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Report No.: 8003-414
Work Assignment No.: 038-2JZZ
Contract No.: 68-W9-0051
September 28, 1995
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Volume 1 of 2
Rev. No.: 1

Mr. Joseph Hudek
Pre-Remedial WAM
U.S. Environmental Protection Agency
Region II - Environmental Services Division
Edison, New Jersey 08837

RE: Hudson River Psychiatric Center Site Inspection Prioritization Evaluation

Dear Mr. Hudek:

This following is a summary of the Site Inspection Prioritization evaluation of the Hudson River Psychiatric Center site (CERCLIS ID No. NYD980779490) (Ref. No. 1).

General Description and Site History

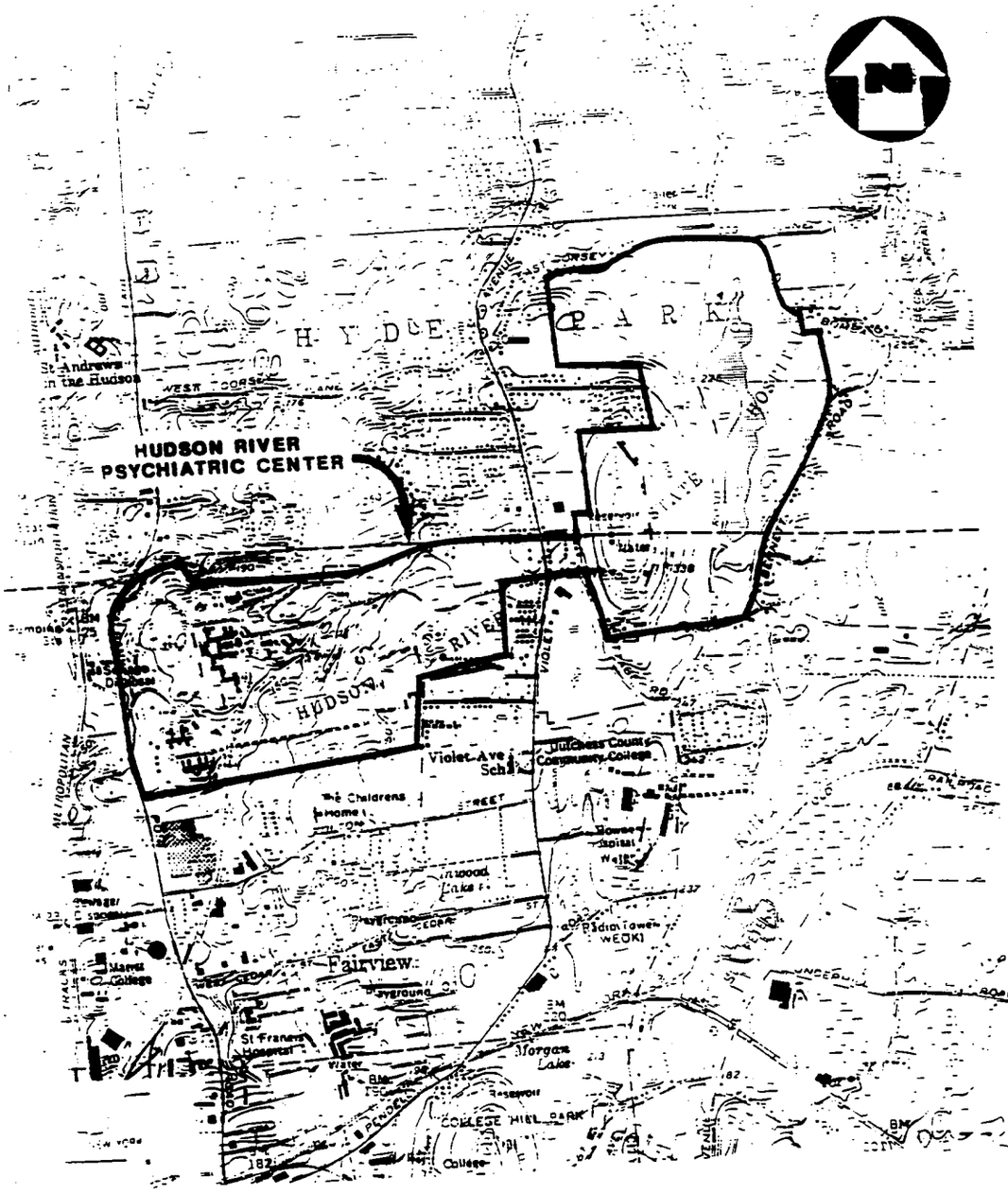
The Hudson River Psychiatric Center (HRPC) site is located on Route 9, on the northern edge of the Town of Poughkeepsie, Dutchess County, New York. Except for a small portion of the site which is privately owned, the facility, which occupies approximately 700 acres, is owned and operated by the State of New York. The Town of Hyde Park borders the site to the north, Route 9 and the Hudson River are to the west, the State Hospital is to the east, and the City of Poughkeepsie is to the south (Ref. 3, p. 93). Refer to Figures 1 and 2.

The HRPC is the site of six small, inactive landfills which were used for dumping of municipal and institutional refuse. The generators who disposed of wastes at the site were the City and Town of Poughkeepsie (municipal solid waste) and the HRPC (institutional waste). The HRPC operated the site until the 1970's, for a period of approximately 100 years. One landfill area (referred to as Area 2) was used solely by the HRPC, while the remaining five areas were also used by the City or Town of Poughkeepsie. The City and Town of Poughkeepsie were known to have used the HRPC sites between 1950's-1979 (Ref. Nos. 2, p. 102; 3, p. 93). The types and quantities of wastes disposed of at the site are not clearly documented, but in general, the wastes are expected to include household refuse, municipal trash and garbage, and white goods. Site operational practices generally consisted of applying daily soil cover. According to the Dutchess County Department of Health (DCDOH), there is no documentation available to indicate that toxic or hazardous wastes were ever deposited at this site. Refer to Figure 1 for a Site Location Map.

The on-site landfills are characterized as follows: (Area 1) contains a gently rolling golf course, formerly a wet area filled with municipal waste from the City and Town of Poughkeepsie. The area occupies two to three acres and is located adjacent to a steep embankment to an unnamed tributary to the Hudson River. Leachate was observed during a Dutchess County Department of Health (DCDOH) inspection on April 3, 1967 (Ref. Nos. 2, pp. 103-104; 3, p. 96).

The northeast site (Area 2) consists of gently rolling terrain sloping to a creek one-quarter mile to the north. It received institutional wastes (beds, frames, mattresses, wheel chairs, etc.) as well as cinders from the heating plant. Area 2 is located at the termination point of an old railroad spur located on the northeast side of the HRPC facility. The area is remote with no fencing to restrict access (Ref. Nos. 2, pp. 103-104; 3, pp. 94-97).

3032



MAP SOURCE:
NUS Site Inspection Report
4-Nov-88

SITE LOCATION MAP
HUDSON RIVER PYSCHIATRIC CENTER
POUGHKEEPSIE, DUTCHESS COUNTY, NEW YORK.

MALCOLM PIRNIE

DATE: 19 SEPT 95 | FIGURE 1

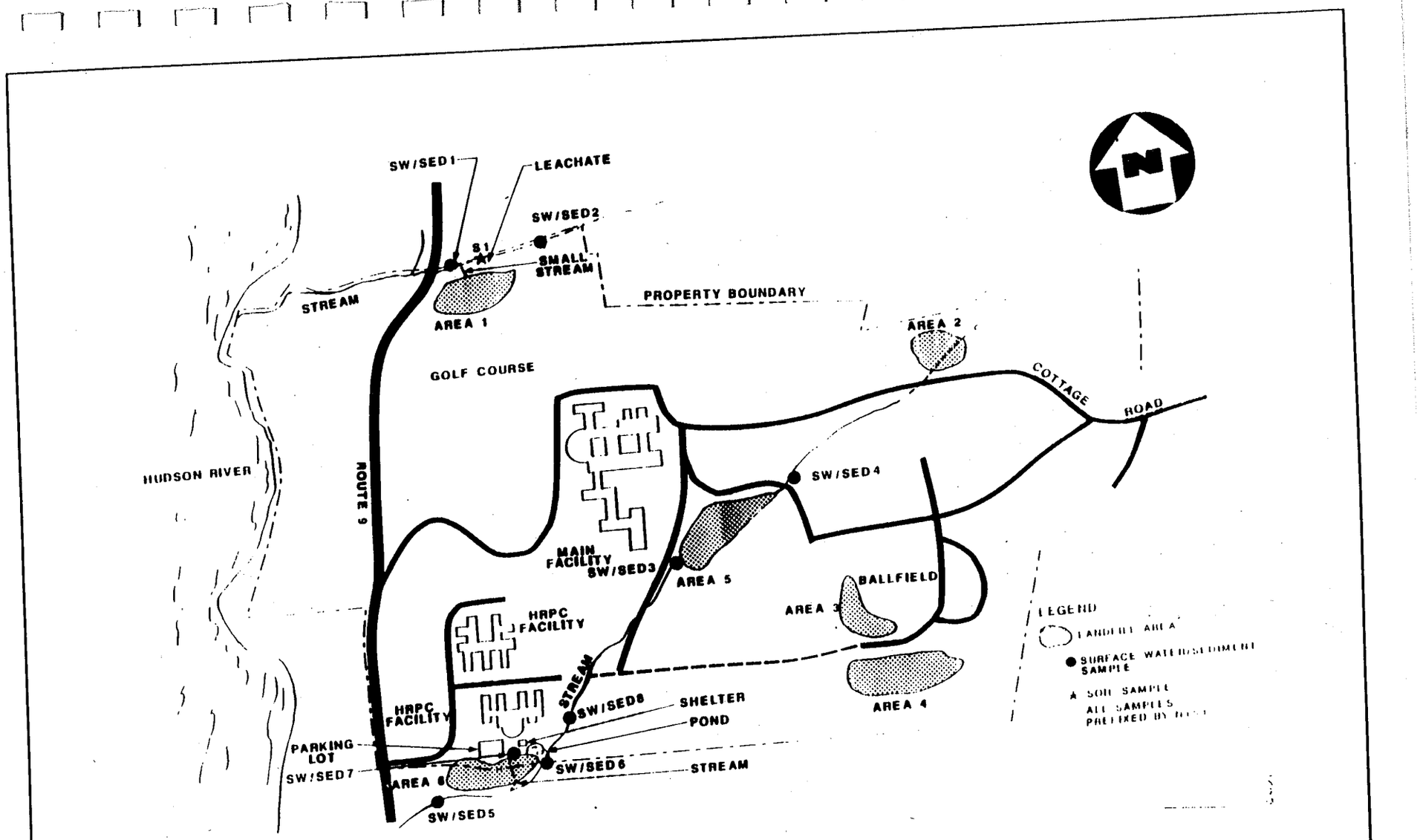


Figure not to scale

MAP SOURCE:
NUS Site Inspection Report
4-Nov-88

1987 NUS SAMPLE LOCATION MAP
HUDSON RIVER PYSCHIATRIC CENTER
POUGHKEEPSIE, DUTCHESS COUNTY, NEW YORK.

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DATE: 19 SEPT 95

FIGURE 2

The ballfield site (Area 3) is described as sloping gently to the west, with grass cover extending to the creek; municipal wastes from the City and Town of Poughkeepsie were deposited in the area during the 1960s. Wetland vegetation is present near the disposal area. Ponded leachate and stained soil are visible near the banks of the unnamed tributary flowing adjacent to Area 3 (Ref. Nos. 2, p. 104; 3, pp. 94-97, 19).

Landfill Area 4 is located across the access road and south of Disposal Area 3. This area consists of five acres with an average slope of 6 percent. An underground, slate lined drainage ditch passes through the site, however, it is unknown where this ditch discharges. The property this disposal area occupies was purchased by two doctors (R. Vasantha Krishna and Urubagilu Nagaraja) in November 1979 and is now under private ownership. Area 4 was used as a construction and demolition (C&D) site and may have received some refuse prior to receiving C&D waste (Ref. Nos. 2, p. 104; 3, pp. 97-98).

Landfill Area 5 is characterized by flat terrain with a creek piped under the former disposal area; this area reportedly received municipal wastes from the Town and City of Poughkeepsie. Due to covering, significant ponding occurred and a drainage system was constructed within the fill material. The area is vegetated with grass and brush (Ref. Nos. 2, p. 105; 3, 94-99).

The Ryon Hall site (Area 6) is located in the southwestern corner of the HRPC. The landfill received institutional wastes in the 1950s and 1960s. The landfill slopes gently to the creek on its southwest face which discharges to the Hudson River 2,000 feet downslope from the site. Reddish colored leachate, a strong odor and stained soil were observed on the banks of the unnamed tributary. An HRPC building is located approximately 200 feet from the site (Ref. Nos. 2, p. 105; 3, pp. 94-95, 99-100).

Documentation indicates that the landfill areas were generally low and wet with visible springs or small streams. Numerous problems occurred at the landfills including leachate from the landfills coloring standing water (rust colored), and organic muds in these low areas becoming extremely odorous. Many other problems with litter, lack of daily cover and compaction, and related operational deficiencies led to the closing of the landfills sometime in the late 1970's (Ref. No. 2, pp. 102-103).

During the 1960's complaints were issued by neighbors of the HRPC and by the DCDOH regarding the unsightly and unsanitary conditions at these landfills, and attempts were made by DCDOH to improve operating conditions and/or to close the landfills (Ref. Nos. 2, p. 102, 108; 3, p. 93). Refer to Figure 1 for a Site Location Map.

In August 1986, EA Science and Technology (EA) conducted a Phase I investigation at the HRPC site. No data were collected during this investigation, therefore, no data were available to use for this assessment (Ref. No. 3, p. 95).

A Site Reconnaissance and subsequent sampling event took place in 1987 by a United States Environmental Protection Agency (USEPA) contractor. As a part of the Site Inspection (SI) sampling, one soil and eight surface water/sediment samples were collected to assess possible migration of potentially hazardous substances to the surface water pathway. The surface water, sediment, and soil samples collected during the 1987 SI were analyzed for full Target Analyte List (TAL) and Target Compound List (TCL) parameters under the USEPA Contract Laboratory Program (CLP). Analysis of the sediment samples did indicate that constituents detected at the downstream sample locations were at elevated concentrations when compared to the upstream samples. However, no background soil samples were collected to characterize the waste source (Ref. No. 2,

TABLE 1
Analytical Data
Hudson River Psychiatric Center Site
1987 Site Inspection Sampling Data

Hazardous Substance	Sample Date	Medium	Background Sample Location	Background Sample Concentration	Contaminated Sample Location	Contaminated Sample Concentration
PCBs (Aroclor 1260)	Feb-87	sediment	SED 8	ND	SED 5	1,600 ppb
					SED 7	1.7x10 e^6 ppb

Notes:
ppb - parts per billion
ND = Not Detected (within limits of analytical methods).

Sampling Event:

1987 NUS Sampling Event (Ref. No. 2, pp. 25, 185-186, 190)

p. 96). There fore, these constituents could not be attributable to the landfill. The analytical data is presented on Table 1 and a Sample Location Map is presented as Figure 2.

In February 1990, Lawler, Matusky, & Skelly Engineers (LMS) conducted a Phase II investigation at the site. As part of the Phase II investigation, seventeen groundwater, eight surface water/sediment, and four leachate samples to characterize the six separate landfills were collected. High concentrations of polychlorinated biphenyls (PCBs) were in detected in Area 6 which prompted a request from the NYSDEC to collect eight additional sediment samples from Area 6 and one soil and one surface water/sediment sample from Area 4 on May, 1990. The data quality associated with this sampling event is CLP equivalent. The analytical data from this sampling event can be seen on Table 2 (Ref. No. 3, pp. 77-92, 124-127).

In November 1993, LMS conducted a Focus Feasibility Study (FFS) to address PCB-contaminated sediments in the stream in Area 6 at the site. Based on this investigation, it was determined that the Cheney and Ryon Hall buildings were the drainage areas of concern for the PCB source investigation. It was discovered that PCB containing equipment (i.e. transformers, capacitors) were present in the past. The majority of the transformers (e.g. those in the Ryon Hall and Cheney Buildings) were removed when the central power system for the HRPC was installed in the mid-1970's. No transformers were present in any of the vault rooms inspected, however, the former locations of the transformers was identifiable on concrete pads in each of the rooms (Ref. No. 4).

On April 6, 1995 a USEPA contractor conducted a site reconnaissance at HRPC. During this reconnaissance, the exact locations of the landfilling areas could not be verified due to thick vegetation and ongoing site activities. The wetlands adjacent to landfill areas 3, 4, and 6 were identified. Ponding of leachate was observed near Area 3 as well as leachate deposition along the banks of the tributaries on site. Monitoring wells were also noted near the landfilling areas, but the condition of these wells is not known (Ref. No. 19).

During a telephone conversation between LMS and a USEPA contractor, it was revealed that a second report was generated for the NYSDEC by LMS in 1993. The project manager from LMS for the HRPC stated that upon further investigation, the source of the PCB contamination in Area 6 has been traced to a vault room containing transformers. This room is located in the Cheney building, which is approximately 500 feet from the Area 6 fill site. This room was reported to contain PCBs, and the storm drains leading from this building to Area 6 are reported to contain PCB contaminated sediments. These storm drains have several connections leading to an outfall which discharges into the wetland adjacent to the Area 6 fill site. Facility Development Corporation (Office of Mental Health (HRPC)), has agreed to a consent order with New York State requiring remediation of this area. An Interim Remedial Action and a Remedial Investigation/ Feasibility Study (RI/FS) is scheduled for implementation (Ref. No. 16).

The project manager from LMS confirmed as of September 12, 1995 that removal of PCB contaminated sediments will occur from the storm drainage pipes within the Cheney Building to the outfall located near the fill area for Area 6. The remedial action for this site includes sediment sampling for disposal, jet cleaning the storm drainage pipes by entering through manholes, and excavation of a 40 foot section of the storm drainage pipe near the Cheney Building. The removal action is expected to be finished in October 1995, and LMS will reportedly conduct a RI/FS on the adjacent wetland and unnamed tributary in November 1995 (Ref. No. 16).

The RI will include sampling and analyses to determine the horizontal and vertical extent of PCB contamination in the stream sediments. Sediment samples will also be collected from Area 6 to delineate the extent of PCB contamination. Groundwater sampling will also be completed to confirm that PCBs are not impacting

TABLE 2
Analytical Data
Hudson River Psychiatric Center Site
1991 Phase II Investigation Sampling Data

Hazardous Substance	Sample Date	Medium	Background Sample Location	Background Sample Concentration	Contaminated Sample Location	Contaminated Sample Concentration*
PCBs (Aroclor 1260)	Feb-90	sediment	SED 6-16E	180 J ppb	SED 6	14,000 ppb
			SED 6-17E	59 J ppb	SED 12	7,900 ppb
			SED 6-5	ND	SED 13	15,000 ppb
					SED 14	39,000 ppb

Notes:

J - estimated value, compound present below CRQL but above IDL
ppb - parts per billion
ND = Not Detected (within limits of analytical methods).
* -- adjusted concentration values

Sampling Event:

1990 LMS Sampling Event (Ref. Nos. 3, pp. 154-160, 4; 6)

groundwater as stated in the Phase II Investigation. A downstream investigation will be conducted for the Class D stream passing through Area 6. Samples will be collected to confirm that PCB contamination is not present in the unculverted section of this stream west of Route 9. Also included in the RI will be concrete core sampling in the vault room to determine if PCBs have seeped into the concrete (Ref. No. 5, pp. 6-11).

EVALUATION OF EXISTING INFORMATION

Information in the site file and previously completed investigations was used to conduct an initial evaluation of this site.

Analytical Results from the 1987 USEPA contractor sampling data indicated the presence of PCBs, antimony, arsenic, beryllium, cadmium, chromium, copper, lead, mercury, nickel, silver, and zinc. Since only one soil sample was collected during this sampling event, it is not possible to attribute the hazardous substances to the landfill due to a lack of source characterization samples. PCBs were detected in the sediment samples near the wetlands in Area 6. Upstream and downstream samples were collected in the two tributaries flowing through the site. The upstream and downstream samples were collected at landfill Areas 1, 5, 6 to evaluate the effect on the tributaries. (Ref. No. 2, pp. 25, 189-191). Refer to Figure 2 for the 1987 Sample Location Map and Table 1 for the analytical data.

A Phase II Investigation for HRPC was conducted in February 1990, by LMS for the NYSDEC. Seventeen monitoring wells were installed in five fill areas (Areas 1, 2, 3, 5, 6) (Ref. No. 3, pp. 98, 125, 131-151). The wells were installed at each of the five areas on the site as follows: Four wells were drilled in Area 1. Analytical results from Area 1 indicate the presence of arsenic, cadmium, chromium, copper, lead, nickel, and zinc at elevated levels in groundwater (Ref. No. 3, pp. 131-135). In Area 2, three wells were installed and sampled. No TCL VOAs, SVOAs, or pesticides/PCBs were detected in any of the well samples. The inorganic contaminant chromium was detected in one of the downgradient monitoring wells (Ref No. 3, pp. 135, 140). Four wells were drilled at Area 3. The one downgradient well along the southern boundary was added during the site reconnaissance when drilling was eliminated at Area 4. The added well in this area was installed to monitor groundwater in Area 3 and groundwater migrating into Area 3 from Area 4. Analytical results indicate the presence of trichloroethene, arsenic and zinc at elevated concentrations as compared to background levels (Ref. No. 3, pp.135-136, 142-146). Three wells were installed at Area 5. No organic VOAs, SVOAs, or pesticides/PCBs were detected. Inorganic constituents found include, chromium, lead and zinc were detected from two separate wells above background (Ref. No. 3, pp. 136, 146-149). Three wells were drilled in Area 6. Sample analysis did not indicate the presence of any VOAs, SVOAs, pesticides/PCBs, or inorganic constituents. Since no source characterization samples (soil, subsurface samples) were collected from the landfill areas, it is not possible to attribute the above constituents to the landfilled areas. The data quality associated with this sampling event is CLP equivalent. (Ref. No. 3, pp. 136, 149-151). Refer to Figures 3-8 for the LMS Groundwater Sampling Location Maps.

LMS initially collected ten surface water/sediment samples from the landfilled areas on the site except Area 4. After completion of the February 1990, sampling effort and review of the data, nine additional surface water/sediment samples were collected in May 1990 from Areas 4 and 6. Leachate samples were collected from four areas (1, 2, 3, 6) and were analyzed for EP Toxicity (EP Tox) metals and organics (Ref. No. 3, pp. 81-92).

Two surface water/sediment samples were collected from Area 1. One leachate seep sample was also collected and analyzed for EP Tox metals and organics. No organic or inorganic constituents were detected

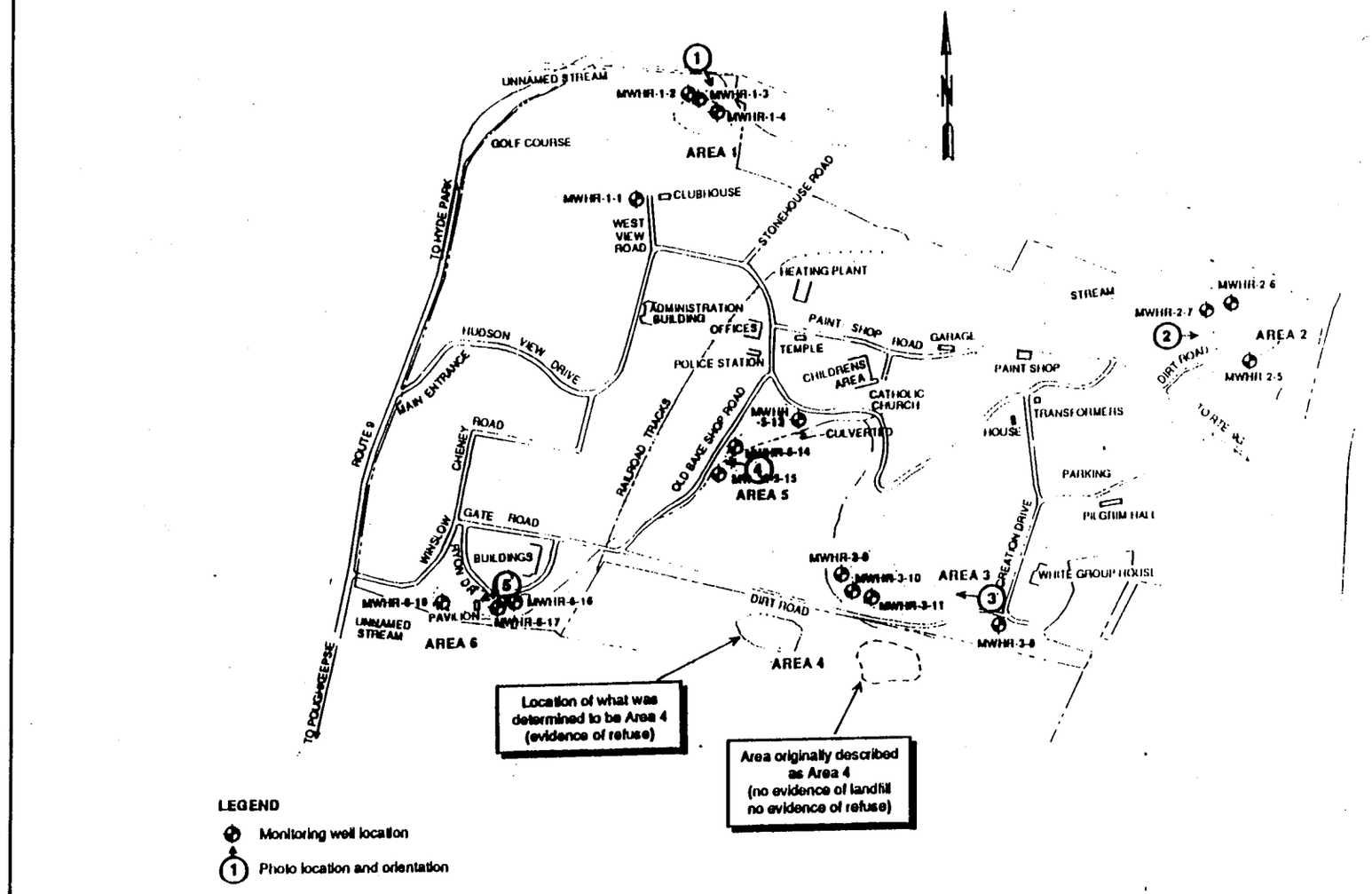


Figure not to scale

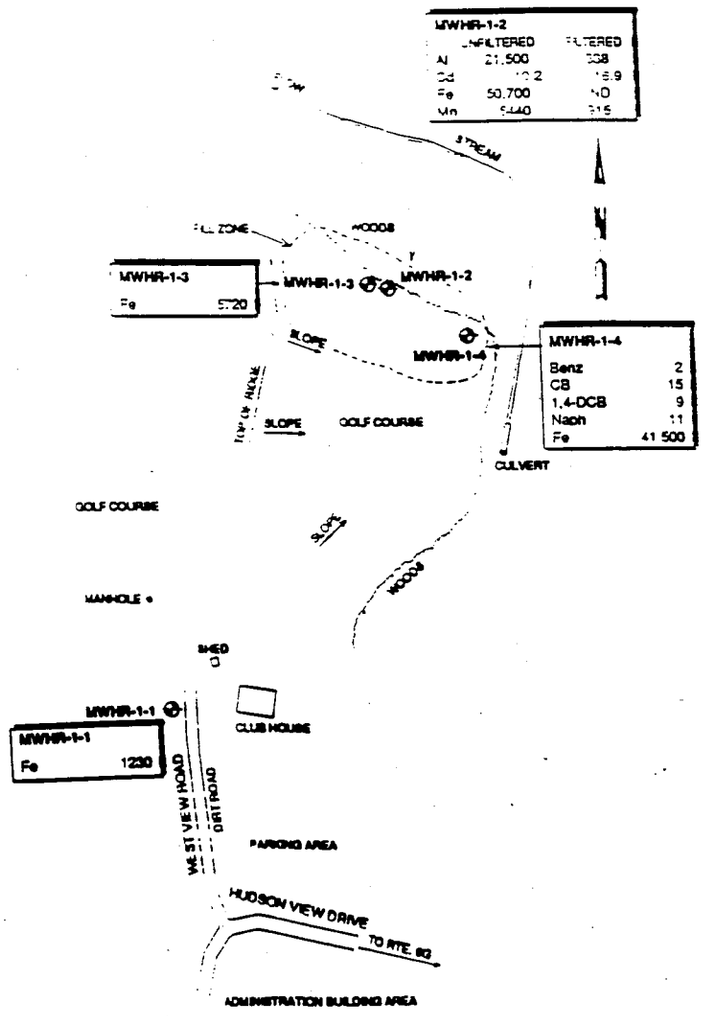
MAP SOURCE:
LMS Phase II Investigation
March, 1991

1991 LMS PHASE II INVESTIGATION (Monitoring Well Locations)
HUDSON RIVER PYSCHIATRIC CENTER
POUGHKEEPSIE, DUTCHESS COUNTY, NEW YORK.

MALCOLM PIRNIE

DATE: 19 SEPT 95

FIGURE 3



LEGEND

⊕ Groundwater monitoring well location

All concentrations in µg/l

Benz = Benzene
CB = Chlorobenzene
1,4-DCB = 1,4-dichlorobenzene
Naph = Naphthalene
Al = Aluminum
Cd = Cadmium
Fe = Iron
Mn = Manganese

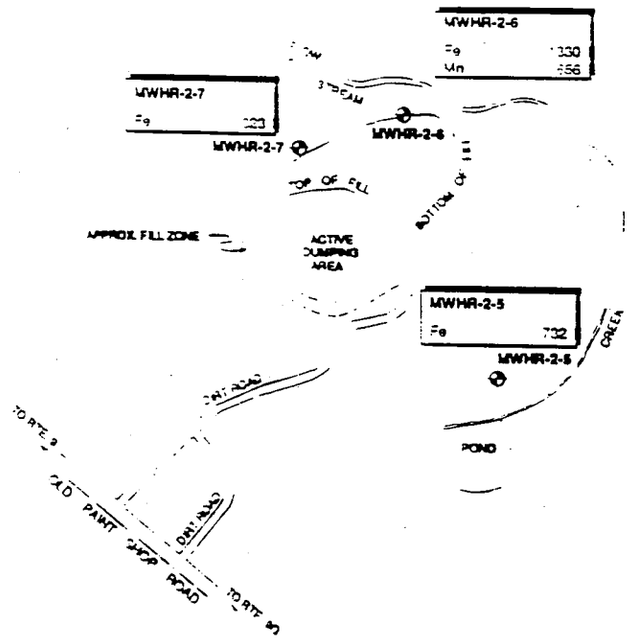
Scale: 0 100 200 400 FEET

MAP SOURCE:
LMS Phase II Investigation
March, 1991

AREA 1 (GROUNDWATER SAMPLE LOCATIONS)
HUDSON RIVER PYSCHIATRIC CENTER
POUGHKEEPSIE, DUTCHESS COUNTY, NEW YORK.

MALCOLM PIRNIE

DATE: 19 SEPT 95 | FIGURE 4



LEGEND

- Groundwater monitoring well location

All concentrations in µg/l

Fe = Iron

Mn = Manganese

Scale: 0 100 200 400 FEET

MAP SOURCE:

LMS Phase II Investigation

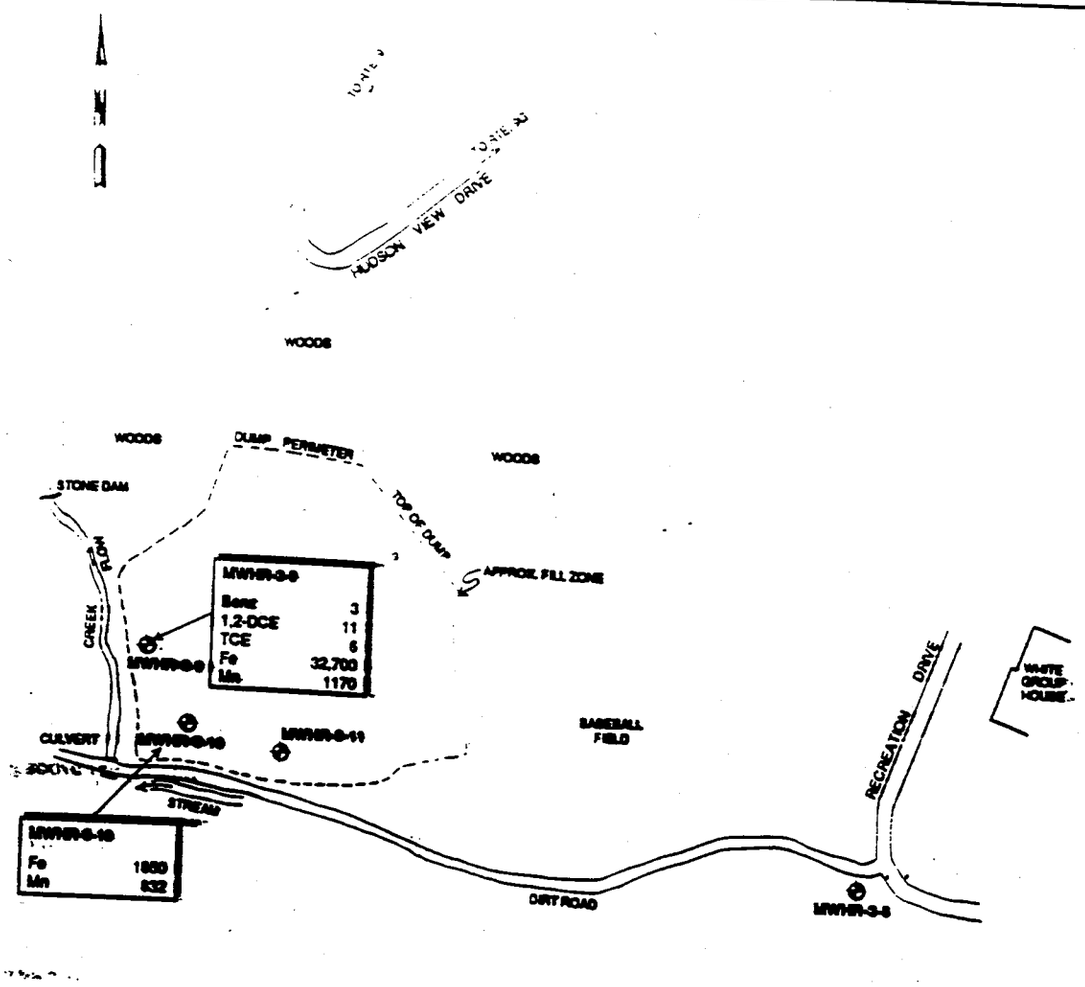
March, 1991

AREA 2 (GROUNDWATER SAMPLE LOCATIONS)
HUDSON RIVER PYSCHIATRIC CENTER
POUGHKEEPSIE, DUTCHESS COUNTY, NEW YORK.

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DATE: 19 SEPT 95

FIGURE 5



LEGEND

- Groundwater monitoring well location

All concentrations in ppb

Benz = Benzene

1,2-DCE = 1,2-dichloroethene

TCE = Trichloroethene

Fe = Iron

Mn = Manganese

Scale: 0 100 200 400 FEET

MAP SOURCE:

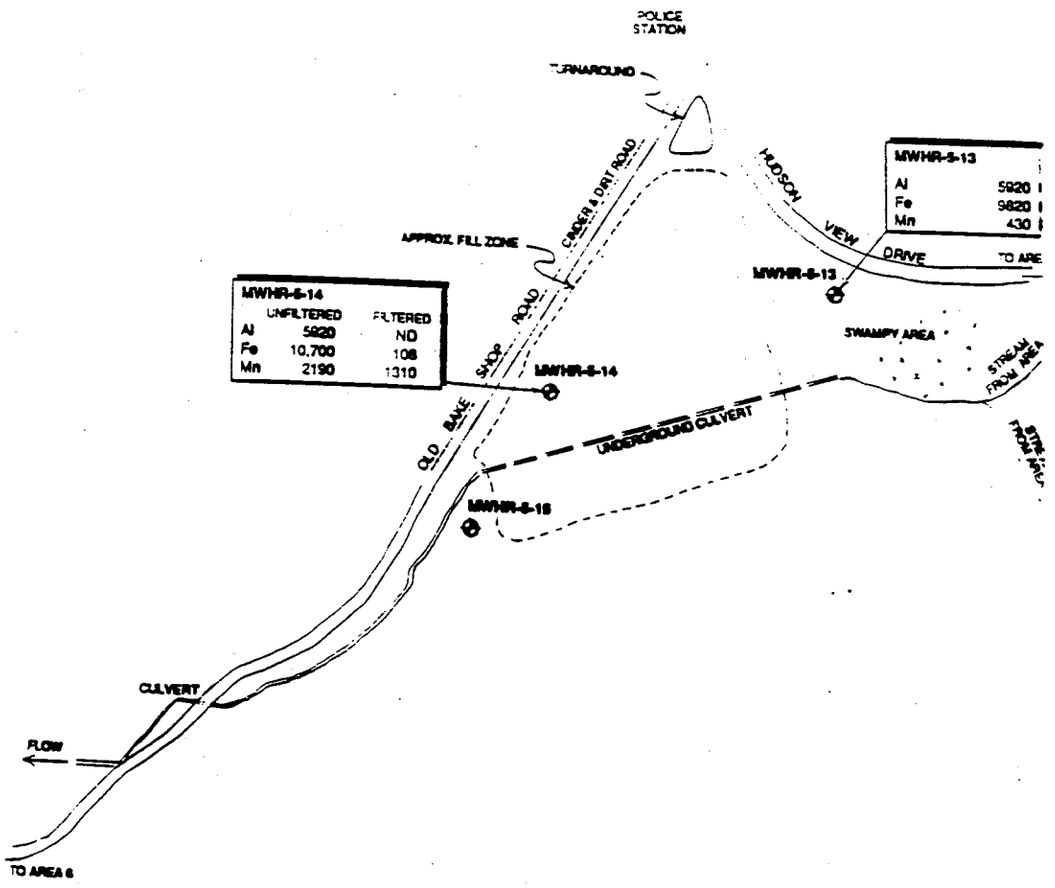
LMS Phase II Investigation
March, 1991

AREA 3 (GROUNDWATER SAMPLE LOCATIONS)
HUDSON RIVER PYSCHIATRIC CENTER
POUGHKEEPSIE, DUTCHESS COUNTY, NEW YORK.

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DATE: 19 SEPT 95

FIGURE 6



LEGEND

- Groundwater monitoring well location
- All concentrations in µg/l
- Al = Aluminum
- Fe = Iron
- Mn = Manganese

Scale: 0 100 200 400 FEET

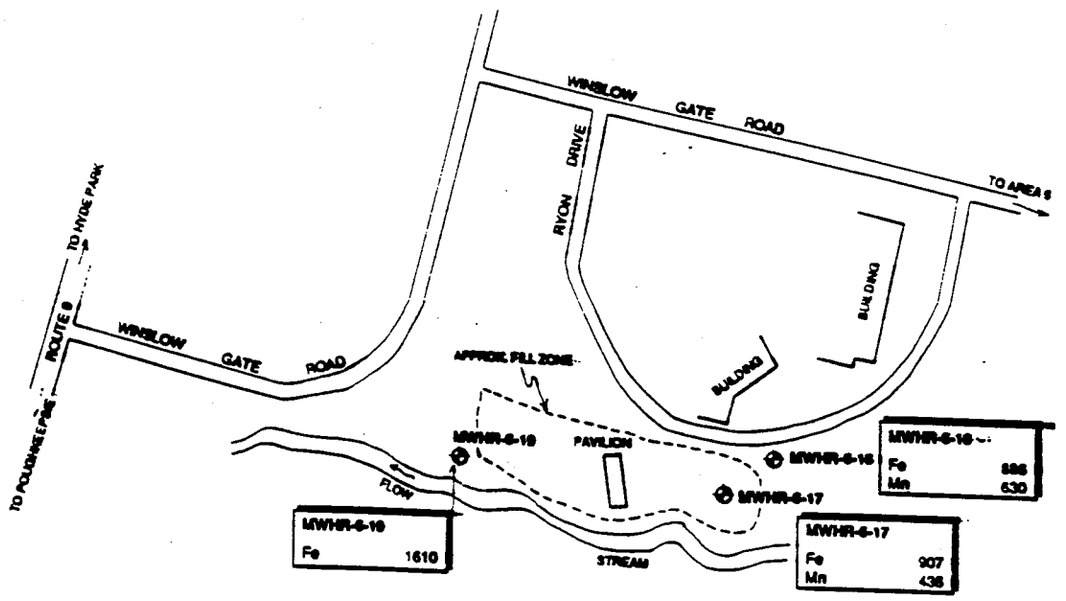
MAP SOURCE:
LMS Phase II Investigation
March, 1991

AREA 5 (GROUNDWATER SAMPLE LOCATIONS)
HUDSON RIVER PYSCHIATRIC CENTER
POUGHKEEPSIE, DUTCHESS COUNTY, NEW YORK.

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DATE: 19 SEPT 95

FIGURE 7



LEGEND

- Groundwater monitoring well location
- All concentrations in µg/l
- Fe = Iron
- Mn = Manganese

Scale: 0 100 200 400 FEET

MAP SOURCE:

LMS Phase II Investigation
March, 1991

AREA 6 (GROUNDWATER SAMPLE LOCATIONS)
HUDSON RIVER PYSCHIATRIC CENTER
POUGHKEEPSIE, DUTCHESS COUNTY, NEW YORK.

