REVIEW
SUBJECT TO REVISION
PRELIMINARY DATA

001193

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BKA81

Lab Name: AQUATEC INC Contract: 68D20019

Lab Code: AQUAI Case No.: 18395 SAS No.: SDG No.: BKA71

Matrix: (soil/water) SOIL Lab Sample ID: 163051

Sample wt/vol: 5.0 (g/mL) G Lab File ID: D163051V

Level: (low/med) LOW Date Received: 07/01/92

% Moisture: not dec. 8 Date Analyzed: 07/08/92

GC Column: PACK ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	11	U
74-83-9	Bromomethane	11	U
75-01-4	Vinyl Chloride	11	U
75-00-3	Chloroethane	11	U
75-09-2	Methylene Chloride	11	U
67-64-1	Acetone	11	U
75-15-0	Carbon Disulfide	11	U
75-35-4	1,1-Dichloroethene	11	U
75-34-3	1,1-Dichloroethane	11	U
540-59-0	1,2-Dichloroethene (total)	11	U
67-66-3	Chloroform	11	U
107-06-2	1,2-Dichloroethane	11	U
78-93-3	2-Butanone	11	U
71-55-6	1,1,1-Trichloroethane	11	U
56-23-5	Carbon Tetrachloride	11	U
75-27-4	Bromodichloromethane	11	U
78-87-5	1,2-Dichloropropane	11	U
10061-01-5	cis-1,3-Dichloropropene	11	U
79-01-6	Trichloroethene	11	U
124-48-1	Dibromochloromethane	11	U
79-00-5	1,1,2-Trichloroethane	11	U
71-43-2	Benzene	11	U
10061-02-6	trans-1,3-Dichloropropene	11	U
75-25-2	Bromoform	11	UJ
108-10-1	4-Methyl-2-Pentanone	11	U
591-78-6	2-Hexanone	11	U
127-18-4	Tetrachloroethene	11	U
79-34-5	1,1,2,2-Tetrachloroethane	11	U
108-88-3	Toluene	11	U
108-90-7	Chlorobenzene	11	U
100-41-4	Ethylbenzene	11	U
100-42-5	Styrene	11	U
1330-20-7	Xylene (total)	11	U

000093

Contract: 68D20019

SDG No.: BK

Lab Sample ID: 163051

Lab File ID: A163051

Date Received: 07/01/9

% Moisture: 9 Decanted: (Y/N) N

Date Extracted: 07/06/92

Concentrated Extract Volume: 500.0 (uL)

Date Analyzed: 07/28/92

Injection Volume: 2.0(uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.4

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	360	U
111-44-4	bis(2-Chloroethyl)Ether	360	U
95-57-8	2-Chlorophenol	360	U
541-73-1	1,3-Dichlorobenzene	360	U
106-46-7	1,4-Dichlorobenzene	360	U
95-50-1	1,2-Dichlorobenzene	360	U
95-48-7	2-Methylphenol	360	U
108-60-1	2,2'-oxybis(1-Chloropropane)	360	U J
106-44-5	4-Methylphenol	360	U
621-64-7	N-Nitroso-Di-n-Propylamine	360	U
67-72-1	Hexachloroethane	360	U
98-95-3	Nitrobenzene	360	U
78-59-1	Isophorone	360	U
88-75-5	2-Nitrophenol	360	U
105-67-9	2,4-Dimethylphenol	360	U
111-91-1	bis(2-Chloroethoxy)Methane	360	U
120-83-2	2,4-Dichlorophenol	360	U
120-82-1	1,2,4-Trichlorobenzene	360	U
91-20-3	Naphthalene	360	U
106-47-8	4-Chloroaniline	360	U
87-68-3	Hexachlorobutadiene	360	U
59-50-7	4-Chloro-3-Methylphenol	360	U
91-57-6	2-Methylnaphthalene	360	U
77-47-4	Hexachlorocyclopentadiene	360	U
88-06-2	2,4,6-Trichlorophenol	360	U J
95-95-4	2,4,5-Trichlorophenol	880	U
91-58-7	2-Chloronaphthalene	360	U
88-74-4	2-Nitroaniline	880	U
131-11-3	Dimethylphthalate	360	U
208-96-8	Acenaphthylene	43	J
606-20-2	2,6-Dinitrotoluene	360	U
99-09-2	3-Nitroaniline	880	U
83-32-9	Acenaphthene	76	J

Contract: 68D20019 | BKA81

SAS No.: SDG No.: B

Lab Sample ID: 16305

Lab File ID: A16305

Date Received: 07/01/92

% Moisture: decanted: (Y/N) N Date Extracted: 07/06/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 07/28/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.4

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	880	UJ
100-02-7	4-Nitrophenol	880	U
132-64-9	Dibenzofuran	22	J
121-14-2	2,4-Dinitrotoluene	360	U
84-66-2	Diethylphthalate	360	U
7005-72-3	4-Chlorophenyl-phenylether	360	U
86-73-7	Fluorene	86	J
100-01-6	4-Nitroaniline	880	U
534-52-1	4,6-Dinitro-2-methylphenol	880	U
86-30-6	N-Nitrosodiphenylamine (1)	360	U
101-55-3	4-Bromophenyl-phenylether	360	U
118-74-1	Hexachlorobenzene	360	U
87-86-5	Pentachlorophenol	880	U
85-01-8	Phenanthrene	1200	
120-12-7	Anthracene	150	J
86-74-8	Carbazole	96	J
84-74-2	Di-n-Butylphthalate	360	U
206-44-0	Fluoranthene	2000	
129-00-0	Pyrene	2000	
85-68-7	Butylbenzylphthalate	150	J
91-94-1	3,3'-Dichlorobenzidine	360	UJ
56-55-3	Benzo(a)Anthracene	1100	
218-01-9	Chrysene	1200	
117-81-7	bis(2-Ethylhexyl)Phthalate	580	
117-84-0	Di-n-Octyl Phthalate	360	U
205-99-2	Benzo(b)Fluoranthene	1100	
207-08-9	Benzo(k)Fluoranthene	950	
50-32-8	Benzo(a)Pyrene	940	
193-39-5	Indeno(1,2,3-cd)Pyrene	490	
53-70-3	Dibenz(a,h)Anthracene	210	J
191-24-2	Benzo(g,h,i)Perylene	490	

(1) - Cannot be separated from Diphenylamine

000758

FORM I SV-2 3/90

Contract: 68D20019 BKA81

SDG No.: BKA

Lab Sample ID: 163051

Lab File ID: AI63051

Date Received: 07/01/92

Date Extracted: 07/06/92

Date Analyzed: 07/28/92

Concentrated Extract Volume: 500.0 (uL)