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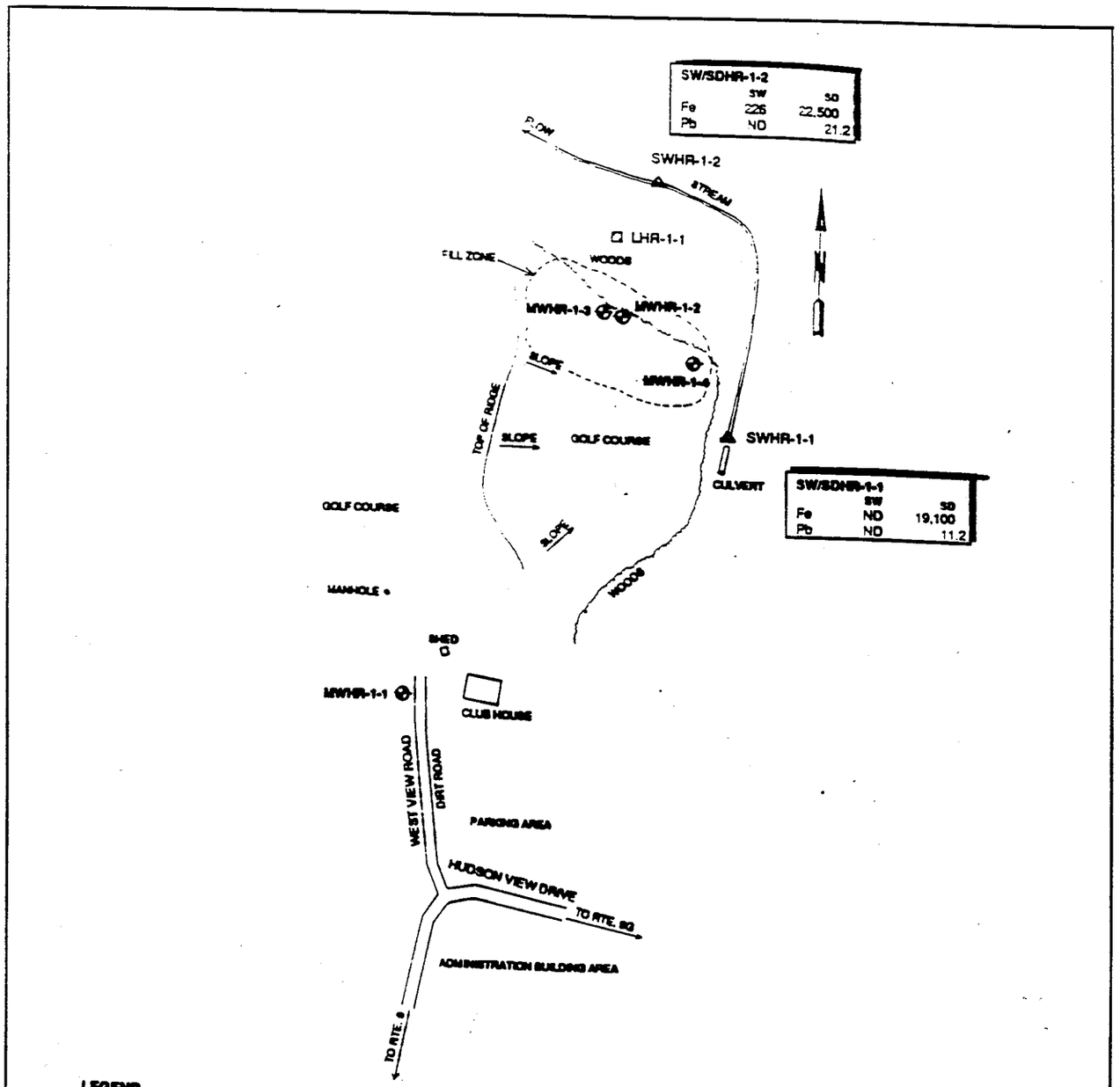
DATE: 19 SEPT 95

FIGURE 8

in the surface water samples. Analytical results for the sediment samples did not indicate the presence of organics, however, inorganics including arsenic, cadmium, chromium, copper, lead, mercury, nickel, and zinc were detected at elevated concentrations in Area 1. Analysis of the leachate sample indicated that all parameters were below the EPA EP Tox levels (Ref. No. 3, pp. 151-164). In Area 2, two surface water/sediment samples were collected. No VOAs or SVOAs were detected during analysis of the surface water. Zinc was detected at an elevated concentration when compared to background samples. Analysis of sediment samples did not indicate the presence of organic constituents in the sediment samples. Arsenic, cadmium, chromium, copper, lead, mercury, nickel, and zinc were detected in the sediment samples at elevated concentrations compared to background. One leachate sample was also collected from the area and analysis indicated that all parameters were below EPA EP Tox levels (Ref No. 3, pp. 151-161, 164-167). In Area 3, two surface water/sediment samples, and one leachate sample were collected. The data did not indicate the presence of VOAs, SVOAs, pesticides/PCBs or inorganic constituents in the surface water. Analysis of the sediments samples did not indicate the presence of organic constituents, however, inorganics constituent such as arsenic, cadmium, chromium, copper, lead, nickel, zinc and cyanide were detected at elevated concentrations. One leachate sample was collected and analyzed for EP Tox metals; the results were non detect (Ref. No. 3, pp. 151-161, 167-169). In Area 4, one surface water/sediment sample was collected during resampling of Area 6. Analysis of the surface water sample did not indicate the presence of organics; however, cadmium, lead and zinc were detected. Sediment sample analysis also did not indicate the presence of organics. Inorganic constituents including arsenic, chromium, copper, nickel, and zinc were detected in the sediment sample (Ref. No. 3, pp. 151-161, 169-171). In Area 5, two surface water/sediment samples were collected. PCB mixture Aroclor 1260, was detected in the sediment samples. Inorganic constituents detected in Area 5 sediment samples include arsenic, cadmium, chromium, copper, lead, mercury, nickel, and zinc (Ref. No. 3, pp. 151-161, 171-174). Since no source characterization samples were collected during this sampling event, it is not possible to attribute the hazardous substances to the landfilled areas. Refer to Figures 9-13 respectively for Sample Location Maps.

In Area 6, two surface water/sediment samples and one leachate sample were collected during the February 1990 sampling event. After receipt of the initial data and the discovery of PCBs in the sediment, the NYSDEC requested that additional sediment samples be collected and analyzed for PCBs only. Eight additional sediment samples were collected from Area 6 on May 3, 1990. Inorganics detected in the initial sediment samples included arsenic, cadmium, chromium, copper, lead, nickel, and zinc; however, the contaminants cannot be attributed to the landfilled areas. The additional sediment samples collected indicated the presence of Aroclor 1248 and Aroclor 1260. Analysis of the leachate indicated that none of the metals or organics exceeded EPA EP Tox Levels. The data quality associated with the above mentioned surface water/sediment samples is CLP equivalent and a 0.1 mile of contaminated wetland has been documented by this sampling event (Ref. Nos. 3, pp. 151-161, 174-177; 19; 21). Refer to Figure 14 for Sample Location Map and Table 2 for the analytical data.

One subsurface soil boring sample from Area 3 and one shallow surface soil sample from Area 4 were collected by LMS in 1990. Analysis of the subsurface sample indicated the presence of PCBs, arsenic, chromium, copper, lead, mercury, nickel, silver, and zinc. The shallow surface soil sample from Area 4 did not indicate the presence of VOAs, SVOAs, or Pesticides/PCBs, however, inorganic constituents including arsenic, cadmium, chromium, copper, lead, nickel, and zinc were detected (Ref. No. 3, pp. 183-185). No background surface and subsurface soil samples were collected to evaluate the significance of the constituents detected for the surface and subsurface sample.



Scale: 0 100 200 400 FEET

MAP SOURCE:

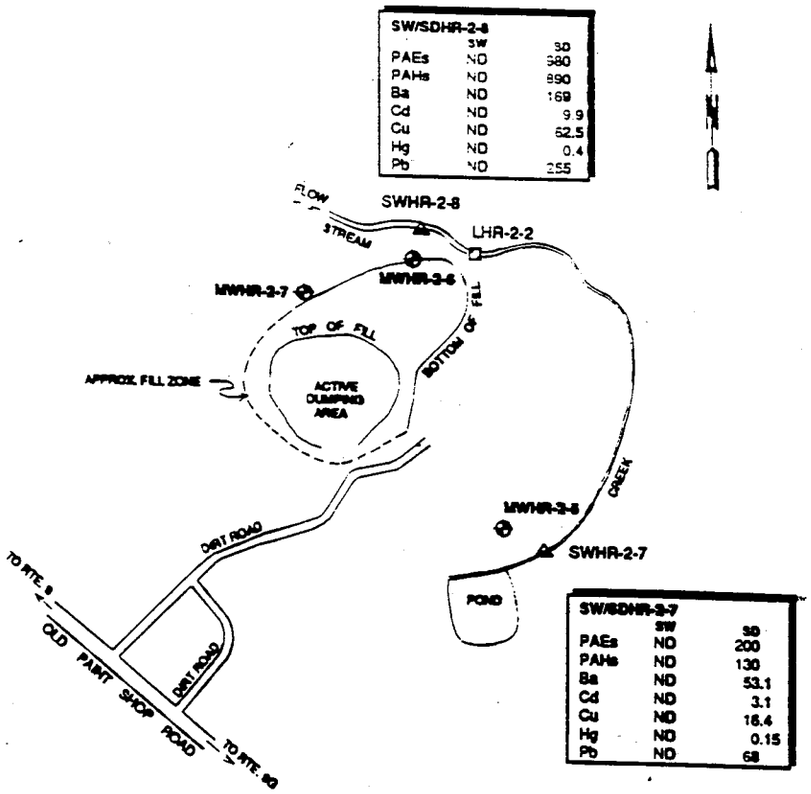
LMS Phase II Investigation
March, 1991

AREA 1 (SW/SED/LEACHATE SAMPLE LOCATIONS)
HUDSON RIVER PYSCHIATRIC CENTER
POUGHKEEPSIE, DUTCHESS COUNTY, NEW YORK.

MALCOLM PIRNIE

DATE: 19 SEPT 95

FIGURE 9



LEGEND

- Groundwater monitoring well location
- Surface water/sediment sample location
- All organics concentrations in µg/kg
- All metals concentrations in mg/kg
- Leachate= EP toxicity, metals and organics are < detection limit
- PAEs = Phthalate acid esters
- PAHs = Polycyclic aromatic hydrocarbons
- Ba = Barium
- Cd = Cadmium
- Cu = Copper
- Hg = Mercury
- Pb = Lead

NOTE: Concentrations do not include chemicals found in blank.

Scale: 0 100 200 400 FEET

MAP SOURCE:

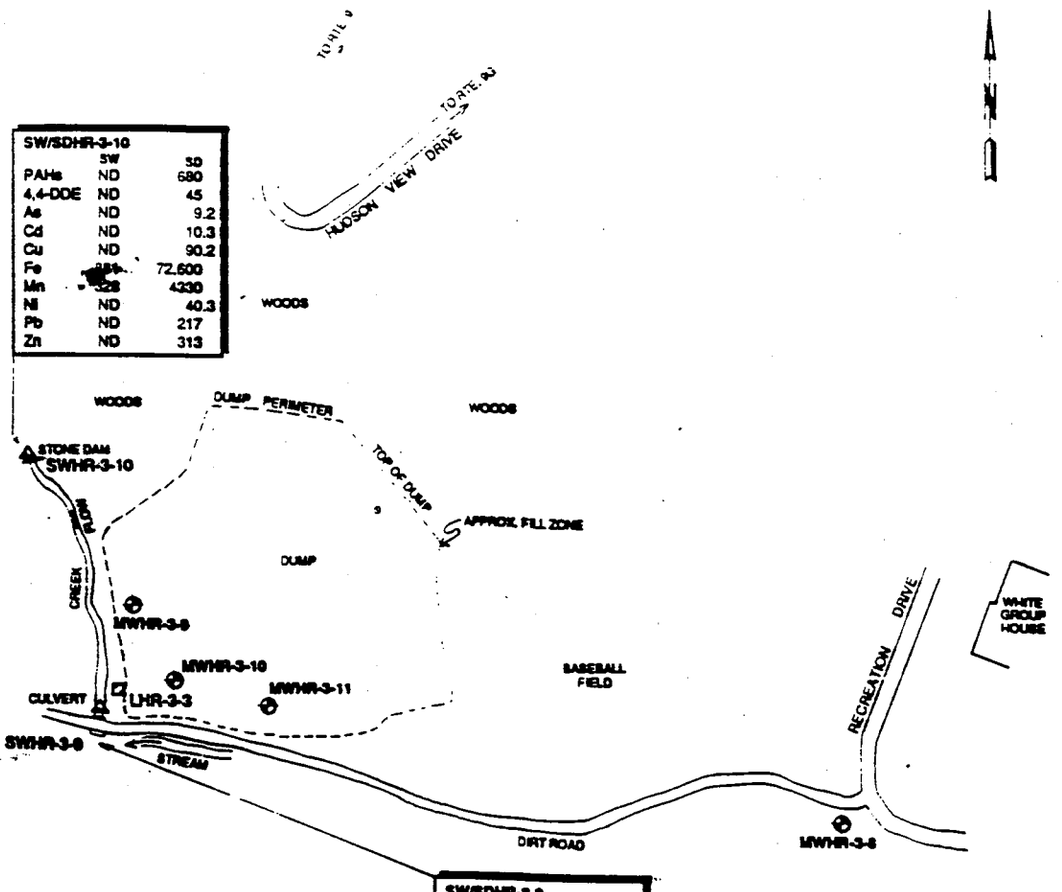
LMS Phase II Investigation

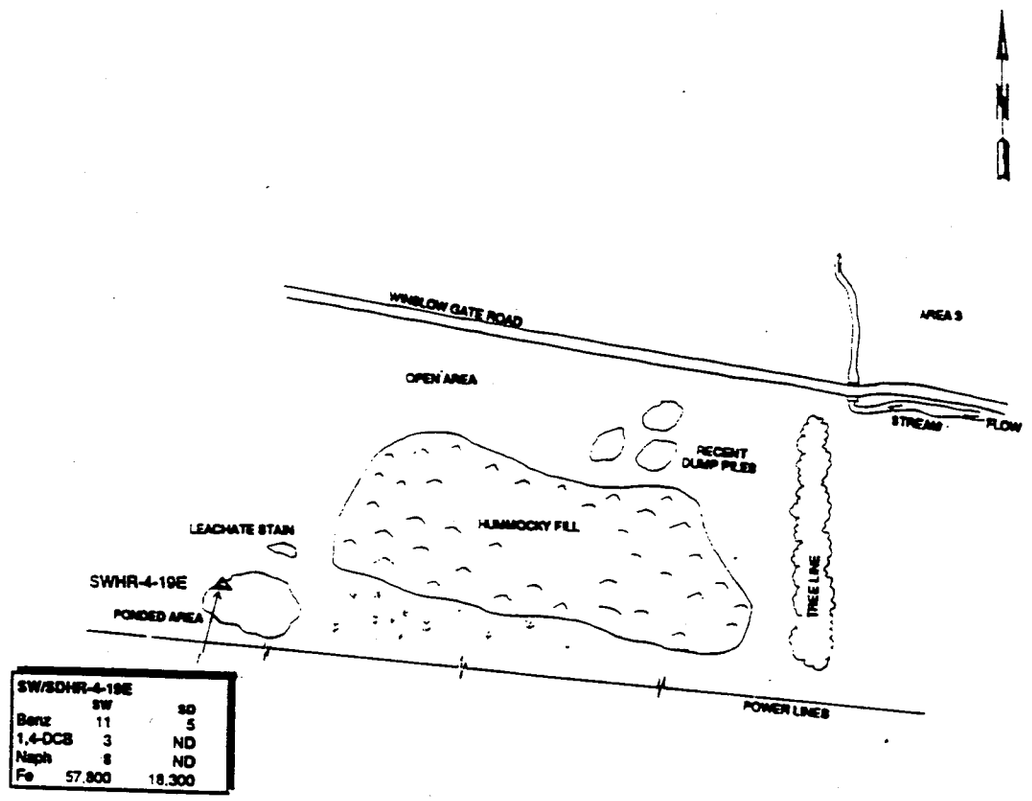
March, 1991

AREA 2 (SW/SED/LEACHATE SAMPLE LOCATIONS)
HUDSON RIVER PYSCHIATRIC CENTER
POUGHKEEPSIE, DUTCHESS COUNTY, NEW YORK.

MALCOLM PIRNIE

DATE: 19 SEPT 95 | **FIGURE 10**


SW/SDHR-3-10
SW
PAHs ND 680
4,4-DDE ND 45
As ND 9.2
Cd ND 10.3
Cu ND 90.2
Fe 72,600
Mn 4330
Ni ND 40.3
Pb ND 217
Zn ND 313
TO HIL 9
TO RTE. 9D
HUDSON VIEW DRIVE
WOODS
WOODS
DUMP PERIMETER
WOODS
STONE DAM
SWHR-3-10
TOP OF DUMP
APPROX. FILL ZONE
DUMP
CREEK FLOW
MWHR-3-9
MWHR-3-10
MWHR-3-11
LHR-3-3
CULVERT
SWHR-3-9
STREAM
BASEBALL FIELD
RECREATION DRIVE
WHITE GROUP HOUSE
DIRT ROAD
MWHR-3-8
SW/SDHR-3-9
SW
PAEs ND 680
PAHs ND 4740
As ND 4.8
Cd ND 3.7
Cu ND 51.7
Fe ND 29,600
Mn ND 818
Ni ND 21.1
Pb ND 103
Zn ND 133
LEGEND
Groundwater monitoring well location
Surface water/sediment sample location
All metal water results in µg/l
All organics/soil results in µg/kg
All metal soil results in mg/kg
Leachate - EP toxicity, metals and organics are < detection limit
PAEs = Phthalate acid esters
PAHs = Polycyclic aromatic hydrocarbons
As = Arsenic
Cd = Cadmium
Cu = Copper
Fe = Iron
Mn = Manganese
Ni = Nickel
Pb = Lead
Zn = Zinc
NOTE: Concentrations do not include chemicals found in blank.
Scale: 0 100 200 400 FEET
MAP SOURCE:
LMS Phase II Investigation
March, 1991
AREA 3 (SW/SED/LEACHATE SAMPLE LOCATIONS)
HUDSON RIVER PYSCHIATRIC CENTER
POUGHKEEPSIE, DUTCHESS COUNTY, NEW YORK.
MALCOLM PIRNIE
DATE: 19 SEPT 95
FIGURE 11



LEGEND

- ▲ Surface water/sediment sample location
- All water results in µg/l
- All organic soil results in µg/kg
- All metal soil results in mg/kg
- Benz = Benzene
- 1,4-DCB = 1,4-Dichlorobenzene
- Naph = Naphthalene
- Fe = Iron

Scale: 0 100 200 400 FEET

MAP SOURCE:

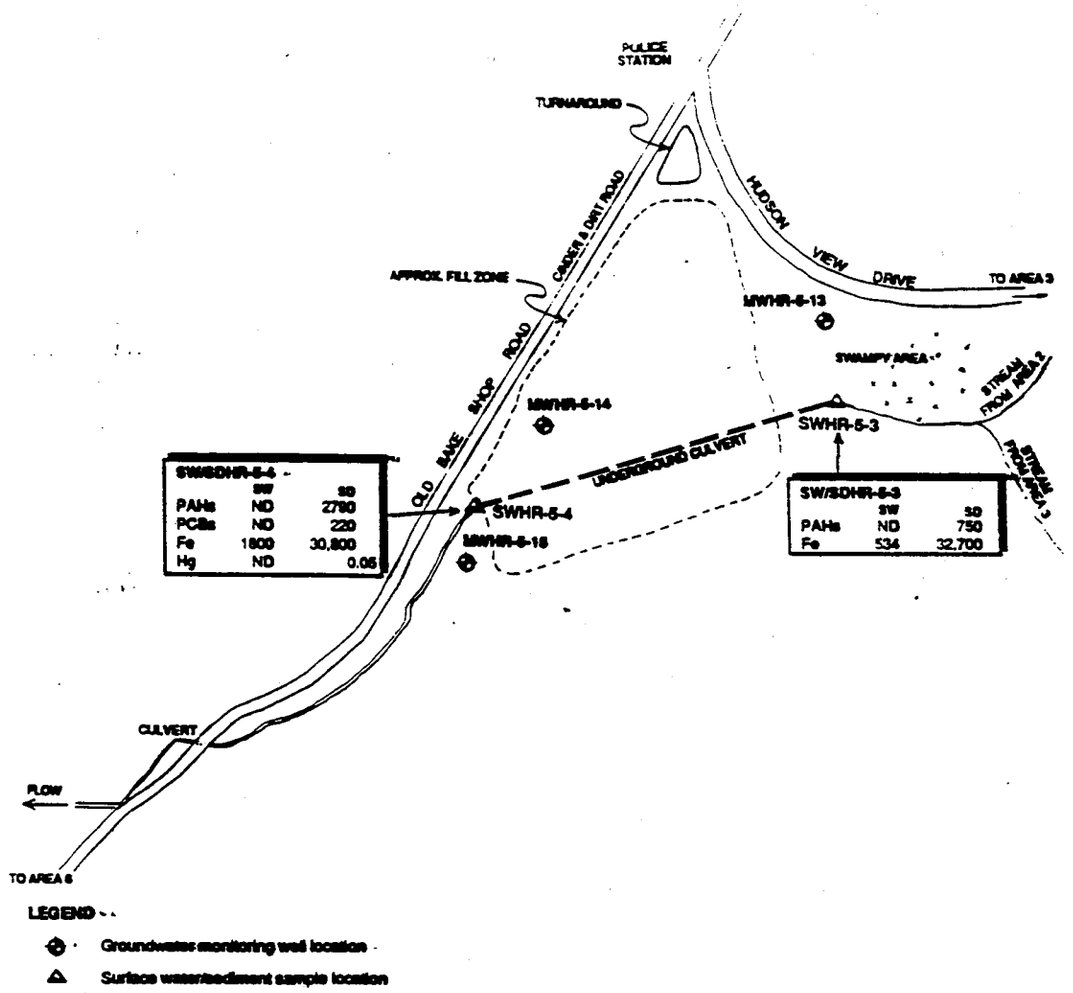
LMS Phase II Investigation
March, 1991

AREA 4 (SW/SED/LEACHATE SAMPLE LOCATIONS)
HUDSON RIVER PYSCHIATRIC CENTER
POUGHKEEPSIE, DUTCHESS COUNTY, NEW YORK.

MALCOLM PIRNIE

DATE: 19 SEPT 95

FIGURE 12



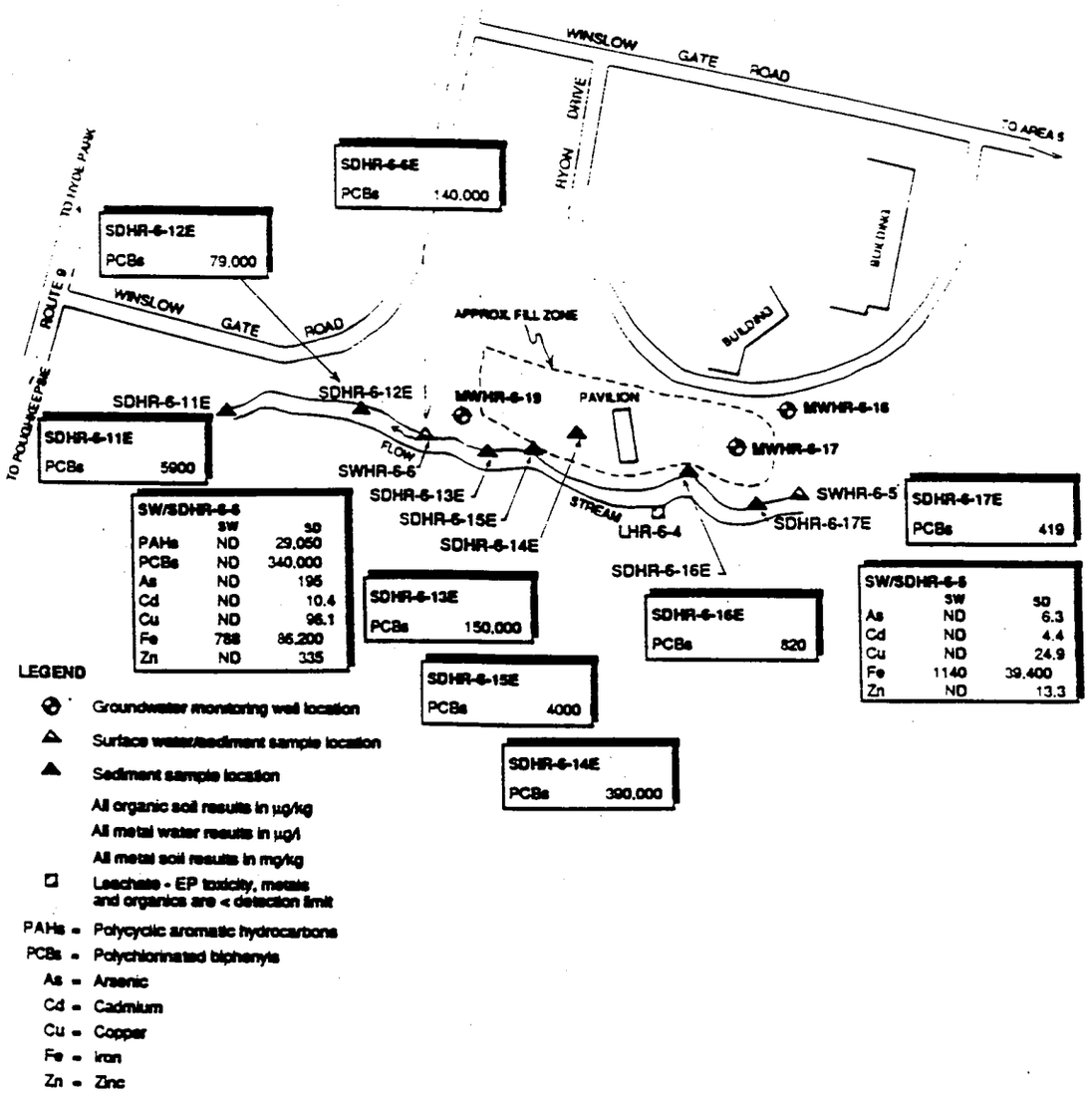
Scale: 0 100 200 400 FEET

MAP SOURCE:
LMS Phase II Investigation
March, 1991

AREA 5 (SW/SED/LEACHATE SAMPLE LOCATIONS)
HUDSON RIVER PYSCHIATRIC CENTER
POUGHKEEPSIE, DUTCHESS COUNTY, NEW YORK.

MALCOLM PIRNIE

DATE: 19 SEPT 95 | **FIGURE 13**



Scale: 0 100 200 400 FEET

MAP SOURCE:

LMS Phase II Investigation

March, 1991

AREA 6 (SW/SED/LEACHATE SAMPLE LOCATIONS)
HUDSON RIVER PYSCHIATRIC CENTER
POUGHKEEPSIE, DUTCHESS COUNTY, NEW YORK.

MALCOLM PIRNIE

DATE: 19 SEPT 95

FIGURE 14

Four leachate samples were collected from leachate seep areas near the landfilled areas. The leachate samples were analyzed for EP Tox metals, and EP Tox organics. Analysis of the leachate samples did not indicate elevated concentrations of metals and organics (Ref. No. 3, pp. 90-92, 151, 161).

During the 1993 LMS FFS, four concrete chip samples, one wipe sample, six sediment samples, three surface soil samples and four surface water samples collected at the site during the PCB investigation. Results of the analysis indicate that a release of PCB-containing fluids occurred in the Cheney Building electrical vault room at some time in the past (Ref. No. 4, pp. 6-12). The Sample Location Map can be seen in Figure 15 and the analytical results from the FFS can be seen in Table 3.

Although VOAs, SVOAs, and inorganic constituents have been detected on-site in both the 1987 SI and the 1990 Phase II Investigation, no source characterization samples (surface soil, subsurface) were collected to attribute these substances to the landfilled areas. Therefore, only PCBs will be evaluated in this Site Inspection Prioritization, and only Area 6 will be considered a source area (Ref. Nos. 2, pp. 25, 187-191; 3, pp. 76-92,126-161).

HAZARD ASSESSMENT

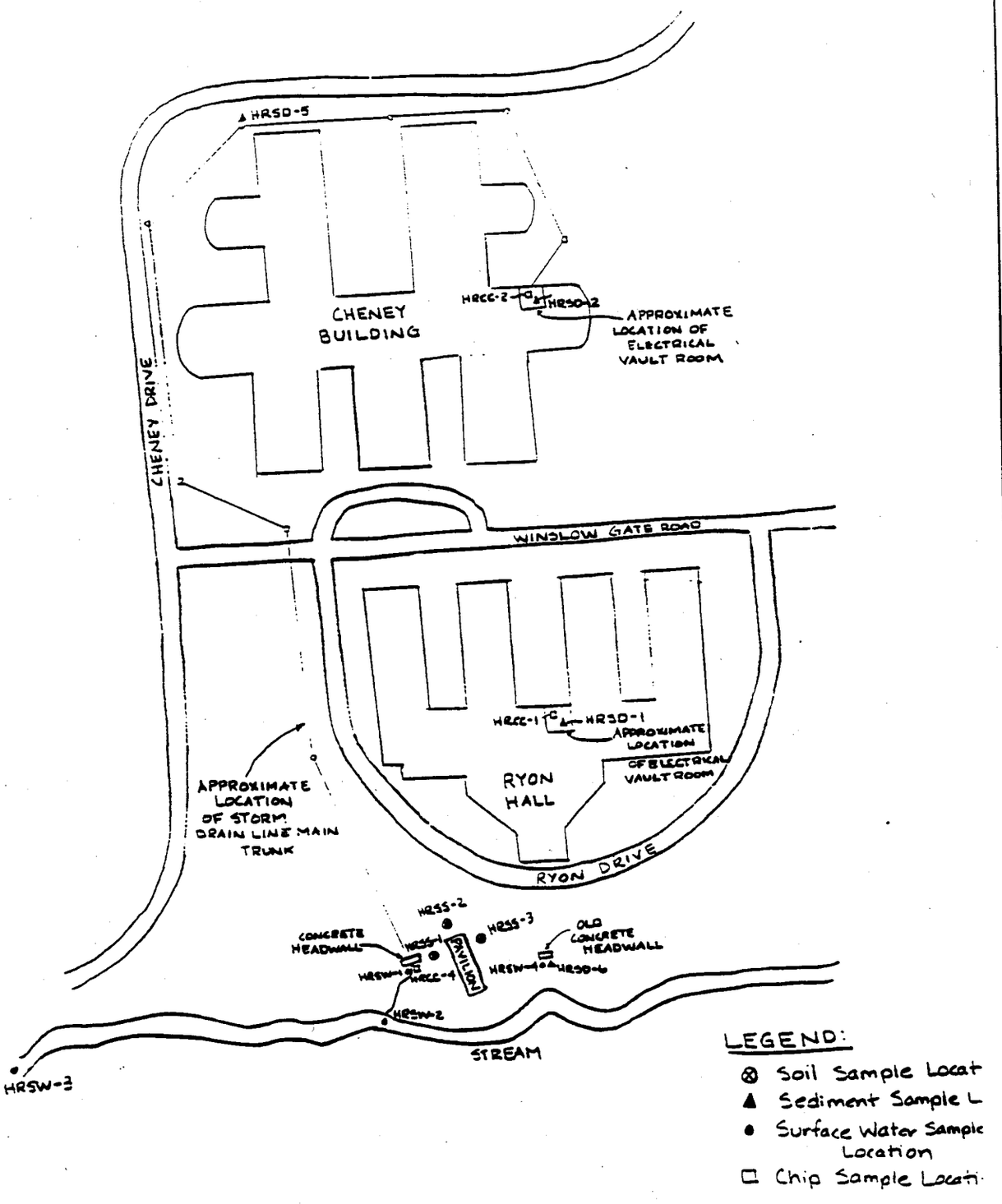
Updated and additional information and data collected to further evaluate the site included groundwater, population data, sensitive environment information, and four-mile radius populations.

Groundwater Pathway - The material encountered throughout the HRPC site during test boring and monitoring well installation was classified as nonstratified (glacial) and stratified (fluviological) drift. The overburden layer ranged in thickness from 34 feet in the elevated areas to 24 feet in the low-lying zone (Ref. No. 3, p. 102).

Published sources and monitoring well data identify bedrock beneath the site as Ordovician shale, siltstone, and sandstone. The entire site is generally identified as part of the Hudson River Formation. The zone in the immediate vicinity of the site is underlain by two formations. The easternmost zone was identified as the Stuyvesant Falls Formation, composed of siltstone and shale. The Austin Glen Formation, primarily a shale, siltstone, sandstone, and greywacke formation, is located along the western end of the facility. The boundary between the two bedrock groups runs north-south through the approximate middle of the site. Bedrock is designated as the aquifer of concern. The depth to bedrock is approximately 15 feet. The permeability associated with this bedrock type is approximately $1x10^{-5}$ centimeters/second. The general groundwater flow across the site is in a westerly direction towards the Hudson River (Ref. Nos. 2, pp. 11, 106,123; 3, p. 103-104).

Groundwater samples were collected during the 1990 Phase II Investigation. The following hazardous substances were detected at elevated concentrations as compared to background: trichloroethene, arsenic, cadmium, chromium, copper, lead, nickel, and zinc. The constituents detected are not attributable to the site due to a lack of source characterization samples (Ref. No. 3, pp. 132-136).

The majority of residents within four-miles of the site obtain their potable water supply from surface water intakes. Two centralized community well water systems were identified within four miles of the site. These include the Harbourd Hills Water District (HHWD), and the Greenfields Water District



Not Drawn to Scale

MAP SOURCE:
LMS Focus Feasibilitiy Study
9-Nov-93

AREA 6 (PCB SOURCE CHARACTERIZATION SAMPLE LOCATIONS)
HUDSON RIVER PYSCHIATRIC CENTER
POUGHKEEPSIE, DUTCHESS COUNTY, NEW YORK.

MALCOLM PIRNIE

DATE: 19 SEPT 95 | **FIGURE 15**

TABLE 3
Analytical Data (Source Characterization)
Hudson River Psychiatric Center Site
1993 Focus Feasibility Study Sampling Data

Hazardous Substance	Sample Date	Medium	Background Sample Location	Background Sample Concentration	Contaminated Sample Location	Contaminated Sample Concentration
PCBs (Aroclor 1260)	Oct-93	sediment	NA	NA	HRSD-2	2.0x10e^{8} E ppb
					HRSD-5	33000 E ppb
		concrete	NA	NA	HRCC-1	780 ppb
					HRCC-2	7.1x10e^{5} E ppb
					HRCC-3	400 ppb
					HRCC-4	320 ppb **
		soil	NA	NA	HRSS-1	1,400 ppb
					HRSS-2	440 ppb
					HRSS-3	620 ppb

Notes:

E - estimated value
**** - due to the tar-like consistency of the sample, results were reported on a wet weight basis.**
ppb - parts per billion
ND = Not Detected (within limits of analytical methods).
concrete - concrete chip samples were collected and analyzed for PCBs. These chip samples were obtained from the electrical vault rooms in the Ryon Hall, Cheney, and Poucher Home buildings. The concrete chip samples were collected from the floor of each of the vault rooms at locations adjacent to the floor drain on the side of the drain closest to the concrete pad where the transformers were previously located.

Sampling Event:

1993 LMS Sampling Event (Ref. No. 5, 6)

(GWD). The HHWD services 247 connections and the GWD services 280 connections. The number of residents per household factor for Dutchess County is 2.69 persons per household. Therefore, these two water districts serve a population of 1,417 people. The groundwater population apportionment for the well systems within four miles of the site is as follows: (0-0.25 mile, 0; 0.25-0.5 mile, 0; 0.5-1.0 mile, 0; 1.0-2.0 miles, 0; 2.0-3.0 miles, 1,417; 3.0-4.0 miles, 0). The site is within four miles of a Wellhead Protection Area (Ref. Nos. 9; 14).

Surface Water Pathway - Two unnamed tributaries flow through the site. The unnamed tributaries flow southwest, pass beneath Route 9 beyond the site boundary, and discharge into the Hudson River less than 0.5 mile away. The flow rate for these two tributaries is estimated to be between 10 and 100 cubic feet per second (cfs). The Hudson River completes the fifteen mile surface water pathway. The flow rate for the Hudson River near the site is estimated to be between 1,000-10,000 cfs (Ref. Nos. 3, p. 93; 12; 19; 21) .

Eight surface water/sediment samples were collected by a USEPA Contractor in 1987 during the SI. Analysis from this sampling event indicated the presence of PCBs in the downstream sediment samples near Area 6 (Ref. No. 2, pp. 47, 191). Refer to Table 1 and Figure 2 for analytical results and a Sample Location Map.

A total of ten surface water/sediment samples were collected in the February 1990 Phase II Investigation performed by LMS. Due to high levels of PCBs detected in the downstream samples for Area 6, eight additional samples were taken from Area 6 in May 1990. One additional surface water/sediment pair was collected from Area 4 during a second sampling event performed by LMS. Analysis of these samples indicated the presence of PCBs in the sediment samples near Area 6. A tenth of a mile of contaminated wetland was documented during this sampling event (Ref. Nos. 3, pp. 81-90, 152-160, 175; 6; 21). Refer to Table 2 and Figure 14.

The wetland frontage along the two unnamed tributaries is approximately 650 feet (0.123 mile). The wetland frontage along the Hudson River for the 15-mile surface water pathway is 2,687 feet (0.51 mile). The unnamed tributary which passes by Area 1 of the HRPC property is a Class B surface water as classified by the New York State Division of Water Resources (NYSDWR). The other unnamed stream, which flows through Areas 2, 3, 5, and 6 is a Class D surface water. The Hudson River near the Poughkeepsie area is a Class A stream and supports a fishery consisting of striped bass, large and small mouth bass, shad, herring and white perch. The short nosed sturgeon is an endangered fish whose presence has been documented in the area. There are six state threatened/endangered species along the surface water pathway (Ref. Nos. 3, p. 113; 8; 12; 13; 17; 19; 21).

The City of Poughkeepsie has two surface water intakes (one main & one backup) located on the Hudson River approximately one mile downstream from the site. The average flowrate at the intakes is 11 million gallons per day (MGD) and these intakes serve a population of approximately 85,000 people. The Town of Lloyd also has a surface water intake located along the Hudson River approximately one mile south of the site. This intake serves a population of 3,497 people (Ref. Nos. 10; 19).

Soil Exposure Pathway - Only one soil sample was collected during the 1987 SI sampling event. No

organic constituents were detected, however, the following inorganics were detected; antimony, arsenic, cadmium, copper, lead, mercury, and zinc (Ref. No. 2, pp. 25, 191). During the LMS 1990 sampling event, one shallow soil sample was collected. Analysis of this sample indicated the presence of PCBs, arsenic, chromium, copper, lead, mercury, nickel, silver, and zinc. For both sampling events, no background soil samples were collected to compare the levels of contaminants in the surrounding soils (Ref. No. 3, pp 121, 125).

There are no schools or day care facilities located within 200 feet of the site property. Approximately 600 patients reside on site. Of these 600 patients, approximately 200 reside in Ryon Hall. There are 966 workers currently employed by the HRPC. An athletic field adjacent to Area 3 is used by local colleges, but the actual number of people using the field is unknown. No terrestrial sensitive environments have been identified within 200 feet of the site (Ref. Nos. 18; 20).

Air Migration Pathway - There is no documentation available to indicate that a release to air has occurred from the site. Approximately 67,186 individuals reside within the four-mile radius (0-0.25 mile, 296; 0.25-0.50 mile, 953; 0.50-1.0 mile, 3,717; 1.0-2.0 miles, 15,530; 2.0-3.0 miles, 27,787; 3.0-4.0 miles, 18,903). There are approximately 1,623 acres of wetlands within four miles of the site (0-0.25 mile, 5; 0.25-0.5 mile, 21; 0.5-1.0 mile, 4; 1.0-2.0 miles, 314; 2.0-3.0 miles, 387 miles; 3.0-4.0 miles, 892). There are six state threatened/endangered species within four miles of the site (Ref. Nos. 8; 11; 15).

Summary

Based on the information contained in the site file, the following conclusions were drawn for the HRPC Landfill Site. The HRPC is owned and operated by the State of New York and occupies approximately 700 acres. The HRPC is the site of six small and inactive landfills which were used for dumping of municipal and institutional refuse. The generators who disposed of wastes at the site were the City and Town of Poughkeepsie (municipal waste) and the HRPC (institutional wastes). There is no documentation available to suggest that toxic or hazardous wastes were ever deposited at the site.

During the 1987 USEPA contractor SI, one soil sample, eight surface water and eight sediment samples were collected and analyzed. Analysis from the 1987 SI indicated elevated levels of PCBs in the sediment samples near Area 6.

The 1990 LMS Phase II Investigations included the total collection of seventeen groundwater samples, nineteen surface water and sediment samples, and four leachate samples. However, the above two sampling events did not include collection of soil samples to characterize the landfills. Since no source characterization samples were collected the organic and inorganic hazardous constituents detected in the groundwater and surface water/sediment samples can not be attributed to the landfilled areas of the site. It was also documented during this investigation that one-tenth of mile contaminated wetland area has been impacted by PCBs.

In November 1993, LMS conducted a FFS to address PCB-contaminated sediments in the stream in Area 6. Based on this investigation, it was determined that the Cheney and Ryon Hall buildings were the drainage areas of concern for the PCB Source Investigation. Results of the analysis indicated that a release of PCB-containing fluids occurred in the Cheney Building electrical vault room some time in the past.

LMS and the HRPC are in the process of remedial action for the HRPC site under the direction of the NYSDEC. As of September 1995, removal of PCB contaminated sediments included the storm drainage pipes leading from the Cheney Building to the outfall located near the fill section in Area 6. The proposed remedial action for this site includes sediment sampling for disposal, jet cleaning of drainage pipes, and excavation of a 40 foot section of the storm drainage pipe near the Cheney Building. An RI/FS will reportedly be initiated in November 1995 for Area 6, and the adjacent wetland and unnamed tributary.

Two centralized community well water systems utilize groundwater as a drinking water source and serve 1,417 persons. The site is within four-miles of a Wellhead Protection Area. Three surface water intakes are located along the 15-mile surface water pathway. The Town and City of Poughkeepsie utilizes a surface water intake located along the Hudson River and serves water to 85,000 persons. The Town of Lloyd also utilizes an intake located on the Hudson River and serves a population of 3,497. The Hudson River is a classified stream and supports a fishery. There are six state threatened/endangered species along the surface water pathway, including the short nosed sturgeon, which is an endangered fish in the area.

There are no schools or day care facilities located within 200 feet of the site property. Approximately 600 patients reside on site, 200 of these patients reside at Ryon Residence Hall. There are 966 workers currently employed by the HRPC. There are no documentation to indicate that a release of hazardous substances to air from the site has occurred. There is no analytical data to confirm that any fisheries or sensitive environments have been affected by site activities. There are approximately 1,623 acres of wetlands within four-miles of the site. There are 67,787 individuals residing within four-miles of the site. No terrestrial sensitive environments have been identified within 200 feet of the site. There are six State threatened/endangered species within four-miles of the site.