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.4

Number TICs found: 20

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	832-71-3	3-METHYLPHENANTHRENE	32.38	330	JN
2.	2531-84-2	2-METHYLPHENANTHRENE	32.48	430	JN
3.	203-64-5	4H-CYCLOPENTA(D,E,F)PHENANTH	32.82	380	JN
4.	836-69-9	1-METHYLPHENANTHRENE	32.87	270	JN
5.	84-65-1	9,10-ANTHRACENEDIONE	33.52	220	JN
6.		UNKNOWN DIMETHYLPHENANTHRENE	34.30	230	J
7.		UNKNOWN BENZOFLUORENE	36.33	260	J
8.	238-84-6	11H-BENZO(A)FLUORENE	36.73	580	JN
9.		UNKNOWN METHYLPYRENE	37.08	400	J
10.		UNKNOWN BENZANTHRACENONE	38.50	230	J
11.	205-43-6	BENZO(B)NAPHTHO(1,2-D)THIOPH	38.85	220	JN
12.		UNKNOWN C19H14 PNA HYDROCARB	41.00	320	J
13.		UNKNOWN ALDEHYDE	42.35	2200	J
14.	630-03-5	NONACOSANE	42.82	870	JN
15.		UNKNOWN C20H12 PNA HYDROCARB	43.50	270	J
16.	192-97-2	BENZO(E)PYRENE	44.12	1200	JN
17.	198-55-0	PERYLENE	44.60	330	JN
18.		UNKNOWN ALKANE	45.05	1600	J
19.		UNKNOWN ALDEHYDE	47.33	320	J
20.		UNKNOWN ALKANE	48.00	460	J

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BKA81

Lab Name: AQUATEC INC Contract: 68D20019

Lab Code: AQUAI Case No.: 18395 SAS No.: _____ SDG No.: BKA71

Matrix: (soil/water) SOIL Lab Sample ID: 163051

Sample wt/vol: 30.0 (g/mL) G Lab File ID: _____

% Moisture: 9 decanted: (Y/N) N Date Received: 07/01/92

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 07/08/92

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 08/05/92

Injection Volume: 1.00 (uL) Dilution Factor: 2.00

GPC Cleanup: (Y/N) Y pH: 6.4 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	3.7	U J
319-85-7	beta-BHC	3.7	U
319-86-8	delta-BHC	3.7	U
58-89-9	gamma-BHC (Lindane)	3.7	U
76-44-8	Heptachlor	3.7	U
309-00-2	Aldrin	3.7	U
1024-57-3	Heptachlor epoxide	3.7	U
959-98-8	Endosulfan I	3.7	U
60-57-1	Dieldrin	7.3	U J
72-55-9	4,4'-DDE	57	J
72-20-8	Endrin	7.3	U J
33213-65-9	Endosulfan II	7.3	U
72-54-8	4,4'-DDD	7.3	U
1031-07-8	Endosulfan sulfate	7.3	U J
50-29-3	4,4'-DDT	45	P J
72-43-5	Methoxychlor	37	U J
53494-70-5	Endrin ketone	7.3	U
7421-36-3	Endrin aldehyde	7.3	U
5103-71-9	alpha-Chlordane	~~5.0~~	~~P~~ R
5103-74-2	gamma-Chlordane	3.7	U J
8001-35-2	Toxaphene	370	U
12674-11-2	Aroclor-1016	73	U
11104-28-2	Aroclor-1221	150	U
11141-16-5	Aroclor-1232	73	U
53469-21-9	Aroclor-1242	73	U
12672-29-6	Aroclor-1248	73	U
11097-69-1	Aroclor-1254	81	P JN
11096-82-5	Aroclor-1260	110	

001207

3/90

FORM I PEST

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BKA82

Lab Name: AQUATEC INC Contract: 68D20019

Lab Code: AQUAI Case No.: 18395 SAS No.: SDG No.: BKA71

Matrix: (soil/water) SOIL Lab Sample ID: 163052

Sample wt/vol: 5.0 (g/mL) G Lab File ID: D163052V

Level: (low/med) LOW Date Received: 07/01/92

% Moisture: not dec. 12 Date Analyzed: 07/08/92

GC Column: PACK ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	11	U
74-83-9	Bromomethane	11	U
75-01-4	Vinyl Chloride	11	U
75-00-3	Chloroethane	11	U
75-09-2	Methylene Chloride	11	U
67-64-1	Acetone	11	U
75-15-0	Carbon Disulfide	11	U
75-35-4	1,1-Dichloroethene	11	U
75-34-3	1,1-Dichloroethane	11	U
540-59-0	1,2-Dichloroethene (total)	11	U
67-66-3	Chloroform	11	U
107-06-2	1,2-Dichloroethane	11	U
78-93-3	2-Butanone	11	U
71-55-6	1,1,1-Trichloroethane	11	U
56-23-5	Carbon Tetrachloride	11	U
75-27-4	Bromodichloromethane	11	U
78-87-5	1,2-Dichloropropane	11	U
10061-01-5	cis-1,3-Dichloropropene	11	U
79-01-6	Trichloroethene	11	U
124-48-1	Dibromochloromethane	11	U
79-00-5	1,1,2-Trichloroethane	11	U
71-43-2	Benzene	11	U
10061-02-6	trans-1,3-Dichloropropene	11	U
75-25-2	Bromoform	11	U
108-10-1	4-Methyl-2-Pentanone	11	U
591-78-6	2-Hexanone	11	U
127-18-4	Tetrachloroethene	11	U
79-34-5	1,1,2,2-Tetrachloroethane	11	U
108-88-3	Toluene	11	U
108-90-7	Chlorobenzene	11	U
100-41-4	Ethylbenzene	11	U
100-42-5	Styrene	11	U
1330-20-7	Xylene (total)	11	U

000100

FORM I VOA 3/90

[redacted] ANALYSIS DATA SHEET

EPA SAMPLE NO.

BKA82

Lab Name: AQUATEC INC. Contract: 68D20019

Lab Code: AQUAI Case No.: 18395 SAS No.: SDG No.: BKA71

Matrix: (soil/water) SOIL Lab Sample ID: 163052

Sample wt/vol: 1.1 (g/mL) G Lab File ID: A163052S

Level: (low/med) MED Date Received: 07/01/92

% Moisture: 12 decanted: (Y/N) N Date Extracted: 07/11/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 07/16/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 5.9

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	10000	U
111-44-4	bis(2-Chloroethyl)Ether	10000	U
95-57-8	2-Chlorophenol	10000	U
541-73-1	1,3-Dichlorobenzene	10000	U
106-46-7	1,4-Dichlorobenzene	10000	U
95-50-1	1,2-Dichlorobenzene	10000	U
95-48-7	2-Methylphenol	10000	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10000	U
106-44-5	4-Methylphenol	10000	U
621-64-7	N-Nitroso-Di-n-Propylamine	10000	U
67-72-1	Hexachloroethane	10000	U
98-95-3	Nitrobenzene	10000	U
78-59-1	Isophorone	10000	U
88-75-5	2-Nitrophenol	10000	U
105-67-9	2,4-Dimethylphenol	10000	U
111-91-1	bis(2-Chloroethoxy)Methane	10000	U
120-83-2	2,4-Dichlorophenol	10000	U
120-82-1	1,2,4-Trichlorobenzene	10000	U
91-20-3	Naphthalene	10000	U
106-47-8	4-Chloroaniline	10000	U
87-68-3	Hexachlorobutadiene	10000	U
59-50-7	4-Chloro-3-Methylphenol	10000	U
91-57-6	2-Methylnaphthalene	10000	U
77-47-4	Hexachlorocyclopentadiene	10000	U
88-06-2	2,4,6-Trichlorophenol	10000	U
95-95-4	2,4,5-Trichlorophenol	25000	U
91-58-7	2-Chloronaphthalene	10000	U
88-74-4	2-Nitroaniline	25000	U
131-11-3	Dimethylphthalate	10000	U
208-96-8	Acenaphthylene	10000	U
606-20-2	2,6-Dinitrotoluene	10000	U
99-09-2	3-Nitroaniline	25000	U
83-32-9	Acenaphthene	10000	U