Very Truly Yours,

JIN HO JANG
SITE MANAGER

LISA GRECO
TASK LEADER

ALAN GREENLAW
WORK ASSIGNMENT MANAGER

This Report was conducted
under the following
USEPA Documentation Procedure

Guidance for Performing Site
Inspections Under CERCLA
Interim Final Publication 9345.1-05

ATTACHMENT 1

PHOTOGRAPH LOG
Hudson River Psychiatric Center
Poughkeepsie, New York

April 6, 1995

All photographs taken by J. Jang.

Photo No.	Description	Time
1P1S	Picture of Landfill 5 (monitoring well also shown).	1201
2P2S	Picture of discharge pipe adjacent to Landfill 5.	1202
3P3S	Picture of discharge pipe connecting wetlands from Landfill 4 to Landfill 3.	1222
4P4S	Picture of ponded leachate area located in the wetland adjacent to Landfill 3.	1225
5P5S	Picture of stained sediment near unnamed tributary passing adjacent to Landfill 3.	1226
6P6S	Picture of ponded leachate near Landfill 3.	1230
7P7S	Picture of Landfill 4 (monitoring well also shown).	1251
8P8S	Picture of Landfill 5.	1258
9P9S	Picture of unnamed tributary adjacent to Landfill 5.	1300
10P10S	Picture of Landfill 1.	1306
11P11S	Picture of second unnamed tributary flowing through Landfill 1.	1310
12P12S	Picture of Landfill 6.	1321
13P13S	Picture of ponded water with oily sheen in the unnamed tributary along Landfill 6.	1322

PHOTOGRAPH LOG
Hudson River Psychiatric Center
Poughkeepsie, New York

8003-414



1P1S Picture of Landfill 5 (monitoring well also shown). 1201



2P2S Picture of discharge pipe adjacent to Landfill 5. 1202



3P3S Picture of discharge pipe connecting wetlands from Landfill 4 to Landfill 3. 1223



4P4S Picture of ponded leachate area located in the wetland adjacent to Landfill 3. 1225

PHOTOGRAPH LOG
Hudson River Psychiatric Center
Poughkeepsie, New York

8003-414



5P5S Picture of stained sediment near unnamed tributary passing adjacent to Landfill 3. 1226



6P6S Picture of ponded leachate near landfill 3. 1230



7P7S Picture of Landfill 4 (monitoring well also shown). 1251



8P8S Picture of Landfill 5. 1258

PHOTOGRAPH LOG
Hudson River Psychiatric Center
Poughkeepsie, New York

8003-414



9P9S Picture of unnamed tributary adjacent to Landfill 5. 1300



10P10S Picture of Landfill 1. 1306



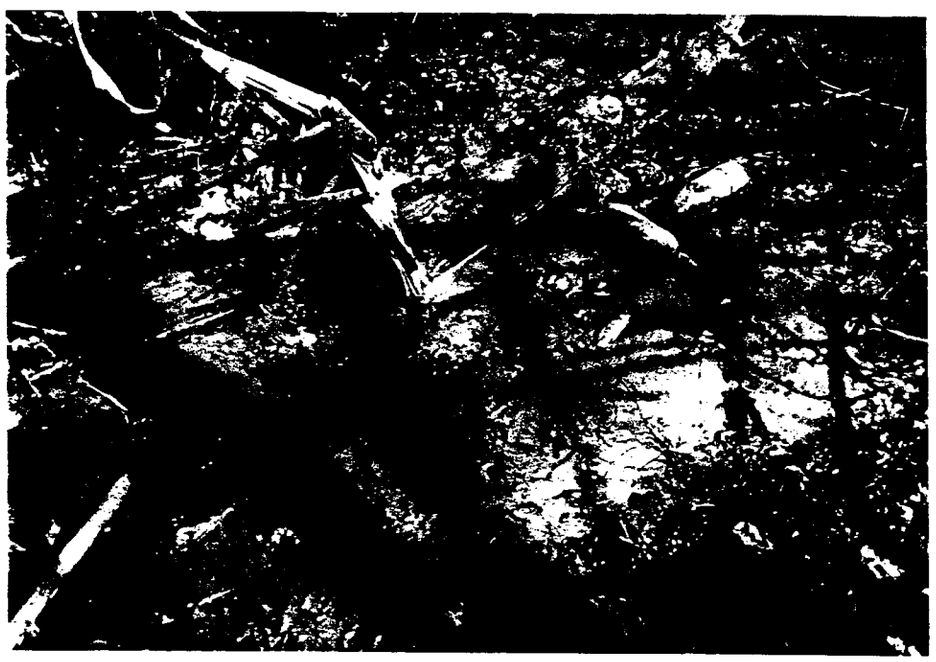
11P11S Picture of second unnamed tributary flowing through Landfill 1. 1310



12P12S Picture of Landfill 6. 1321

PHOTOGRAPH LOG
Hudson River Psychiatric Center
Poughkeepsie, New York

8003-414



13P13S	Picture of ponded water with oily sheen in the unnamed tributary along Landfill 6.	1322

ATTACHMENT 2

REFERENCES

1. U.S. Environmental Protection Agency (EPA) Superfund Program, Comprehensive Environmental Response Liability Information System (CERCLIS), List 8E: Site/Event Listing, p. 225, July 7, 1995.

2. Site Inspection Report, Hudson River Psychiatric Center, Prepared for the USEPA, Prepared by NUS Corporation, November 4,, 1988.

3. Phase II Investigation, Hudson River Psychiatric Center, Prepared for the NYSDEC, Prepared by Lawler, Matusky, & Skelly Engineers, March, 1991.

4. Focus Feasibility Study, Hudson River Psychiatric Center, Prepared for the NYSDEC, Prepared by Lawler, Matusky, & Skelly Engineers, November 9, 1993.

5. Area 6 Interim Remedial Measure and Remedial Investigation/Feasibility Study, Prepared by Lawler, Matusky, & Skelly Engineers.

6. Project Note: To Hudson River Psychiatric Center file, from Jin Ho Jang, Malcolm Pirnie, Inc., Subject: Qualified Data (1991 LMS Sampling Event), July 19, 1995.

7. Project Note: To Hudson River Psychiatric Center file, from Jin Ho Jang, Malcolm Pirnie, Inc., Subject: Qualified Data (1993 LMS Source Characterization Sampling Event), September 18, 1995.

8. Project Note: To Hudson River Psychiatric Center file, from Jin Ho Jang, Malcolm Pirnie, Inc., Subject: Sensitive Environment Information, September 18, 1995.

9. Project Note: To Hudson River Psychiatric Center file, from Jin Ho Jang, Malcolm Pirnie, Inc., Subject: Groundwater Apportionment, September 15, 1995.

10. Project Note: To Hudson River Psychiatric Center file, from Jin Ho Jang, Malcolm Pirnie, Inc., Subject: Surface Water Apportionment, September 18, 1995.

11. Project Note: To Hudson River Psychiatric Center file, from Jin Ho Jang, Malcolm Pirnie, Inc., Subject: Four-Mile Ring Populations, September 18, 1995.

12. Project Note: To Hudson River Psychiatric Center file, from Jin Ho Jang, Malcolm Pirnie, Inc., Subject: Hudson River Basin Flowrate, September 18, 1995.

13. Project Note: To Hudson River Psychiatric Center file, from Jin Ho Jang, Malcolm Pirnie, Inc., Subject: Wetland Frontage, September 18, 1995.

14. Project Note: To Hudson River Psychiatric Center file, from Jin Ho Jang, Malcolm Pirnie, Inc., Subject: Wellhead Protection Area, September 21, 1995.

15. Project Note: To Hudson River Psychiatric Center file, from Jin Ho Jang, Malcolm Pirnie, Inc., Subject: Four-Mile Wetland Acreage, September 21, 1995..

REFERENCES (Continued)

16. Project Note: To Hudson River Psychiatric Center file, from Jin Ho Jang, Malcolm Pirnie, Inc,. Subject: Future Remedial Actions for the HRPC, September 21, 1995.

17. Telecon Note: Conversation between Ron Pierce, NYSDEC Senior Aquatic Biologist and Jin Ho Jang, Malcolm Pirnie, Inc., May 9, 1995.

18. Telecon Note: Conversation between Steve Albamont, Hudson River Psychiatric Center and Jin Ho Jang, Malcolm Pirnie, Inc., May 15, 1995.

19. Logbook, Hudson River Psychiatric Center, Site Inspection Prioritization - Reconnaissance, April 6, 1995.

20. Four-mile Vicinity Map for Hudson River Psychiatric Center site, compiled from U.S. Geological Survey Topographical Maps, 7.5 minute series, "Poughkeepsie, New York, 1957, photorevised 1982"; "Rosendale, New York, 1964, photorevised 1980"; "Clintondale, New York, 1957"; Salt Point, New York, 1963, photorevised 1978"; "Hyde Park, New York, 1963, photorevised 1980".

21. Fifteen Mile Surface Water Pathway Map for Hudson River Psychiatric Center site, compiled from U.S. Geological Survey Topographical Maps, 7.5 minute series, "Poughkeepsie, New York, 1957, photorevised 1982"; "Rosendale, New York, 1964, photorevised 1980"; "Clintondale, New York, 1957"; Salt Point, New York, 1963, photorevised 1978"; "Hyde Park, New York, 1963, photorevised 1980".

22. Telecon Note: Conversation between Steve Albamont, Hudson River Psychiatric Center and Jin Ho Jang, Malcolm Pirnie, Inc., October 24, 1995.

REFERENCE NO. 1

RUN DATE: 07/07/95 14:35:37
CERCLIS DATA BASE DATE: 06/07/95
CERCLIS DATA BASE TIME: 16:22:13
VERSION 5.03

** PROD VERSION **
U.S. EPA SUPERFUND PROGRAM
** C E R C L I S **
LIST-BE: SITE/EVENT LISTING

CERCLIS DATA BASE DATE: N/A
CERCLIS DATA BASE TIME: N/A

SELECTION:
SEQUENCE: REGION, STATE, SITE NAME

EVENTS: ALL

EPA ID NO.	SITE NAME / STREET / CITY / COUNTY CODE AND NAME (ASSOCIATED NPL SITE) / (ASSOCIATED NPL ID)	STATE	ZIP	CONG DIST.	OPROLE UNIT	EVENT TYPE	EVENT QUAL	ACTUAL START DATE	ACTUAL COMPL DATE	EVENT LEAD
NYD980763841	HUDSON RIVER PCBS				(01)	RD3		05/18/89	01/07/91	RESP. PARTY
(CONTINUED)						RD4		09/27/89	09/28/90	RESP. PARTY
						RA1		09/28/84		STATE(FUND)
					---	RA2		10/13/89	09/29/92	RESP. PARTY
						RA3		09/28/90	09/29/92	RESP. PARTY
						ARI		04/24/92		EPA (FUND)
					02	CO1		07/25/90		EPA (FUND)
						MA1		09/22/91		EPA (FUND)
									03/13/86	EPA (FUND)
					00	DS1			09/24/86	EPA (FUND)
NYD980779490	HUDSON RIVER PSYCHIATRIC CENTER					PA1			03/05/87	STATE(FUND)
	ROUTE 9					PA2		03/27/87	03/29/87	EPA (FUND)
	POUGHKEEPSIE	NY	12602			SI1			12/30/91	STATE ONLY
	027 DUTCHESS					SI2				
									06/18/87	STATE(FUND)
					00	DS1			03/17/88	STATE(FUND)
NYD982531220	HULBERT MAINTENANCE YARD					PA1		12/01/91	12/01/91	STATE(FUND)
	HULBERTON ROAD AT ERIE CANAL					SI1				
	MURRAY	NY	14470							
	073 ORLEANS									
									05/01/80	EPA (FUND)
					00	DS1			03/03/87	STATE(FUND)
NYD980506849	HUNTINGTON TOWN LF					PA1		06/29/87	07/01/87	STATE(FUND)
	DEPOSIT RD					SI1				
	HUNTINGTON	NY	11743							
	103 SUFFOLK									
								07/02/87	07/02/87	EPA (FUND)
					00	RV1			04/01/80	EPA (FUND)
NYD980506851	HYDE PARK LF					DS1			09/01/84	STATE(FUND)
	FOREST DR				---	PA1		07/22/88	08/03/88	STATE(FUND)
	HYDE PARK	NY	12538			SI1				
	027 DUTCHESS									
									03/10/92	STATE(FUND)
					00	DS1		03/10/92	03/10/92	STATE(FUND)
NYD986994598	I-87 MILE MARKER 86-87					SI1				
	INTERSTATE 87									
	SCHROON	NY	12870							
	031 ESSEX									
									05/01/79	EPA (FUND)
					00	DS1			06/01/80	EPA (FUND)
NYD980511675	IBM					PA1			08/04/92	EPA (FUND)
	BODLE HILL RD					SI1				
	OWEGO	NY	13827							
	107 TIOGA									

REFERENCE NO. 2

0039-D
02-8611-63

NUS CORPORATION
A Halliburton Company

FIELD INVESTIGATION TEAM ACTIVITIES AT UNCONTROLLED HAZARDOUS SUBSTANCES FACILITIES — ZONE I

NUS CORPORATION
SUPERFUND DIVISION

02-8611-63-SR
REV. NO. 0

FINAL DRAFT
SITE INSPECTION REPORT
HUDSON RIVER PSYCHIATRIC CENTER
POUGHKEEPSIE, DUTCHESS COUNTY, NEW YORK

PREPARED UNDER

TECHNICAL DIRECTIVE DOCUMENT NO. 02-8611-63
CONTRACT NO. 68-01-7346

FOR THE

ENVIRONMENTAL SERVICES DIVISION
U.S. ENVIRONMENTAL PROTECTION AGENCY

NOVEMBER 4, 1988

NUS CORPORATION
SUPERFUND DIVISION

SUBMITTED BY:

E L Leonard

EDWARD L. LEONARD
PROJECT MANAGER

Anthony F Culmone Jr.

ANTHONY F. CULMONE JR.
SITE MANAGER

REVIEWED/APPROVED BY:

Ronald M Naman

RONALD M. NAMAN
FIT OFFICE MANAGER

CONTENTS

Section

1. Site Inspection Report Executive Summary
2. Environmental Protection Agency Form 2070-13
3. Maps and Photographs
4. Bibliography of Information Sources
5. Press Release Summary
6. Background Information

SECTION 1

SITE INSPECTION REPORT EXECUTIVE SUMMARY

NUS CORPORATION

02-8611-63-SR
Rev. No. 0

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
EXECUTIVE SUMMARY

Hudson River Psychiatric Center **Site Name**	NYD980779490 **EPA Site ID Number**
Route 9, Poughkeepsie, Dutchess Co., NY **Address**	02-8611-63 **TDD Number**

SITE DESCRIPTION

The Hudson River Psychiatric Center (HRPC) is located in the Hudson River Valley just north of the urbanized community of Poughkeepsie, Dutchess County, New York. HRPC has six inactive landfill sites, approximately 50 acres in aggregate size, that were used between 1950 and 1979 by the Town of Poughkeepsie. HRPC disposed of institutional wastes on site for approximately 100 years. HRPC is owned by the State of New York and occupies approximately 740 acres.

There are no records of any hazardous wastes ever having been disposed of at any of these sites. Each site is located primarily in lowlands with streams running through or along disposal areas 1, 2, 5, and 6. The two unnamed streams are tributaries of the Hudson River. The Municipality of Poughkeepsie and Town of Lloyd have surface water intakes nearby in the Hudson River, for the public water supply. Also, there are a number of nonmunicipal community and private wells used in the area.

NUS Corp. Region 2 FIT conducted a site inspection at the HRPC on February 26, 1987. During the site inspection eight surface water samples were collected along with corresponding sediment samples and one leachate sample. Analytical results indicate the presence of a polychlorinated biphenyl (PCB), pesticides, polynuclear aromatic hydrocarbons (PAHs), cadmium, and silver.

Prepared by: Anthony F. Culmone Jr.
of NUS Corporation

Date: 8/28/88

SECTION 2

ENVIRONMENTAL PROTECTION AGENCY FORM 2070-13

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

I. IDENTIFICATION
01 STATE 02 SITE NUMBER
NY 0980779490

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site): Hudson River Psychiatric Center

02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER: Route 9

03 CITY: Poughkeepsie

04 STATE: NY

05 ZIP CODE: 12602

06 COUNTY: Dutchess

07 COUNTY CODE: 027

08 CONG DIST.: 25

09 COORDINATES: LATITUDE 41° 43' 59".N LONGITUDE 073° 55' 37".W

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

III. INSPECTION INFORMATION

01 DATE OF INSPECTION: 2 / 26 / 87 (MONTH DAY YEAR)

02 SITE STATUS: _ ACTIVE X INACTIVE

03 YEARS OF OPERATION: 1873 (BEGINNING YEAR) / 1979 (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.
Peter Morton	Geologist	NUS Corp.	(201) 225-6160
09 OTHER INSPECTORS	**10 TITLE**	**11 ORGANIZATION**	**12 TELEPHONE NO.**
Jane Bullis	Environmental Scientist	NUS Corp.	(201) 225-6160
John Ducar	Geologist	NUS Corp.	(201) 225-6160
Gary Bielen	Environmental Scientist	NUS Corp.	(201) 225-6160
Roberta Riccio	Environmental Scientist	NUS Corp.	(201) 225-6160
Dan de Bruijn	Field Technician	NUS Corp.	(201) 225-6160

13 SITE REPRESENTATIVES INTERVIEWED	14 TITLE	15 ADDRESS	16 TELEPHONE NO.
Robert Coffey	HRPC Supervisor	Hudson River Psychiatric Center, Route 9 Branch B, Poughkeepsie, NY	(914) 452-8000

17 ACCESS GAINED BY (Check one)	18 TIME OF INSPECTION	19 WEATHER CONDITIONS
X PERMISSION _ WARRANT	0855	Sunny, cloudless sky, approx. 30°F, no wind.

IV. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency/Organization)	03 TELEPHONE NO.
Amy Brochu	U.S. EPA Region 2, Edison, NJ	(201) 906-6802

04 PERSON RESPONSIBLE FOR SITE INSPECTION FORM	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NO.	08 DATE
Anthony F. Culmone Jr.	EPA	NUS Corporation	(201) 225-6160	8 / 19 / 88 (MONTH DAY YEAR)

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

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

02 WASTE QUANTITY AT SITE (Measures of waste quantities must be independent)

TONS
CUBIC YARDS Unknown
NO. OF DRUMS

03 WASTE CHARACTERISTICS (Check all that apply)

- X A. TOXIC
- _ B. CORROSIVE
- _ C. RADIOACTIVE
- X D. PERSISTENT
- _ E. SOLUBLE
- _ F. INFECTIOUS
- _ G. FLAMMABLE
- _ H. IGNITABLE
- _ I. HIGHLY VOLATILE
- _ J. EXPLOSIVE
- _ 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			The only wastes known to have been disposed of here are Poughkeepsie municipal wastes and HRPC institutional wastes.
SOL	SOLVENTS			
PSD	PESTICIDES	Unknown		
OCC	OTHER ORGANIC CHEMICALS	Unknown		
IOC	INORGANIC CHEMICALS			
ACD	ACIDS			
BAS	BASES			
MES	HEAVY METALS	Unknown		

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 OF CONCENTRATION
OCC	4-Methylphenol	106-44-5	Unknown	170J	ug/kg
OCC	Naphthalene	91-20-3	Unknown	1100	ug/kg
OCC	2-Methylnaphthalene	91-57-6	Unknown	1000	ug/kg
OCC	Acenaphthene	83-32-9	Unknown	920	ug/kg
OCC	Dibenzofuran	132-64-9	Unknown	760	ug/kg
OCC	Fluorene	86-73-7	Unknown	1100	ug/kg
OCC	Phenanthrene	85-01-8	Unknown	8100	ug/kg
OCC	Anthracene	120-12-7	Unknown	1700	ug/kg
OCC	Fluoranthene	206-44-0	Unknown	9000	ug/kg
OCC	Pyrene	129-00-0	Unknown	6400	ug/kg
OCC	Benzo(a)anthracene	56-55-3	Unknown	4200	ug/kg
OCC	Bis(2-ethylhexyl)phthalate	117-81-7	Unknown	2200	ug/kg
OCC	Chrysene	218-01-9	Unknown	4600	ug/kg
OCC	Benzo(b)fluoranthene	205-99-2	Unknown	5100	ug/kg
OCC	Benzo(k)fluoranthene	207-08-9	Unknown	3300	ug/kg
OCC	Benzo(a)pyrene	50-32-8	Unknown	4300	ug/kg
OCC	Indeno(1,2,3-cd)pyrene	193-39-5	Unknown	1700	ug/kg
OCC	Benzo(g,h,i)perylene	191-24-2	Unknown	1600	ug/kg
PSD	4,4'-DDE	72-55-9	Unknown	250	ug/kg
PSD	4,4'-DDD	72-54-8	Unknown	210	ug/kg
PSD	4,4'-DDT	50-29-3	Unknown	170	ug/kg
OCC	Aroclor-1248	12672-29-6	Unknown	1700J	ug/kg
OCC	Aroclor-1260	11096-82-5	Unknown	1,700,000	ug/kg
MES	Cadmium	7440-43-9	Unknown	105	mg/kg
MES	Silver	7440-22-4	Unknown	53	mg/kg
OCC	Chlorobenzene	108-90-7	Unknown	9	ug/kg

J - Compound present above the instrument detection limit, but below contract-specified detection limit.

V. FEEDSTOCKS (See Appendix for CAS Numbers)

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS	Not Applicable		FDS		
FDS			FDS		
FDS			FDS		
FDS			FDS		

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

Telecon Note: Conversation between R. Coffey, HRPC, and J. Mayo, NUS Corp.; November 6,1986.
Telecon Note: Conversation between R. Coffey, HRPC, and P. Morton, NUS Corp., March 17, 1987.
NYSDEC, Division of Solid and Hazardous Waste, Inactive Hazardous Waste Disposal Site Report, October 1983.
Field Notebook No. 0024, Hudson River Psychiatric Center, TDD No. 02-8611-63, Site Inspection, NUS Corp. Region 2 FIT, Edison, New Jersey, February 26, 1987.
U.S. EPA Contract Laboratory Program, Versar, Inc., Organics Analyses and Century Labs, Inc., Inorganics Analyses, Case No. 6889, Laboratory Analysis from NUS Corp. Region 2 FIT Site Inspection conducted on February 26, 1986.

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 X A. GROUNDWATER CONTAMINATION 02 OBSERVED (DATE:) X POTENTIAL _ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 1042 04 NARRATIVE DESCRIPTION

Potential exists for the hazardous substances found on site to migrate into the groundwater. Approximately 1042 people living north of the site use groundwater for drinking.

01 X B. SURFACE WATER CONTAMINATION 64,370 02 X OBSERVED (DATE: 2/26/87) _ POTENTIAL _ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 04 NARRATIVE DESCRIPTION

Observed releases of 4,4'-DDD, 4,4'-DDE, silver, and cadmium were detected in sediment samples collected on 2/26/87. The surface water intakes for the municipal water supply of the City and Town of Poughkeepsie and Town of Lloyd are located in the Hudson River approximately 0.7 mile and 1.5 miles, respectively, downstream from the site, serving a population of approximately 64,370.

01 C. CONTAMINATION OF AIR 02 OBSERVED (DATE:) _ POTENTIAL _ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 04 NARRATIVE DESCRIPTION

No potential exists as each of the landfill sites is covered. No readings above background were noted during air monitoring with the OVA and HNu detectors during the NUS Corp. Region 2 FIT site inspection conducted on 2/26/87.

01 D. FIRE/EXPLOSIVE CONDITIONS 02 OBSERVED (DATE:) _ POTENTIAL _ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 04 NARRATIVE DESCRIPTION

The disposal areas are covered, and there were no readings above background that were detected on the air monitoring instruments. There is no past record of problems at this site, and the current conditions indicate that there is no present hazard.

01 X E. DIRECT CONTACT 02 OBSERVED (DATE:) X POTENTIAL _ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 5038 04 NARRATIVE DESCRIPTION

The entire area is unfenced and unguarded. Approximately 5038 people live within 1 mile of the site. Access to the contaminated on-site streams is not restricted. Facility residents play golf near disposal area No. 1 where leachate is present.

01 X F. CONTAMINATION OF SOIL 02 OBSERVED (DATE:) X POTENTIAL _ ALLEGED
03 AREA POTENTIALLY AFFECTED: Approx. 50 (ACRES) 04 NARRATIVE DESCRIPTION

During the NUS Corp. Region 2 FIT site inspection conducted on February 26, 1987, no soil samples were collected. The potential for soil contamination does exist since stream sediment samples were found to contain contaminants.

01 X G. DRINKING WATER CONTAMINATION Approx. 02 OBSERVED (DATE:) X POTENTIAL _ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 65,412 04 NARRATIVE DESCRIPTION

The potential exists for contamination of drinking water as there are both a number of wells and two surface water intakes within 3 miles of the site.

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

There is no history of any worker injuries due to disposal of wastes on site; however, there are no restrictions to access of the contaminated stream sediments.

01 X I. POPULATION EXPOSURE/INJURY 02 OBSERVED (DATE:) X POTENTIAL _ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 65,412 04 NARRATIVE DESCRIPTION

The potential exists for groundwater and surface water contamination. Approximately 65,412 people within 3 miles of HRPC use groundwater and surface water as their source of drinking water. Since a commercial fishery as well as a sport fishery exist in the Hudson River, consumption of fish having bioaccumulated contaminants may occur.

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

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

There was no damage to flora noted during the site inspection on 2/26/87. Potential exists for plants to bioaccumulate contaminants, which were found to have leached into the on-site stream sediments.

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

There was no damage to fauna noted during the site inspection on 2/26/87. However, fauna may bioaccumulate these contaminants.

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

If the contaminants migrate to the Hudson River via the unnamed on-site streams, bioaccumulations in river biota may occur. This region of the Hudson River is used as a commercial fishery for shad (Alosa sapidissima). Sport fishing occurs in this region of the river also.

01 X M. UNSTABLE CONTAINMENT OF WASTES (Spills/runoff/standing liquids/leaking drums) — 02 X OBSERVED (DATE: 2/26/87) _ POTENTIAL _ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

The leachate-stained soil on the northern side of disposal area No. 1 contained heavy metals. Contaminants were found in the sediments of the streams adjacent to the disposal areas.

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

No damage to off-site property was noted during the site inspection on 2/26/87.

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

There are no sewer or storm drain systems in use in the area.

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

The six old landfill areas were unfenced, and the potential for illegal dumping existed.

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

None.

III. TOTAL POPULATION POTENTIALLY AFFECTED: 65,412 through drinking water

IV. COMMENTS

None

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

Telecon Note: Conversation between F. Andros, Town of Poughkeepsie Water Dept., and P. Morton, NUS Corp., January 26, 1987.
Hudson River Psychiatric Center, Dutchess County, New York, EA Science and Technology, January 15, 1985. Site Investigation and Hazard Ranking reports.
New York State Atlas of Community Water System Sources, New York State Department of Health, 1982.
Field Notebook No. 0024, Hudson River Psychiatric Center, TDD No. 02-8611-63, Site Inspection, NUS Corp. Region 2 FIT, Edison, New Jersey, February 26, 1987.
Telecon Note: Conversation between F. Andros, Town of Poughkeepsie Water Dept., and P. Morton, NUS Corp., January 26, 1987.
U.S. EPA Contract Laboratory Program, Versar, Inc., Organics Analyses and Century Labs, Inc., Inorganics Analyses, Case No. 6889, Laboratory Analysis from NUS Region 2 FIT Site Inspection conducted on February 26, 1987.
General Sciences Corporation, Graphical Exposure Modeling Systems (GEMS). Landover, Maryland, 1986.
NYSDEC, Division of Solid and Hazardous Waste, Inactive Hazardous Waste Disposal Site Report, October 1983.
Telecon Note: Conversation between K. Hattala, NYSDEC, and A. Culmone, NUS Corp., October 3, 1988.
Sax, N.I. and R.J. Lewis, Sr. Hazardous chemicals desk reference. New York: Van Nostrand Reinhold Company, Inc., 1987.

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				The HRPC did not have any formal permits for waste disposal.
_ 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	04 TREATMENT (Check all that apply)	05 OTHER
_ A. SURFACE IMPOUNDMENT			_ A. INCINERATION	_ A. BUILDINGS ON SITE
_ B. PILES			_ B. UNDERGROUND INJECTION	Approx. 30
_ C. DRUMS, ABOVE GROUND			_ C. CHEMICAL/PHYSICAL	06 AREA OF SITE
_ D. TANK, ABOVE GROUND			_ D. BIOLOGICAL	
_ E. TANK, BELOW GROUND			_ E. WASTE OIL PROCESSING	
X F. LANDFILL	Unknown		_ F. SOLVENT RECOVERY	Approx. 740 (Acres)
_ G. LANDFARM			_ G. OTHER RECYCLING/RECOVERY	
_ H. OPEN DUMP			_ H. OTHER None (Specify)	
_ I. OTHER (Specify)				

07 COMMENTS

The HRPC is a large facility with approximately 30 buildings. Hospital buildings, police and fire departments, and 10 to 20 small houses are all present on site. The six old landfills are no longer in evidence. They are unfenced and covered with vegetation. The leachate-stained soil appears to be the result of iron staining.

IV. CONTAINMENT

01 CONTAINMENT OF WASTES (Check one)

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

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

The landfills were used for municipal and institutional waste. No known liners or collection systems were used.

V. ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE: X YES _ NO

02 COMMENTS

There are no barriers around the old landfills. The locations of all six disposal areas are easily accessible.

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

Field Notebook No. 0024, Hudson River Psychiatric Center, TDD No. 02-8611-63, Site Inspection, NUS Corp. Region 2 FIT, Edison. New Jersey, February 26, 1987.
Hudson River Psychiatric Center, Dutchess County, New York, EA Science and Technology, January 15, 1985. Site Investigation and Hazard Ranking Reports.
Telecon Note: Conversation between R. Coffey, Hudson River Psychiatric Center, and J. Mayo, NUS Corp., November 6, 1986.
NYSDEC, Division of Solid and Hazardous Waste, Inactive Hazardous Waste Disposal Site Report, October 1983.

II. DRINKING WATER SUPPLY

01 TYPE OF DRINKING SUPPLY (Check as applicable)	SURFACE	WELL	02 STATUS ENDANGERED	AFFECTED	MONITORED	03 DISTANCE TO SITE
COMMUNITY	A. X	B.	A.	B.	C. X	A. 0.7 (mi)
NON-COMMUNITY	C.	D. X	D.	E.	F. X	B. 0.9 (mi)

III. GROUNDWATER

01 GROUNDWATER USE IN VICINITY (Check one)

X A. ONLY SOURCE FOR DRINKING _ 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: Approx. 1042 03 DISTANCE TO NEAREST DRINKING WATER WELL: 0.9 (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
Approx. 15 (ft)	west	Approx.157 (ft)	62,000 (gpd)	_

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

Listed on Attachment A are the nonmunicipal community wells located within a 3-mile radius of the site.

10 RECHARGE AREA

X YES _ NO COMMENTS: The bedrock aquifer is at a shallow depth and overlain by permeable sands, gravels, and glacial till.

11. DISCHARGE AREA

X YES _ NO COMMENTS: Leachate-stained ground was observed on the north side of disposal area No. 1.

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
Small unnamed pond	Yes	On site (mi)
Two unnamed tributaries to Hudson River.	Yes	On site (mi)
Hudson River		0.5 (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	02 DISTANCE TO NEAREST POPULATION
A. 5,038 NO. OF PERSONS	B. 17,838 NO. OF PERSONS	C. 39,219 NO. OF PERSONS	0.1 (mi)

03 NUMBER OF BUILDINGS WITHIN TWO (2) MILES OF SITE	04 DISTANCE TO NEAREST OFF-SITE BUILDING
5610	0.1 (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)

The Hudson River Psychiatric Center is on the northern outskirts of Poughkeepsie. The area to the south of the property is urban in nature. The area north of the facility is more rural and sparsely populated. The Hudson River lies to the west 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) X B. RELATIVELY IMPERMEABLE (10^{-4} - 10^{-6} cm/sec) _ C. RELATIVELY PERMEABLE (10^{-2} - 10^{-4} cm/sec) _ D. VERY PERMEABLE (Greater than 10^{-2} cm/sec)

03 DEPTH TO BEDROCK	04 DEPTH OF CONTAMINATED SOIL ZONE	05 SOIL pH
0 - 23 (ft)	Unknown (ft)	Unknown

06 NET PRECIPITATION	07 ONE YEAR 24 HOUR RAINFALL	08 % SLOPE SITE SLOPE	DIRECTION OF SITE SLOPE	TERRAIN AVERAGE SLOPE
15 (in)	3.0 (in)	3.4 %	West	Not Applicable

09 FLOOD POTENTIAL

SITE IS IN 500 YEAR FLOODPLAIN _ SITE IS ON BARRIER ISLAND, COASTAL HIGH HAZARD AREA, RIVERINE FLOODWAY

10

11 DISTANCE TO WETLANDS (5 acre minimum)

ESTUARINE: A. >2 (mi) OTHER: B. >1 (mi)

12 DISTANCE TO CRITICAL HABITAT (of endangered species)

>1 (mi)

ENDANGERED SPECIES: Not Applicable

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. 0.5 (mi)	B. residential-0.1 (mi)	C. >2 (mi)	D. > 1 (mi)

14 DESCRIPTION OF SITE IN RELATION TO SURROUNDING TOPOGRAPHY

The site is on the northern outskirts of Poughkeepsie. The area to the south is urban. The area to the north of the site is more rural and sparsely populated. To the west there is a sharp drop to the Hudson River. Two unnamed tributaries to the Hudson River flow through the site.

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

Telecon Note: Conversation between F. Andros, Town of Poughkeepsie Water Dept., and P., Morton, NUS Corp., January 26, 1987.
U.S. Fish and Wildlife Service list of Endangered and Threatened Wildlife and Plants, January 9, 1985.
Three-Mile Vicinity Map based on U.S. Geological Survey Maps, 15-minute series, "Poughkeepsie Quadrangle,"1957, revised 1982; "Hyde Park Quadrangle," 1963, revised 1980; "Pleasant Valley Quadrangle," 1957, revised 1981; and "Salt Point Quadrangle," 1963.
General Sciences Corporation, Graphical Exposure Modeling Systems (GEMS). Landover, Maryland, 1986.
Simmons, E.T., I.G. Grossman, and R.C. Heath.Ground-Water Resources of Dutchess County, New York. NYSDEC Water Resources Commission, Bulletin GW-43. Albany, New York, 1961.
Uncontrolled hazardous waste site ranking system, A user's manual, 40 CFR, Part 300, Appendix A, 1986.
Telecon Note: Conversation between F. Andros, Poughkeepsie Water Dept., and A.Culmone, NUS Corp., August 18, 1988.
Telecon Note: Conversation between B. O'Neil, Hyde Park Water Co., and A. Culmone, NUS Corp., August 18, 1988.
Telecon Note: Conversation between J. Jankiewitz, Town of Lloyd Water Dept., and A. Culmone, NUS Corp., August 17, 1988.
Flood Insurance Rate Map for the Town of Poughkeepsie, New York, Panel No. 361142-0005-A, November 15, 1978.
Telecon Note: Conversation between K. Hattala, NYSDEC, and A. Culmone, NUS Corp., October 3, 1988.
Telecon Note: Conversation between B. Dibble, Dutchess County Soil Conservation Service, A. Culmone, NUS Corp., October 21, 1988.

Attachment A

Well	Well Number	Distance/ Location	Population Served
Dutch Garden Apartments	73	0.9 mi. - NW	450
Eleanor Roosevelt	76	2.3 mi. - N	200
Frantoni Villas	50	1.8 mi. - N	50
Green Meadow Trailer Court	44	2.7 mi. - N	44
Hyde Park Terrace Apartments	70	1.3 mi. - N	70
M and D Mobil Home Park	108	1.8 mi. - N	108
Valley Forge Mobil Home Park	60	1.1 mi. - NE	60
Willow Tree Park	30	1.7 mi. - NE	30
Woodfield Apartments	7	3.0 mi. - N	7
Total Population Served			1019

There are 6 private wells known to exist within 3 miles of the site.

Six wells at 3.8 persons/well = 23 persons

Well Number	Distance/ Location
83	2.5 mi. - N
98	1.9 mi. - N
104	2.8 mi. - N
105	2.6 mi. - N
204	2.9 mi. - N
218	2.9 mi. - N

Approximate number of persons served by wells:
1019 + 23 = 1042 persons

II. SAMPLES TAKEN

SAMPLE TYPE	01 NUMBER OF SAMPLES TAKEN	02 SAMPLES SENT TO	03 ESTIMATED DATE RESULTS AVAILABLE
GROUNDWATER			
SURFACE WATER	8	Organics sent to: Versar Inc. 6850 Versar Center Springfield, VA	Results Received 9/14/87
WASTE			
AIR			
RUNOFF		Inorganics sent to: Century Labs, Inc. 1501 Grandview Ave. Thorofare, NJ	Results Received 10/6/87
SPILL			
SOIL/Sediment	9		
VEGETATION			
OTHER/Blank	1		

III. FIELD MEASUREMENTS TAKEN

01 TYPE	02 COMMENTS
Air	Air monitoring was performed during all sampling activities with an OVA flame ionization detector and an HNu photoionization detector. No readings above background were noted.

IV. PHOTOGRAPHS AND MAPS

01 TYPE X GROUND _ AERIAL 02 IN CUSTODY OF NUS Corp. Region 2 FIT, Edison, NJ
(Name of organization or individual)

03 MAPS 04 LOCATION OF MAPS

X YES NUS Corp. Region 2 FIT, Edison, NJ

_ NO

V. OTHER FIELD DATA COLLECTED (Provide narrative description)

None

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

Field Notebook No. 0024, Hudson River Psychiatric Center, TDD No. 02-8611-63, Site Inspection, NUS Corp. Region 2 FIT, Edison, New Jersey, February 26, 1987.

U.S. EPA Contract Laboratory Program, Versar, Inc., Organics Analyses and Century Labs, Inc., Inorganics Analyses, Case No. 6889, Laboratory Analysis from NUS Region 2 FIT Site Inspection conducted on February 26, 1987.

II. CURRENT OWNER(S)

01 NAME	02 D + B NUMBER	08 NAME (PARENT COMPANY (If applicable))	09 D + B NUMBER
New York State/Hudson River Psychiatric Center			
03 STREET ADDRESS (P.O. Box, RFD#, etc.) Rte. 9	04 SIC CODE	10 STREET ADDRESS (P.O. Box, RFD#, etc.)	11 SIC CODE
05 CITY Poughkeepsie	06 STATE New York	07 ZIP CODE 12602	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

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
Not Applicable	
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 firs

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)

Field Notebook No. 0024, Hudson River Psychiatric Center, TDD No. 02-8611-63, Site Inspection, NUS Corp. Region 2 FIT, Edison, New Jersey, February 26 ,1987.
Hudson River Psychiatric Center, Dutchess County, New York, EA Science and Technology, January 15, 1985. Site Investigation and Hazard Ranking Reports.

II. CURRENT OPERATOR(S)

01 NAME	02 D + B Number	10 NAME	11 D + B NUMBER
Not Applicable			
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			

III. PREVIOUS OPERATOR(S) (List most recent first: Provide only if different from owner)

PREVIOUS OPERATOR'S PARENT COMPANIES (If applicable)

01 NAME	02 D + B Number	10 NAME	11 D + B NUMBER
Not Applicable			
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			

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			

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			

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

II ON-SITE GENERATOR

01 NAME		02 D + B NUMBER
Hudson River Psychiatric Center		
03 STREET ADDRESS (P.O. Box, RFD#, etc.)		04 SIC CODE
Rte. 9		
05 CITY	06 STATE	07 ZIP CODE
Poughkeepsie	NY	12602

III OFF-SITE GENERATOR(S)

01 NAME		02 D + B NUMBER	01 NAME		02 D + B NUMBER
Town of Poughkeepsie					
03 STREET ADDRESS (P.O. Box, RFD#, etc.)		04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD#, etc.)		04 SIC CODE
Court House, Main Street					
05 CITY	06 STATE	07 ZIP CODE	05 CITY	06 STATE	07 ZIP CODE
Poughkeepsie	NY	12602			

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

IV. TRANSPORTER(S)

01 NAME		02 D + B NUMBER	01 NAME		02 D + B NUMBER
Town of Poughkeepsie					
03 STREET ADDRESS (P.O. Box, RFD#, etc.)		04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD#, etc.)		04 SIC CODE
Court House, Main Street					
05 CITY	06 STATE	07 ZIP CODE	05 CITY	06 STATE	07 ZIP CODE
Poughkeepsie	NY	12602			

01 NAME		02 D + B NUMBER	01 NAME		02 D + B NUMBER
03 STREET ADDRESS (P.O. Box, RFD#, etc.)		04 SIC CODE	03 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., state files, sample analysis, reports)

Telecon Note: Conversation between R. Coffey, Hudson River Psychiatric Center, and P. Morton, NUS Corp., March 17, 1987.
Telecon Note: Conversation between R. Coffey, Hudson River Psychiatric Center, and J. Mayo, NUS Corp., November 6, 1986.
NYSDEC, Division of Solid and Hazardous Waste, Inactive Hazardous Waste Disposal Site Report, October 1983.
Hudson River Psychiatric Center, Dutchess County, New York, EA Science and Technology, January 15, 1985. Site Investigation and Hazard Ranking Reports.

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 E. CONTAMINATED SOIL REMOVED — 02 DATE: _____ — 03 AGENCY: _____
04 DESCRIPTION

No previous history.

01 F. WASTE REPACKAGED — 02 DATE: _____ — 03 AGENCY: _____
04 DESCRIPTION

No previous history.

01 G. WASTE DISPOSED ELSEWHERE — 02 DATE: _____ — 03 AGENCY: _____
04 DESCRIPTION

No previous history.

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.

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. FIRE CONTROL 02 DATE: _____ 03 AGENCY: _____
04 DESCRIPTION

No previous history.

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)

. ENFORCEMENT INFORMATION

PAST REGULATORY/ENFORCEMENT ACTION _ YES X NO

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

There is no history of any regulatory/enforcement action at this site.

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

SECTION 3

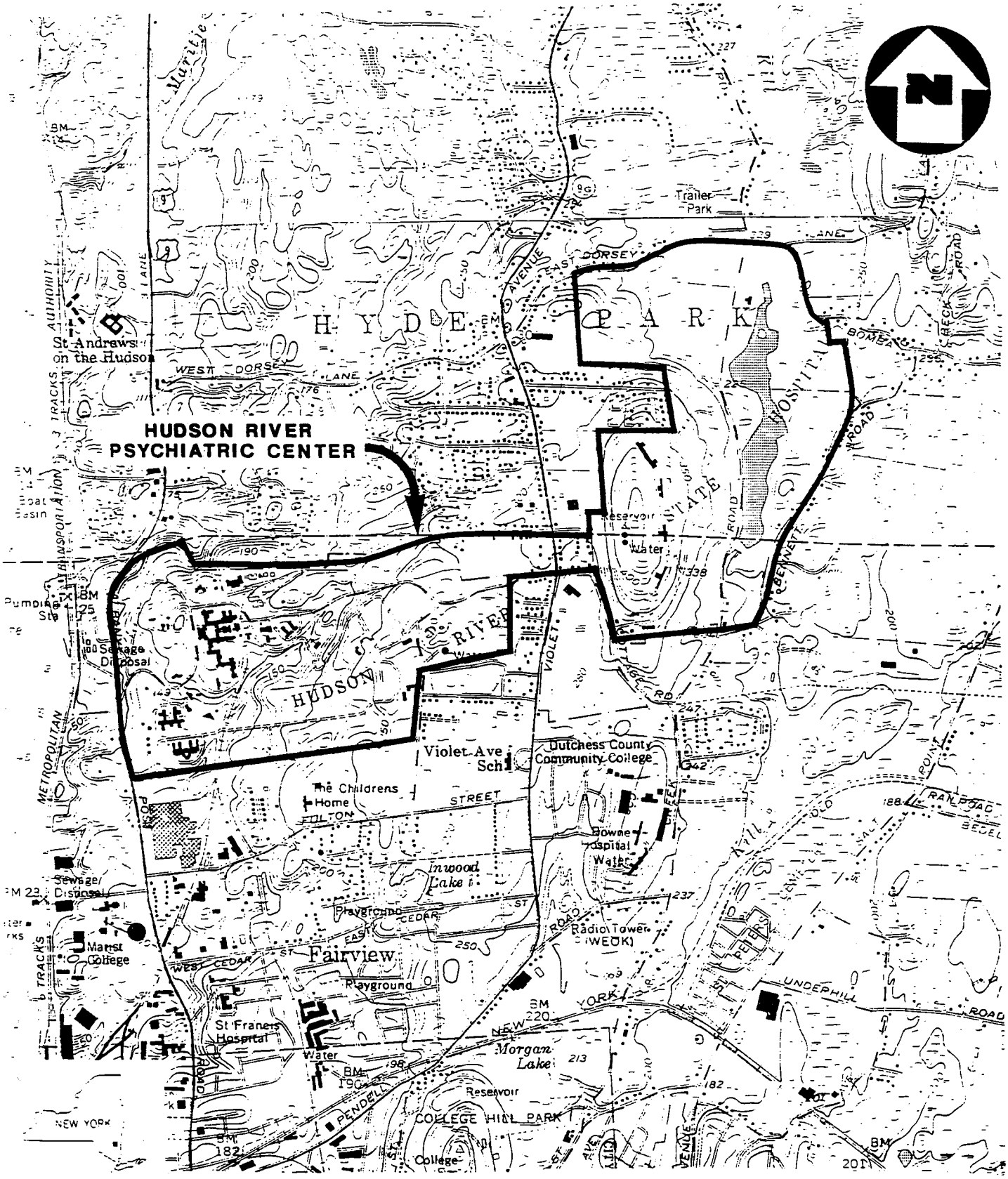
MAPS AND PHOTOGRAPHS

HUDSON RIVER PSYCHIATRIC CENTER
POUGHKEEPSIE, NEW YORK

CONTENTS

Figure 1: Site Location Map
Figure 2: Site Map
Figure 3: Sample Location Map

Exhibit A: Photograph Log



(QUAD) POUGHKEEPSIE, N.Y.

FIGURE 1

SITE LOCATION MAP

HUDSON RIVER PSYCHIATRIC CENTER

POUGHKEEPSIE, N.Y.

SCALE: 1" = 2000'

NUS CORPORATION

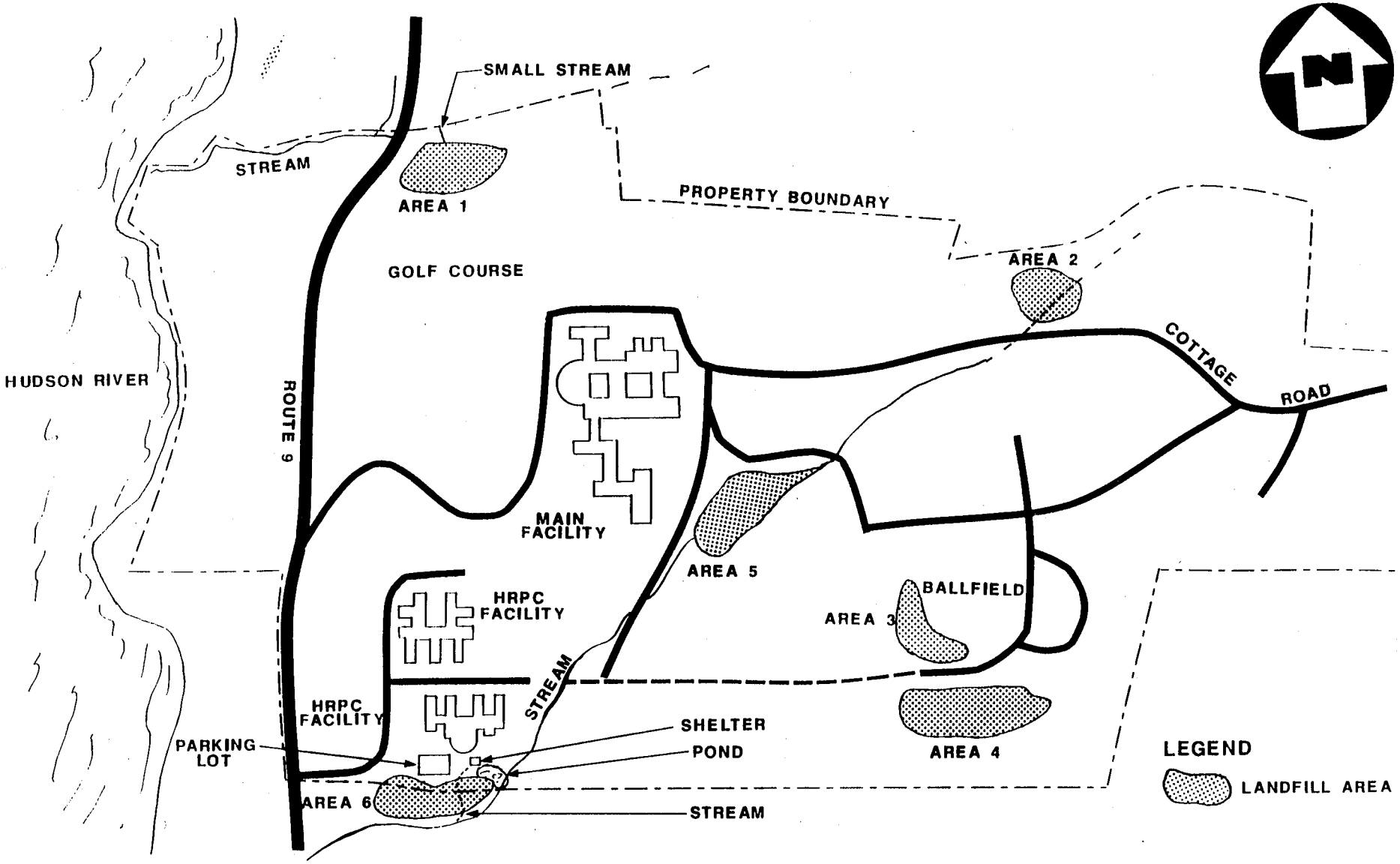


FIGURE 2

SITE MAP
HUDSON RIVER PSYCHIATRIC CENTER,
POUGHKEEPSIE, N.Y.

NOT TO SCALE

NUS CORPORATION

02-8611-63
Rev. No. 0

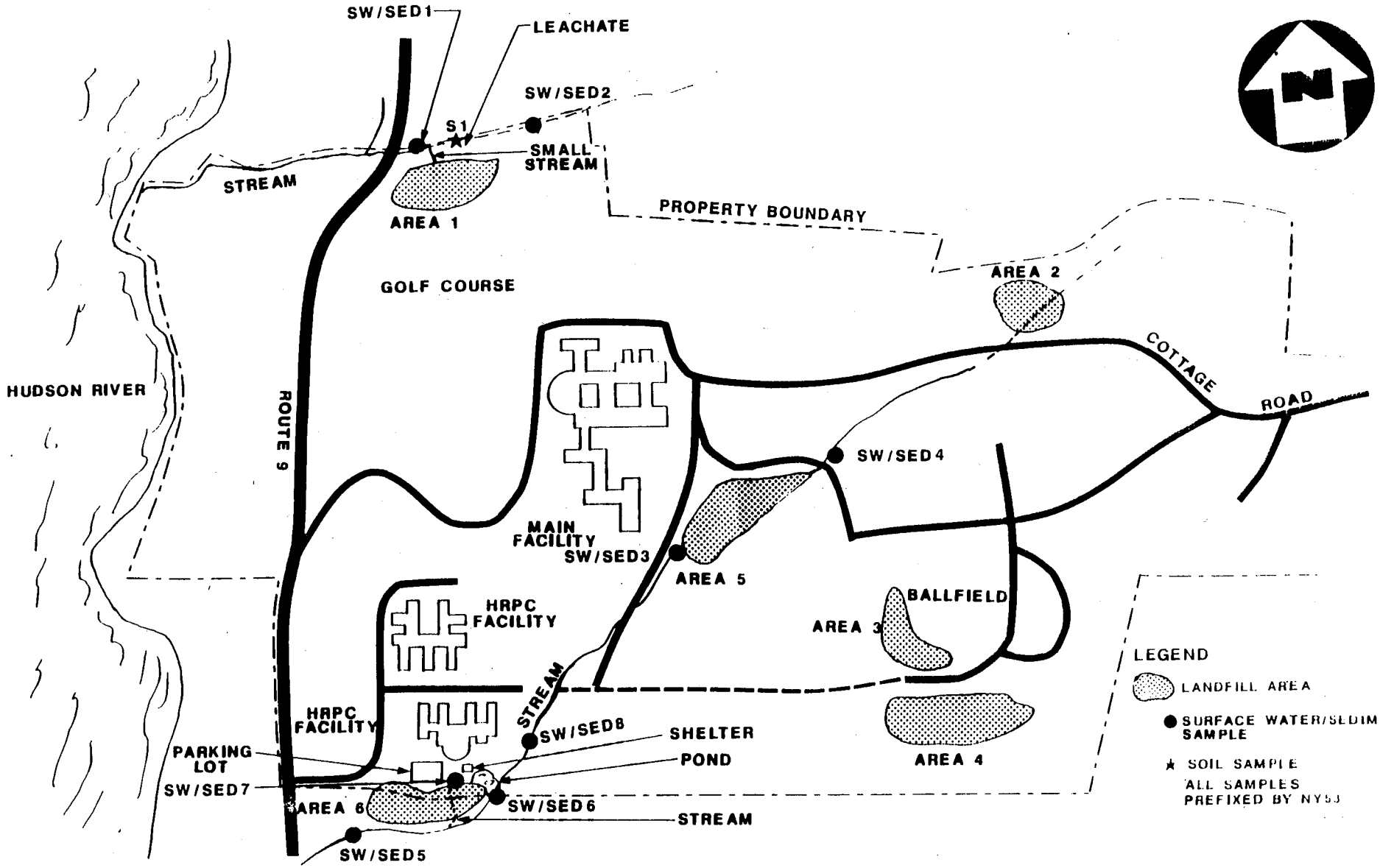


FIGURE 3

SAMPLE LOCATION MAP
HUDSON RIVER PSYCHIATRIC CENTER,
POUGHKEEPSIE, N.Y.

NOT TO SCALE

NUS CORPORATION

02-8611-63
Rev. No. 0

EXHIBIT A

PHOTOGRAPH LOG

HUDSON RIVER PSYCHIATRIC CENTER
POUGHKEEPSIE, NEW YORK

SITE INSPECTION: FEBRUARY 26, 1987

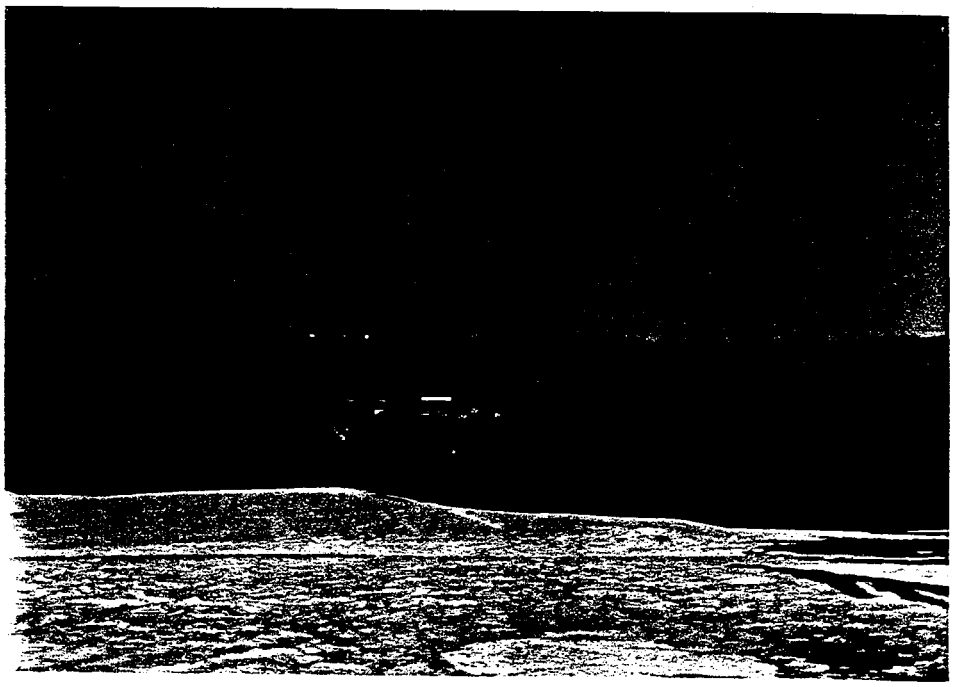
HUDSON RIVER PSYCHIATRIC CENTER
POUGHKEEPSIE, NEW YORK
TDD NO. 02-8611-63
FEBRUARY 26, 1987

PHOTOGRAPH INDEX

ALL PHOTOGRAPHS TAKEN BY PETER MORTON

Photo Number	Description	Time
1P-9	Looking west across disposal area No. 1.	1115
1P-2	Leachate discharging from northern side of disposal area No. 1.	1023
1P-3	Dan de Bruijn on level B with OVA and HNu by leachate area (no readings above background were obtained).	1021
1P-4	Dan de Bruijn collecting soil sample S-1 from area of leachate discharge.	1026
1P-5	Roberta Riccio collecting sample SW-1.	1044
1P-6	Roberta Riccio collecting sample SED-1.	1051
1P-7	Dan de Bruijn collecting sample SW-2.	1111
1P-8	Dan de Bruijn collecting sample SED-2.	1111
1P-11	Dan de Bruijn collecting sample SW-3.	1249
1P-12	Dan de Bruijn collecting sample SED-3.	1253
1P-13	Dan de Bruijn collecting sample SW-4.	1322
1P-14	Dan de Bruijn collecting sample SED-4.	1325
1P-15	Dan de Bruijn collecting sample SW-5.	1423
1P-16	Dan de Bruijn collecting sample SED-5.	1430
1P-23	Pond area where samples SW-6 and SED-6 were collected	1540
1P-18	Dan de Bruijn collecting sample SW-6.	1505
1P-19	Dan de Bruijn collecting sample SED-6.	1508
1P-24	Rusted drums adjacent to stream where SW-7 and SED-7 were collected.	1540
1P-17	Roberta Riccio collecting sample SED-7 (placard reads SW-6).	1454
1P-20	Roberta Riccio collecting sample SW-7.	1511
1P-21	Dan de Bruijn collecting sample SW-8.	1531
1P-22	Dan de Bruijn collecting sample SED-8.	1533
1P-10	Roberta Riccio decontaminating sample bottles.	1140

HUDSON RIVER PSYCHIATRIC CENTER, POUGHKEEPSIE, NEW YORK



1P-9 February 26, 1987 1115
Looking west across disposal area No. 1.
Photographer: Peter Morton



1P-2 February 26, 1987 1023
Leachate discharging from northern side of disposal area No. 1.
Photographer: Peter Morton

HUDSON RIVER PSYCHIATRIC CENTER, POUGHKEEPSIE, NEW YORK

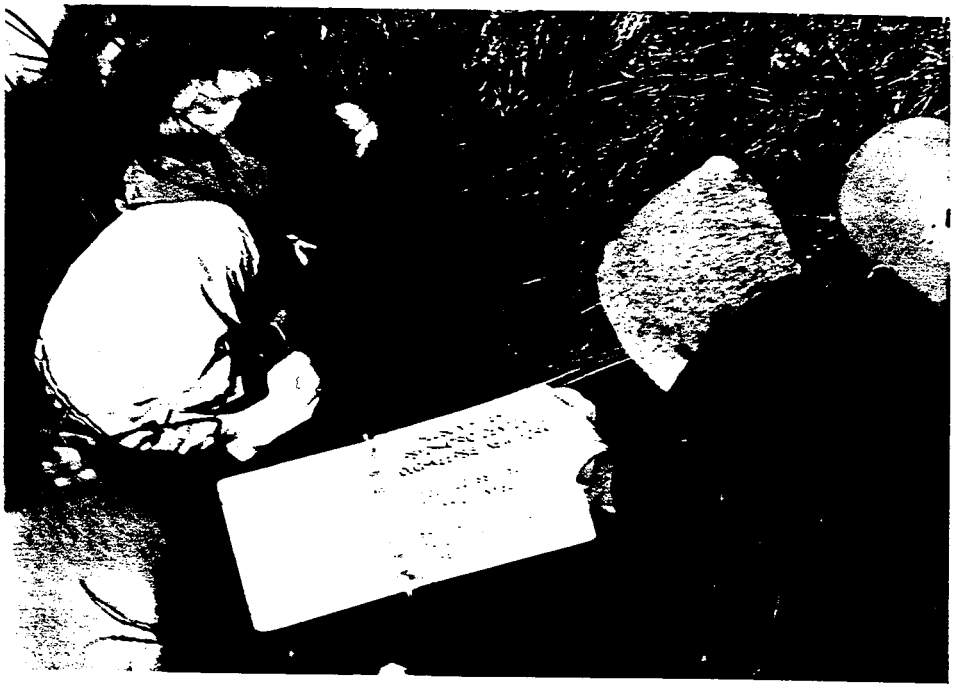


1P-3 February 26, 1987 1021
Dan de Bruijn on level B with OVA and HNu by leachate area (no readings above background were obtained).
Photographer: Peter Morton

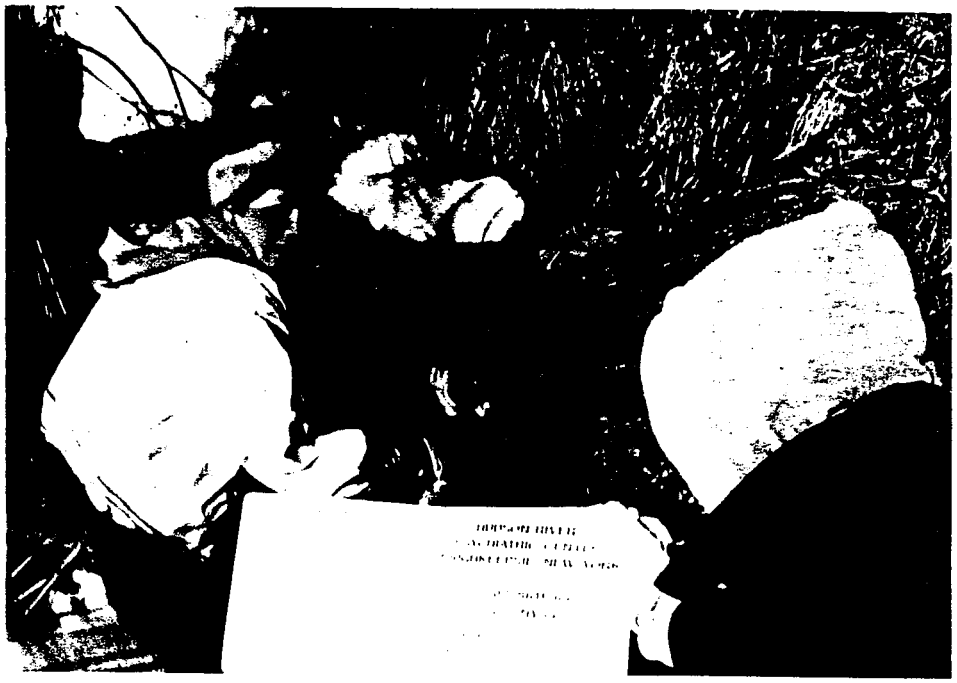


1P-4 February 26, 1987 1026
Dan de Bruijn collecting soil sample S-1 from area of leachate discharge.
Photographer: Peter Morton

HUDSON RIVER PSYCHIATRIC CENTER, POUGHKEEPSIE, NEW YORK



1P-5 February 26, 1987 1044
Roberta Riccio collecting sample SW-1.
Photographer: Peter Morton

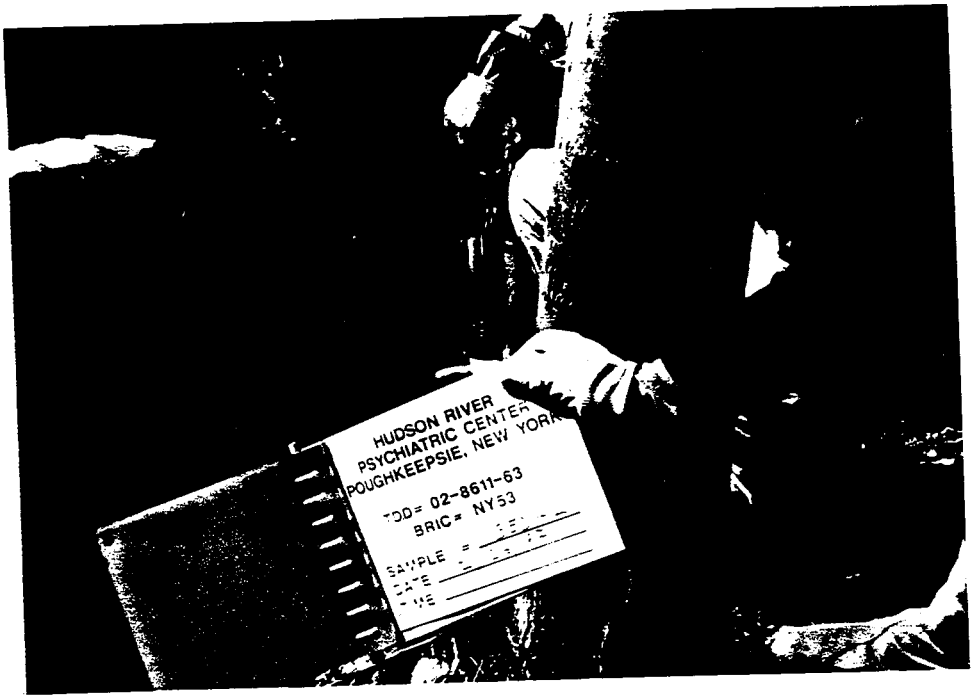


1P-6 February 26, 1987 1051
Roberta Riccio collecting sample SED-1
Photographer: Peter Morton

HUDSON RIVER PSYCHIATRIC CENTER, POUGHKEEPSIE, NEW YORK



1P-7 February 26, 1987 1111
Dan de Bruijn collecting sample SW-2.
Photographer: Peter Morton

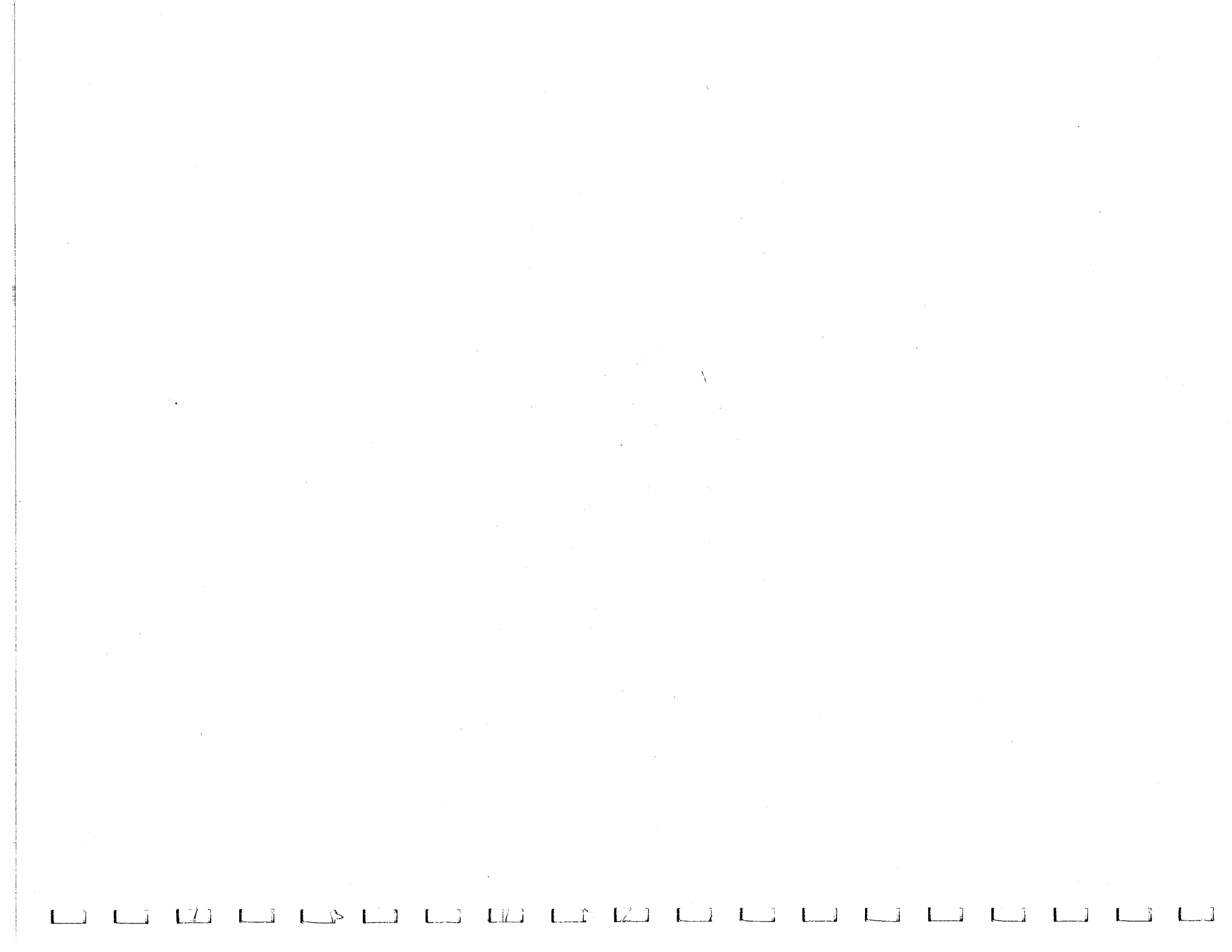


1P-8 February 26, 1987 1111
Dan de Bruijn collecting sample SED-2.
Photographer: Peter Morton

HUDSON RIVER PSYCHIATRIC CENTER, POUGHKEEPSIE, NEW YORK



1P-11 February 26, 1987 1249
Dan de Bruijn collecting sample SW-3.
Photographer: Peter Morton

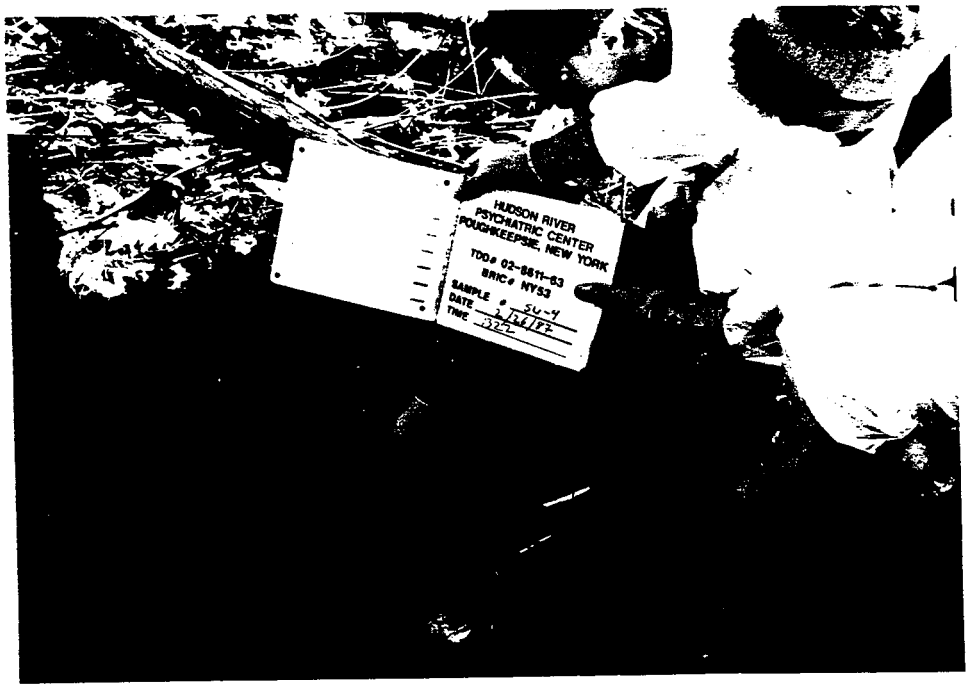


HUDSON RIVER PSYCHIATRIC CENTER, POUGHKEEPSIE, NEW YORK

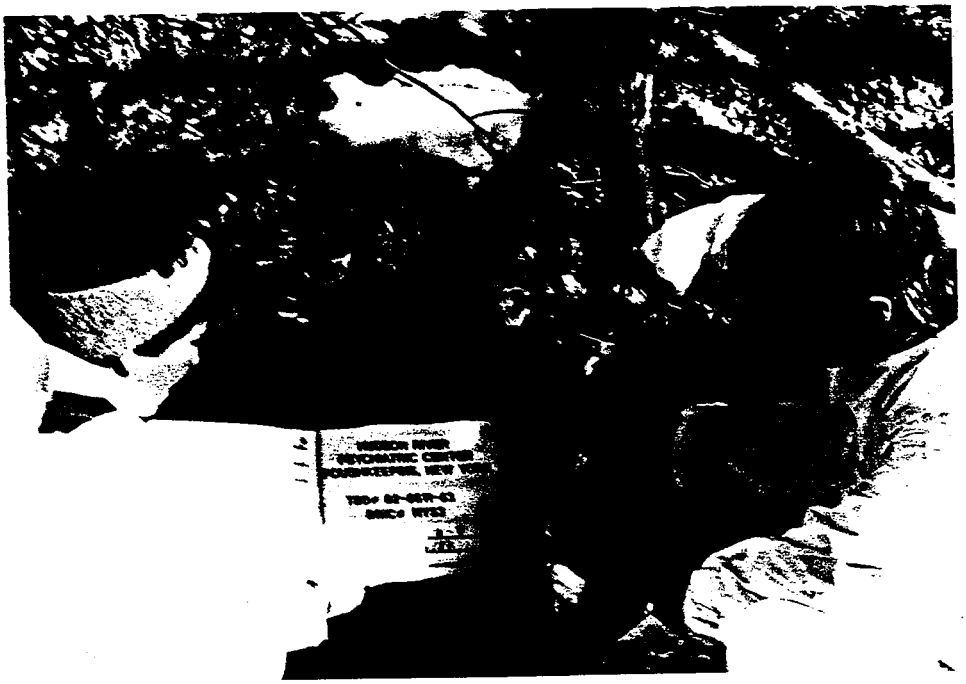


1P-12 February 26, 1987 1253
Dan de Bruijn collecting sample SED-3.
Photographer: Peter Morton

HUDSON RIVER PSYCHIATRIC CENTER, POUGHKEEPSIE, NEW YORK



1P-13 February 26, 1987 1322
Dan de Bruijn collecting sample SW-4.
Photographer: Peter Morton



1P-14 February 26, 1987 1325
Dan de Bruijn collecting sample SED-4.
Photographer: Peter Morton

HUDSON RIVER PSYCHIATRIC CENTER, POUGHKEEPSIE, NEW YORK



1P-15 February 26, 1987 1423
Dan de Bruijn collecting sample SW-5.
Photographer: Peter Morton



1P-16 February 26, 1987 1430
Dan de Bruijn collecting sample SED-5.
Photographer: Peter Morton



1P-23 February 26, 1987 1540
Pond area where samples SW-6 and SED-6 were collected.
Photographer: Peter Morton

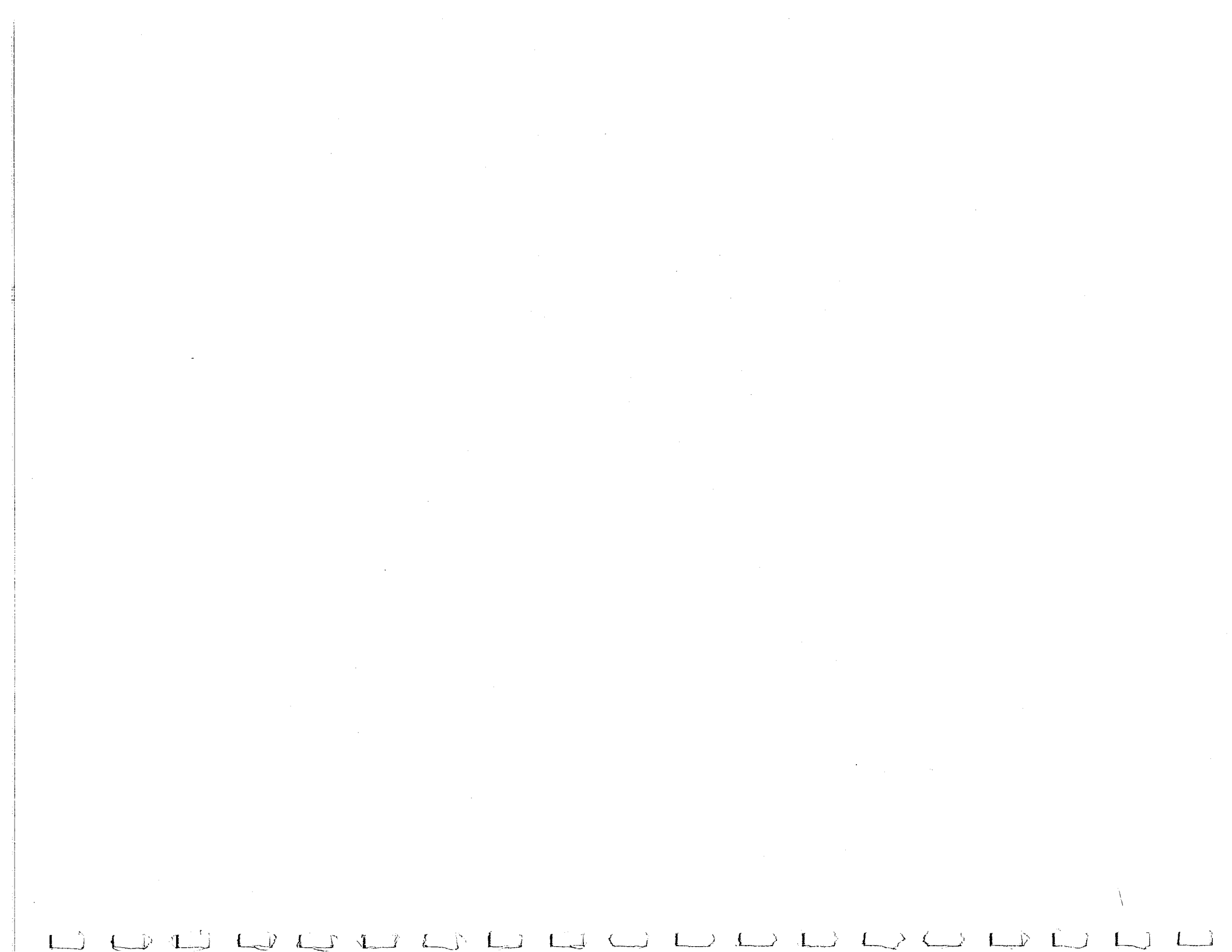


HUDSON RIVER PSYCHIATRIC CENTER, POUGHKEEPSIE, NEW YORK



1505

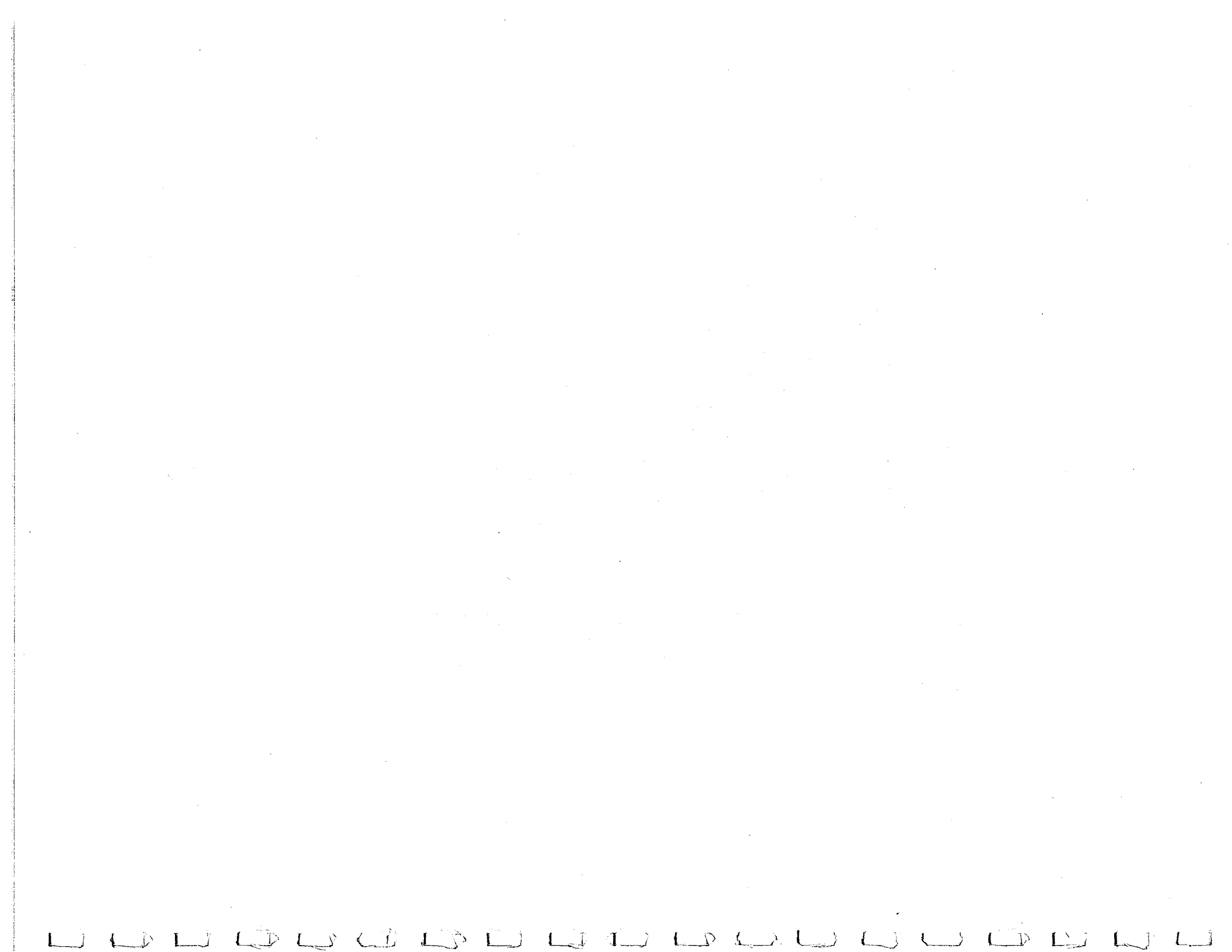
1P-18 February 26, 1987
Dan de Bruijn collecting sample SW-6.
Photographer: Peter Morton



HUDSON RIVER PSYCHIATRIC CENTER, POUGHKEEPSIE, NEW YORK



1P-19 February 26, 1987 1508
Dan de Bruijn collecting sample SED-6.
Photographer: Peter Morton





1P-24 February 26, 1987 1540
Rusted drums adjacent to stream where SW-7 and SED-7 were collected.
Photographer: Peter Morton



HUDSON RIVER PSYCHIATRIC CENTER, POUGHKEEPSIE, NEW YORK



1P-17 February 26, 1987 1454
Roberta Riccio collecting sample SED-7 (placard reads SW-6).
Photographer: Peter Morton

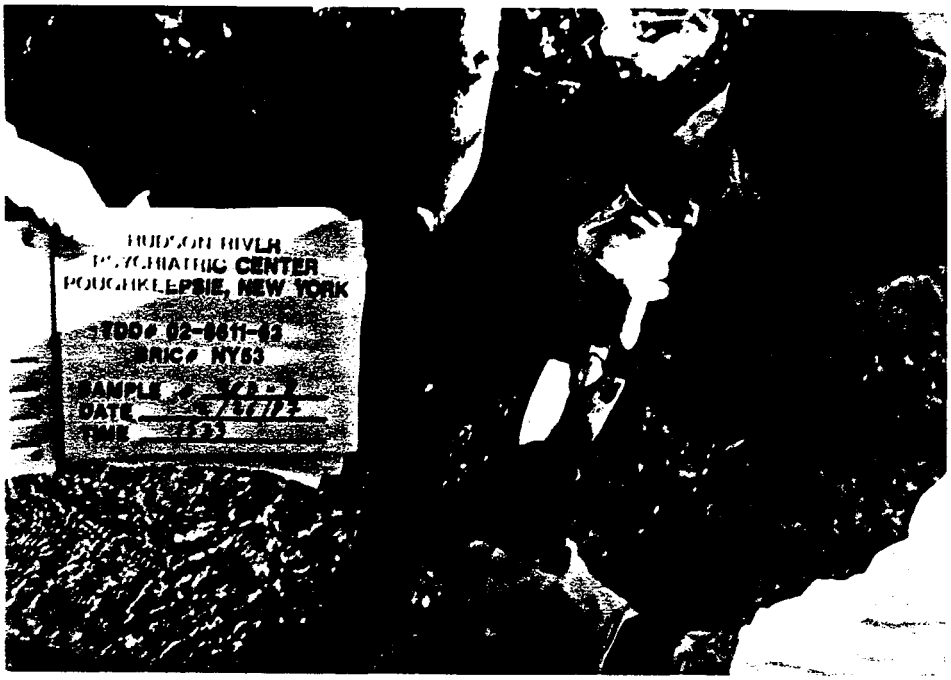


1P-20 February 26, 1987 1511
Roberta Riccio collecting sample SW-7.
Photographer: Peter Morton