PRELIMINARY DATA SUBMITTED ON 7/16/92

000819

ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

BKA82

Contract: 68D20019

Case No.: 18395 SAS No.: SDG No.: BKA82

SOIL Lab Sample ID: 163052

1.1 (g/mL) G Lab File ID: A163052

(Low/Med) MED Date Received: 07/01/92

Moisture: 12 decanted: (Y/N) N Date Extracted: 07/11/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 07/16/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 5.9

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	25000	U
100-02-7	4-Nitrophenol	25000	U
132-64-9	Dibenzofuran	10000	U
121-14-2	2,4-Dinitrotoluene	10000	U
84-66-2	Diethylphthalate	10000	U
7005-72-3	4-Chlorophenyl-phenylether	10000	U
86-73-7	Fluorene	10000	U
100-01-6	4-Nitroaniline	25000	U
534-52-1	4,6-Dinitro-2-methylphenol	25000	U
86-30-6	N-Nitrosodiphenylamine (1)	10000	U
101-55-3	4-Bromophenyl-phenylether	10000	U
118-74-1	Hexachlorobenzene	10000	U
87-86-5	Pentachlorophenol	25000	U
85-01-8	Phenanthrene	7400	J
120-12-7	Anthracene	1100	J
86-74-8	Carbazole	10000	U
84-74-2	Di-n-Butylphthalate	10000	U
206-44-0	Fluoranthene	11000	J
129-00-0	Pyrene	13000	J
85-68-7	Butylbenzylphthalate	10000	U
91-94-1	3,3'-Dichlorobenzidine	10000	U
56-55-3	Benzo(a)Anthracene	5400	J
218-01-9	Chrysene	7100	J
117-81-7	bis(2-Ethylhexyl)Phthalate	10000	U
117-84-0	Di-n-Octyl Phthalate	10000	U
205-99-2	Benzo(b)Fluoranthene	4500	J
207-08-9	Benzo(k)Fluoranthene	6600	J
50-32-8	Benzo(a)Pyrene	4600	J
193-39-5	Indeno(1,2,3-cd)Pyrene	3100	J
53-70-3	Dibenz(a,h)Anthracene	10000	U
191-24-2	Benzo(g,h,i)Perylene	2800	J

(1) - Cannot be separated from Diphenylamine

00081

A163052S

EPA SAMPLE NO.

BKA82

[illegible] DATA SHEET

[illegible] IDENTIFIED COMPOUNDS

Contract: 68D20019

Case No.: 18395 SAS No.: SDG No.: BKA71

[illegible]/water) SOIL Lab Sample ID: 163052

[illegible] wt/vol: 1.1 (g/mL) G Lab File ID: A163052S

[illegible] (low/med) MED Date Received: 07/01/92

% Moisture: 12 decanted: (Y/N) N Date Extracted: 07/11/92

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 07/16/92

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 5.9

Number TICs found: 13

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	6.17	4100	J
2.	UNKNOWN	6.82	2500	J
3.	UNKNOWN	28.20	2800	J
4. 832-71-3	3-METHYLPHENANTHRENE	32.00	2500	JN
5. 2531-84-2	2-METHYLPHENANTHRENE	32.10	2700	JN
6.	UNKNOWN DIMETHYLPHENANTHRENE	33.92	2500	J
7.	UNKNOWN BENZOFLUORENE	35.97	2200	J
8. 238-84-6	BENZO(A)FLUORENE	36.35	3700	JN
9.	UNKNOWN METHYLPYRENE	36.70	2700	J
10.	UNKNOWN DECANEDIOIC ACID EST	41.75	3900	~~BJ~~ R
11.	UNKNOWN	42.02	2800	~~BJ~~ R
12.	UNKNOWN C20H12 PNA HYDROCARB	43.08	2100	J
13. 192-97-2	BENZO(E)PYRENE	43.67	7600	JN

PRELIMINARY QUALITY ASSURANCE SUBJECT TO REVISION

000820

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BKA82

Lab Name: AQUATEC INC Contract: 68D20019

Lab Code: AQUAI Case No.: 18395 SAS No.: _____ SDG No.: BKA71

Matrix: (soil/water) SOIL Lab Sample ID: 163052

Sample wt/vol: 30.0 (g/mL) G Lab File ID: _____

% Moisture: 12 decanted: (Y/N) N Date Received: 07/01/92

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 07/08/92

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 08/05/92

Injection Volume: 1.00 (uL) Dilution Factor: 5.00

GPC Cleanup: (Y/N) Y pH: 5.9 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	9.7	U J
319-85-7	beta-BHC	9.7	U
319-86-8	delta-BHC	9.7	U
58-89-9	gamma-BHC (Lindane)	9.7	U
76-44-8	Heptachlor	9.7	U
309-00-2	Aldrin	9.7	U
1024-57-3	Heptachlor epoxide	9.7	U
959-98-8	Endosulfan I	9.7	U
60-57-1	Dieldrin	19	U
72-55-9	4,4'-DDE	19	U
72-20-8	Endrin	19	U
33213-65-9	Endosulfan II	19	U
72-54-8	4,4'-DDD	19	U
1031-07-8	Endosulfan sulfate	19	U
50-29-3	4,4'-DDT	19	U
72-43-5	Methoxychlor	97	U J
53494-70-5	Endrin ketone	~~28~~	~~P~~ R
7421-36-3	Endrin aldehyde	~~29~~	~~P~~ R
5103-71-9	alpha-Chlordane	~~19~~	~~P~~ R
5103-74-2	gamma-Chlordane	9.7	U J
8001-35-2	Toxaphene	970	U
12674-11-2	Aroclor-1016	190	U
11104-28-2	Aroclor-1221	380	U
11141-16-5	Aroclor-1232	190	U
53469-21-9	Aroclor-1242	190	U
12672-29-6	Aroclor-1248	190	U
11097-69-1	Aroclor-1254	230	P JN
11096-82-5	Aroclor-1260	400	J

QUALITY ASSURANCE REVIEW
SUBJECT TO REVISION
PRELIMINARY DATA

001219

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BKA71

Lab Name: AQUATEC INC Contract: 68D20019

Lab Code: AQUAI Case No.: 18395 SAS No.: SDG No.: BKA71

Matrix: (soil/water) WATER Lab Sample ID: 163054

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C163054V

Level: (low/med) LOW Date Received: 07/01/92

% Moisture: not dec. Date Analyzed: 07/08/92

GC Column: PACK ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10	U
67-64-1	Acetone	45	B
75-15-0	Carbon Disulfide	8	J
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BKA71

Lab Name: AQUATEC INC Contract: 68D20019

Lab Code: AQUAI Case No.: 18395 SAS No.: SDG No.: BKA71

Matrix: (soil/water) WATER Lab Sample ID: 163054

Sample wt/vol: 1000 (g/mL) ML Lab File ID: A1630548

Level: (low/med) LOW Date Received: 07/01/92

% Moisture: decanted: (Y/N) Date Extracted: 07/02/92

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 07/17/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	25	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	25	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
99-09-2	3-Nitroaniline	25	U
83-32-9	Acenaphthene	10	U

000297

[redacted]

EPA SAMPLE NO.