HUDSON RIVER PSYCHIATRIC CENTER, POUGHKEEPSIE, NEW YORK



1P-21 February 26, 1987 1531
Dan de Bruijn collecting sample SW-8.
Photographer: Peter Morton



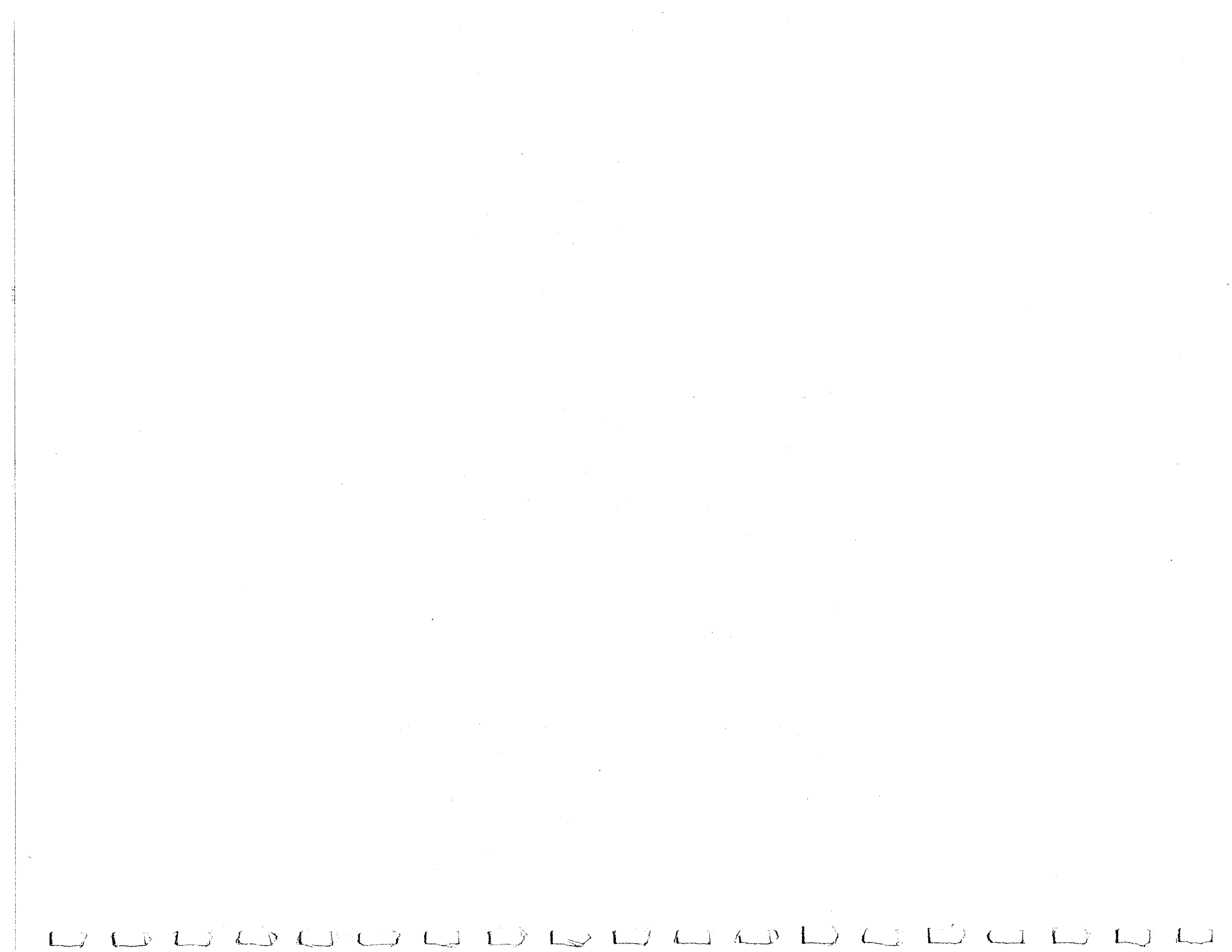
1P-22 February 26, 1987 1533
Dan de Bruijn collecting sample SED-8.
Photographer: Peter Morton



HUDSON RIVER PSYCHIATRIC CENTER, POUGHKEEPSIE, NEW YORK

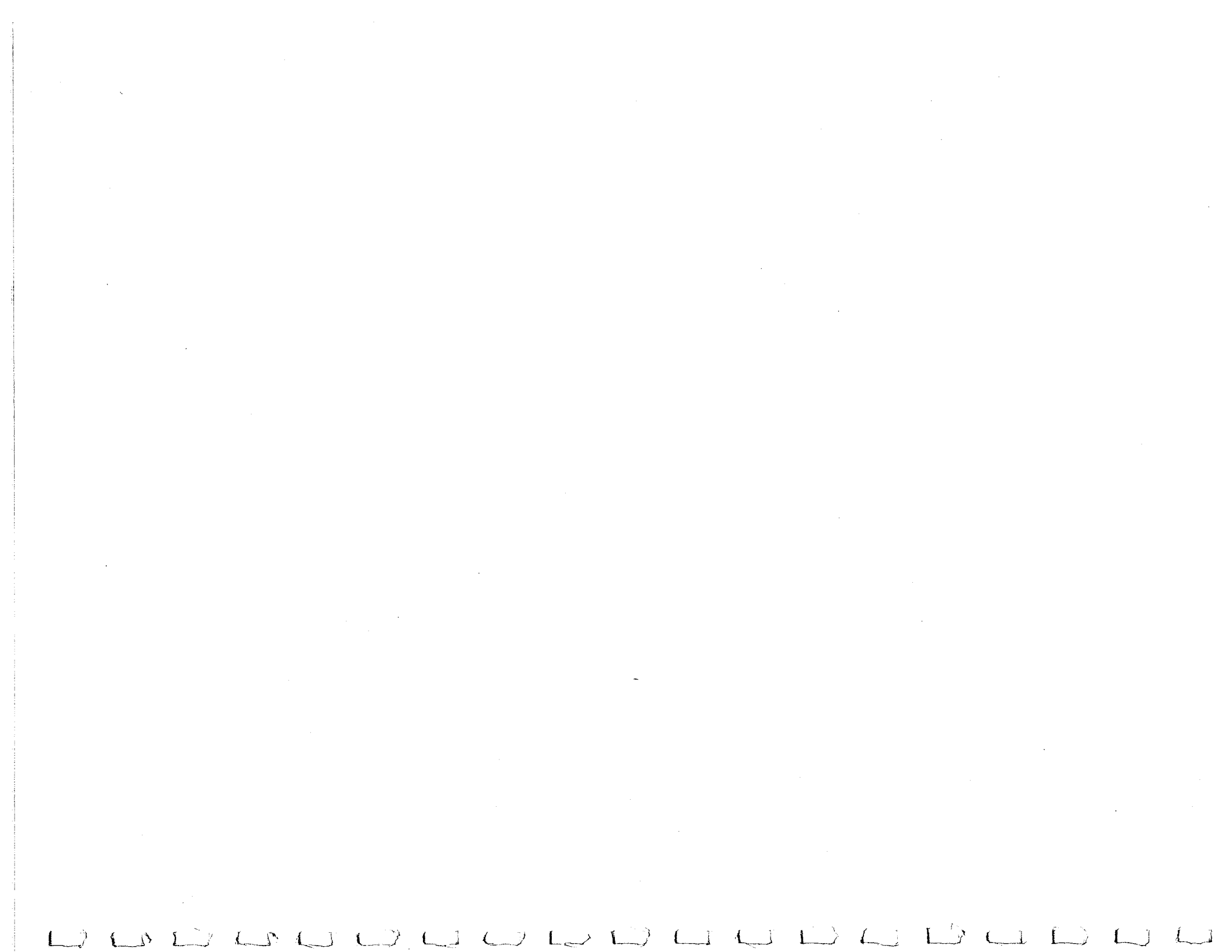


1P-10 February 26, 1987 1140
Roberta Riccio decontaminating sample bottles.
Photographer: Peter Morton



SECTION 4

BIBLIOGRAPHY OF INFORMATION SOURCES



BIBLIOGRAPHY OF INFORMATION SOURCES

	SOURCE	LOCATION
1.	Field Notebook No. 0024, Hudson River Psychiatric Center, TDD No. 02-8611-63, Site Inspection, NUS Corp. Region 2 FIT, Edison, New Jersey, February 26, 1987.	NUS Corp. Edison, NJ
2.	Uncontrolled hazardous waste site ranking system, A user's manual, 40 CFR, Part 300, Appendix A, 1986.	NUS Corp. Edison, NJ
3.	Hudson River Pyschiatric Center, Dutchess County, New York, EA Science and Technology, January 15, 1985. Site Investigation and Hazard Ranking Reports.	NUS Corp. Edison, NJ
4.	Simmons, E.T., I.G. Grossman, and R.C. Heath. Ground-Water Resources of Dutchess County, New York. NYSDEC Water Resources Commission, Bulletin GW-43. Albany, New York, 1961.	NUS Corp. Edison, NJ
5.	Telecon Note: Conversation between K. Hattala, NYSDEC, and A. Culmone, NUS Corp., October 3, 1988.	NUS Corp. Edison, NJ
6.	New York State Atlas of Community Water System Sources, New York State Department of Health, 1982.	NUS Corp. Edison, NJ
7.	Three-Mile Vicinity Map based on U.S. Geological Survey Maps, 15-minute series, "Poughkeepsie Quadrangle," 1957, revised 1982; "Hyde Park Quadrangle," 1963, revised 1980; "Pleasant Valley Quadrangle," 1957, revised 1981; and "Salt Point Quadrangle, " 1963.	NUS Corp. Edison, NJ NUS Corp. Edison, NJ
8.	Telecon Note: Conversation between F. Andros, Town of Poughkeepsie Water Dept., and P. Morton, NUS Corp., January 26, 1987.	NUS Corp. Edison, NJ
9.	U.S. Fish and Wildlife Service List of Endangered and Threathened Wildlife and Plants, January 9, 1985.	NUS Corp. Edison, NJ
10.	General Sciences Corporation, Graphical Exposure Modeling Systems (GEMS). Landover, Maryland, 1986.	NUS Corp. Edison, NJ
11.	Telecon Note: Conversation between B. Dibble, Dutchess County Soil Conservation Service, and A. Culmone, NUS Corp., October 21, 1988.	NUS Corp. Edison, NJ
12.	NYSDEC, Division of Solid and Hazardous Waste, Inactive Hazardous Waste Disposal Site Report, October 1983.	NUS Corp. Edison, NJ

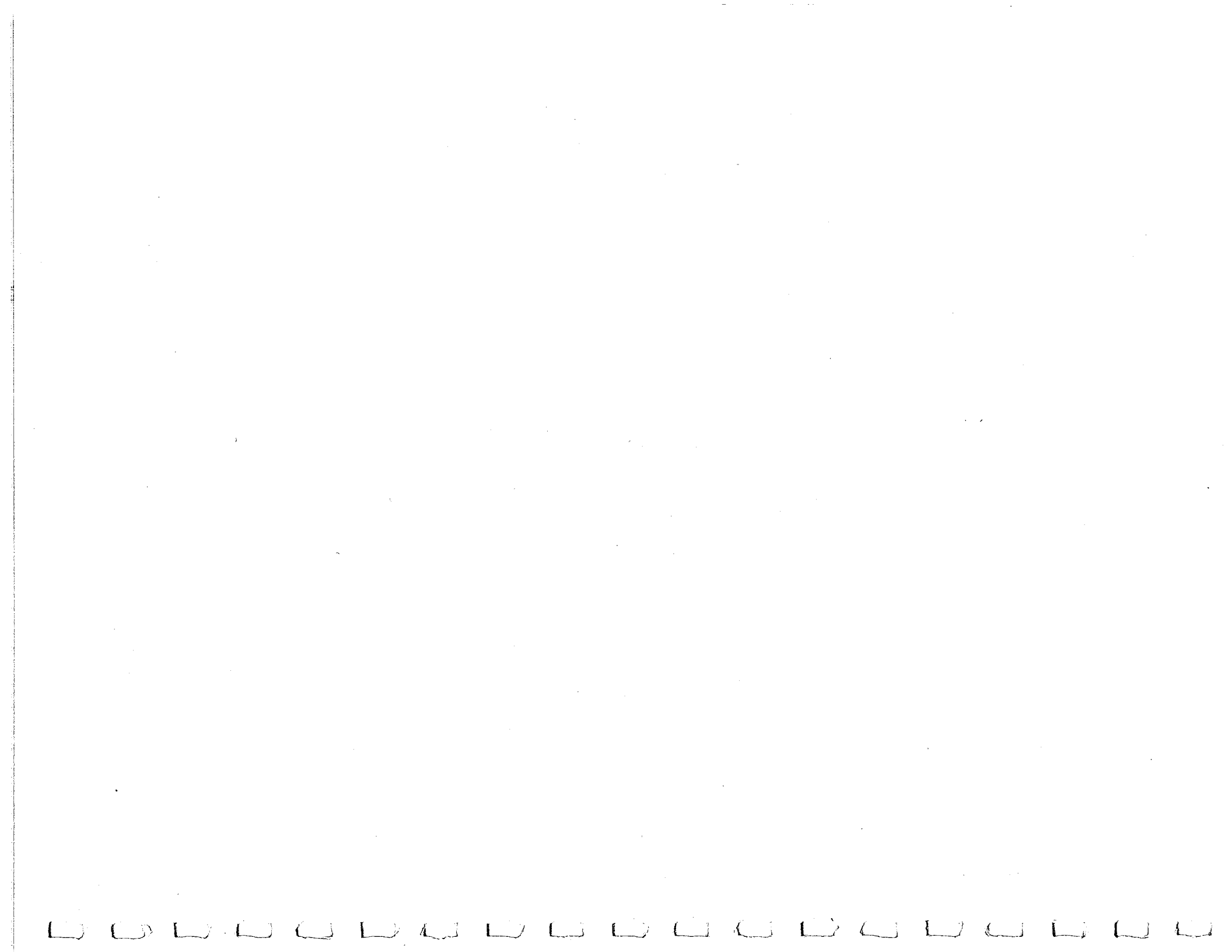


BIBLIOGRAPHY OF INFORMATION SOURCES

	SOURCE	LOCATION
13.	U.S. EPA Contract Laboratory Program, Versar, Inc., Organics Analyses, and Century Labs, Inc., Inorganics Analyses, Case No. 6889, Laboratory Analysis from NUS Region 2 FIT Site Inspection conducted on February 26, 1987.	NUS Corp. Edison, NJ
14.	Telecon Note: Conversation between R. Coffey, Hudson River Psychiatric Center, and J. Mayo, NUS Corp., November 6, 1986.	NUS Corp. Edison, NJ
15.	Telecon Note: Conversation between R. Coffey, Hudson River Psychiatric Center, and P. Morton, NUS Corp., March 17, 1987.	NUS Corp. Edison, NJ
16.	Flood Insurance Rate Map for the Town of Poughkeepsie, New York, Panel No. 361142-0005-A, November 15, 1978.	NUS Corp. Edison, NJ
17.	Telecon Note: Conversation between J. Jankiewitz, Town of Lloyd Water Dept., and A. Culmone, NUS Corp., August 17, 1988.	NUS Corp. Edison, NJ
18.	Sax, N.I. and R.J. Lewis, Sr. Hazardous chemicals desk reference. New York: Van Nostrand Reinhold Company Inc., 1987.	NUS Corp. Edison, NJ
19.	Telecon Note: Conversation between F. Andros, PoughKeepsie Water Dept., and A. Culmone, NUS Corp., August 18, 1988.	NUS Corp. Edison, NJ
20.	Telecon Note: Conversation between B. O'Neil, Hyde Park Water Co., and A. Culmone, NUS Corp., August 18, 1988.	NUS Corp. Edison, NJ

SECTION 5

PRESS RELEASE SUMMARY



SUMMARY STATEMENT

The Hudson River Psychiatric Center (HRPC) is located in Poughkeepsie, Dutchess County, New York. The site lies along the northern edge of this urbanized community. The land to the north and east is rural in nature. The western border is the railroad right-of-way along the Hudson River. The facility is owned and operated by the State of New York and occupies approximately 740 acres.

HRPC has six inactive landfill sites that were used between 1950 and 1979 by the Town of Poughkeepsie for municipal waste. HRPC disposed of its institutional wastes on site for approximately 100 years. There are no records of any hazardous wastes ever having been disposed of at any of these sites.

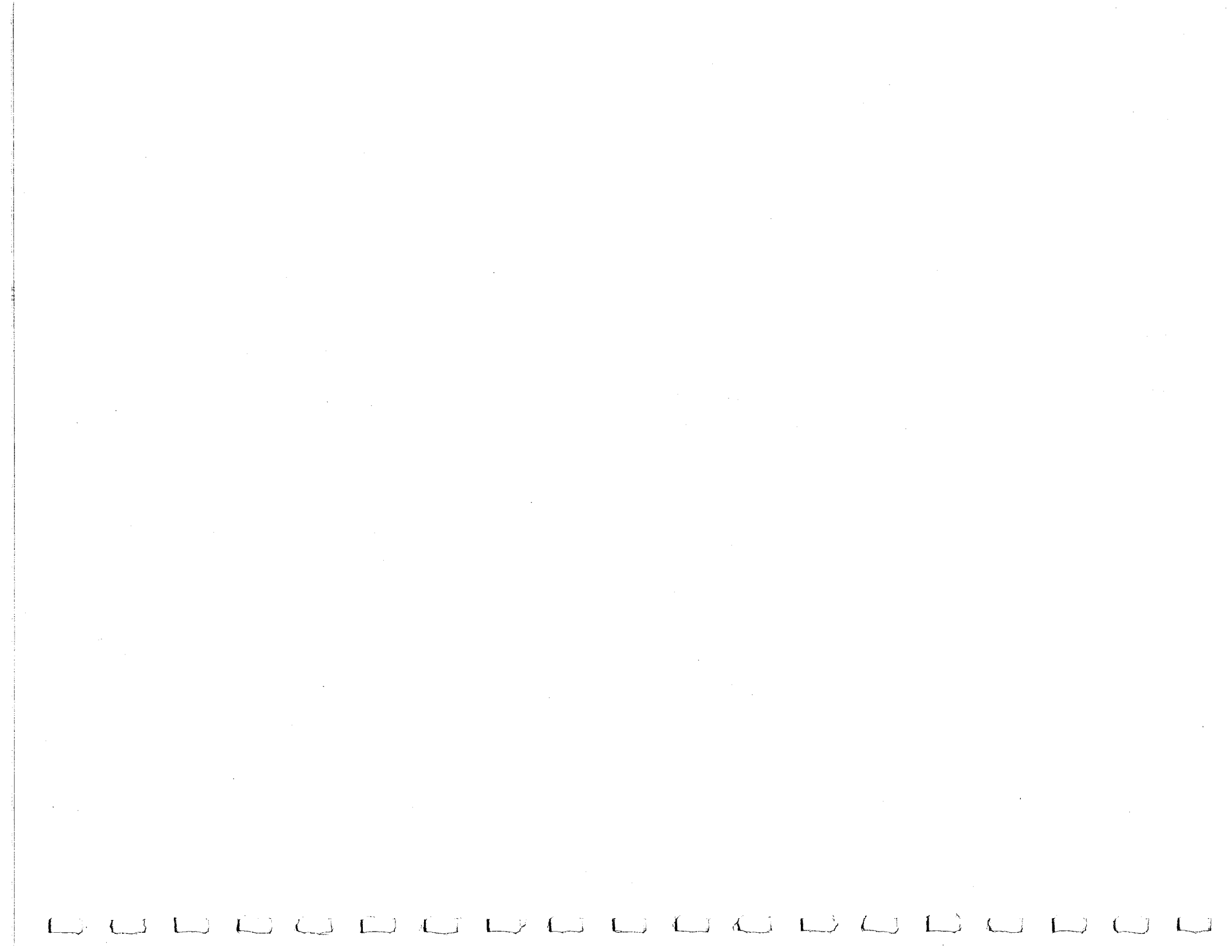
Each of the landfills is located primarily in lowlands with streams running through or along disposal areas 1, 2, 5, and 6. These streams are tributaries of the Hudson River. The Municipality of Poughkeepsie and Town of Lloyd have a surface water intakes nearby in the Hudson for the public water supply. Also, there are a number of nonmunicipal community and private wells in the area.

A site inspection was conducted at the HRPC on February 26, 1987. During the site inspection eight surface water samples were collected with corresponding sediment samples and one leachate sample. Analytical results indicate the presence of a polychlorinated biphenyl (PCB), pesticides, polynuclear aromatic hydrocarbons (PAHs), cadmium, and silver. There is no record of any remedial or enforcement actions being conducted at this site.



SECTION 6

BACKGROUND INFORMATION



REFERENCE NO. 1

NUS CORPORATION

II

0024

HUDSON RIVER PSYCHIATRIC CENTER
TDD# 02-8611-63
PROJECT MANAGER - PETER E MORTON
LOGBOOK 0024
FEBRUARY 3, 1987

GUIDANCE FOR PROPER USE OF LOG BOOKS

Purpose

- Serves to document onsite activities and be understandable to an outside
- A person not present when field activities were being documented should read

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 satisfied 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 form 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.

2-SDV-53

Table of contents

Hudson River Psychiatric Center

Description | Page

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Site inspection activities	8-16
Sample Summary	20
Photolog	30

Peter Morton 3/2/87 RR 3/3/87

02-8611-63

2-17-87

Hudson River Psychiatric center
Site reconnaissance

NUS Personnel

Peter Morton - Project manager
Ross Dimmick - Site ~~safety~~ officer
Roberta Riccio - Assist witness observations
made

The following NUS ~~personnel~~ personnel have read and understood the copy of the work/safety plan:

Name	Signature
Peter Morton	I wrote it
Ross Dimmick	Ross A Dim
Roberta Riccio	Roberta Riccio

1025 Arrive on site meeting with Bill Sleight and John Horton of HRPC
Mr. Horton will take us around site

weather conditions - ~10° F ~~low~~ 14 brisk breeze from NE clear sunny

1045 [illegible] small run stream
Collect background flowing towards stream -
soil sample

Peter Morton 2-17-87 Ross A Dim 2/17/87 SA

02-8611-63 2-17-87

1055 Small stream with ; area 1 looks like 2 5w samples will be possible [illegible] [illegible]

1105 Area 2 [illegible] the stream, with dark area of stones in big pot, tree trunks. Snow cover is too great to see any stained soil or limonite. Area below looks like it is probably a wet area in stream in summer time, but it is now covered over. Even small stream is unsampleable in these samples present - no sample locations in this area

2 drums noted one empty one upside down - R. Dimmick obtained no readings above background w/ OVA, no sample localities noted

1133 John Horton shows us the location of the other sites and leaves us by area 5.

R Dimmick setting OVA ready, we will look at 5 then return for 3 and 4. Area 6 is now a parking lot & Hicks has HNu ready also

1140 heading out to area 5

Pete S. Morton 2/17/87
2-17-87

02-8611-63

2-17-~~78~~ 87

PM

1150 At confluence unnamed stream with [illegible] stream
[illegible] stream water [illegible]
[illegible] with silty [illegible] stream water, ~ 2 inch deep
S.S. ~ 100% of DVA water on this water [illegible]
[illegible] bottom in breathing zone
- See soil sample sheet
Rushes + cattails cover the site

No readings above background in air probes around
confluence

At upstream and downstream sites, SW sample
will need to be filtered using syringe with filter
discs - see soil sample - upstream sed
would double for sample

1205 AT road at far end of T, heading back to
Silverton

1215 Back at Swinging Bridge.
HNu appears to be dead (not responding to exhaust)
A. Riccio packing it away

1225 Parked Suburban at Parking lot above areas 3+4

1233 Empty metal tank in area (6' x 2' diam)
no readings in tank. Float, now covered [illegible].
bottle of water - No readings on OVA

Peter T. Morton 2-17-87

2/17/87

56

02-8611-G3 2-17-87

Exit area 3 - long first pile (as) dum-
mies as install outfall and signal. Walking
into, use with backhoe if wet, water for
wires

1303 Back at subdivision. No sample locations or
anything else of note at either area. No notable
sample areas or drainage. ~~4 sets~~ pm

We will proceed now to area 6, the last of the
landfills.

1319 At parking lot by area 6

One surface water sample in this stream just outside
Exit 9 (see map on p. 7)
Small flowing stream (too small for water well sample
and sample) from north into stream running
E-W past area 6

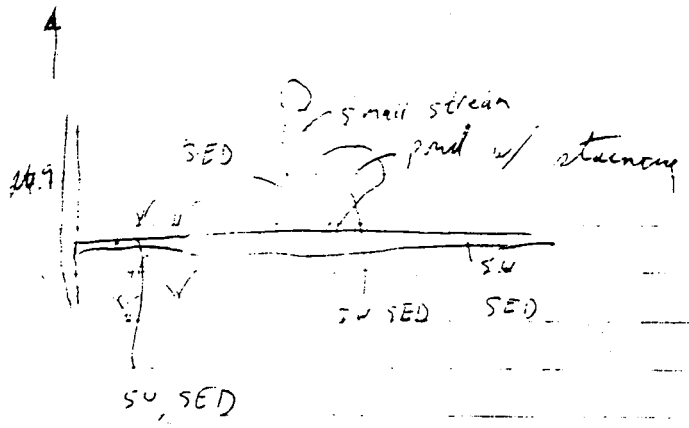
Two pairs of storm manholes just
East of power facility - See SED Sample
- Bring Scoop

No readings

(No equipment SW SED)

Peter S. Morton - 1407 Robert C. Ford 2/17/87

D2-P611-63 2-7-87



1356 The area around area 6 is buried w/ snow
There was some staining ("iron") in water and sed
in pond (see map) small stream feeding from North
is too small for water sample, we'll take sed anyway

1359 Leaving site

Pete T. Morton 2-17-87 Lee [illegible] 2/17/87

-/20/87

Site inspection
Hudson River Psychiatric Center - NY53

NUS Personel

Peter Morton	Project Manager
Gary Bielen	Site Safety officer
Jane Bullis	Sample Management
Roberta Riccio	Sampler
Dan deBruijn	Sampler
John Ducar	Assist where needed, assist SMO

The following NUS Personel have read and understood aspects of the Work/Safety Plan:

Name	Signature
Gary Bielen	Gary Bielen
Jane Bullis	Jane Bullis
Roberta Riccio	Roberta Riccio
Dan deBruijn	Dan deBruijn
John Ducar	John Ducar

Peter Morton 2/26/87 Roberta Riccio 2/26/87

weather condition - sunny, cloudless sky, temp - ~~32°~~ 30°. no wind

455 Arriving on site, J. Bullis and J. Dixon will set up Xenon in parking lot by main gate. I'm/we going to meet with Bill Speight

905 At Bill Speight's office, I told them we'll be ready to start in about 20 minutes

910 Back at Xenon (main gate) Xenon is set up, R. Riccio and D. de Bruijn are getting suited up (Saranex, Latex boot covers, C&C gloves)

G. Bielen firing up air monitoring instruments

925 G. Bielen giving tailgate safety meeting

935 Cameras ready, we will now go back and meet with John Horter

950 Arrive at area 1, really we don't have travels

1010 Back at area 1

Pete Horter 2/26/97 R. Riccio 2/26/97

60

1020 D. & B rings on arm to disturb leachate and take air readings - No readings

SCBA # 307171

2 Riccio set air readings before ground was disturbed

1023 D. & off air

Photos 1 and 2 of leachate
3. D&D on arm w/ HNu OVA } Photo #1 was overlook looking west over area I forgot to note at PSH 3/9/87

#4 D&D collecting S-1 on level D. S-1 collected from leachate (appears iron stained) discharging from northern edge of disposal area #1

1038 We're down at stream below area 1, G. Bielen is monitoring air above stream

2 Riccio will collect SW-1, downstream sample below area 1

1044 PM Photo #4 & 5 R Riccio collecting SW-1
No air readings

Photo. monitor
2/26/87 PR 2/26/87 61

New York State
Department of
Environmental Conservation

SHAMINDER P. SINGH
Sanitary Engineer
Bureau of Hazardous Site Control
Division of Solid and Hazardous Waste

21 South Putt Corners Road
New Paltz, NY 12561

(914) 255-5453

16

02-561-65 2/26/87

1051 Photo #16 R Riccio collecting Sed 1
No readings

255-5453

SW-1, SED 1 were collected in downstream end of where small stream ~~stream to water~~ pm
drainage area 1 enters stream flowing north of area 1

1108 We'll collect upgradient sample upstream by north of corrugated steel drainage that stream flows through - 2nd C.S. drainage ~~from small~~ upstream from ~~feeder stream upstream direction~~ garage parking lot RR: RC

1111 Photo #17 pm
Dd collecting SW-2, SED 2
No readings

Photo #18 pm SED 2

1113 Shaminder Singh } NYDEC arrive on-site
Milton Samsuchl }

1130 Back at base with samples
L Gruendyke on site for safety audit
Jamie Fiedler

Peter Rotton RR 2/26/87
2/26/87

82-5611-63 2/26/87

1210 Note II #9 & Ricco decon'ing sample bottle

1150 P Porter, R Ricco, C Creisling leave decon to go find rest room facilities

The rest of the crew stays decon'ing samples and preparing for next sample collection

1220 Preparing to leave decon area to collect SW3/SED3 and SW4/SED4 in area 5

1230 P Porter, G Bieber & Ricco D deBruijn, C Creisling at parking area above area 5

D. deBruijn going on air to go down and monitor air

SW4 = 3.7171

1236 D. deBruijn on-air

1241 DD reports no readings of disturbed sediment at downgradient locale

1242 DD off air

Heading up to truck for sample bottles

Peter Porter RR 2/26/87
2/26/87

CA

92-8011-63 2/26/87

1249 photo # 9 (PM) Dd collecting SW-3

The OVA which just went in no longer working

SW-3 was collected 10' upstream from where stream draining area 5 passes through culvert and grate and leaves area

The OVA has been repaired

No readings above background

1310 At upgradient location of area 5, on upstream side of road

Dd will go on air

SCBA # 30717

1316 Dd on air

no readings w/ OVA, HNu

1320 Dd off air

1322 Photo # 10 (PM 11) Dd collecting SW-4, no readings

1324 photo # 11 (PM 12) Dd collecting SED-4, no reading.

No readings on sediments

1335 Finished SW-4, back to decon. DEC people have left site.

Pete Norton

2/26/87 RR 2/26/87

65

2/26/87

52-861-63

1344 Back at dixon with samples SW3/SED3 SW-/SED4

1347: decontaminating samples

1410 Photos & Ricco doing recon for next sample to be collected at area 6

1418 D/C on-site, 307.71

No readings above background

1421 D/C off site

1423 Dd collecting SW5, Photo # 12-13 (PM) SW5 collected due south of bend in HRPC driveway by main gate

1431 Dd collecting SED5, Photo # 13 (PM)

1445 back at dixon w/ samples

1450 going for SW6/SED6 and SW7/SED7

1452 C/A out of gas. will not HMa

Placard redo SED6 PM SW-6

1454 Ricco collecting SED7, Photo # 14-15 (PM) collected from small feeder stream, SW of pic nic shelter, remains of 3 or 4 old drums found resting over bank - photo of hole left after sampling

Pete S. Norton RR 2/26/87

2/26/87

66

1503 Dd collecting SW 6 from small pond to the northeast side of pit via shelter

1505 Photo # 16 PM, no HNu readings

1507 Dd collecting SED 6, Photo # 17 PM

1511 A Ricco collecting SW 7, Photo # 18 PM

1524 No readings on HNu at SW-8 150' upstream from pit via shelter

1531 Dd collecting SW-8, Photo # 19 PM

1533 Dd collecting SED-8, Photo # 20 PM

1540 Used remaining photos (only 2 left, I've neglected to note a couple of uses apparently) to photograph pond by SW-6 and dd marked shores by SW-7 PM

1542 Back at decon all samples are decontam, J Bagley + T Duncan are finishing up SW 6, R Ricco DD GB cleaning up site GB packing away SCBA's

RR 2/26/87

Peter S. Morton
2/26/87

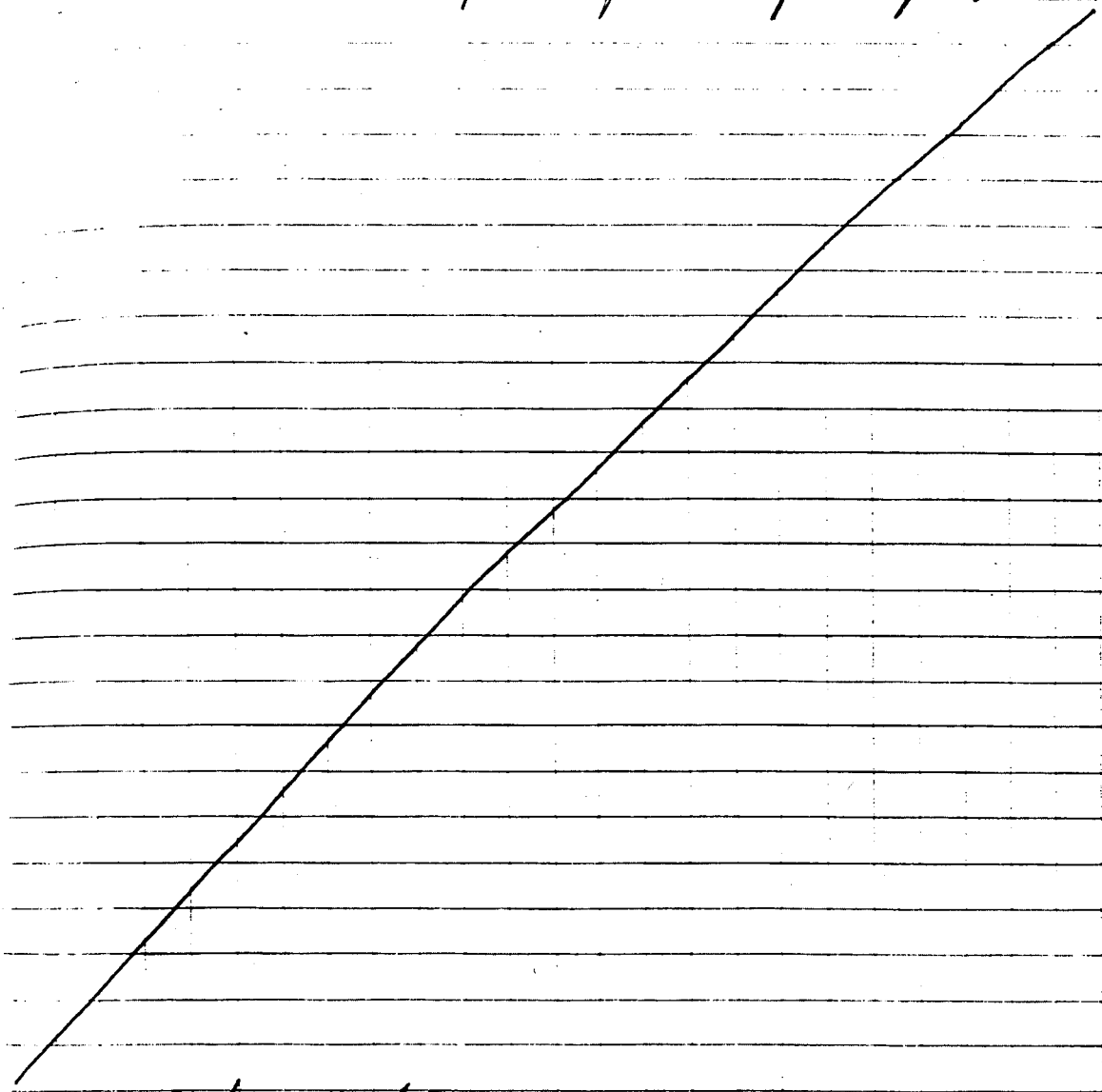
02-8611-63 2/26/87

1555 - All samples packed and being transferred to Suburban

1557 - Garbage generated has been bagged and disposed of in HRPC dumpsta

1558 - Leaving site for Holiday Inn

1705 - Federal Express picked up samples



Peter S. Norton RR 2/26/87
2/26/87

Sample Summary

Case # 6889

Airbill #	49516 4935	49516 4773
NUS Sample #	Organic	Inorganic
SW-1	BI 976	MBI 475
SW-2	BI 977	MBI 476
SW-3	BI 978	MBI 477
SW-4	BI 979	MBI 478
SW-5	BI 920	MBI 479
SW-6	BI 981	MBI 480
SW-7	BI 982	MBI 481
SW-8	BI 983	MBI 482
SED-1	BI 968	MBI 467
SED-2	BI 969	MBI 468
SED-3	BI 970	MBI 469
SED-4	BI 971	MBI 470
SED-5	BI 972	MBI 471
SED-6	BI 973	MBI 472
SED-7	BI 974	MBI 473
SED-8	BI 975	MBI 474
S-1	BI 967	MBI 466
Blank	BI 984	MBI 483

Organics sent to: Versar Inc.
6850 Versar Center
Springfield, VA. 22151
Attn: Charlie Carter

Inorganics sent to: Century Labs Inc.
1501 Grandview Ave.
Thorofare, N.J. 08086
Attn: Ken Bond

Peter Porter 3/2/87 RR 3/3/87

~~PM Photo # Print #~~

Photo #	frame Print #	Time	De
1	1	1023	
2	2	1023	
3	3	1027	D.
4	4		D:
5	5	1044	R.
6	6	1051	R
7	7	1111	D
8	8	1111	D
9	10	1140	A
10	11	1249	D
11	PM ~~12~~ 13	1327	D
12	PM ~~13~~ 14	1328	D:
13	PM ~~14~~ 15	1423	D
14	16	1431	D.
15	17	1454	A
16	18	1505	D
17	PM ~~18~~ 19	1508	D
18	20	1511	D
19	21	1531	
20	22	1533	

02-8611-65 2/26/87

Hudson River Psychiatric Center

PHOTOLOG

All photographs taken by Peter Morton, prints and slides taken of all shots

Time#	Description
1023	Photographs of leachate discharging from northern side of disposal area #1
1023	
1327	Dan deBruijn on level B with OVA and HNu by leachate
	Dan deBruijn collecting sample S-1
1044	R. Riccio collecting sample SW1
1051	R. Riccio collecting sample SED1
1111	D. deBruijn collecting sample SW2
1111	D. deBruijn collecting sample SED2
1140	R. Riccio decontaminating sample bottles
1249	D. deBruijn collecting SW3
1327	D. deBruijn collecting SW4 ← SED 3 collected by DCL
1328	D. deBruijn collecting SED4
1423	D. deBruijn collecting SW5
1431	D. deBruijn collecting SED5
1454	R. Riccio collecting SED7 (placard reads ~~SED~~ SW 6) PA
1505	D. deBruijn collecting SW6 (placard ~~TU-6~~)
1508	D. deBruijn collecting SED6 ~~(placard "SED6")~~ PA
1511	R. Riccio collecting SW7
1531	D. deBruijn collecting SW8
1533	D. deBruijn collecting SED8

71

RR 3/3/87 Peter Morton 3/2/87

REFERENCE NO. 2

Uncontrolled Hazardous Waste Site Ranking System

A Users Manual
(HW-10)

Originally Published in
the July 16, 1982, *Federal Register*

United States
Environmental Protection
Agency

1984

Distance	Assigned Value
>150 feet	0
76 to 150 feet	1
21 to 75 feet	2
0 to 20 feet	3

Net precipitation (precipitation minus evaporation) indicates the potential for leachate generation at the facility. Net seasonal rainfall (seasonal rainfall minus seasonal evaporation) data may be used if available. If net precipitation is not measured in the region in which the facility is located, calculate it by subtracting the mean annual lake evaporation for the region (obtained from Figure 4) from the normal annual precipitation for the region (obtained from Figure 5). EPA Regional Offices will have maps for areas outside the continental U.S. Assign a value as follows:

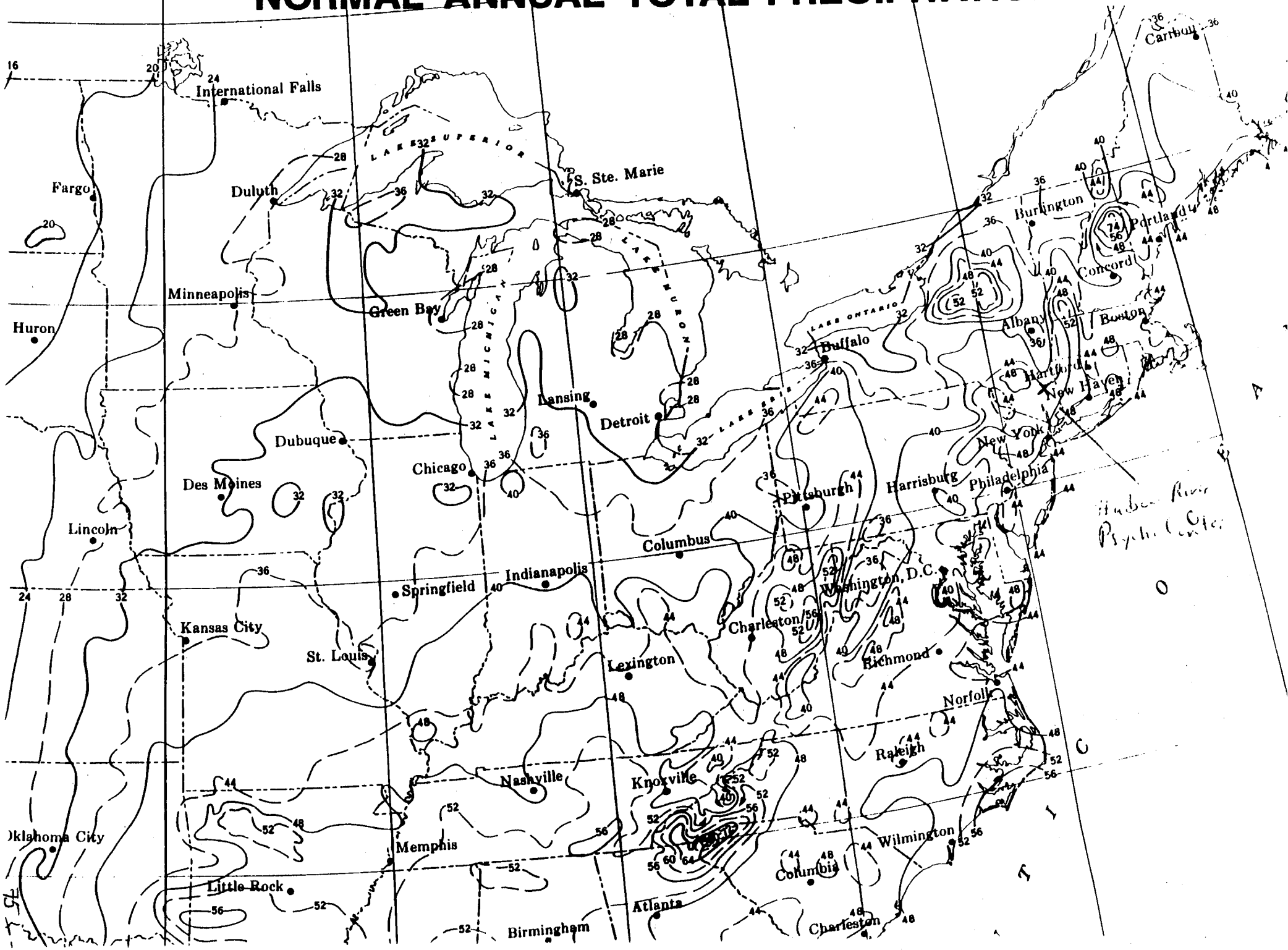
Net Precipitation	Assigned Value
<-10 inches	0
-10 to +5 inches	1
+5 to +15 inches	2
>+15 inches	3

Permeability of unsaturated zone (or intervening geological formations) is an indicator of the speed at which a contaminant could migrate from a facility. Assign a value from Table 2.