BKA71

Contract: 68D20019

[redacted] No.: 18395 SAS No.: SDG No.: BKA71

[redacted] Lab Sample ID: 163054

[redacted] 1000 (g/mL) ML Lab File ID: A1630548

[redacted] LOW Date Received: 07/01/92

[redacted] decanted: (Y/N) Date Extracted: 07/02/92

[redacted] Extract Volume: 1000 (uL) Date Analyzed: 07/17/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
51-28-5	2,4-Dinitrophenol	25	U
100-02-7	4-Nitrophenol	25	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	25	U
534-52-1	4,6-Dinitro-2-methylphenol	25	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	25	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U J
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	10	U
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

000298

[redacted] DATA SHEET
[redacted] COMPOUNDS

EPA SAMPLE NO.

BKA71

Contract: 68D20019

[redacted]: 18395 SAS No.: SDG No.: BKA71

[redacted] (g/mL) ML

Lab Sample ID: 163054

Lab File ID: A163054S

Date Received: 07/01/92

[redacted] decanted: (Y/N)

Date Extracted: 07/02/92

[redacted] Volume: 1000 (uL)

Date Analyzed: 07/17/92

[redacted] Volume: 2.0 (uL)

Dilution Factor: 1.0

[redacted] (Y/N) N pH:

[redacted] TICs found: 10

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	6.15	5	BJ
2. 123-42-2	2-PENTANONE, 4-HYDROXY-4-MET	7.45	10	AJNB
3.	UNKNOWN	11.95	3	BJ
4.	UNKNOWN	12.15	110	BJ
5.	UNKNOWN	16.97	2	BJ
6.	UNKNOWN	33.47	200	BJ
7.	UNKNOWN	34.73	2	JX
8.	UNKNOWN	41.62	2	J
9.	UNKNOWN	41.95	7	BJ
10.	UNKNOWN	45.28	2	J

000299

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BKA71

Lab Name: AQUATEC INC Contract: 68D20019

Lab Code: AQUAI Case No.: 18395 SAS No.: _____ SDG No.: BKA71

Matrix: (soil/water) WATER Lab Sample ID: 163054

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

% Moisture: _____ decanted: (Y/N) ___ Date Received: 07/01/92

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 07/03/92

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 08/04/92

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) N

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND		Q
319-84-6	alpha-BHC	0.050	U J
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
7421-36-3	Endrin aldehyde	0.10	U
5103-71-9	alpha-Chlordane	0.050	U
5103-74-2	gamma-Chlordane	0.050	U
8001-35-2	Toxaphene	5.0	U
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	2.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U J

DATA REVIEW AND VALIDATION
FOR EPA CLP PESTICIDE ANALYSIS
SUBMITTED

001103

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BKA72

Lab Name: AQUATEC INC Contract: 68D20019

Lab Code: AQUAI Case No.: 18395 SAS No.: SDG No.: BKA71

Matrix: (soil/water) WATER Lab Sample ID: 163044

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C163044I2V

Level: (low/med) LOW Date Received: 07/01/92

% Moisture: not dec. Date Analyzed: 07/09/92

GC Column: PACK ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	2	J
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10	U
67-64-1	Acetone	71	B
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

[redacted]

EPA SAMPLE NO.

BKA72

Lab Name: [redacted] Contract: 68D20019

Lab Code: [redacted] Case No.: 18395 SAS No.: SDG No.: BKA71

Matrix: (soil/water) WATER Lab Sample ID: 163044

Sample wt/vol: 1000 (g/mL) ML Lab File ID: A163044S

Level: (low/med) LOW Date Received: 07/01/92

% Moisture: decanted: (Y/N) Date Extracted: 07/02/92

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 07/17/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	25	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	25	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
99-09-2	3-Nitroaniline	25	U
83-32-9	Acenaphthene	10	U

000320

[redacted]

EPA SAMPLE NO.

BKA72

Contract: 68D20019

[redacted] 18396 SAS No.: SDG No.: BKA71

[redacted] Lab Sample ID: 163044

[redacted] (g/mL) ML Lab File ID: A1630448

[redacted] Date Received: 07/01/92

[redacted] decanted: (Y/N) Date Extracted: 07/02/92

[redacted] Volume: 1000 (uL) Date Analyzed: 07/17/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
51-28-5	2,4-Dinitrophenol	25	U
100-02-7	4-Nitrophenol	25	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	25	U
534-52-1	4,6-Dinitro-2-methylphenol	25	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	25	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U J
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	10	U
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

000321

FORM I SV-2 3/90

DATA SHEET
COMPOUNDS

EPA SAMPLE NO.
BKA72

Contract: 68D20019

18395 SAS No.: SDG No.: BKA71

Lab Sample ID: 163044

(g/mL) ML Lab File ID: A163044S

Date Received: 07/01/92

ecanted: (Y/N) Date Extracted: 07/02/92

olume: 1000 (uL) Date Analyzed: 07/17/92

2.0 (uL) Dilution Factor: 1.0

(Y/N) N pH:

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

TICs found: 4

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
	UNKNOWN	6.13	2	BJ
	UNKNOWN	12.12	60	BJ
	UNKNOWN	33.57	5	BJ
	UNKNOWN	37.22	2	J

000322

FORM I SV-TIC

3/90

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BKA72

Lab Name: AQUATEC INC Contract: 68D20019

Lab Code: AQUAI Case No.: 18395 SAS No.: _____ SDG No.: BKA71

Matrix: (soil/water) WATER Lab Sample ID: 163044

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

% Moisture: _____ decanted: (Y/N) ___ Date Received: 07/01/92

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 07/03/92

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 08/04/92

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: ____ Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
7421-36-3	Endrin aldehyde	0.10	U
5103-71-9	alpha-Chlordane	0.050	U
5103-74-2	gamma-Chlordane	0.050	U
8001-35-2	Toxaphene	5.0	U
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	2.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

QUALITY ASSURANCE REVIEW
SUBJECT TO REVISION PRELIMINARY DATA

001110

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BKA77DL

Lab Name: AQUATEC INC Contract: 68D20019

Lab Code: AQUAI Case No.: 18395 SAS No.: _____ SDG No.: BKA71

Matrix: (soil/water) SOIL Lab Sample ID: 163048D1

Sample wt/vol: 30.0 (g/mL) G Lab File ID: B163048I5S

% Moisture: 36 decanted: (Y/N) N Date Received: 07/01/92

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 07/08/92

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 08/05/92

Injection Volume: 1.00 (uL) Dilution Factor: 50.0

GPC Cleanup: (Y/N) Y pH: 5.6 Sulfur Cleanup: (Y/N) N

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND		Q
319-84-6	alpha-BHC	130	U J
319-85-7	beta-BHC	130	U
319-86-8	delta-BHC	130	U
58-89-9	gamma-BHC (Lindane)	130	U
76-44-8	Heptachlor	130	U
309-00-2	Aldrin	130	U
1024-57-3	Heptachlor epoxide	130	U
959-98-8	Endosulfan I	130	U
60-57-1	Dieldrin	260	U
72-55-9	4,4'-DDE	260	U
72-20-8	Endrin	260	U
33213-65-9	Endosulfan II	260	U
72-54-8	4,4'-DDD	260	U
1031-07-8	Endosulfan sulfate	260	U
50-29-3	4,4'-DDT	260	U
72-43-5	Methoxychlor	1300	U
53494-70-5	Endrin ketone	260	U
7421-36-3	Endrin aldehyde	260	U J
5103-71-9	alpha-Chlordane	680	PDC J
5103-74-2	gamma-Chlordane	910	DC J
8001-35-2	Toxaphene	13000	U J
12674-11-2	Aroclor-1016	2600	U
11104-28-2	Aroclor-1221	5200	U
11141-16-5	Aroclor-1232	2600	U
53469-21-9	Aroclor-1242	2600	U
12672-29-6	Aroclor-1248	2600	U
11097-69-1	Aroclor-1254	2600	U
11096-82-5	Aroclor-1260	2600	U J

ATTACHMENT SWITCHED BY INSTRUCTION OF LATTERS PROTECTION AGENCY

Case #: 18395
SDG#: MBHJ71
Contractor: Malcolm Pirnie

Site: Trenton Drum
Lab: AATS
Reviewer: Valerie Smith

Matrix:
Soil 8
Water 2
Other 0

A.2.1 Validation Flags- The following flags have been applied in red by the data validator and must be considered by the data user.

J- This flag indicates the result qualified as estimated

Red- Line- A red-line drawn through a sample result indicates an unusable value. The red-lined data are known to contain significant errors based on documented information and must not be used by the data user.

Fully Usable Data- The results that do not carry "J" or "red-line" are fully usable.

Contractual Qualifiers- The legend of contractual qualifiers applied by the laboratory on Form I's is found on page B-20 of SOW ILM01.0.

A.2.2 The data assessment is given below and on the attached sheets.

1. The CRDL Standard for Cadmium and Chromium fell between 121-150% and for Silver it fell between 50 79%. Therefore all results that fell within the affected range of true value ±2CRDL were flagged a estimated "J":

   Cadmium (positive results only) - MBHJ74, 76, 77, 79, 80, 81, 82
   Chromium (positive results only) - MBHJ75
   Silver (positve and non-detect results) - MBHJ74, 75, 76, 77, 79, 80, 81 82

2. The Soil Matrix Spike Recovery for Antimony fell between 10-74%, therefore all positive and non-detec results were flagged as estimated "J":

   Antimony - MBHJ74, 75, 76, 77, 79, 80, 81, 82

3. The Soil ICP Serial Dilution for chromium, copper and vanadium was greater than 10% difference when th initial sample result was greater than 10 times IDL. Therefore associated samples whose results are greate than 10 times the IDL were flagged as estimated "J":

   Chromium - MBHJ74, 76, 77, 79, 81, 82
   Copper - MBHJ74, 75, 76, 77, 79, 80, 81, 82
   Vanadium - MBHJ74, 75, 76, 77, 79, 80, 81, 82

Title: Evaluation of Metals Data for the Contract Laboratory Program Appendix A.5: CLP Data Assessment Summary Form (Inorganics)

Date: Jan. 1992
Number: HW-2
Revision: 11

CLP DATA ASSESSMENT SUMMARY FORM (INORGANICS)

Type of Review: Total Date: 8-12-92 Case #: 18395

Site: Trenton Drum Lab Name: AATS

Reviewer's Initials: LS Number of Samples: 10 (8s, 2w)

Analytes Rejected Due to Exceeding Review Criteria:*

	Hold. Times	Cali-bration	Prep Blank	Field Blank	Inter-ferences	Spike Recov.	Duplicates Lab / Field		Detect. Limits	LCS	Serial Dilution	MSA	Total Analytes	Rejectio
ICP													188	0
Flame AA													0	0
Furnace AA													32	0
Mercury				7									10	7
Other													0	0
Total													230	7

Analytes Flagged as Estimated (J) Due to Exceeding Review Criteria:*

	Hold. Times	Cali-bration	Prep Blank	Dup. Inject.	Inter-ferences	Spike Recov.	Duplicates Lab / Field		Detect. Limits	LCS	Serial Dilution	~~MSA~~ % Solid	Total Analytes	Estima-tion
ICP		16				8					16	28	188	68
Flame AA													0	0
Furnace AA		4										6	32	10
Mercury													10	0
Other													0	0
Total													230	78

Note: Asterisk (*) Indicates additional exceedances of review criteria.

U. S. EPA - CLP
COVER PAGE - INORGANIC ANALYSIS DATA PACKAGE

Lab Name: AMERICAN ANALYTICAL Contract: 68-D1-0024

Lab Code: AATS Case No.: 18395 SAS No.: SDG No.: MBHJ71

SOW No.: 3/90

EPA Sample No.	Lab Sample ID
MBHJ71	1013501
MBHJ72	1013502
MBHJ74	1013503
MBHJ74D	1013503D
MBHJ74S	1013503S
MBHJ75	1013504
MBHJ76	1013505
MBHJ77	1013506
MBHJ79	1013507
MBHJ80	1013508
MBHJ81	1013509
MBHJ82	1013510

RECEIVED
AUG 0 3 1992
S & M BRANCH

DRAFT

PRELIMINARY DATA
SUBJECT TO REVISION AFTER
QUALITY ASSURANCE REVIEW

Were ICP interelement corrections applied? Yes/No YES

Were ICP background corrections applied? Yes/No YES
If yes, were raw data generated before application of background corrections? Yes/No NO

Comments:

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures.