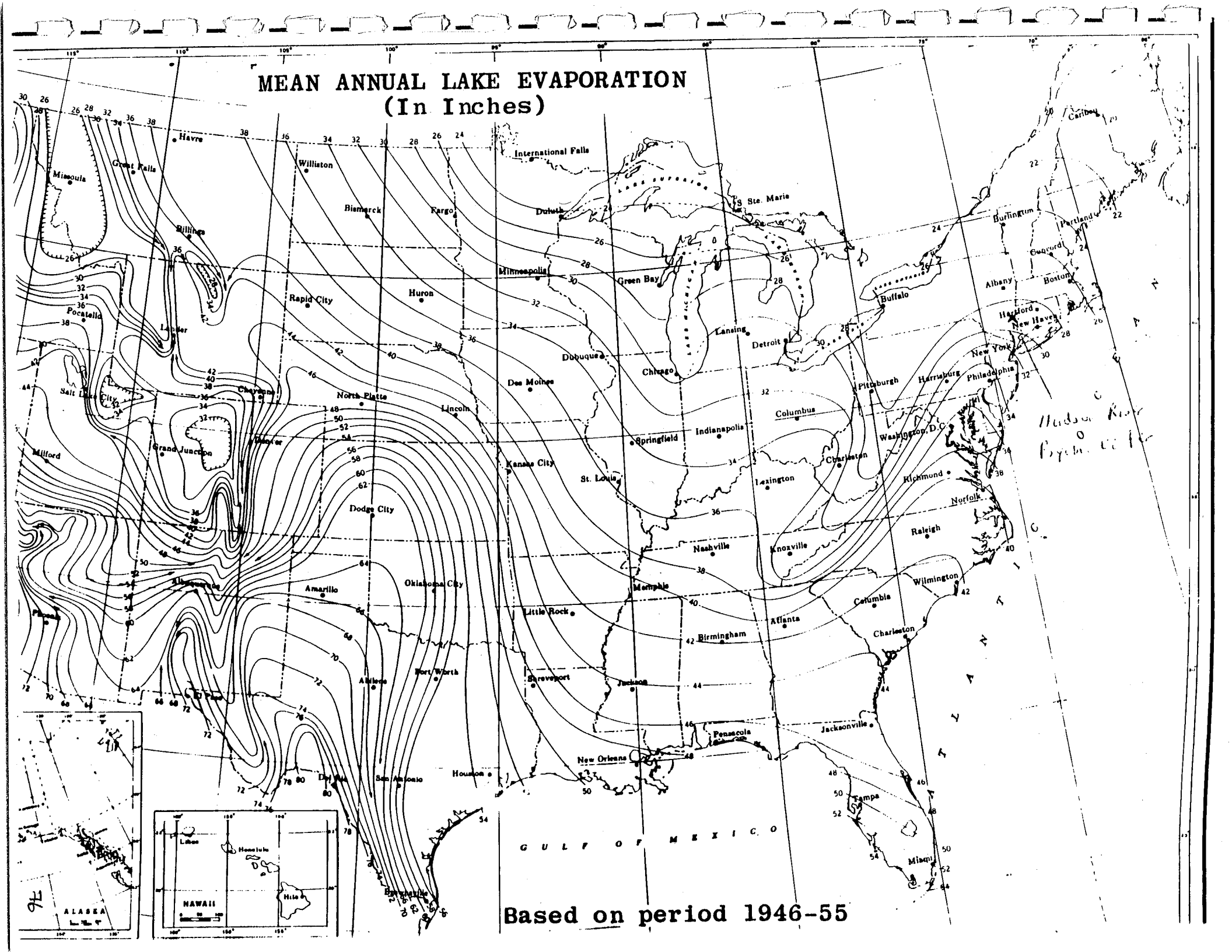
Physical state refers to the state of the hazardous substances at the time of disposal, except that gases generated by the hazardous substances in a disposal area should be considered in rating this factor. Each of the hazardous substances being evaluated is assigned a value as follows:



NORMAL ANNUAL TOTAL PRECIPITATION (inches)






MEAN ANNUAL LAKE EVAPORATION
(In Inches)
Based on period 1946-55
GULF OF MEXICO
ALASKA
HAWAII
Havre
Great Falls
Missoula
Williston
Bismarck
Fargo
International Falls
Duluth
Billings
Minneapolis
Green Bay
Rapid City
Huron
Pocatello
Lander
Dubuque
Chicago
Lansing
Detroit
Buffalo
Sault Ste. Marie
Burlington
Portland
Concord
Albany
Boston
Hartford
New Haven
New York
Philadelphia
Harrisburg
Pittsburgh
Des Moines
Cheyenne
North Platte
Lincoln
Salt Lake City
Grand Junction
Milford
Springfield
Indianapolis
Columbus
Washington, D.C.
Charleston
Kansas City
St. Louis
Lexington
Richmond
Norfolk
Dodge City
Nashville
Knoxville
Raleigh
Albuquerque
Amarillo
Oklahoma City
Memphis
Wilmington
Columbia
Little Rock
Atlanta
Charleston
Birmingham
Abilene
Fort Worth
Shreveport
Jackson
Pensacola
Jacksonville
New Orleans
Houston
San Antonio
Del Rio
Tampa
Miami
Brownsville
Lihue
Honolulu
Hilo

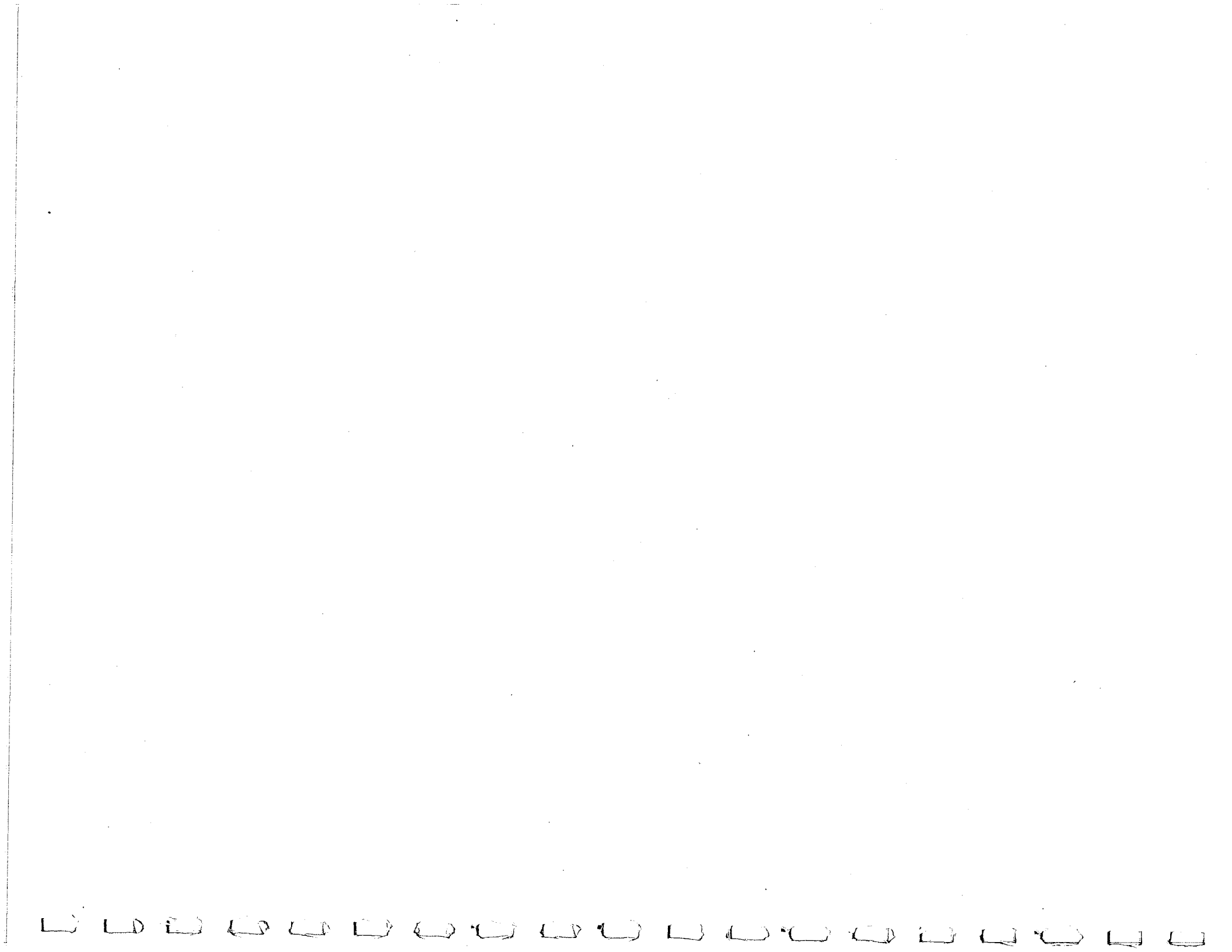


TABLE 2

PERMEABILITY OF GEOLOGIC MATERIALS*

Type of Material	Approximate Range of Hydraulic Conductivity	Assigned Value
Clay, compact till, shale; unfractured metamorphic and igneous rocks	$<10^{-7}$ cm/sec	0
Silt, loess, silty clays, silty loams, clay loams; less permeable limestone, dolomites, and sandstone; moderately permeable till	$10^{-5} - 10^{-7}$ cm/sec	1
Fine sand and silty sand; sandy loams; loamy sands; moderately permeable limestone, dolomites, and sandstone (no karst); moderately fractured igneous and metamorphic rocks, some coarse till	$10^{-3} - 10^{-5}$ cm/sec	2
Gravel, sand; highly fractured igneous and metamorphic rocks; permeable basalt and lavas; karst limestone and dolomite	$>10^{-3}$ cm/sec	3

*Derived from:

Davis, S. N., Porosity and Permeability of Natural Materials in Flow-Through Porous Media, R.J.M. DeWest ed., Academic Press, New York, 1969

Freeze, R.A. and J.A. Cherry, Groundwater, Prentice-Hall, Inc., New York, 1979



Physical State	Assigned Value
Solid, consolidated or stabilized	0
Solid, unconsolidated or unstabilized	1
Powder or fine material	2
Liquid, sludge or gas	3

3.3 Containment

Containment is a measure of the natural or artificial means that have been used to minimize or prevent a contaminant from entering ground water. Examples include liners, leachate collection systems, and sealed containers. In assigning a value to this rating factor (Table 3), consider all ways in which hazardous substances are stored or disposed at the facility. If the facility involves more than one method of storage or disposal, assign the highest from among all applicable values (e.g., if a landfill has a containment value of 1, and, at the same location, a surface impoundment has a value of 2, assign containment a value of 2).

3.4 Waste Characteristics

In determining a waste characteristics score, evaluate the most hazardous substances at the facility that could migrate (i.e., if scored, containment is not equal to zero) to ground water. Take the substance with the highest score as representative of the potential hazard due to waste characteristics. Note that the substance that may have been observed in the release category can differ from the

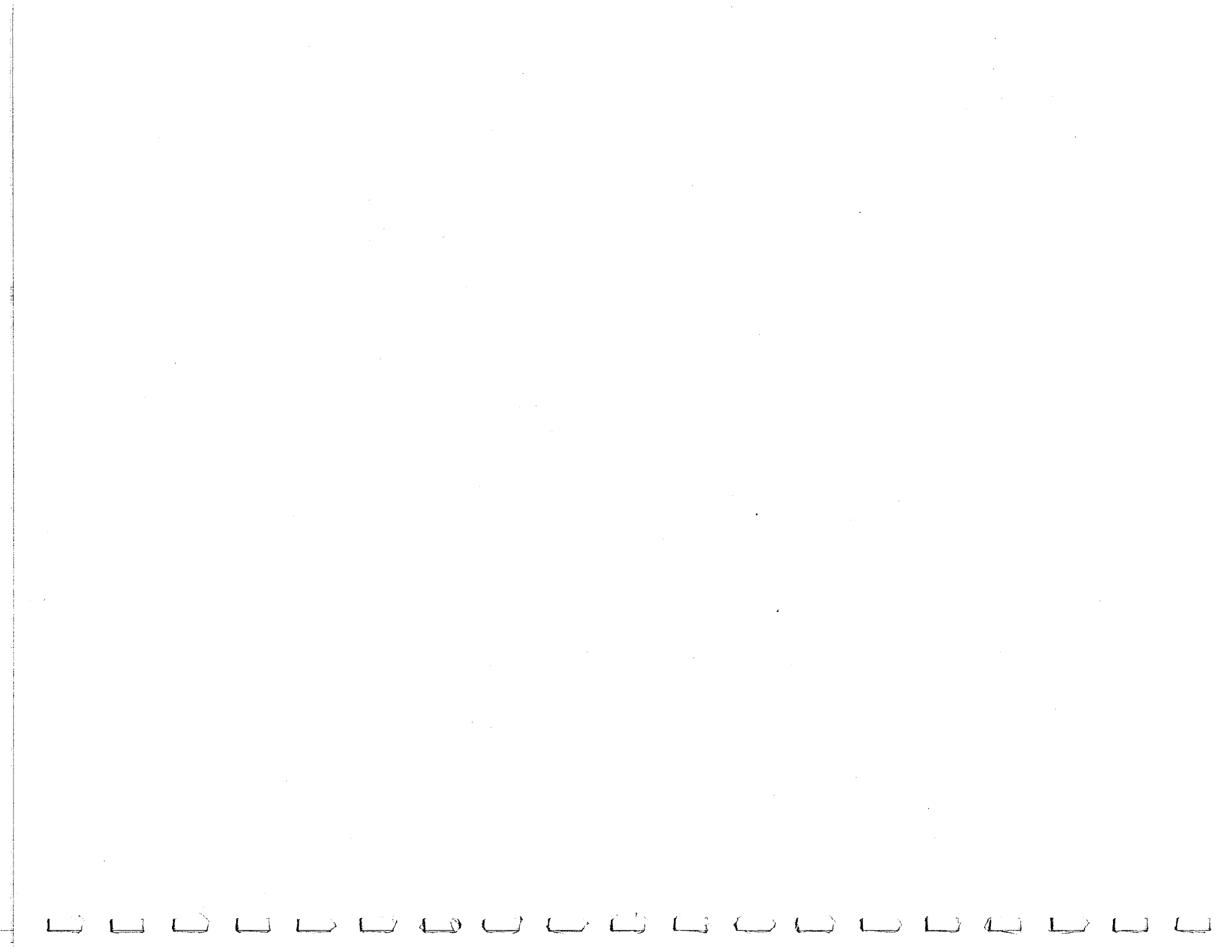


TABLE 3

CONTAINMENT VALUE FOR GROUND WATER ROUTE

Assign containment a value of 0 if: (1) all the hazardous substances at the facility are underlain by an essentially non permeable surface (natural or artificial) and adequate leachate collection systems and diversion systems are present; or (2) there is no ground water in the vicinity. The value "0" does not indicate no risk. Rather, it indicates a significantly lower relative risk when compared with more serious sites on a national level. Otherwise, evaluate the containment for each of the different means of storage or disposal at the facility using the following guidance.

A. Surface Impoundment

	Assigned Value
Sound run-on diversion structure, essentially non permeable liner (natural or artificial) compatible with the waste, and adequate leachate collection system	0
Essentially non permeable compatible liner with no leachate collection system; or inadequate freeboard	1
Potentially unsound run-on diversion structure; or moderately permeable compatible liner	2
Unsound run-on diversion structure; no liner; or incompatible liner	3

B. Containers

	Assigned Value
Containers sealed and in sound condition, adequate liner, and adequate leachate collection system	0
Containers sealed and in sound condition, no liner or moderately permeable liner	1
Containers leaking, moderately permeable liner	2
Containers leaking and no liner or incompatible liner	3

C. Piles

	Assigned Value
Piles uncovered and waste stabilized; or piles covered, waste unstabilized, and essentially non permeable liner	0
Piles uncovered, waste unstablized, moderately permeable liner, and leachate collection system	1
Piles uncovered, waste unstablized, moderately permeable liner, and no leachate collection system	2
Piles uncovered, waste unstablized, and no liner	3

D. Landfill

	Assigned Value
Essentially non permeable liner, liner compatible with waste, and adequate leachate collection system	0
Essentially non permeable compatible liner, no leachate collection system, and landfill surface precludes ponding	1
Moderately permeable, compatible liner, and landfill surface precludes ponding	2
No liner or incompatible liner; moderately permeable compatible liner; landfill surface encourages ponding; no run-on control	3



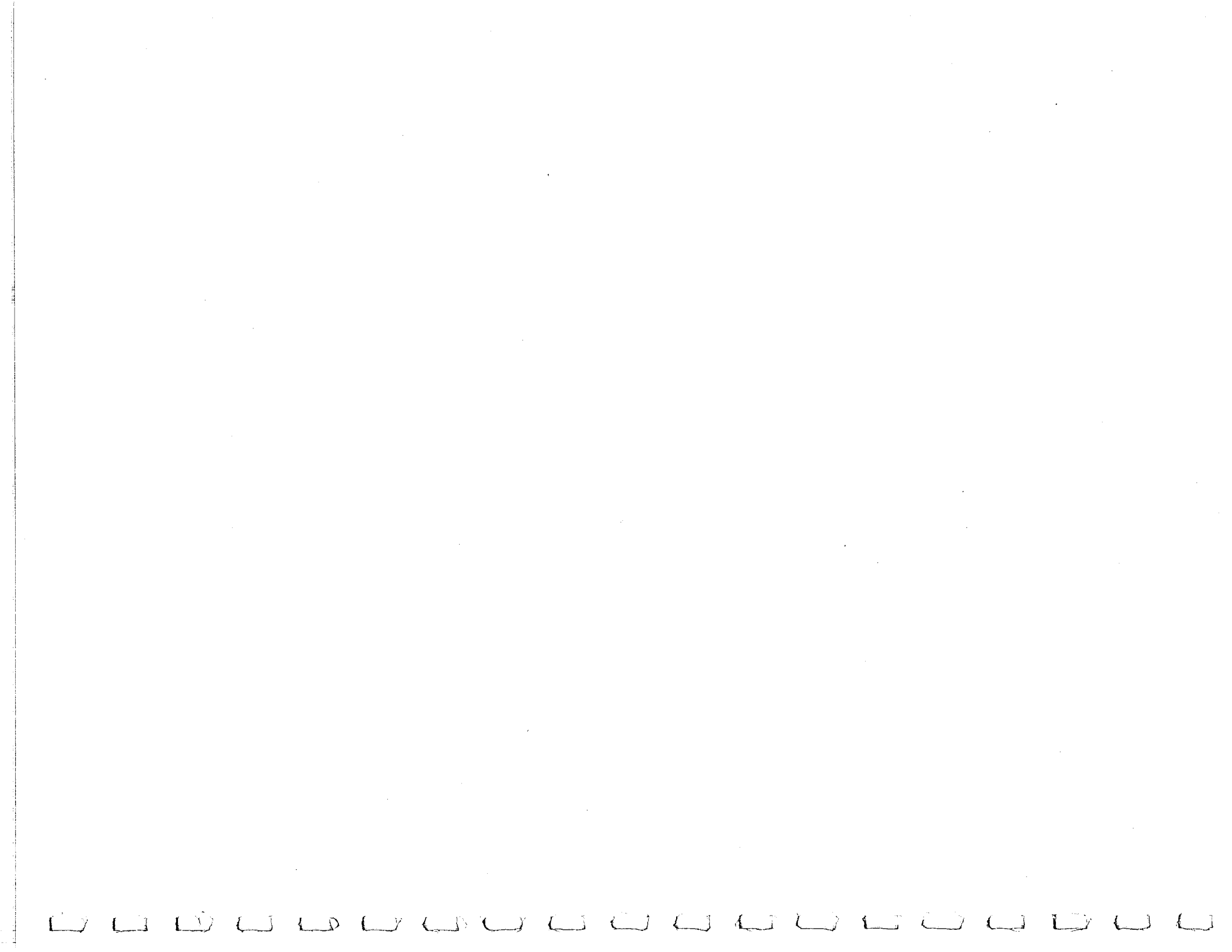
substance used in rating waste characteristics. Where the total inventory of substances in a facility is known, only those present in amounts greater than the reportable quantity (see CERCLA Section 102 for definition) may be evaluated.

Toxicity and Persistence have been combined in the matrix below because of their important relationship. To determine the overall value for this combined factor, evaluate each factor individually as discussed below. Match the individual values assigned with the values in the matrix for the combined rating factor. Evaluate several of the most hazardous substances at the facility independently and enter only the highest score in the matrix on the work sheet.

	Value for Persistence			
Value for Toxicity	0	1	2	3
0	0	0	0	0
1	3	6	9	12
2	6	9	12	15
3	9	12	15	18

Persistence of each hazardous substance is evaluated on its biodegradability as follows:

Substance	Assigned Value
Easily biodegradable compounds	0
Straight chain hydrocarbons	1
Substituted and other ring compounds	2
Metals, polycyclic compounds and halogenated hydrocarbons	3



more specific information is given in Tables 4 and 5.

Toxicity of each hazardous substance being evaluated is given a value using the rating scheme of Sax (Table 6) or the National Fire Protection Association (NFPA) (Table 7) and the following guidance:

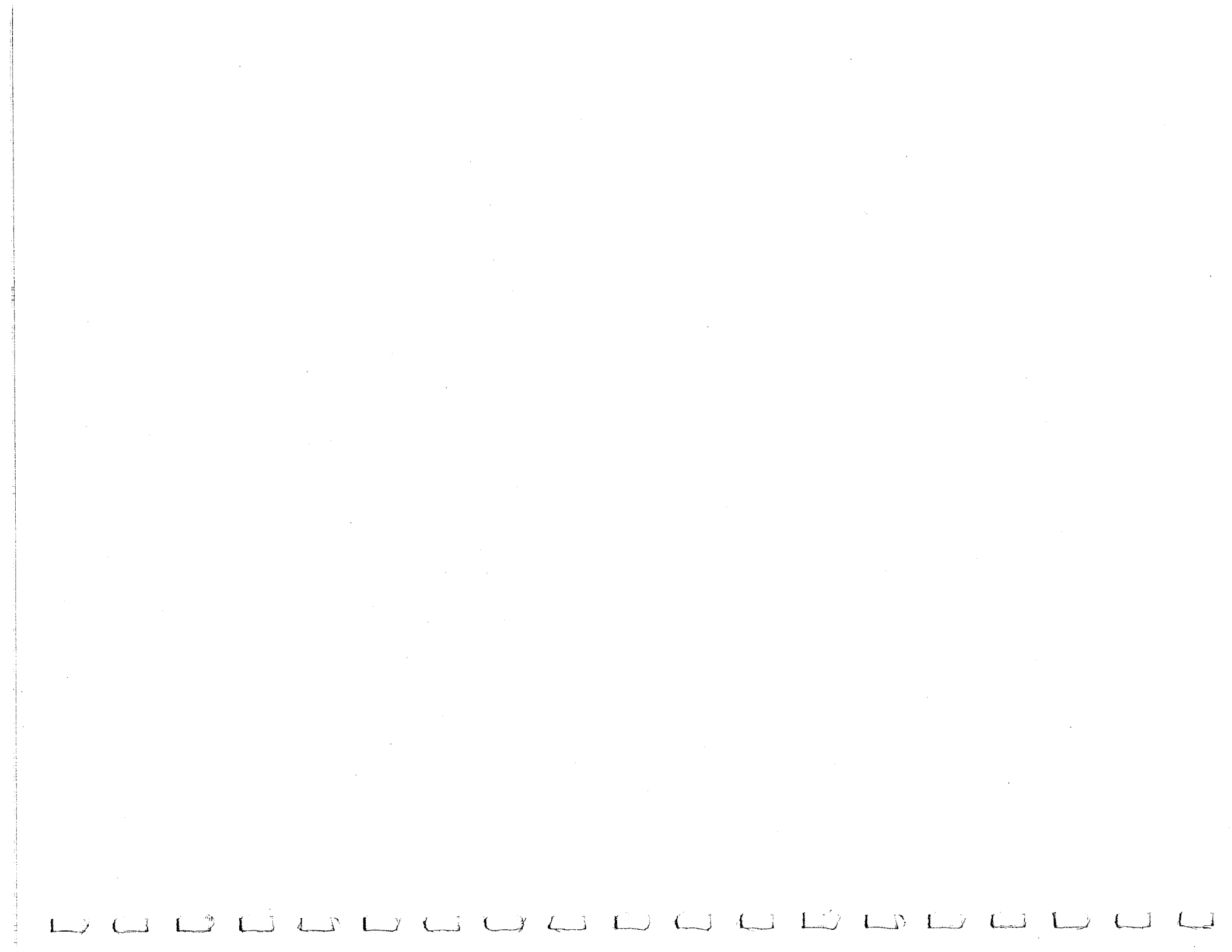
Toxicity	Assigned Value
Sax level 0 or NFPA level 0	0
Sax level 1 or NFPA level 1	1
Sax level 2 or NFPA level 2	2
Sax level 3 or NFPA level 3 or 4	3

Table 4 presents values for some common compounds.

Hazardous waste quantity includes all hazardous substances at a facility (as received) except that with a containment value of 0. Do not include amounts of contaminated soil or water; in such cases, the amount of contaminating hazardous substance may be estimated.

On occasion, it may be necessary to convert data to a common unit to combine them. In such cases, 1 ton = 1 cubic yard = 4 drums and for the purposes of converting bulk storage, 1 drum = 50 gallons. Assign a value as follows:

Tons/Cubic Yards	No. of Drums	Assigned Value
0	0	0
1-10	1-40	1
11-62	41-250	2
63-125	251-500	3
126-250	501-1000	4
251-625	1001-2500	5
626-1250	2501-5000	6
1251-2500	5001-10,000	7
>2500	>10,000	8

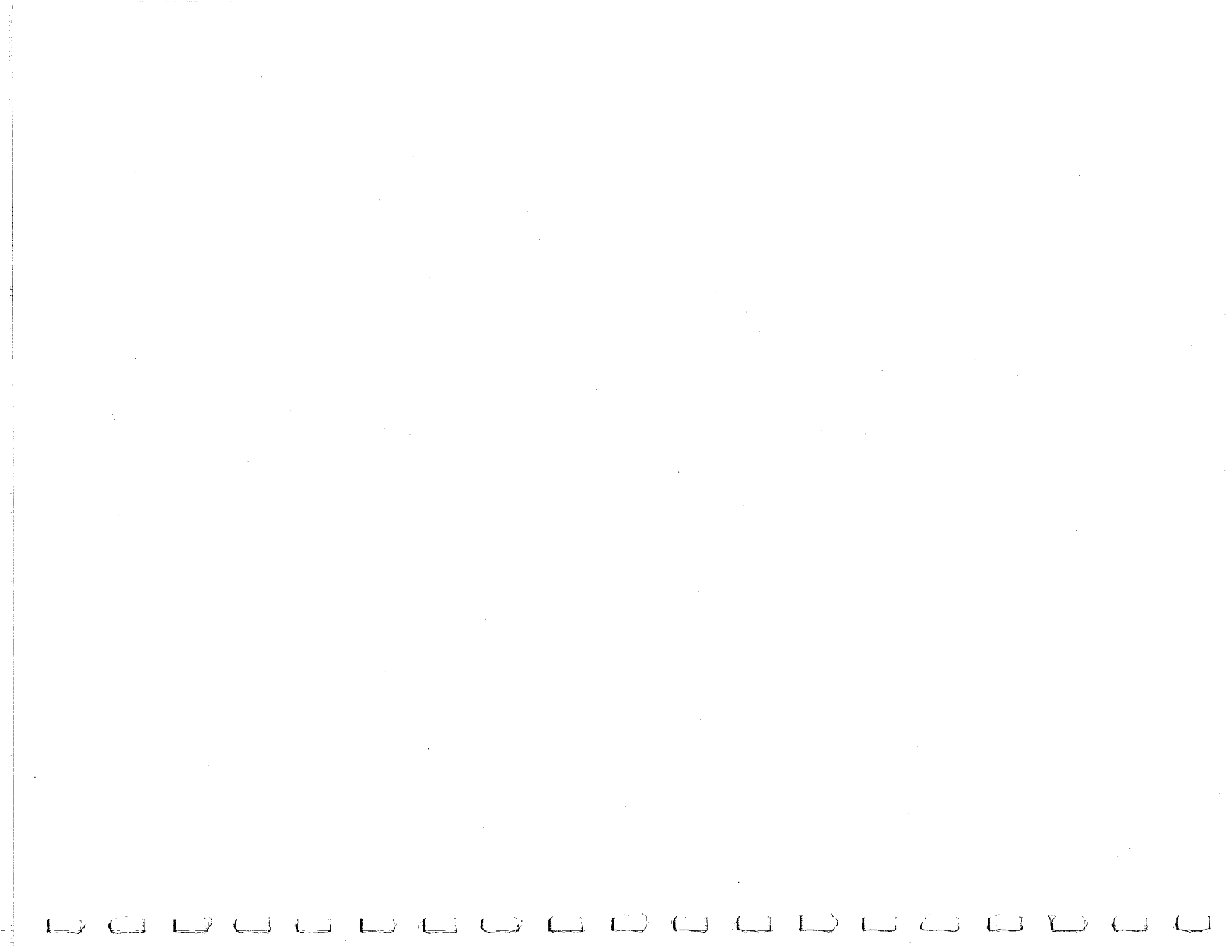


3.5 Targets

Ground water use indicates the nature of the use made of ground water drawn from the aquifer of concern within 3 miles of the hazardous substance, including the geographical extent of the measurable concentration in the aquifer. Assign a value using the following guidance:

Ground Water Use	Assigned Value
Unusable (e.g., extremely saline aquifer, extremely low yield, etc.)	0
Commercial, industrial or irrigation and another water source presently available; not used, but usable	1
Drinking water with municipal water from alternate unthreatened sources presently available (i.e., minimal hookup requirements); or commercial, industrial or irrigation with no other water source presently available	2
Drinking water; no municipal water from alternate unthreatened sources presently available	3

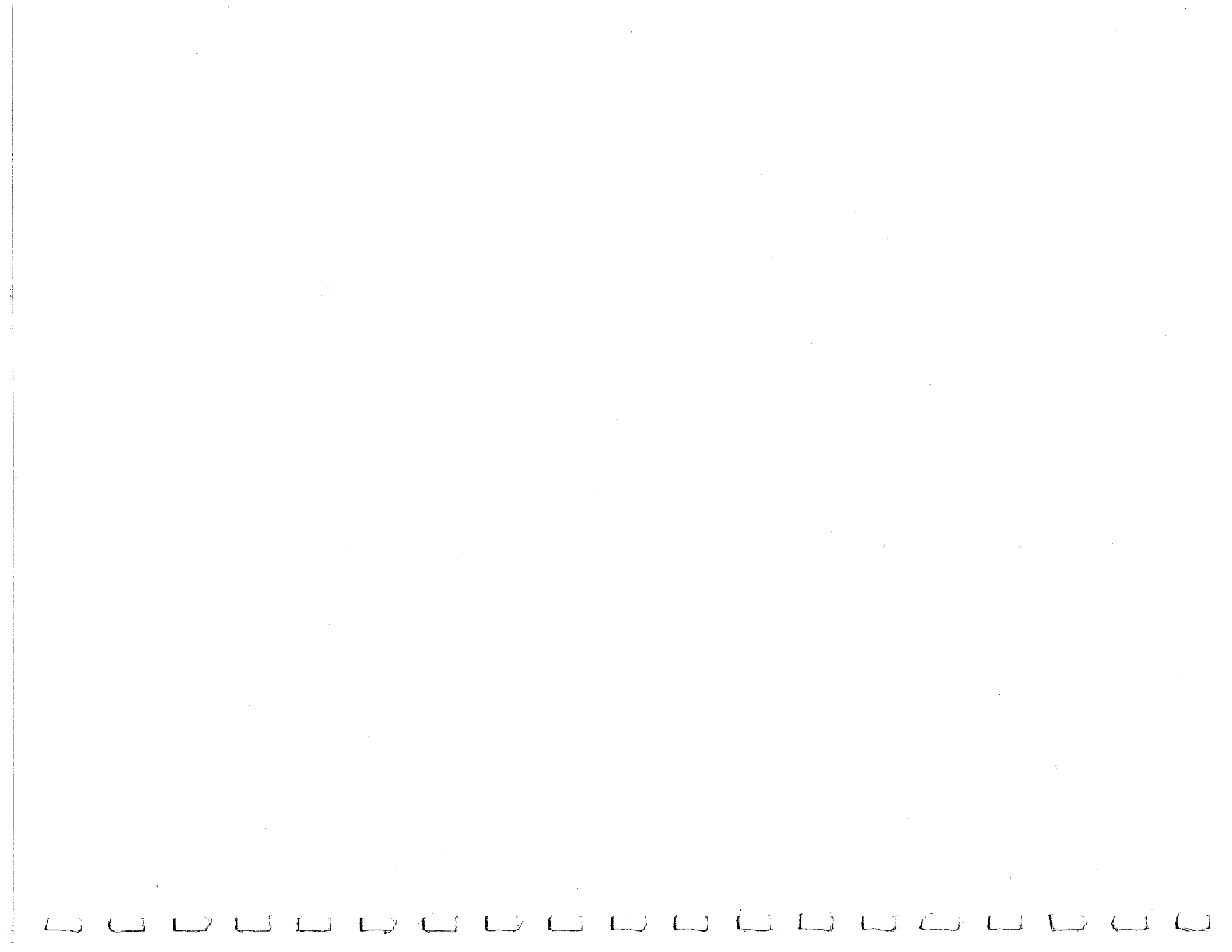
Distance to nearest well and population served have been combined in the matrix below to better reflect the important relationship between the distance of a population from hazardous substances and the size of the population served by ground water that might be contaminated by those substances. To determine the overall value for this combined factor, score each individually as discussed below. Match the individual values assigned with the values in the matrix for the total score.



Value for Population Served	Value for Distance to Nearest Well				
	0	1	2	3	4
0	0	0	0	0	0
1	0	4	6	8	10
2	0	8	12	16	20
3	0	12	18	24	30
4	0	16	24	32	35
5	0	20	30	35	40

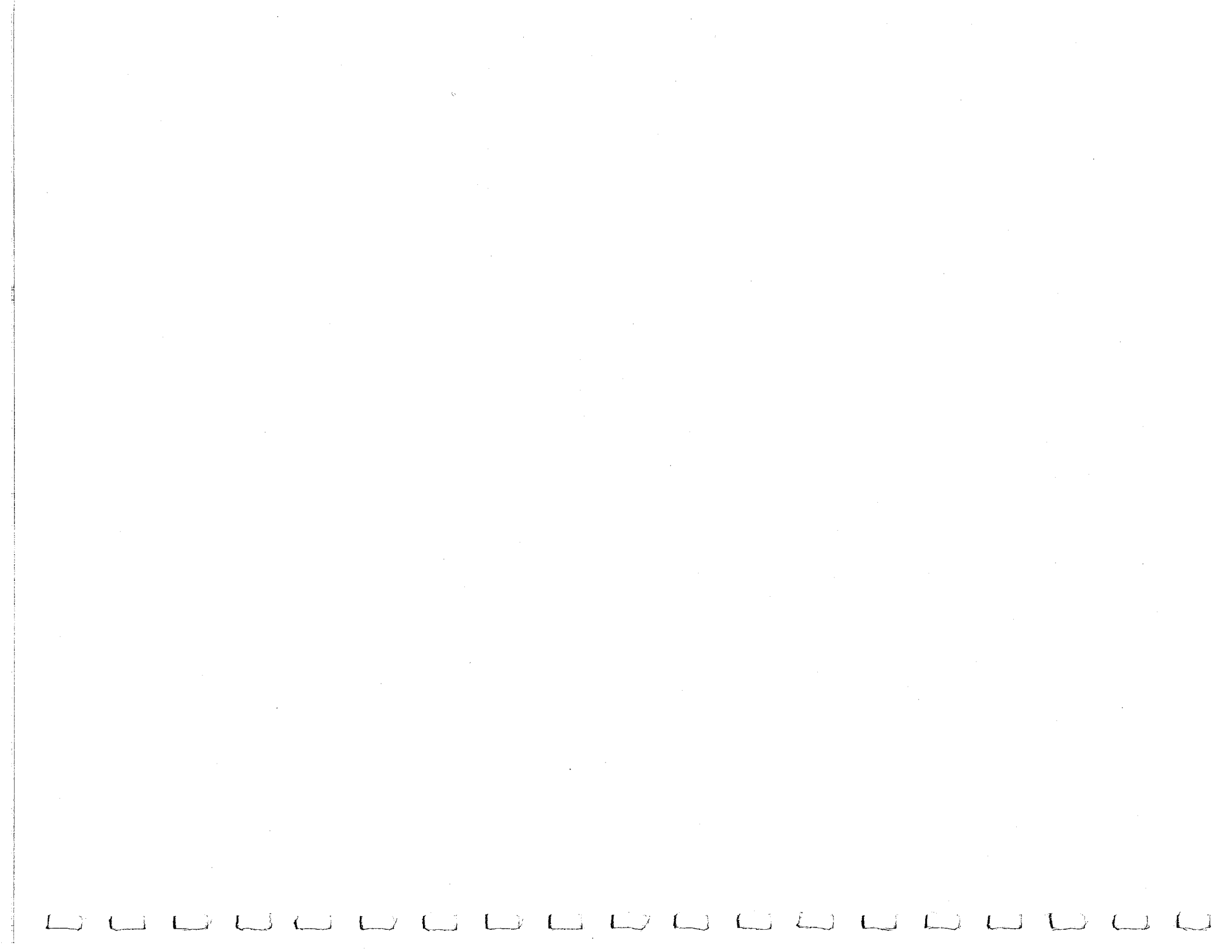
Distance to nearest well is measured from the hazardous substance (not the facility boundary) to the nearest well that draws water from the aquifer of concern. If the actual distance to the nearest well is unknown, use the distance between the hazardous substance and the nearest occupied building not served by a public water supply (e.g., a farmhouse). If a discontinuity in the aquifer occurs between the hazardous substance and all wells, give this factor a score of 0, except where it can be shown that the contaminant is likely to migrate beyond the discontinuity. Figure 6 illustrates how the distance should be measured. Assign a value using the following guidance:

Distance	Assigned Value
>3 miles	0
2 to 3 miles	1
1 to 2 miles	2
2001 feet to 1 mile	3
< 2000 feet	4



Population served by ground water is an indicator of the population at risk, which includes residents as well as others who would regularly use the water such as workers in factories or offices and students. Include employees in restaurants, motels, or campgrounds but exclude customers and travelers passing through the area in autos, buses, or trains. If aerial photography is used, and residents are known to use ground water, assume each dwelling unit has 3.8 residents. Where ground water is used for irrigation, convert to population by assuming 1.5 persons per acre of irrigated land. The well or wells of concern must be within three miles of the hazardous substances, including the area of known aquifer contamination, but the "population served" need not be. Likewise, people within three miles who do not use water from the aquifer of concern are not to be counted. Assign a value as follows:

Population	Assigned Value
0	0
1-100	1
101-1,000	2
1,001-3,000	3
3,001-10,000	4
>10,000	5