Signature: Steve L. Markham Name: Steve L. Markham

Date: July 31, 1992 Title: Inorganic Program Manager

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

004

MBHJ74

Lab Name: AMERICAN ANALYTICAL Contract: 68-D1-0024

Lab Code: AATS Case No.: 18395 SAS No.: SDG No.: MBHJ71

Matrix (soil/water): SOIL Lab Sample ID: 1013503

Level (low/med): LOW Date Received: 7/01/92

% Solids: 34.9

DRAFT

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	16600.00			P
7440-36-0	Antimony	22.30	U	N	P
7440-38-2	Arsenic	7.50			F
7440-39-3	Barium	122.00			P
7440-41-7	Beryllium	1.90	B		P
7440-43-9	Cadmium	2.90			P
7440-70-2	Calcium	5990.00			P
7440-47-3	Chromium	[illegible].00			P
7440-48-4	Cobalt	11.20	B		P
7440-50-8	Copper	151.00			P
7439-89-6	Iron	19500.00			P
7439-92-1	Lead	178.00			P
7439-95-4	Magnesium	2800.00			P
7439-96-5	Manganese	227.00			P
7439-97-6	Mercury	.41			CV
7440-02-0	Nickel	33.50			P
7440-09-7	Potassium	1330.00	B		P
7782-49-2	Selenium	3.20			F
7440-22-4	Silver	4.60	U		P
7440-23-5	Sodium	471.00	U		P
7440-28-0	Thallium	1.70	U		F
7440-62-2	Vanadium	42.60			P
7440-66-6	Zinc	794.00			P
	Cyanide				NR

SUBJECT TO REVISION UPON QUALITY ASSURANCE REVIEW

Color Before: BROWN Clarity Before: Texture: COARSE

Color After: COLORLESS Clarity After: Artifacts:

Comments:

FORM I - IN 3/90

EPA SAMPLE NO. 005

1

INORGANIC ANALYSIS DATA SHEET

MBHJ75

Lab Name: AMERICAN ANALYTICAL Contract: 68-D1-0024

Lab Code: AATS Case No.: 18395 SAS No.: SDG No.: MBHJ71

Matrix (soil/water): SOIL Lab Sample ID: 1013504

Level (low/med): LOW Date Received: 7/01/92

% Solids: 62.2

DRAFT

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	6130.00			P
7440-36-0	Antimony	12.50	U	N	P
7440-38-2	Arsenic	3.80			F
7440-39-3	Barium	43.00	B		P
7440-41-7	Beryllium	.50	B		P
7440-43-9	Cadmium	.96	U		P
7440-70-2	Calcium	729.00	B		P
7440-47-3	Chromium	15.20			P
7440-48-4	Cobalt	4.10	B		P
7440-50-8	Copper	36.80			P
7439-89-6	Iron	8940.00			P
7439-92-1	Lead	147.00			P
7439-95-4	Magnesium	1010.00	B		P
7439-96-5	Manganese	71.40			P
7439-97-6	Mercury	.16	U		CV
7440-02-0	Nickel	9.60	B		P
7440-09-7	Potassium	619.00	B		P
7782-49-2	Selenium	.64	U		F
7440-22-4	Silver	2.60	U		P
7440-23-5	Sodium	264.00	U		P
7440-28-0	Thallium	.96	U		F
7440-62-2	Vanadium	18.10			P
7440-66-6	Zinc	111.00			P
	Cyanide				NR

QUALITY ASSURANCE REVIEW
SUBJECT TO REVISION AFTER
PRELIMINARY DATA

Color Before: BROWN Clarity Before: Texture: COARSE

Color After: COLORLESS Clarity After: Artifacts:

Comments:

EPA SAMPLE NO.

006

1

INORGANIC ANALYSIS DATA SHEET

MBHJ76

Lab Name: AMERICAN ANALYTICAL Contract: 68-D1-0024

Lab Code: AATS Case No.: 18395 SAS No.: SDG No.: MBHJ71

Matrix (soil/water): SOIL Lab Sample ID: 1013505

Level (low/med): LOW Date Received: 7/01/92

% Solids: 49.6

DRAFT

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	14900.00			P
7440-36-0	Antimony	15.70	U	N	P
7440-38-2	Arsenic	7.50			F
7440-39-3	Barium	150.00			P
7440-41-7	Beryllium	2.30			P
7440-43-9	Cadmium	5.00			P
7440-70-2	Calcium	8160.00			P
7440-47-3	Chromium	15.20			P
7440-48-4	Cobalt	14.50	B		P
7440-50-8	Copper	124.00			P
7439-89-6	Iron	30800.00			P
7439-92-1	Lead	1020.00			P
7439-95-4	Magnesium	7240.00			P
7439-96-5	Manganese	235.00			P
7439-97-6	Mercury	.29			CV
7440-02-0	Nickel	35.80			P
7440-09-7	Potassium	1020.00	B		P
7782-49-2	Selenium	.87	B		F
7440-22-4	Silver	3.20	U		P
7440-23-5	Sodium	331.00	U		P
7440-28-0	Thallium	1.20	U	W	F
7440-62-2	Vanadium	40.60			P
7440-66-6	Zinc	706.00			P
	Cyanide				NR

METHOD FLAGS ASSIGNED TO QUALITY SUBJECT TO ADMINISTRATIVE REVIEW

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: COLORLESS Clarity After: Artifacts:

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO. 007

MBHJ77

Lab Name: AMERICAN ANALYTICAL Contract: 68-D1-0024

Lab Code: AATS Case No.: 18395 SAS No.: SDG No.: MBHJ71

Matrix (soil/water): SOIL Lab Sample ID: 1013506

Level (low/med): LOW Date Received: 7/01/92

% Solids: 65.1

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	9720.00			P
7440-36-0	Antimony	12.00	U	N J	P
7440-38-2	Arsenic	5.70			F
7440-39-3	Barium	56.80	B		P
7440-41-7	Beryllium	.77	B		P
7440-43-9	Cadmium	5.60		J	P
7440-70-2	Calcium	1070.00	B		P
7440-47-3	Chromium	25.30		J	P
7440-48-4	Cobalt	29.50			P
7440-50-8	Copper	44.00		J	P
7439-89-6	Iron	13400.00			P
7439-92-1	Lead	203.00			P
7439-95-4	Magnesium	1960.00			P
7439-96-5	Manganese	192.00			P
7439-97-6	Mercury	~~.32~~			CV
7440-02-0	Nickel	23.40			P
7440-09-7	Potassium	371.00	B		P
7782-49-2	Selenium	.61	U		F
7440-22-4	Silver	2.50	U	J	P
7440-23-5	Sodium	2930.00			P
7440-28-0	Thallium	.92	U	W J	F
7440-62-2	Vanadium	29.30		J	P
7440-66-6	Zinc	1110.00			P
	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: COLORLESS Clarity After: Artifacts:

Comments:

FORM I - IN 3/90

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

MS Dup

EPA SAMPLE NO.