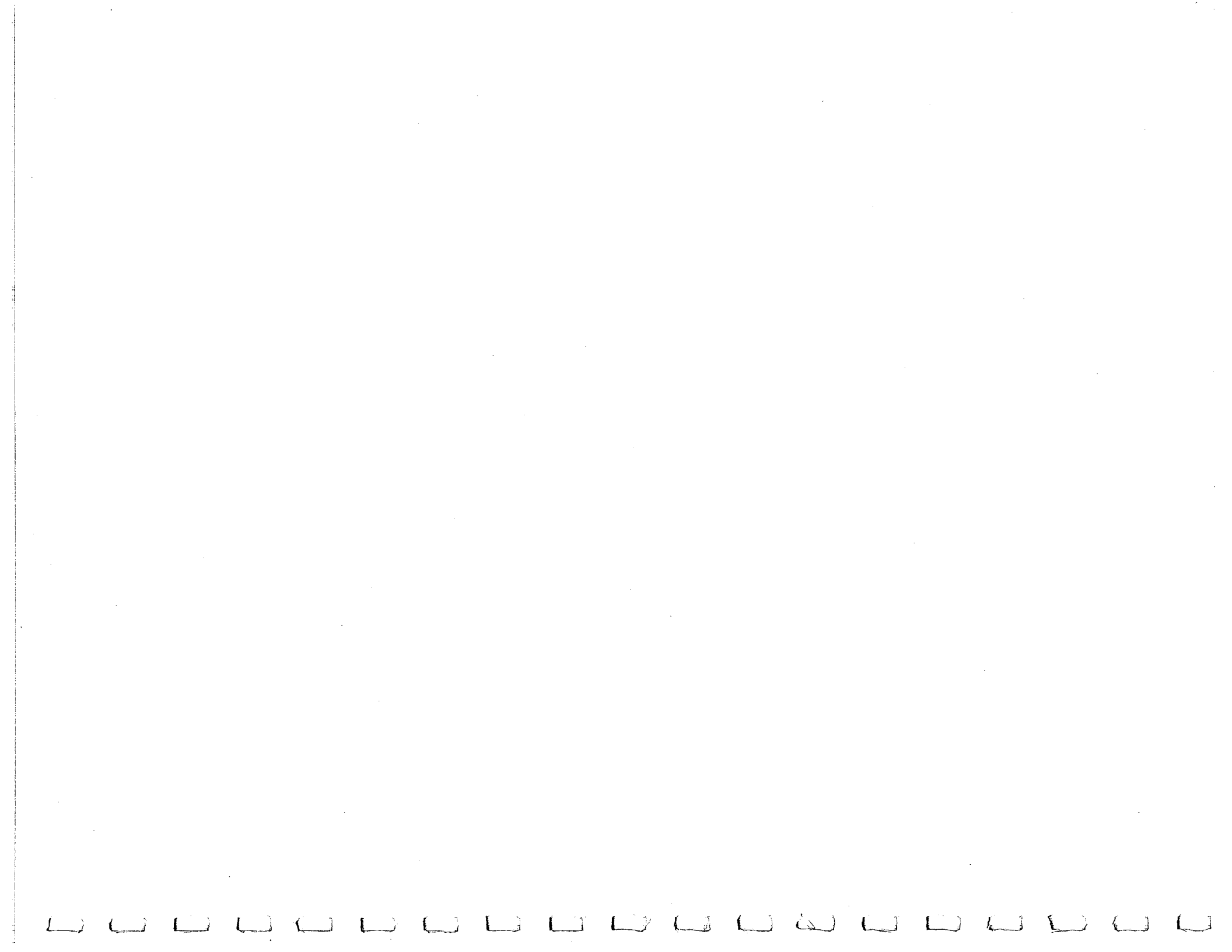
4.0 SURFACE WATER ROUTE

4.1 Observed Release

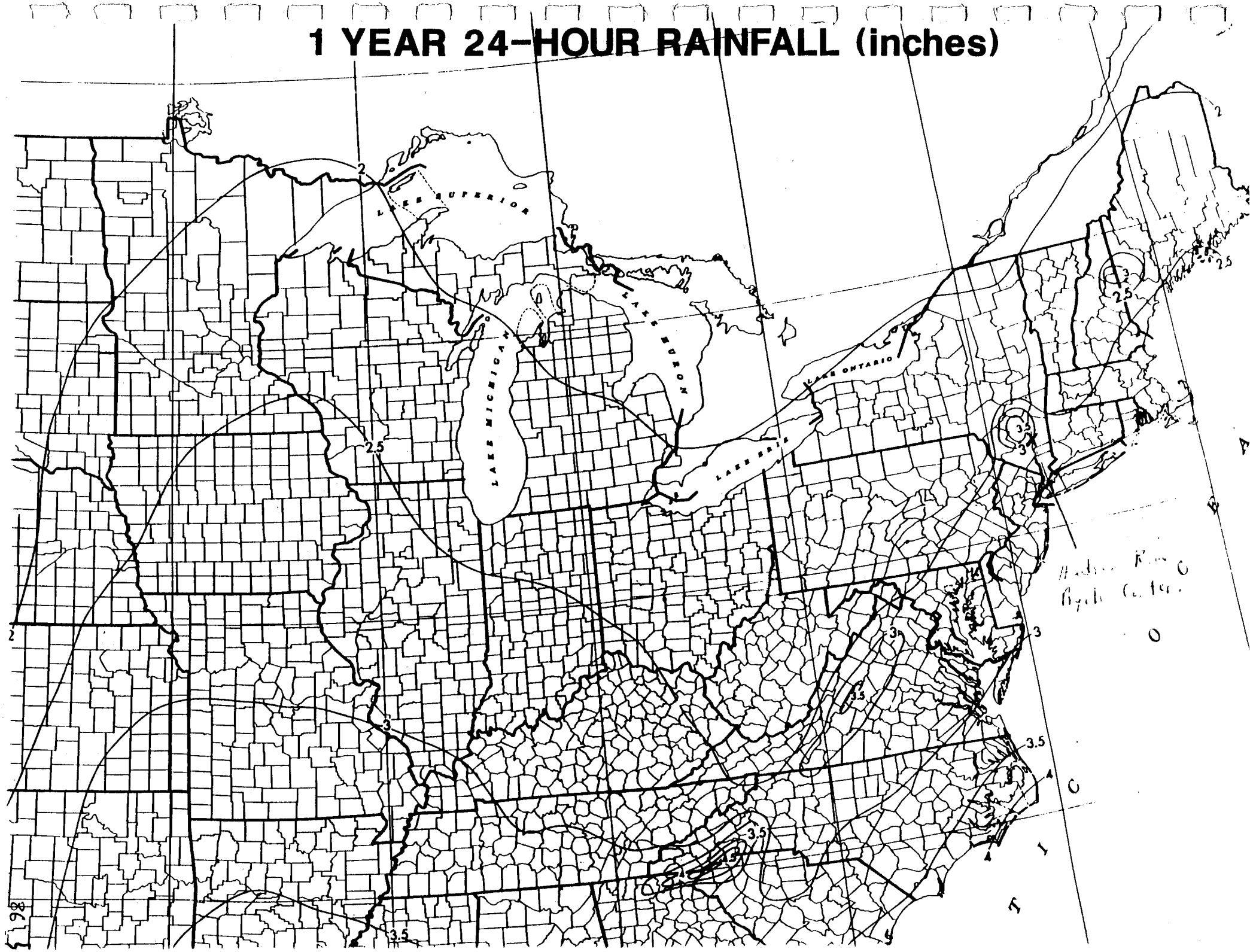
Direct evidence of release to surface water must be quantitative evidence that the facility is releasing contaminants into surface water. Quantitative evidence could be the measurement of levels of contaminants from a facility in surface water, either at the facility or downhill from it, that represents a significant (in terms of demonstrating that a release has occurred, not in terms of potential effects) increase over background levels. If direct evidence of release has been obtained (regardless of frequency), enter a value of 45 on line 1 of the work sheet (Figure 7) and omit the evaluation of the route characteristics and containment factors. If direct evidence of release is lacking, enter a value of 0 on line 1 and continue with the scoring procedure.

4.2. Route Characteristics

Facility slope and intervening terrain are indicators of the potential for contaminated runoff or spills at a facility to be transported to surface water. The facility slope is an indicator of the potential for runoff or spills to leave the facility. Intervening terrain refers to the average slope of the shortest path which would be followed by runoff between the facility boundary and the nearest downhill surface water. This rating factor can be assessed using topographic maps. Table 8 shows values assigned to various facility conditions.



1 YEAR 24-HOUR RAINFALL (inches)





4.3 Containment

Containment is a measure of the means that have been taken to minimize the likelihood of a contaminant entering surface water either at the facility or beyond the facility boundary. Examples of containment are diversion structures and the use of sealed containers. If more than one type of containment is used at a facility, evaluate each separately (Table 9) and assign the highest score.

4.4 Waste Characteristics

Evaluate waste characteristics for the surface water route with the procedures described in Section 3.4 for the ground water route.

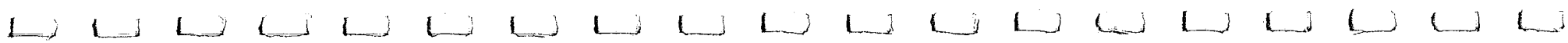
4.5 Targets

Surface water use brings into the rating process the use being made of surface water downstream from the facility. The use or uses of interest are those associated with water taken from surface waters within a distance of three miles from the location of the hazardous substance. Assign a value as follows:

Surface Water Use (Fresh or Salt Water)	Assigned Value
Not currently used	0
Commercial or industrial	1
Irrigation, economically important resources (e.g., shellfish), commercial food preparation, or recreation (e.g., fishing, boating, swimming)	2
Drinking Water	3

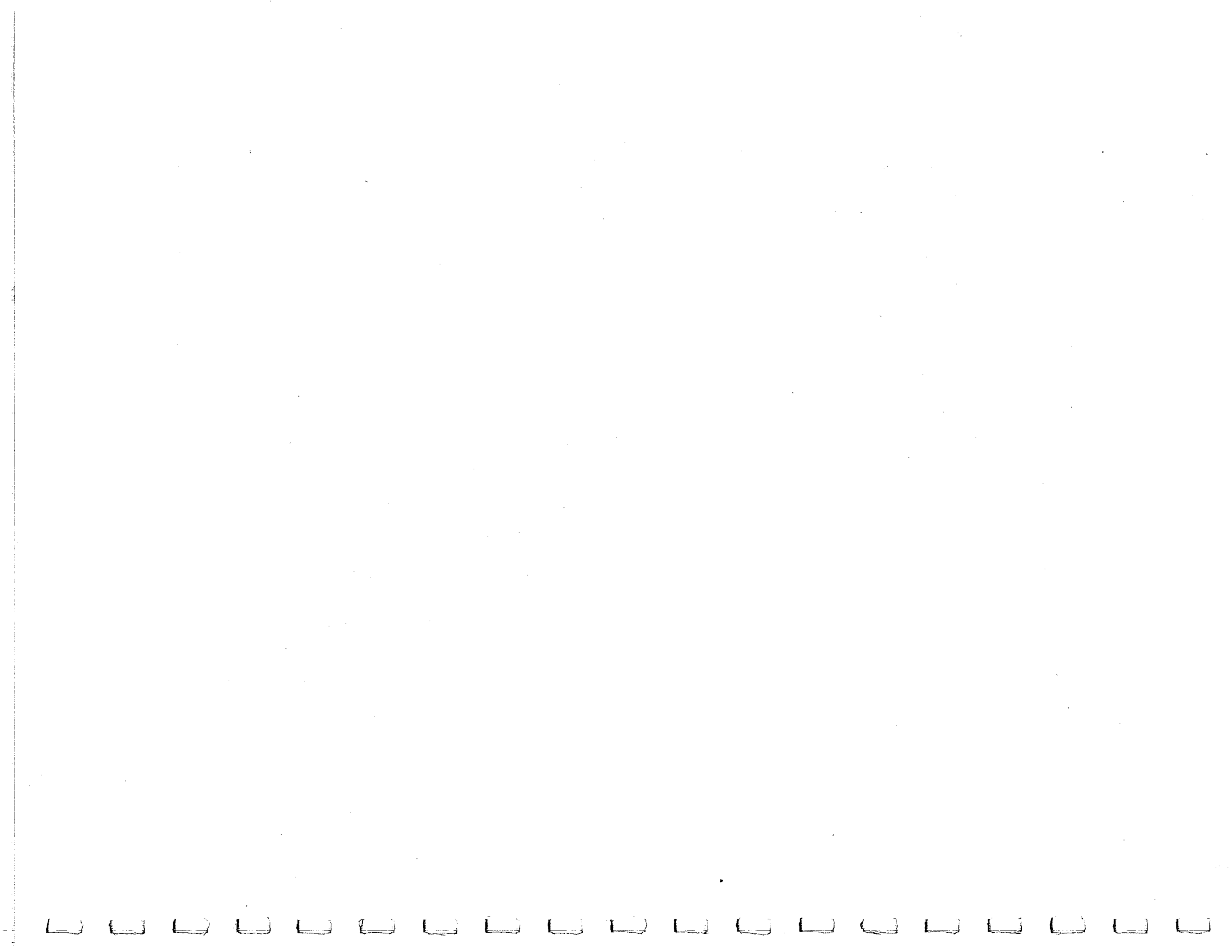
Distance to a sensitive environment refers to the distance from the hazardous substance (not the facility boundary) to an area containing an important biological resource or to a fragile natural setting that could suffer an especially severe impact from pollution. Table 10 provides guidance on assigning a value to this rating factor.

Population served by surface water with water intake within 3 miles downstream from facility (or 1 mile in static surface water such as a lake) is a rough indicator of the potential hazard exposure of the nearby population served by potentially contaminated surface water. Measure the distance from the probable point of entry to surface water following the surface water flow (stream miles). The population includes residents as well as others who would regularly use the water such as workers in factories or offices and students. Include employees in restaurants, motels, or campgrounds but exclude customers and travelers passing through the area in autos, buses and trains. The distance is measured from the hazardous substance, including observations in stream or sediment samples, regardless of facility boundaries. Where only residential houses can be counted (e.g., from an aerial photograph), and residents are known to be using surface water, assume 3.8 individuals per dwelling unit. Where surface water is used for irrigation, convert to population by assuming 1.5 persons per acre of land irrigated. Assign a value as follows:



Distance to Surface Water

Population	>3 miles	2-3 miles	1-2 miles	2001 feet to 1 mile	0-2000 feet
0	0	0	0	0	0
1-100	0	4	6	8	10
101-1000	0	8	12	16	20
1001-3000	0	12	18	24	30
3001-10,000	0	16	24	32	35
>10,000	0	20	30	35	40



8.0 DIRECT CONTACT

The direct contact hazard mode refers to the potential for injury by direct contact with hazardous substances at the facility.

8.1 Observed Incident

If there is a confirmed instance in which contact with hazardous substances at a facility has caused injury, illness, or death to humans or domestic or wild animals, enter a value of 45 on line 1 of the work sheet (Figure 12) and proceed to line 4 (toxicity). Document the incident giving the date, location and pertinent details. If no such instance is known, enter "0" on line 1 and proceed to line 2.

8.2 Accessibility

Accessibility to hazardous substance refers to the measures taken to limit access by humans or animals to hazardous substances. Assign a value using the following guidance:

Barrier	Assigned Value
A 24-hour surveillance system (e.g., television monitoring or surveillance by guards or facility personnel) which continuously monitors and controls entry onto the facility;	0
or	
an artificial or natural barrier (e.g., a fence combined with a cliff), which completely surrounds the facility; and a means to control entry, at all times, through the gates or other entrances to the facility (e.g., an attendant, television monitors, locked entrances, or controlled roadway access to the facility).	

Barrier (continued)	Assigned Value
Security guard, but no barrier	1
A barrier, but no separate means to control entry	2
Barriers do not completely surround the facility	3

8.3 Containment

Containment indicates whether the hazardous substance itself is accessible to direct contact. For example, if the hazardous substance at the facility is in surface impoundments, containers (sealed or unsealed), piles, tanks, or landfills with a cover depth of less than 2 feet, or has been spilled on the ground or other surfaces easily contacted (e.g., the bottom of shallow pond or creek), assign this rating factor a value of 15. Otherwise, assign a value of 0.

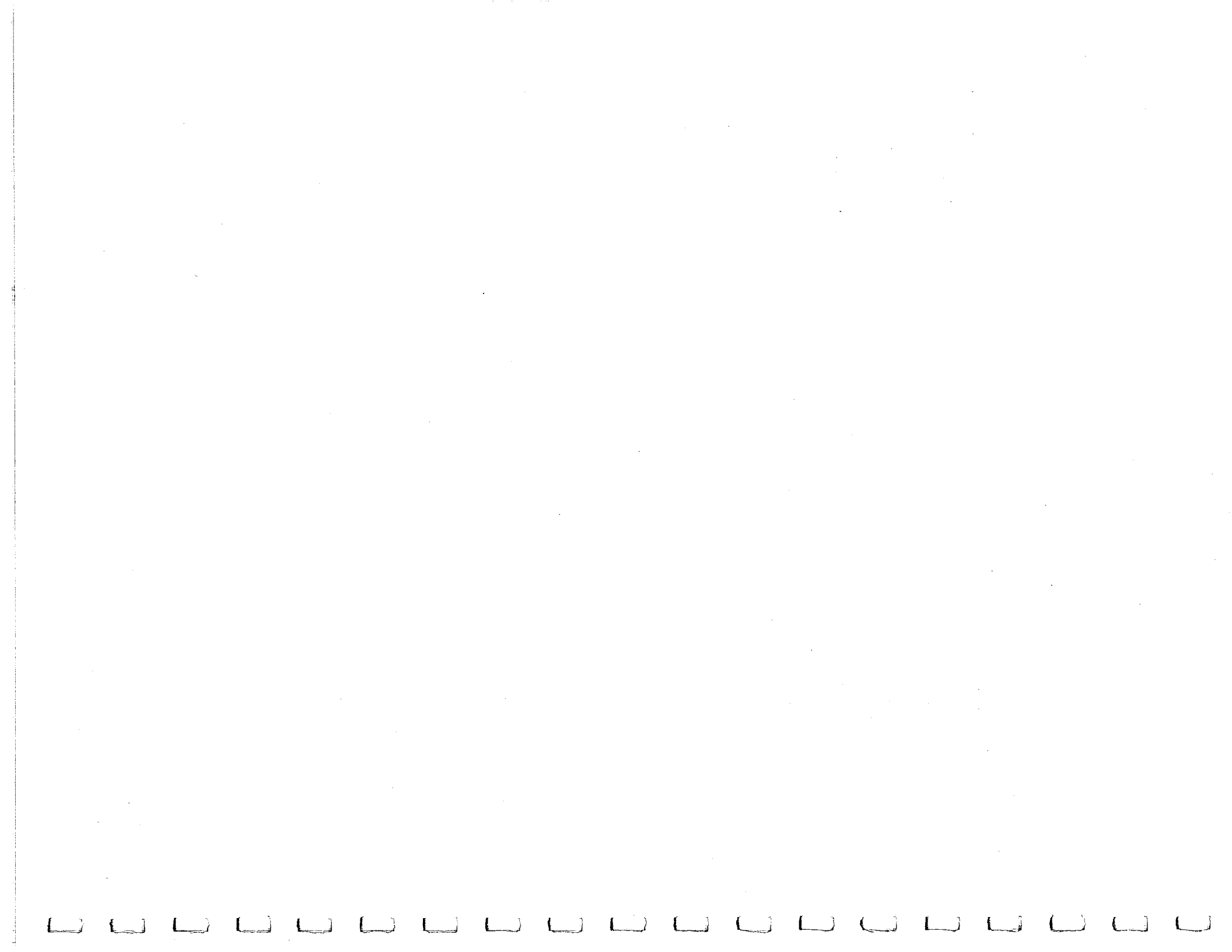
8.4 Waste Characteristics

Toxicity. Assign a value as in Section 3.4.

8.5 Targets

Population within one-mile radius is a rough indicator of the population that could be involved in direct contact incidents at an uncontrolled facility. Assign a value as follows:

Population	Assigned Value
0	0
1 - 100	1
101 - 1,000	2
1,001 - 3,000	3
3,001 - 10,000	4
>10,000	5



REFERENCE NO. 3

Environmental Protection Agency
Remedial Response
Washington, DC 20460
July, 1981

EPA

Potential Hazardous Waste Site

Preliminary Assessment

Hudson River Psychiatric Center

93

[redacted]

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

EPA

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	NEW

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)	02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER
Hudson River Psychiatric Center	North Road

03 CITY	04 STATE	05 ZIP CODE	06 COUNTY	07 COUNTY CODE	08 CONG DIST
Poughkeepsie	NY	12602	Dutchess		

09 COORDINATES LATITUDE	LONGITUDE
41° 43' 25"	73° 55' 40"

10 DIRECTIONS TO SITE (Starting from nearest public road)
Follow Route 9 north from Poughkeepsie, NY. The facility entrance is 3/4 mile north of the city limits.

III. RESPONSIBLE PARTIES

01 OWNER (If known)	02 STREET (Business, mailing, residential)
State of New York Hudson River Psychiatric Center	North Road

03 CITY	04 STATE	05 ZIP CODE	06 TELEPHONE NUMBER
Poughkeepsie	NY	12602	(914) 452-8000

07 OPERATOR (If known and different from owner)	08 STREET (Business, mailing, residential)

09 CITY	10 STATE	11 ZIP CODE	12 TELEPHONE NUMBER
			( )

13 TYPE OF OWNERSHIP (Check one)
☐ A. PRIVATE ☐ B. FEDERAL _____ (Agency name) ☒ C. STATE ☐ D. COUNTY ☐ E. MUNICIPAL
☐ F. OTHER: _____ (Specify) ☐ G. UNKNOWN

14 OWNER/OPERATOR NOTIFICATION ON FILE (Check all that apply)
☐ A. RCRA 3001 DATE RECEIVED: ___/___/___ (MONTH DAY YEAR) ☐ B. UNCONTROLLED WASTE SITE (CERCLA 103 c) DATE RECEIVED: ___/___/___ (MONTH DAY YEAR) ☐ C. NONE

IV. CHARACTERIZATION OF POTENTIAL HAZARD

01 ON SITE INSPECTION
☒ YES DATE 1/15/85 (MONTH DAY YEAR)
☐ NO

BY (Check all that apply)
☐ A. EPA ☐ B. EPA CONTRACTOR ☐ C. STATE ☒ D. OTHER CONTRACTOR
☐ E. LOCAL HEALTH OFFICIAL ☐ F. OTHER _____ (Specify)
CONTRACTOR NAME(S): EA Science and Technology

02 SITE STATUS (Check one)	03 YEARS OF OPERATION
☐ A. ACTIVE ☒ B. INACTIVE ☐ C. UNKNOWN	1950 (BEGINNING YEAR) 1979 (ENDING YEAR) ☐ UNKNOWN

04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED
Municipal refuse from the City of Poughkeepsie, institutional waste from the Hudson River Psychiatric Center.

05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION
Leachate seepage observed to surface waters. Possible groundwater impacts.

V. PRIORITY ASSESSMENT

01 PRIORITY FOR INSPECTION (Check one. If high or medium is checked, complete Part 2 - Waste Information and Part 3 - Description of Hazardous Conditions and Incidents)
☐ A. HIGH (Inspection required promptly) ☒ B. MEDIUM (Inspection required) ☐ C. LOW (Inspect on time available basis) ☐ D. NONE (No further action needed, complete current disposition form)

VI. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency/Organization)	03 TELEPHONE NUMBER
R. Kapp	EA Science & Technology	(914) 692-6706

04 PERSON RESPONSIBLE FOR ASSESSMENT	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NUMBER	08 DATE
G. McCleary		EA	(301) 771-4950	6/14/85 (MONTH DAY YEAR)

EPA FORM 2070-12 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 2 - WASTE INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	NEW

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

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

02 WASTE QUANTITY AT SITE (Measures of waste quantities must be independent)

TONS unknown

CUBIC YARDS _____

NO OF DRUMS _____

03 WASTE CHARACTERISTICS (Check all that apply)

- _ A TOXIC
- _ B CORROSIVE
- _ C RADIOACTIVE
- _ D PERSISTENT
- _ E SOLUBLE
- _ F INFECTIOUS
- _ G FLAMMABLE
- _ H IGNITABLE
- _ I HIGHLY VOLATILE
- _ J EXPLOSIVE
- _ K REACTIVE
- _ L INCOMPATIBLE
- X M NOT APPLICABLE

III. WASTE TYPE Unknown

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE			
OLW	OILY WASTE			
SOL	SOLVENTS			
PSD	PESTICIDES			
OCC	OTHER ORGANIC CHEMICALS			
IOC	INORGANIC CHEMICALS			
ACD	ACIDS			
BAS	BASES			
MES	HEAVY METALS			

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

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION

V. FEEDSTOCKS (See Appendix for CAS Numbers)

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS	None		FDS		
FDS			FDS		
FDS			FDS		
FDS			FDS		

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

EA Site Inspection, 15 January 1985.
NYSDEC Files.
Dutches County Department of Health Files.

EPA FORM 2070-12 (7-81)

Site Coordinates: Latitude - 41°43'25"; Longitude - 73°55'40"

HUDSON RIVER PSYCHIATRIC CENTER

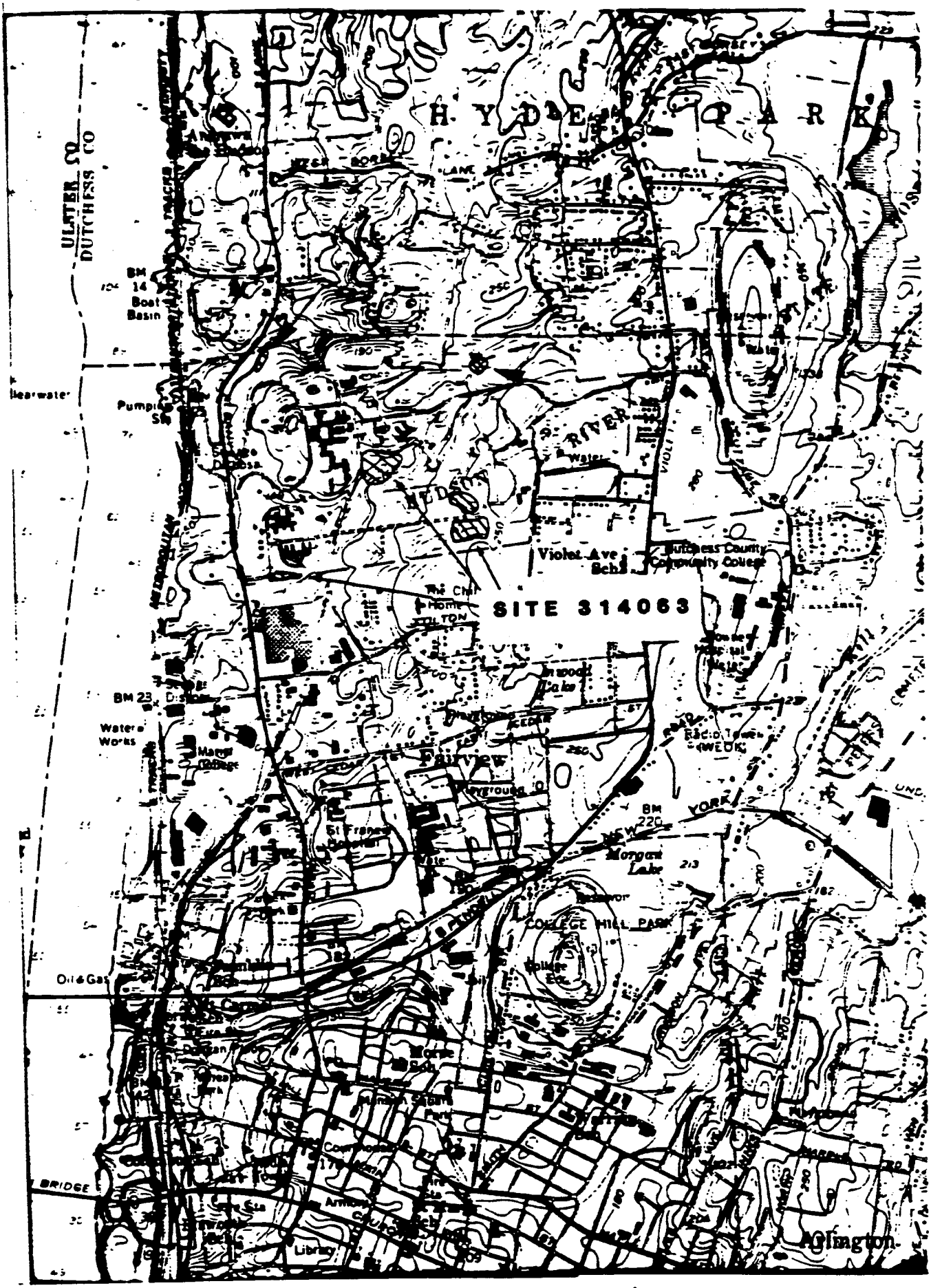


Figure 1-1. POUGHKEEPSIE QUAD

1. EXECUTIVE SUMMARY

The Hudson River Psychiatric Center (HRPC) (New York I.D. No. 314063 EPA No. New) located on Route 9 north of the City of Poughkeepsie, New York, is the site of six small and inactive municipal and institutional landfills (Figure 1-1, Plate 1-1). The landfilling sites are located throughout the 700+ acres of the HRPC in Dutchess County.

Landfilling municipal wastes by the City of Poughkeepsie and the Town of Poughkeepsie began in the 1950s and continued until 1979. The HRPC landfilled institutional wastes on site until 1973 or 1974, for a period of 100 years. The landfills were created in topographic low areas such as streams and wetlands. This practice resulted in seepage and contamination problems at several of the fill areas. In particular, the majority of problems have been documented at Landfill No. 5 where a drainage pipe for the stream has been constructed within the fill material.

The Hazard Ranking System Score for HRPC has been developed using the largest score for each of the six areas. The preliminary HRS scores for this site are as follows: Migration Score (S_M) = 0 Direct Contact Score (S_{DC}) = 0. The low Migration Score is attributable to a lack of information on waste types and quantities. There is no data available in the surface water or ground water near the six landfill areas. Surface water and/or ground-water contamination

is probable at four of the landfill locations. Although leachate seeps were not observed at two of the six areas, ground-water and/or surface water contamination potential exists. Bedrock outcrops were observed at the site. With confirmed releases to ground water and surface water, the maximum S_M attainable for this site is 52.79.

The recommendations for a Phase II investigation includes investigating ground-water contamination at all the sites and surface water contamination at four of the sites where seeps from the landfill have been observed or where surface water discharges through the area landfilled. The proposed Phase II study includes the collection and analysis of 11 ground-water samples, 6 surface water samples, 1 leachate sample, and 7 sediment samples. The estimated cost to complete the Phase II investigation at the HRPC site is 140,125.

3. SCOPE OF WORK

The Phase I investigation of the Hudson River Psychiatric Center site involved a site inspection by EA Science and Technology, as well as record searches and interviews. The following agencies or individuals were contacted:

Contact	Information Received
Mr. Paul Fadden Business Administrator Hudson River Pyschiatric Center North Road Poughkeepsie, New York 12602 (914) 452-8000	Site history
Mr. Vladimir Bukovac Assistant Business Administrator Hudson River Psychiatric Center North Road Poughkeepsie, New York 12602 (914) 452-8000	Site history
Mr. Cliff Benward Hudson River Psychiatric Center North Road Poughkeepsie, New York 12602 (914) 452-8000	Locations of disposal areas
Mr. William Sullivan, P.E. Senior Sanitary Engineer New York State Department of Environmental Conservation 21 South Putt Corners Road New Paltz, New York 12561 (914) 255-5453	In-place toxics file
Mr. Jack Hill Director of Environmental Health Dutchess County Health Department County Office Building 22 Market Place Poughkeepsie, New York 12601 (914) 431-2044	Site file

Contact	Information Received
Mr. Louis A. Evans, Atty. New York State Department of Environmental Conservation 202 Mamaroneck Avenue White Plains, New York 10601-5381	No file
Mr. Charlie Shaw Dutchess County Environmental Management Council Route 44 Millbrook, New York 12545 (914) 677-3488	Site file
Mr. Marsden Chen, P.E. New York State Department of Environmental Conservation Bureau of Site Control 50 Wolf Road Albany, New York 12233-0001 (518) 457-0639	No file
Mr. Kevin Walter, Atty. New York State Department of Environmental Conservation Division of Hazardous Waste Enforcement 50 Wolf Road Albany, New York 12233-0001 (518) 457-5637	No file
Mr. John Iannotti, P.E. New York State Department of Environmental Conservation Bureau of Remedial Action 50 Wolf Road Albany, New York 12233-0001 (518) 457-5637	No file
Mr. Earl Barcomb New York State Department of Environmental Conservation Landfill Operations Vatrano Road Albany, New York 12205 (518) 457-2051	No file

Contact	Information Received
Mr. Peter Skinner, Atty. New York State Attorney General's Office Room 221 Justice Building Albany, New York 12224 (518) 474-2432	No file
Mr. Ron Tramontano/Mr. Charlie Hudson Bureau of Toxic Substance Assessment New York State Department of Health Tower Building 84 Holland Avenue Albany, New York 12237 (518) 473-8427	No file
Mr. Jim Covey New York State Department of Environmental Conservation Tower Building 84 Holland Avenue Albany, New York 12237 (518) 473-4637	Community Water Supply Atlas
Mr. Alvin Reilley New York State Department of Health Regional Director of PH Engineering 145 Huguenot Street Fifth Floor New Rochelle, New York 10801 (914) 632-4133	No file
Mr. Perry Katz U.S. Environmental Protection Agency Region II Room 757 26 Federal Plaza New York, New York 10278 (212) 264-4595	No file
Ms. Diana Messina U.S. Environmental Protection Agency Region II Surveillance and Monitoring Branch Woodbridge Avenue Edison, New Jersey 08837 (201) 321-6776	No file

4. SITE ASSESSMENT

4.1 SITE HISTORY

The Hudson River Psychiatric Center (HRPC), located on Route 9 in Poughkeepsie, New York, is the site of six small and inactive landfills which were used for municipal and institutional garbage (Appendix A1.1-1). The generators which disposed at the site were the City and Town of Poughkeepsie (municipal garbage) and HRPC (institutional wastes). The types and quantities of wastes are somewhat undefined but, in general, the wastes are expected to include household refuse, municipal trash and garbage, refrigerators, stoves, etc. The HRPC operated their own landfill on site until 1973 or 1974, for a period of approximately 100 years. One section (referred to as Area 2 on Figure 1-1) was used solely by the HRPC, while the remaining five areas were also used by the City or Town of Poughkeepsie (Appendixes A1.1-2 through A1.1-4). The City and/or Town of Poughkeepsie apparently used the HRPC sites between the 1950s and 1979 (Appendix A1.1-1). Site operational practices generally included appropriate daily soil cover (Appendixes A1.1-2 through A1.1-4). Any monitoring that took place is expected to have been limited at best, and no monitoring wells were installed. According to the Dutchess County Department of Health (DCDOH), there is no documentation available to suggest that toxic or hazardous wastes were ever deposited at this site. During the 1960s, complaints were issued by neighbors of the HRPC and by the DCDOH regarding the unsightly and unsanitary conditions at these landfills, and attempts were made by the DCDOH to improve operating conditions and/or to close the landfills (Appendixes A1.1-5 through A1.1-13). The areas were generally low and wet with visible springs or small streams. Leachate from the garbage began to color

standing water a brilliant red, and the organic muds in these low areas became extremely odorous. Many other problems with litter, lack of daily cover and compaction, and related operational deficiencies led to the closing of the landfills sometime during the mid- and late 1970s. Leachate and ponding problems occurred at both Landfill No. 5 and Landfill No. 6. Remedial actions for the problems at Area 5 included excavating and installing new concrete drainage pipe in the fill (Appendixes A1.1-2 through A1.1-4). Excavation was completed to an approximate depth of 25 feet. Clean fill and cover material were trucked in.

4.2 SITE TOPOGRAPHY

The HRPC site is located in Poughkeepsie, New York, and is composed of six separate landfill areas. Examination of a 1980 aerial photograph (Plate 1-1) indicates that a seventh area may be related to Area 5. This seventh area was not visited during EA's site inspection. The topography of each of the six areas visited by EA is described separately in each of the following sections.

Area 1, 14-5a

Disposal Area 1 is presently a golf course for the HRPC residents. The disposal area is located 100 feet northwest of the administrative offices for the HRPC. The area occupies approximately 2-3 acres and is located adjacent to a steep embankment to an unnamed tributary to the Hudson River. A stone fence is located on the northwest boundary of the site and is assumed to indicate the extent of landfilling. The area is grass covered and gently sloping, with

2-10 percent slopes on the top of the fill. The slope from the landfill perimeter to the surface water on the northwest side of the landfill is approximately 40 percent. The nearest residence to Area 1 is on the north side of the tributary, approximately 500 feet from the disposal area.

Area 2, 14-5b

The 2- to 3-acre landfill is at the termination point of an old railroad spur. It is located on the northeast side of the HRPC facility. The area is remote but accessible, since there is no fence restricting access. The landfill is gently sloping, approximately 8 percent slope to the creek which flows through the site.

Area 3, 14-5c

The landfill is located in the southeast corner of the HRPC facility, on the north side of the access road (Area 4 is located on the south side of the access road). The landfill occupies approximately 3 acres and includes a ball field. The prevailing site slope is approximately 5 percent and the area west of the ball field is relatively well vegetated with no apparent land use.

Area 4, 14-5d

Across the road from Area 3 is Area 4 which consists of 5 acres with an average slope of 6 percent. An underground, slate-lined drainage ditch passes through the site. It is unknown where this drain discharges. Bedrock outcrops are

present in the middle of the site. The extent of the landfilling is not discernible from topographic features. The area delineation previously defined by the DCDOH is assumed to be the extent of the landfill.

Area 5, 14-5e

The 3-acre disposal area is located in a wetland in the center of the HRPC. A stream which originally discharged through the area was covered during the landfilling at the site. As a result of this practice, significant ponding occurred, and it was necessary to construct a drainage system within the fill material. Access to the area is facilitated by a road which runs north of the area. The area is vegetated with grass and brush.

Area 6, 14-5f

This area borders a stream (discharging from Areas 2 and 5) which discharges to the Hudson River 2,000 feet downgradient from the site. There are evident seeps from the fill discharging to the stream. Red leachate and stained soil is evident on the banks. The slope from the top of the fill area to the stream is approximately 40 percent. The fill area is paved on the northwest part of the area. A pavillion is present in the middle of the area. Since it has been in place during the period of landfilling, it is assumed landfilling occurred around the building. An HRPC building is approximately 200 feet from the site.

4.3 SITE HYDROGEOLOGY

The surficial geology varies across the site and includes four general categories: silt and clay lacustrine deposits in the northwestern portion of the site, sand and gravel outwash deposits of glacial origin in the western and central portion, more than 3 feet of glacial till in the southeastern portion, and less than 3 feet of glacial till or exposed bedrock in the northeastern portion (Appendix A1.3-1). The regional surficial deposits are generally glacial till with occasional sand and gravel deposits of very limited areal extent.

The bedrock underlying the glacial sediment throughout most of the site is predominatly graywacke and shale of the Ordovician Age Austin Glen Formation. The eastern edge of the site is underlain by the western edge of a thrust sheet which is comprised of shale, argillite, and chert of the Ordovician Age Mt. Merino/ Indian River and Stuyvesant Falls Formations.

Based upon the available literature, the bedrock is designated as the aquifer of concern (Aquifer Nos. 1, 2, and 25 by Gerber as shown in Appendix A1.3-2). The aquifer of concern is bounded on the west by the Hudson River. This aquifer has been developed by wells as the public water supply for several residential subdivisions located north of the site. The reported depth to ground water varies from 7 feet below ground surface at Well Du 469 located about 2,000 feet southeast of Area 6, to 41 feet below ground surface at Well Du 757 located about 1,200 feet southeast of Area 6 (Simmons et al. 1961). The glacial sand and gravel deposit contiguous with the HRPC property and the glacial till have not been developed as a source of public water supply.

Based upon the available data, hydraulic connection between the glacial sediments and the bedrock aquifer of concern cannot be confirmed at the site. However, such a connection is possible, particularly in Area 4 (the southwestern portion of the property) where bedrock was observed to be exposed at ground surface, in the northwestern portion of the property where bedrock is reportedly overlain by less than 3 feet of glacial till (exposed at surface), and in the west where bedrock is reportedly overlain by unconsolidated sand and gravel.

Both the City of Poughkeepsie and the HRPC obtain their water from intakes along the Hudson River. However, each of these two intakes is immediately down river from the confluence of one of the two streams which drain the HRPC property. Most of the residential and commercial area surrounding the site is served by the City of Poughkeepsie water plant. There are some private homes that have not been connected to the City water system.

The data in this section is based upon:

1. Gerber, R.G. 1982. Final Report, Water Resources Study for Dutchess County: Hyde Park, Poughkeepsie, Pleasant Valley and Salt Point Quads with Surficial and Bedrock Aquifer Delineations.

2. Simmons, E.T. et al. 1961. Ground-Water Resource of Dutchess County, New York: Well Logs.



3. New York State Department of Health. 1982. New York State Atlas of Community Water System Sources.

4.4 SITE CONTAMINATION

Waste Types and Quantities

The type and quantities of wastes disposed of the HRPC landfills are somewhat unknown. The areas have been used by HRPC for institutional waste disposal for 100 years. An incinerator existed on site for the destruction of pathogenic and pharmaceutical wastes. Incinerator ash was disposed in an area separate from the sites in question. Other institutional wastes were disposed in the landfills identified. Area 2 was used by HRPC exclusively but the remaining five areas were also used by the City or the Town of Poughkeepsie. Therefore, there is a mixture of institutional wastes and municipal wastes in most of the areas.

In three of the areas, there is noticeable leachate flowing from the disposal areas to surface waters. No soil or water sample analyses are available to characterize the extent and nature of the observed leachate problems.

Ground Water

No data available.

Surface Water

No data available.



Soil

No data available.

Air

No data available.



HUDSON RIVER PSYCHIATRIC CENTER
TOWN OF POUGHKEEPSIE, DUTCHESS COUNTY

The Hudson River Psychiatric Center (HRPC), located on Route 9 in Poughkeepsie, New York, is the site of six small inactive landfills. The HRPC landfilled institutional wastes on site until 1973 or 1974, for a period of 100 years. The City and the Town of Poughkeepsie apparently used the small landfill areas for municipal wastes beginning in the 1950s and continuing until 1979. The six designated disposal sites range from 2 to 5 acres and are located throughout the 700+ acres of the HRPC of Dutchess County.

The landfills were created in topographic low areas such as streams and wetlands. As a result, heavy leachate seepage into an unnamed tributary to the Hudson River is occurring in at least two of the six landfills. A drainage system was constructed within one of the landfills to alleviate the problem.

The volume and characteristics of hazardous waste disposed at the site are unknown. Although the aquifer of concern is tapped by several wells to the north of the site and the HRPC and the City of Poughkeepsie obtain their water from intakes along the Hudson River, no data on ground water or surface water are available at this time. An estimated population of 1,889 is served by ground water in the aquifer of concern, within a 3-mile radius of the site. The population served by the surface water intakes from the Hudson River is estimated to be 32,000.