008

MBHJ79

Lab Name: AMERICAN ANALYTICAL Contract: 68-D1-0024

Lab Code: AATS Case No.: 18395 SAS No.: SDG No.: MBHJ71

Matrix (soil/water): SOIL Lab Sample ID: 1013507

Level (low/med): LOW Date Received: 7/01/92

% Solids: 84.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	9170.00			P
7440-36-0	Antimony	9.30	U	N J	P
7440-38-2	Arsenic	8.40			F
7440-39-3	Barium	144.00			P
7440-41-7	Beryllium	.53	B		P
7440-43-9	Cadmium	.83	B	J	P
7440-70-2	Calcium	2170.00			P
7440-47-3	Chromium	17.20		J	P
7440-48-4	Cobalt	6.00	B		P
7440-50-8	Copper	38.80		J	P
7439-89-6	Iron	14200.00			P
7439-92-1	Lead	336.00			P
7439-95-4	Magnesium	1460.00			P
7439-96-5	Manganese	229.00			P
7439-97-6	Mercury	~~.43~~			CV
7440-02-0	Nickel	11.40			P
7440-09-7	Potassium	517.00	B		P
7782-49-2	Selenium	.55	B	W J	F
7440-22-4	Silver	1.90	U	J	P
7440-23-5	Sodium	196.00	U		P
7440-28-0	Thallium	.71	U		F
7440-62-2	Vanadium	25.80		J	P
7440-66-6	Zinc	286.00			P
	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: COLORLESS Clarity After: Artifacts:

Comments:

FORM I - IN 3/90

EPA SAMPLE NO.

009

1

INORGANIC ANALYSIS DATA SHEET

MBHJ80

Lab Name: AMERICAN ANALYTICAL Contract: 68-D1-0024

Lab Code: AATS Case No.: 18395 SAS No.: SDG No.: MBHJ71

Matrix (soil/water): SOIL Lab Sample ID: 1013508

Level (low/med): LOW Date Received: 7/01/92

% Solids: 83.7

DRAFT

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	7560.00			P
7440-36-0	Antimony	9.30	U	N	P
7440-38-2	Arsenic	7.30			F
7440-39-3	Barium	136.00			P
7440-41-7	Beryllium	.46	B		P
7440-43-9	Cadmium	1.20			P
7440-70-2	Calcium	2460.00			P
7440-47-3	Chromium	18.10			P
7440-48-4	Cobalt	8.30	B		P
7440-50-8	Copper	32.80			P
7439-89-6	Iron	12200.00			P
7439-92-1	Lead	7.00			P
7439-95-4	Magnesium	1390.00			P
7439-96-5	Manganese	204.00			P
7439-97-6	Mercury	.40			CV
7440-02-0	Nickel	9.40	B		P
7440-09-7	Potassium	446.00	B		P
7782-49-2	Selenium	.48	U		F
7440-22-4	Silver	1.90	U		P
7440-23-5	Sodium	196.00	U		P
7440-28-0	Thallium	.72	U	W	F
7440-62-2	Vanadium	22.70			P
7440-66-6	Zinc	273.00			P
	Cyanide				NR

METALS TECHNOLOGY ALTIMORE
SUBJECT TO REVIEW AND VALIDATION

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: COLORLESS Clarity After: Artifacts:

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

010

MBHJ81

Lab Name: AMERICAN ANALYTICAL Contract: 68-D1-0024

Lab Code: AATS Case No.: 18395 SAS No.: SDG No.: MBHJ71

Matrix (soil/water): SOIL Lab Sample ID: 1013509

Level (low/med): LOW Date Received: 7/01/92

% Solids: 91.8

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	12300.00			P
7440-36-0	Antimony	8.50	U	NJ	P
7440-38-2	Arsenic	7.40			F
7440-39-3	Barium	72.20			P
7440-41-7	Beryllium	.60	B		P
7440-43-9	Cadmium	.71	B	J	P
7440-70-2	Calcium	2720.00			P
7440-47-3	Chromium	16.50		J	P
7440-48-4	Cobalt	8.10	B		P
7440-50-8	Copper	23.20		J	P
7439-89-6	Iron	15000.00			P
7439-92-1	Lead	118.00			P
7439-95-4	Magnesium	2710.00			P
7439-96-5	Manganese	327.00			P
7439-97-6	Mercury	.14			CV
7440-02-0	Nickel	15.30			P
7440-09-7	Potassium	760.00	B		P
7782-49-2	Selenium	.44	U		F
7440-22-4	Silver	1.70	U	J	P
7440-23-5	Sodium	179.00	U		P
7440-28-0	Thallium	.65	U	W	F
7440-62-2	Vanadium	23.20		J	P
7440-66-6	Zinc	191.00			P
	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: COLORLESS Clarity After: Artifacts:

Comments:

FORM I - IN 3/90

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

011

MBHJ82

Lab Name: AMERICAN ANALYTICAL Contract: 68-D1-0024

Lab Code: AATS Case No.: 18395 SAS No.: SDG No.: MBHJ71

Matrix (soil/water): SOIL Lab Sample ID: 1013510

Level (low/med): LOW Date Received: 7/01/92

% Solids: 89.2

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	11800.00			P
7440-36-0	Antimony	8.70	U	N J	P
7440-38-2	Arsenic	6.80			F
7440-39-3	Barium	88.40			P
7440-41-7	Beryllium	.61	B		P
7440-43-9	Cadmium	1.60		J	P
7440-70-2	Calcium	2160.00			P
7440-47-3	Chromium	18.90		J	P
7440-48-4	Cobalt	6.30	B		P
7440-50-8	Copper	36.40		J	P
7439-89-6	Iron	16700.00			P
7439-92-1	Lead	322.00			P
7439-95-4	Magnesium	1910.00			P
7439-96-5	Manganese	347.00			P
7439-97-6	Mercury	~~.28~~			CV
7440-02-0	Nickel	15.20			P
7440-09-7	Potassium	768.00	B		P
7782-49-2	Selenium	.45	U		F
7440-22-4	Silver	1.80	U	J	P
7440-23-5	Sodium	184.00	U		P
7440-28-0	Thallium	.67	U	W	F
7440-62-2	Vanadium	33.90		J	P
7440-66-6	Zinc	549.00			P
	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: COLORLESS Clarity After: Artifacts:

Comments:

FORM I - IN 3/90

1

EPA SAMPLE NO. 002

INORGANIC ANALYSIS DATA SHEET

MBHJ71

Lab Name: AMERICAN ANALYTICAL Contract: 68-D1-0024

Lab Code: AATS Case No.: 18395 SAS No.: SDG No.: MBHJ71

Matrix (soil/water): WATER Lab Sample ID: 1013501

Level (low/med): LOW Date Received: 7/01/92

% Solids: 0.0

DRAFT

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	65.00	B		P
7440-36-0	Antimony	39.00	U		P
7440-38-2	Arsenic	4.00	U		F
7440-39-3	Barium	14.00	U		P
7440-41-7	Beryllium	1.00	U		P
7440-43-9	Cadmium	3.00	U		P
7440-70-2	Calcium	399.00	U		P
7440-47-3	Chromium	6.00	U		P
7440-48-4	Cobalt	6.00	U		P
7440-50-8	Copper	9.00	U		P
7439-89-6	Iron	7.00	U		P
7439-92-1	Lead	2.00	U		F
7439-95-4	Magnesium	286.00	U		P
7439-96-5	Manganese	2.00	U		P
7439-97-6	Mercury	.26			CV
7440-02-0	Nickel	8.00	U		P
7440-09-7	Potassium	398.00	U		P
7782-49-2	Selenium	2.00	U		F
7440-22-4	Silver	8.00	U		P
7440-23-5	Sodium	822.00	U		P
7440-28-0	Thallium	3.00	U	W	F
7440-62-2	Vanadium	5.00	U		P
7440-66-6	Zinc	4.00	U		P
	Cyanide				NR

MEANS TAMPERING WITH ORIGINAL DATA
SUBJECT TO REVISION BY QUALITY ASSURANCE REVIEW
PRELIMINARY RESULTS

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

U.S. EPA - CLP

EPA SAMPLE NO. 003

1

INORGANIC ANALYSIS DATA SHEET

MBHJ72

Lab Name: AMERICAN ANALYTICAL Contract: 68-D1-0024

Lab Code: AATS Case No.: 18395 SAS No.: SDG No.: MBHJ71

Matrix (soil/water): WATER Lab Sample ID: 1013502

Level (low/med): LOW Date Received: 7/01/92

% Solids: 0.0

DRAFT

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	70.20	B		P
7440-36-0	Antimony	39.00	U		P
7440-38-2	Arsenic	4.00	U		F
7440-39-3	Barium	14.00	U		P
7440-41-7	Beryllium	1.00	U		P
7440-43-9	Cadmium	3.00	U		P
7440-70-2	Calcium	399.00	U		P
7440-47-3	Chromium	5.00	U		P
7440-48-4	Cobalt	6.00	U		P
7440-50-8	Copper	9.00	U		P
7439-89-6	Iron	7.00	U		P
7439-92-1	Lead	2.00	U		F
7439-95-4	Magnesium	386.00	U		P
7439-96-5	Manganese	2.00	U		P
7439-97-6	Mercury	.20	U		CV
7440-02-0	Nickel	8.00	U		P
7440-09-7	Potassium	398.00	U		P
7782-49-2	Selenium	2.00	U		F
7440-22-4	Silver	8.00	U		P
7440-23-5	Sodium	822.00	U		P
7440-28-0	Thallium	3.00	U	W	F
7440-62-2	Vanadium	5.00	U		P
7440-66-6	Zinc	4.00	U		P
	Cyanide				NR

PRELIMINARY DATA SUBJECT TO REVISION AFTER QUALITY ASSURANCE REVIEW

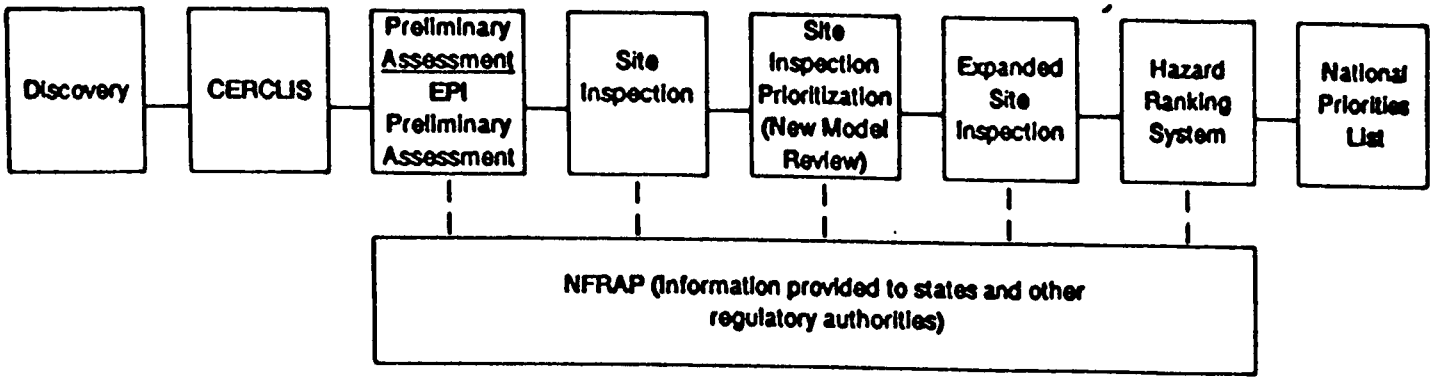
Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

ATTACHMENT 2

SUPERFUND SITE ASSESSMENT PROGRAM



SITE ASSESSMENT REPORTS

1. PRELIMINARY ASSESSMENT
   - Quick Review of Readily Accessible Records and Reports
   - Undertaken to Determine the Existence of a Problem and the Need for Further Action at a Site by Characterizing:
     - Magnitude of the Hazard
     - Source and Nature of the Release or Potential Release
     - Identification of Targets
   - Does Not Include Sample Collection
2. SITE INSPECTION
   - The Purpose of the Site Inspection is to:
     - Further Define and Characterize the Problem
     - Provide Data for the Hazard Ranking System (HRS) Scoring and Compute Initial Score
     - Identification of Targets
     - Determine the Necessity of Further Action
   - The Site Inspection Involves an On-Site Visit and Sampling (10+/- Samples)
   - A Site Inspection is not an Extent of Contamination Study
3. SITE INSPECTION PRIORITIZATION
   - Quick Review of Readily Accessible Records and Reports
   - Undertaken to Determine the Validity and Update Background Conditions Under the New HRS Model, and the Need for Further Action at a Site by Characterizing:
     - Magnitude of the Hazard
     - Source and Nature of the Release or Potential Release
   - Included On-Site Visits or Sample Collection as needed
     - Analyze Samples/Limited Analytical Resources
     - Account for Significant Safety Hazards On-Site
4. EXPANDED SITE INSPECTION

   A Follow-Up Inspection May Be Recommended After the SI To:
   - Gather Additional Data Necessary to Strengthen or Substantiate the Initial HRS Score
     - Geophysical Surveys
     - Installation of Groundwater Monitoring Wells
     - Additional Sampling

Review of Analytical Data

If previous analytical data are available, they should be reviewed for information which supports the design of the sampling and analysis program, tests site hypotheses, and documents the site score. The SI investigator should review all previous analytical data. While analytical data collected for other purposes may not meet SI objectives, site-specific analytical data are generally helpful in better understanding the nature of the problem at the site, regardless of data sources or data quality. The depth of the review depends on the overall quality and quantity of data, the intended use of the data, and whether they are representative of current site conditions and comparable to SI data. Determining whether available data can be applied as SI-generated data requires the professional judgement of an experienced reviewer. Both validated and non-validated analytical data may be available. Previous SI data will be validated and of CLP-quality. Non-validated data may contain false positives and false negatives, as well as quantitation, transcription, and calculation errors. If data of unknown or questionable quality are used for decision-making, the investigator should review all available information to assess the level of certainty associated with the data. If these data are used for HRS documentation, data validation may be necessary. The investigator may be able to determine the general quality of the data set by reviewing QC data. False positives can occur when blanks are contaminated or spike recoveries are very high. False negatives can occur if spike recoveries are very low. If hazardous substances are found in one duplicate but not the other, results may be false positive or negative.