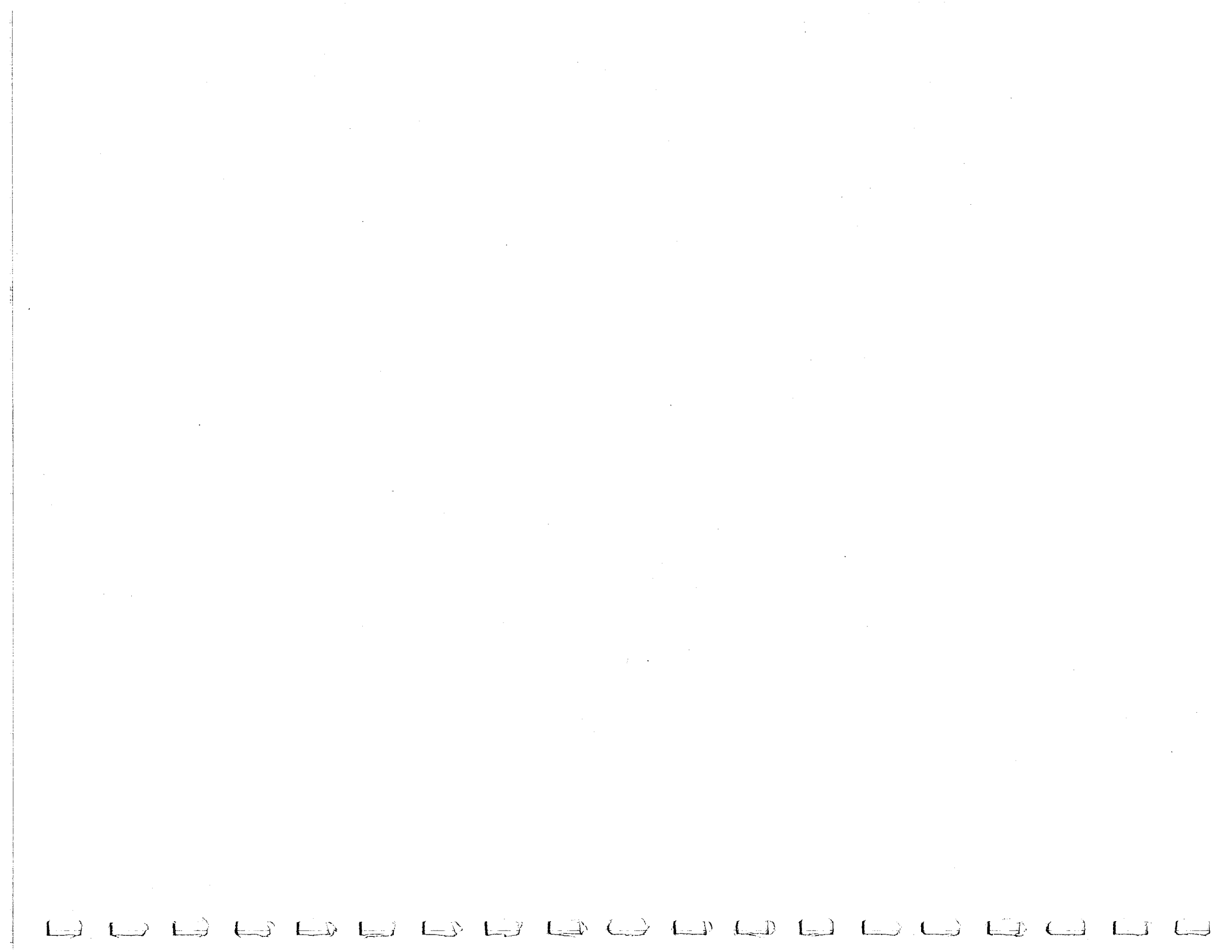
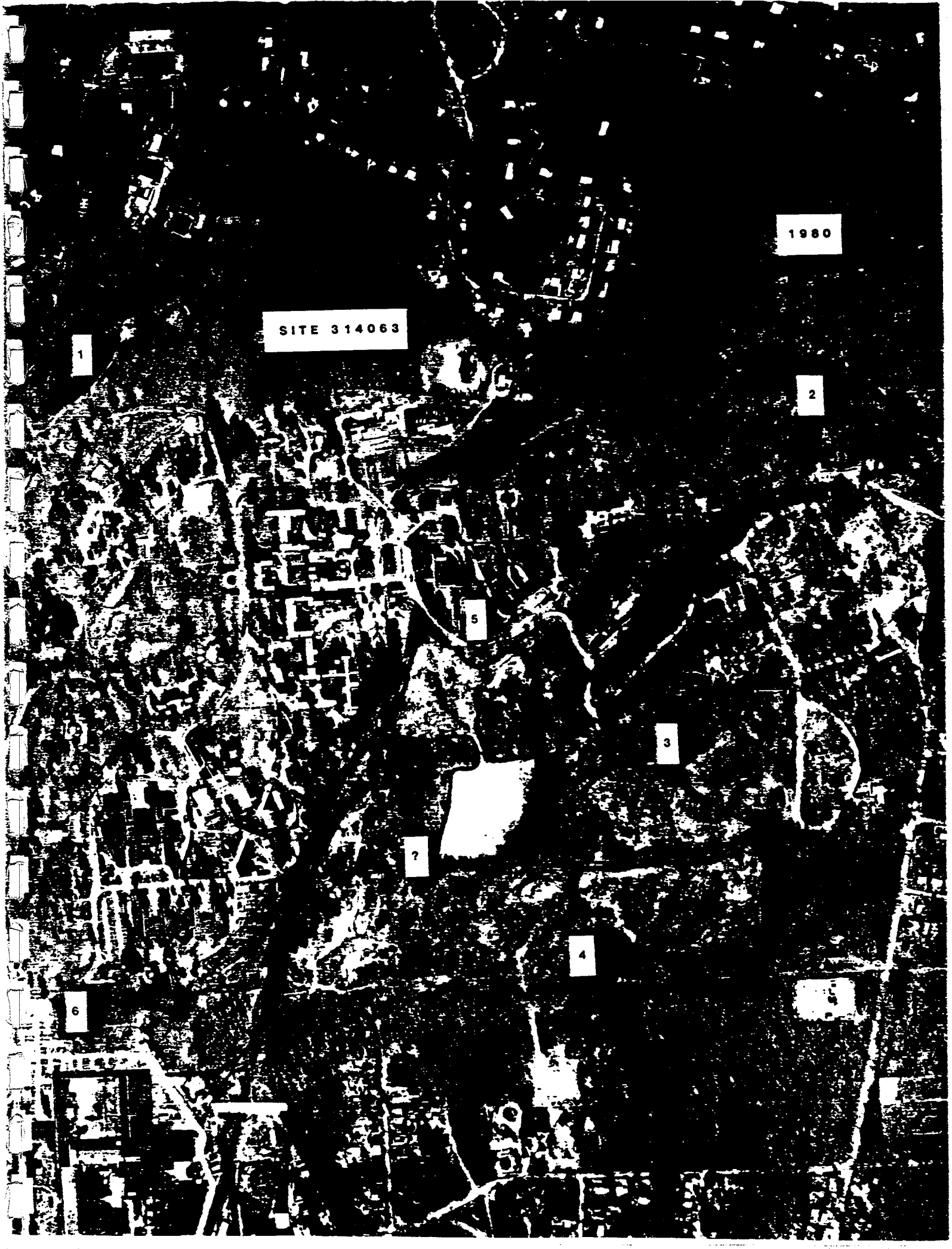


Plate 1-1. Aerial photograph (1980) of the Hudson River Psychiatric Center, with apparent extent of landfill areas outlined.




1980
SITE 314063
1
2
3
4
5
6
7



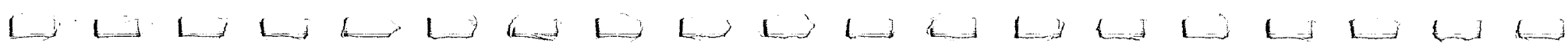
6. ASSESSMENT OF DATA ADEQUACY AND RECOMMENDATIONS

6.1 ADEQUACY OF EXISTING DATA

There is no data available on the surface water or ground water near the six landfill sites at the Hudson River Psychiatric Center. Leachate has been observed discharging from several of the landfill areas. Historically, there has been drainage problems through fill Area 5. A pipe has been installed in the fill to facilitate surface water discharge through the fill. Areas 2, 4, 5, and 6 are landfills in wetlands and/or streams. These areas should require more data/further investigation to adequately score the site.

6.2 RECOMMENDATIONS

Surface water and/or ground-water contamination is probable at four of the landfill locations. Although leachate seeps were not observed at two of the six sites, ground-water, and/or surface water contamination potential exists. Bedrock outcrops were observed at one site. The recommendations for a Phase II investigation includes investigating ground-water contamination at all the sites and surface water contamination at four of the sites where seeps from the landfill have been observed or where surface water discharges through the area landfilled.



6.3 PHASE II WORK PLAN

6.3.1 Task 1 - Mobilization and Site Reconnaissance

Project mobilization includes review of the Phase I report and updating the site data base with any new information made available since completion of the Phase I report. Based on that review, a draft scope of work for this site will be agreed to and a project schedule developed. At this time, a draft Quality Assurance/Quality Control (QA/QC) document will be prepared in accordance with the most up-to-date NYSDEC guidelines.

Site reconnaissance will be performed to examine general site access for Phase II studies. Site reconnaissance will familiarize key project personnel with the site, enable the project geologists to evaluate potential boring/well locations, and enable the project Health and Safety Officer to develop specific health and safety requirements for the field activities. Emergency, fire, and hospital services will be identified. Standard practice during site reconnaissance is an air survey with a HNU photoionization detector (HNU). The air survey would be performed around the site perimeter and throughout the site for safety purposes. Detection of releases to air during site reconnaissance may warrant further confirmation studies. Based on the Phase I study, it is expected that field activities will require only Level D health and safety protective measures.



6.3.2 Task 2 - Geophysics

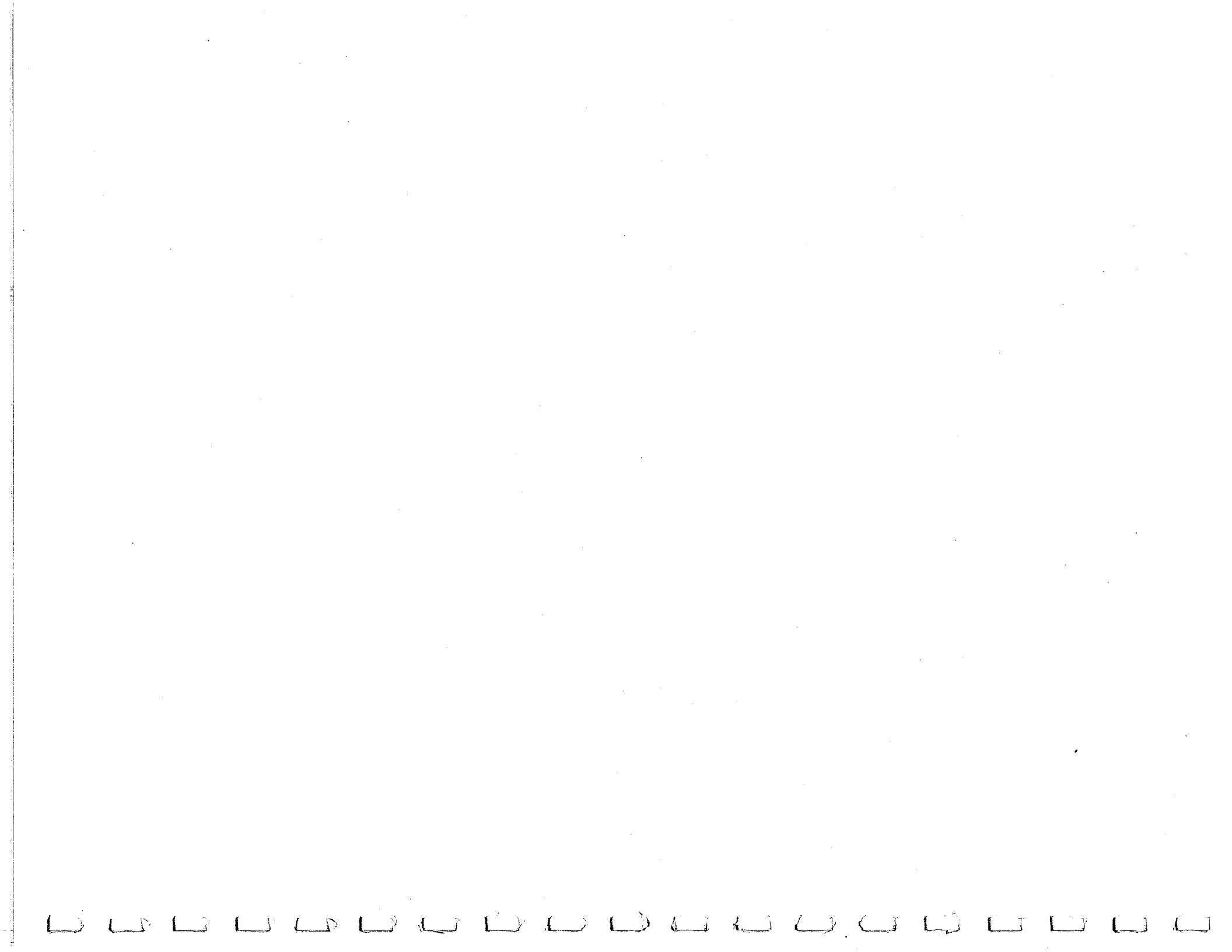
Multidepth EM and earth resistivity surveying will be performed around the perimeter of the six site areas to evaluate the potential presence of ground-water contaminant plumes and stratigraphic conditions. The number of stations and value of depth settings will be determined on the basis of field conditions. Results of the geophysics will be used to refine the specifications for locations, depths, and number of observation wells to be installed.

6.3.3 Task 3 - Preparation of Final Sampling Plan

All data collected during Tasks 1 and 2 will be evaluated to finalize sampling and boring/well locations. The final sampling plan will be developed and submitted to NYSDEC for approval. The plan will include final sampling locations, boring and well specifications, and reference pertinent portions of the QA/QC Plan. A final budget will be developed to complete the drilling and sampling program.

6.3.4 Task 4 - Test Borings and Observations Wells

Based upon currently available information, EA recommends the installation of 11 borings/observation wells. This work would be performed under the fulltime supervision of a geologist. It is anticipated that the following drilling methods will be used: (1) hollow-stem auger in the unconsolidated sediments, and (2) air or water rotary in bedrock. Prior to the drilling of



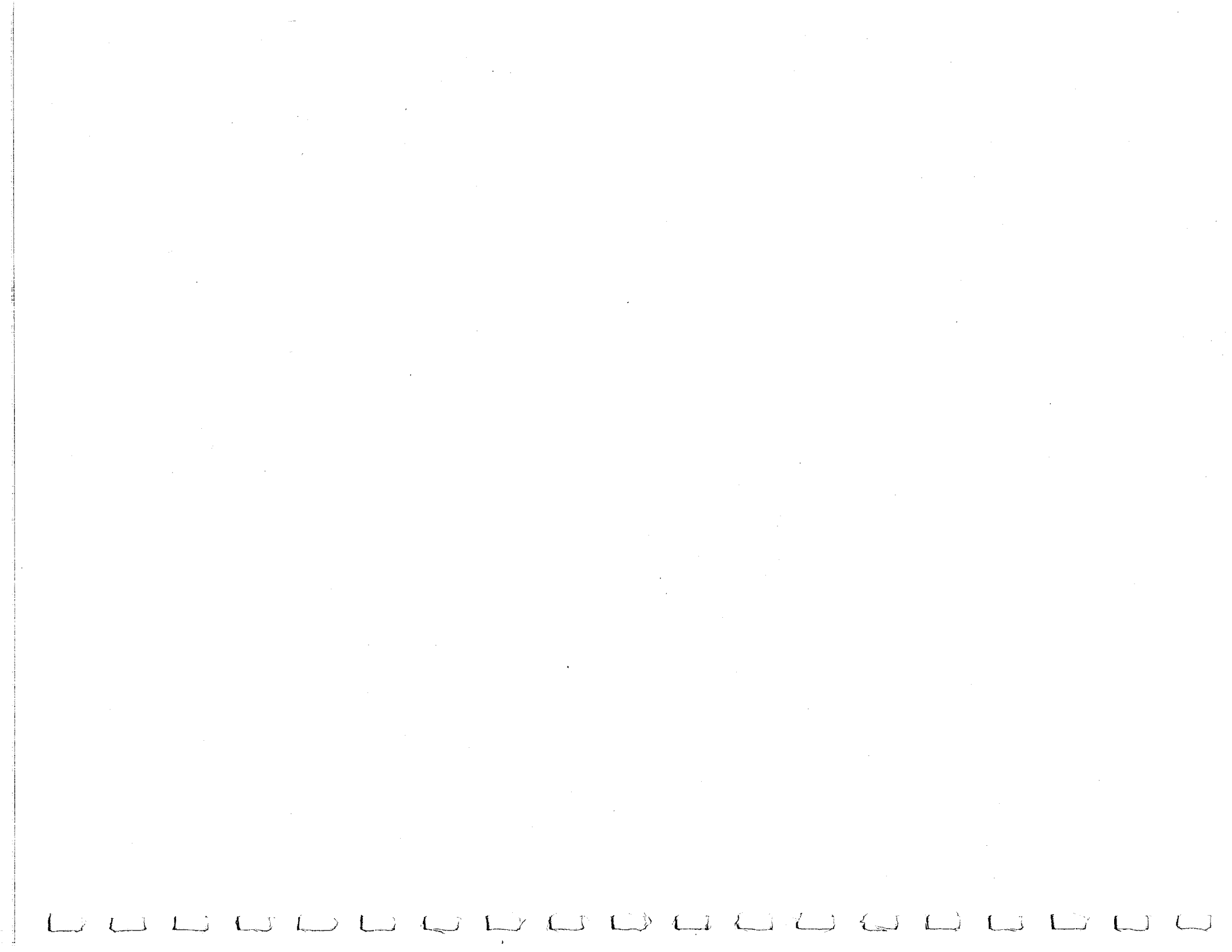
each boring/well, and at the completion of the last boring/well, the drilling equipment which comes in contact with subsurface materials will be steam-cleaned, as well as the split spoon sampler after obtaining each sample. Soil sampling will be performed using a split spoon sampler at approximately 5-ft intervals and at detected major stratigraphic changes. An HNU would be used to monitor the potential organic vapors emitted during drilling operations and from each soil sample. Samples of major soil/unconsolidated sediment units will be collected for grain-size analysis.

It is anticipated that the wells to be installed at this site will be completed in bedrock, approximately 10-15 feet below the ground-water table. Standard construction of such a well would include 10 feet of 4-in. diameter threaded-joint PVC screen and an appropriate length of PVC riser with a bottom plug cap, sand pack, bentonite seal, and protective surficial steel casing with a locking cap.

Upon completion and development of the wells by air surging/pumping, the vertical elevation of the upper rim of each well casing will be surveyed in order to aid in evaluation of the ground-water flow direction. Depending upon the yield of each Phase II well, a short-term, low-yield pumping test will be performed in each well.

For cost estimating purposes, it is assumed that:

a. The depth of each of the 11 wells will average 25 feet below ground surface.



b. The 11 wells will require 20 days to install, develop, and test.

c. All drill sites are accessible by truck-mounted drilling rigs as determined by the driller.

d. There are no excessive amounts of cobbles/boulders which would increase drilling time.

e. Steam-cleaning of drilling/sampling equipment will be performed at each boring/well location. The fluids will be discharged to ground surface.

f. All drill cuttings, fluids, and development water will be left on, or discharged to, the ground surface in the immediate area of the activity.

g. That permission from appropriate land owners to drill borings/wells on their property will be a simple process (expedited by the NYSDEC, if necessary) so that delays during field operations are not incurred.

6.3.5 Task 5 - Sampling

All sampling and analysis will be conducted in accordance with the project QA/QC Plan. The analytical program for every water and sediment sample will include the 130 organic and 25 inorganic parameters listed in Statement of Work No. 784, New York State Department of Environmental Conservation Superfund and Contract Laboratory Protocol, January 1985. Also, all additional non-priority pollutant GC/MS major peaks will be identified and quantified. Major peaks

will be considered as those whose area is 10 percent or greater than the calibrating standard(s). Based upon the currently available information, collection and analysis of the following numbers and types of samples is recommended:

11 Ground-water samples (one from each Phase II well).

6 Surface water samples.

1 Leachate sample from Area 6.

7 Sediment samples (one from each surface water and leachate sample location).

6.3.6 Task 6 - Contamination Assessment

EA will evaluate the data obtained during the records search and field investigation: prepare final HRS scores and documentation forms; complete EPA Form 2070-13 and Part One of 2070-12 and summarize site history, site characteristics, available sampling and analysis data; and determine the adequacy of the existing data to confirm release, and if there is a population at risk.



6.3.7 Task 7 - Remedial Cost Estimate

EA will evaluate remedial alternatives for the site and develop a list of potential options given the information available on the nature and extent of contamination. Approximate costs estimates for the selected potential remedial options will be computed. This work is not intended to be, or a substitute for, a formal cost effectiveness analysis of potential remedial actions.

6.3.8 Task 8 - Final Phase II Report

In accordance with current (January 1985) NYSDEC guidelines, the Phase II report will include:

a. The results of the Phase II investigation, complete with boring logs, photos, and sketches developed as part of the Phase II field work.

b. Final HRS scores with detailed documentation.

c. Selected potential remedial alternatives and associated cost estimates.

In addition to the final Phase II report, the following raw data and resulting reduction would be provided to NYSDEC:

a. geophysical
b. well logs
c. all sampling forms and data
d. all analytical data

e. chain-of-custody forms

f. soil sampling forms and classifications

g. other collected information.

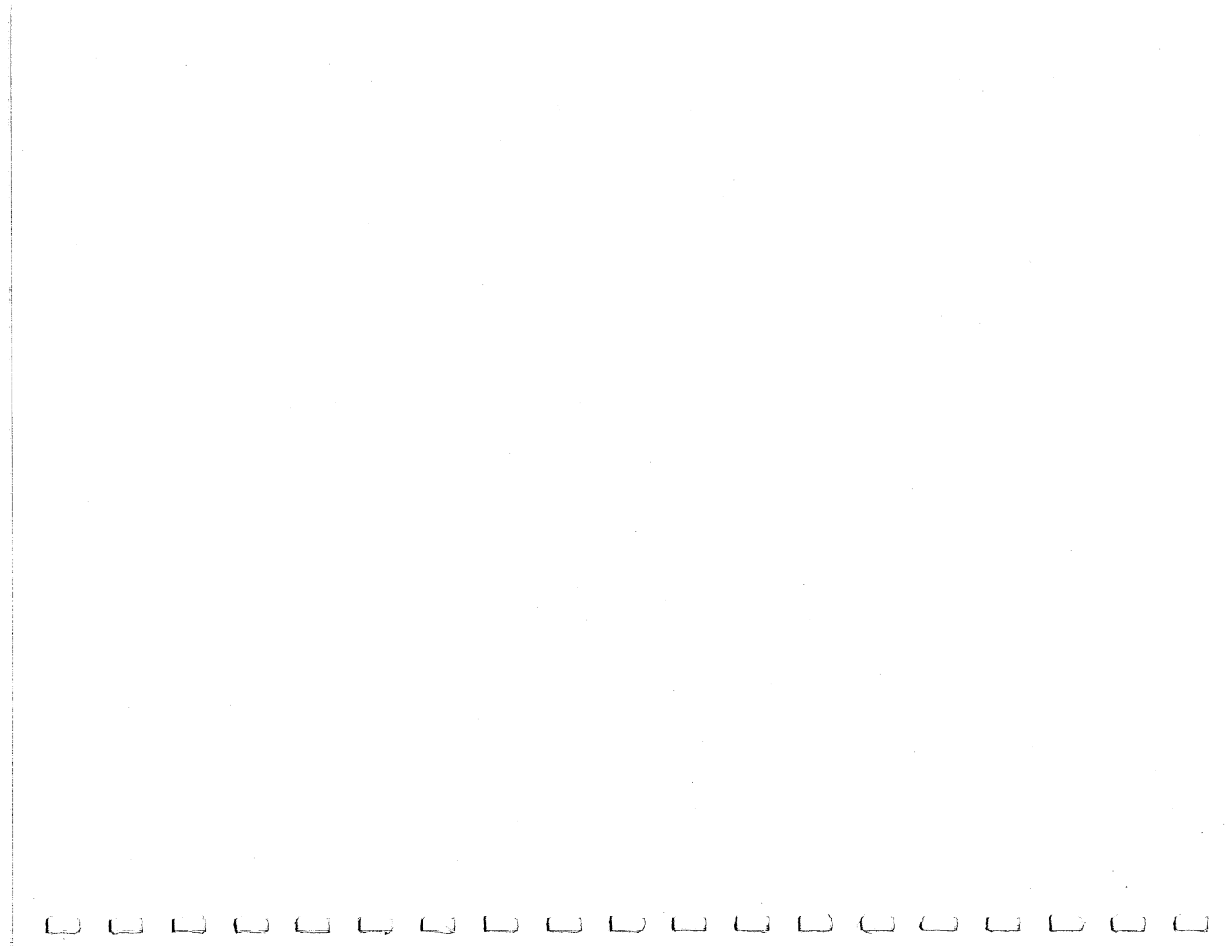
6.3.9 Task 9 - Project Management/Quality Assurance

A Project Manager will be responsible for the supervision, direction, and review of the project activities on a day-to-day basis. A Quality Assurance Officer will ensure that the QA/QC Program protocols are maintained and that the resultant analytical data are accurate.

6.4 PHASE II COST ESTIMATE

Based on the scope of work and assumptions described above, the estimated costs to complete the Phase II investigation of the Hudson River Psychiatric Center site are as follows:

Consultant Costs (including labor, direct costs, fee)	$ 57,385
Drilling Contractor	32,740
Laboratory	50,000
Total	$140,125



DOCUMENTATION RECORDS
FOR
HAZARD RANKING SYSTEM

INSTRUCTIONS: The purpose of these records is to provide a convenient way to prepare an auditable record of the data and documentation used to apply the Hazard Ranking System to a given facility. As briefly as possible, summarize the information you used to assign the score for each factor (e.g., "Waste quantity = 4,230 drums plus 800 cubic yards of sludges"). The source of information should be provided for each entry and should be a bibliographic-type reference that will make the document used for a given data point easier to find. Include the location of the document and consider appending a copy of the relevant page(s) for ease in review.

FACILITY NAME: Hudson River Psychiatric Center

LOCATION: Poughkeepsie, Dutchess County, New York

GROUND WATER ROUTE

1 OBSERVED RELEASE

Contaminants detected (5 maximum):

No observed release. Assigned value = 0.

Rationale for attributing the contaminants to the facility:

Not applicable.

***

2 ROUTE CHARACTERISTICS

Depth to Aquifer of Concern

Name/description of aquifer(s) of concern:

Based on the available literature, the bedrock is designated as the aquifer of concern. The bedrock underlying the glacial sediment is predominantly graywacke and shale of the Ordovician Age Austin Glen Formation. The eastern edge of the site is underlain by the western edge of a thrust sheet comprised of shale, argillite, and chert of the Ordovician Age Mt. Merino/Indian River and Stuyvesant Falls Formation. The aquifer of concern is bounded on the west by the Hudson River and the aquifer has been developed by wells as public water supply for residential developments north of the site.

References:

1. Gerber, R.G. 1982. Final Report Water Resources Study for Dutchess County: Hyde Park, Poughkeepsie, Pleasant Valley and Salt Point Quads.

2. Simmons, E.T. et al. 1961. Ground-Water Resource of Dutchess County, New York: Well Logs.

3. New York State Department of Health. 1982. New York State Atlas of Community Water System Sources.

Depth(s) from the ground surface to the highest seasonal level of the saturated zone (waste table[s]) of the aquifer of concern:

7 foot reported in Well Du 469; bedrock exposed at ground surface in Area 4.

Depth from the ground surface to the lowest point of waste disposal/storage:

Assumed to be <6 feet. Depth to aquifer of concern $D_{(gw)} - D_{(fill)}$ = 1 foot. Assigned value = 3.



Net Precipitation

Mean annual or seasonal precipitation (list months for seasonal):

Mean annual = 40 inches.

Reference: Cornell Univ. Agr. Expt. Sta. Bulletin 1009, Ithaca, New York.

Mean annual lake or seasonal evaporation (list months for seasonal):

Mean annual = 28 inches.

Reference: Federal Register Vol. 47 No. 137, July 16, 1982.

Net precipitation (subtract the above figures):

12 inches. Assigned value = 2.

Permeability of Unsaturated Zone

Soil type in unsaturated zone:

Hoosic gravelly sand loam.

Reference: USGS, 1955. Soil Survey of Dutchess County.

Permeability associated with soil type:

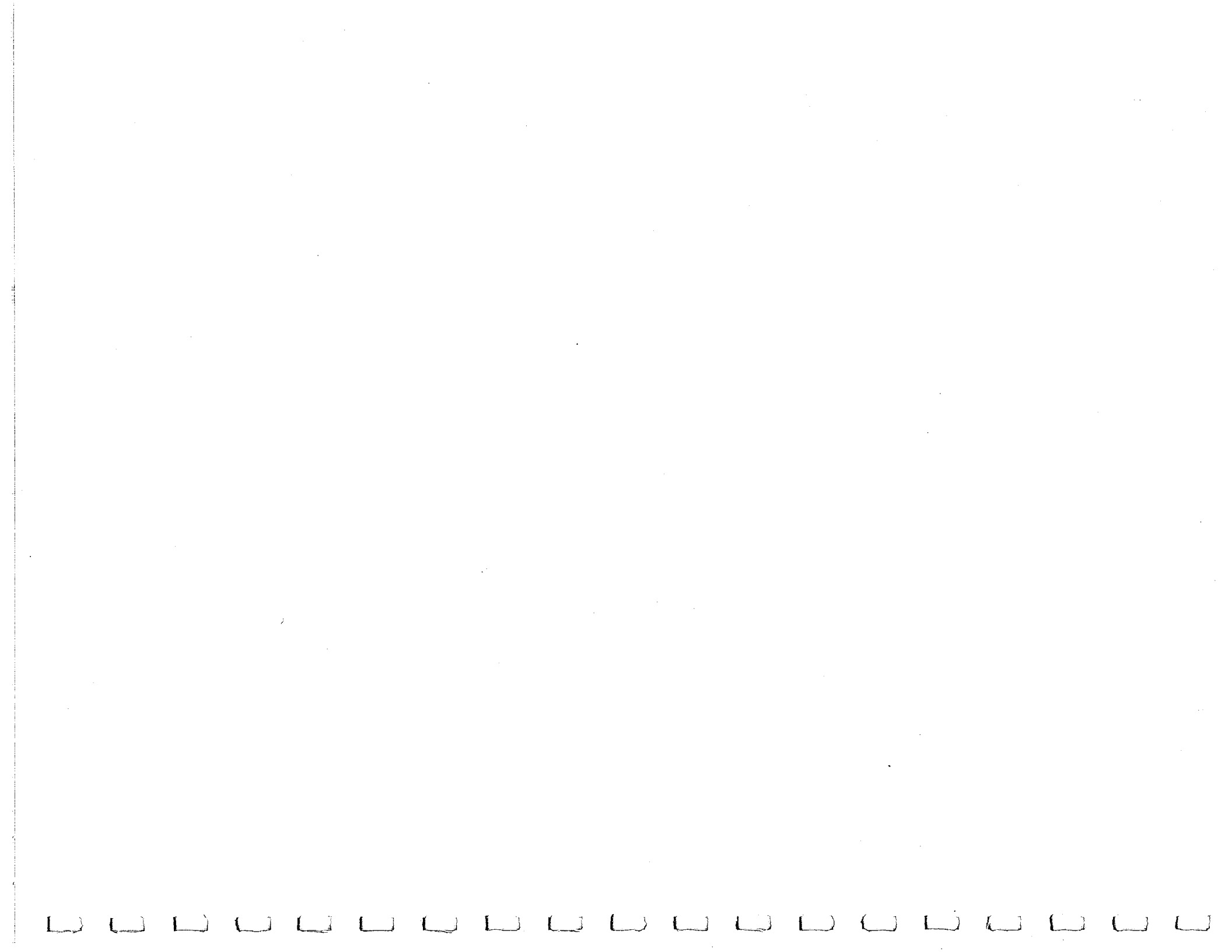
Moderately permeable, estimated range 10^{-3}-10^{-5} cm/sec. Assigned value = 2.

Physical State

Physical state of substances at time of disposal (or at present time for generated gases):

Garbage, refuse. Assigned value = 1.

***



3 CONTAINMENT

Containment

Method(s) of waste or leachate containment evaluated:

No liner, no runon/runoff control.

Method with highest score:

No liner.

Reference: EA Site Inspection, 15 January 1985.

Assigned value = 3.

4 WASTE CHARACTERISTICS

Toxicity and Persistence

Compound(s) evaluated:

Unknown.

Compound with highest score:

Assigned value = 0.

Hazardous Waste Quantity

Total quantity of hazardous substances at the facility, excluding those with a containment score of 0 (Give a reasonable estimate even if quantity is above maximum):

Unknown quantity of hazardous waste.

Basis of estimating and/or computing waste quantity:

Not applicable. Assigned value = 0.

***

5 TARGETS

Ground Water Use

Use(s) of aquifer(s) of concern within a 3-mile radius of the facility:

The aquifer of concern has been developed by wells for public water supplies for several subdivisions within the City limits.

Assigned value = 3.

Distance to Nearest Well

Location of nearest well drawing from aquifer of concern or occupied building not served by a public water supply:

The nearest well drawing from the aquifer is a private residence, approximately 500 feet north of the disposal area designated Area 1.

Distance to above well or building:

500 feet. Assigned value = 4.

Reference: EA Site Inspection, 15 January 1985.
USGS. 1982. Poughkeepsie, NY 7.5-Minute Series Quad.

Population Served by Ground Water Wells Within a 3-Mile Radius

Identified water supply well(s) drawing from aquifer(s) of concern within a 3-mile radius and populations served by each:

The aquifer of concern is the bedrock within a 3-mile radius up to the Hudson River on the west.

Community Water Supplies:	Population
Eleanor Roosevelt	200
Franton Villas	50
Green Meadow Trailer Court	44
Hyde Park Terrace Apt.	70
M&D Mobile Home Park	108
Valley Forge Mobile Home Park	60
Willow Tree Park	30
Woodfield Apt.	7
Haviland Apt.	100
Total	669

Reference: New York State Department of Health. 1982. New York State Atlas of Community Water System Sources.

Homes with private wells:

321 x 3.8 persons	1,222
Total	1,889

Reference: Poughkeepsie, Hyde Park, and Pleasant Valley Quads.

Computation of land area irrigated by supply well(s) drawing from aquifer(s) of concern within a 3-mile radius, and conversion to population (1.5 people per acre):

Unknown.

Total population served by ground water within a 3-mile radius:

1,889. Assigned value = 3. Combined value = 30.

SURFACE WATER ROUTE

1 OBSERVED RELEASE

Contaminants detected in surface water at the facility or downhill from it (5 maximum):

No data on release to surface water. Assigned value = 0.

Rationale for attributing the contaminants to the facility:

Not applicable.

***

2 ROUTE CHARACTERISTICS

Facility Slope and Intervening Terrain

Average slope of facility in percent:

Average slopes for Sites 1-6 ranged from 2 to 32 percent.

Reference: EA Site Inspection, 15 January 1985.

Name/description of nearest downslope surface water:

Unnamed tributary to Hudson River.

Average slope of terrain between facility and above-cited surface water body in percent:

Not applicable, sites are located partially in surface water.

Is the facility located either totally or partially in surface water?

Yes.

Reference: USGS. 1982. Poughkeepsie, NY 7.5 Minute Series Quad.
New York State Department of Health. 1982.
New York State Atlas of Community Water System Sources.
EA Site Inspection, 15 January 1985.

Assigned value = 3.

Is the facility completely surrounded by areas of higher elevation?

The facility is not completely surrounded by higher elevation.

1-Year, 24-Hour Rainfall in Inches

2.5 inches

Reference: U.S. Department of Commerce. 1963. Rainfall Frequency Atlas of the U.S. TP 40.

Assigned value = 2.

Distance to Nearest Downslope Surface Water

0 feet - surface water discharges through the fill material.

Assigned value = 3.

Physical State of Waste

Garbage, refuse. Assigned value = 1.

***

3 CONTAINMENT

Containment

Method(s) of waste or leachate containment evaluated:

Landfill, no runon/runoff control.

Method with highest score:

Landfill, not covered, no diversion.

Assigned value = 3.

4 WASTE CHARACTERISTICS

Toxicity and Persistence

Compound(s) evaluated

Unknown. Assigned value = 0.

Compound with highest score:

Not applicable.

Hazardous Waste Quantity

Total quantity of hazardous substances at the facility, excluding those with a containment score of 0 (Give a reasonable estimate even if quantity is above maximum):

Unknown. Assigned value = 0.

Basis of estimating and/or computing waste quantity:

Not applicable.

***

5 TARGETS

Surface Water Use

Use(s) of surface water within 3 miles downstream of the hazardous substance:

The Hudson River which is the receiving water for the unnamed tributaries through the site is the drinking water supply for both the City of Poughkeepsie and the Hudson River Psychiatric Center.

Reference: New York State Department of Health. 1982. New York State Atlas of Community Water System Sources.

Assigned value = 3.

Is there tidal influence?

Yes.

Distance to a Sensitive Environment

Distance to 5-acre (minimum) coastal wetland, if 2 miles or less:

None.

Distance to 5-acre (minimum) freshwater wetland, if 1 mile or less:

1,500 feet.

Reference: USGS. 1982. Poughkeepsie, NY 7.5-Minute Series Quad.

Distance to critical habitat of an endangered species or national wildlife refuge, if 1 mile or less:

0.25-1.0 mile. The Hudson River channel due west of the HRPC site is considered an important shortnose sturgeon (Acipenser brevirostrum) wintering habitat and may be used at other times of the year as well. The Significant Habitat Unit is recommending that the deepwater portion of the river in this area be designated by the NYSDEC as a "significant coastal fish and wildlife habitat."

Assigned value = 2.

Reference: Brown, L. 1985. Personal Communication, 9 October 1985. Significant Habitat Unit, New York State Department of Environmental Conservation, Delmar, New York.

SW-4

Versar Inc., Laboratory Operations
6850 Versar Center, Springfield VA 22151 (703) 750-3000

SAMPLE ID
BI-979

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

	CAS Number	Compound Name	Fraction	RT or Scan	Estimated Concentration (ug/Kg or ug/l)
11.		NO VOLATILES DETECTED	VOA	NA	NA
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
110.					
111.					
112.					
113.					
114.					
115.					
116.					
117.					
118.					
119.					
120.					
121.					
122.					
123.					
124.					
125.					
126.					
127.					
128.					
129.					
130.					

300084



SW-4

Versar Inc., Laboratory Operations
6850 Versar Center, Springfield VA 22151 (703) 750-3000

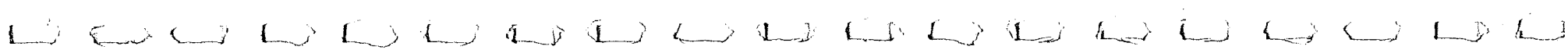
SAMPLE ID
BI979

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

	CAS Number	Compound Name	Fraction	RT or Scan	Estimated Concentration (ug/Kg or ug/l)
1.		NO SEMIVOLATILES DETECTED	BNA	NA	NA
2.					
3.					
4.					
5.					
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28.					
29.					
30.					

300085



U.S. ENVIRONMENTAL PROTECTION AGENCY — EPA Sample Management Office
P.O. Box 818, Alexandria, VA 22313 — 703-557-2490 — FTS 557-2490

INORGANICS TRAFFIC REPORT

Sample Number
MBI 478

(1) Case Number: 6889
Sample Site Name/Code:
Hudson River Pgm C

(2) SAMPLE CONCENTRATION
(Check One)
X Low Concentration
___ Medium Concentration

(3) SAMPLE MATRIX
(Check One)
X Water
___ Soil/Sediment

(4) Ship To:
Century Labs
Attn: KEN BOND
Transfer
Ship To:

(5) Sampling Office: FIT II
Sampling Personnel:
(Name) S. BULLIS
(Phone) 201-225-6166
Sampling Date:
(Begin) 2/26/87 (End) 2/26/87

(6) Shipping Information:
Name Of Carrier: Federal Express
Date Shipped: 2/26/87
Airbill Number: 4955164773

(7) Sample Description:
(Check One)
X Surface Water
___ Ground Water
___ Leachate
___ Mixed Media
___ Solids
___ Other
(specify) BI 999
MATCHES ORGANIC SAMPLE NO.

(8) Mark Volume Level
On Sample Bottle
Check Analysis required
X Total Metals
___ Cyanide

N453 SW4

SMO COPY



SW-4

Form I

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.
MB1-477

Date 4-2-87

INORGANIC ANALYSIS DATA SHEET

LAB NAME Century Laboratories, Inc. CASE NO. 644

SOW NO. 785

LAB SAMPLE ID. NO. 0017-07 QC REPORT NO. 021

Elements Identified and Measured

Concentration: Low ✓ Medium _____

Matrix: Water ✓ Soil _____ Sludge _____ Other _____

Units: ug/L or mg/kg dry weight (Circle One)

1. Aluminum	20.0P E	13. Potassium	9160P B
2. Antimony	~~30.0P N~~	14. Selenium	5.0UP
3. Arsenic	5.0UF	15. Silver	~~8.2UW~~
4. Barium	20UP	16. Sodium	20UP
5. Beryllium	5.0UP	17. Thallium	2160P
6. Cadmium	4.0UP	18. Vanadium	5.0UF
7. Calcium	74100P	19. Zinc	10UP
8. Chromium	10UP	20. Cyanide	71,600PE
9. Cobalt	10UP	21. Antimony	1.0UFW
10. Copper	6.0UP	22. Tungsten	10UP
11. Iron	109P	23. Tin	10UP
12. Lead	<3.0?F	Percent Solids (%)	N/A

Comments: See reporting results on EPA, specific result qualifiers are used as defined on cover page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explained and submitted on cover page, however.

Comments: Clear liquid
10 E = per. dil

Lab Manager Kenneth Ford



U.S. ENVIRONMENTAL PROTECTION AGENCY / EPA/ESD Sample Management Office
P.O. Box 818, Alexandria, Virginia 22313 — 703/557-2490 — FTS/557-2490

ORGANICS TRAFFIC REPORT

Sample Number
BI 980

① Case Number: 6889

Sample Site Name/Code: Hudson R. PS4 C.

② SAMPLE CONCENTRATION (Check One)
X Low Concentration
___ Medium Concentration

③ SAMPLE MATRIX (Check One)
X Water
___ Soil/Sediment

④ Ship To: Versar Inc.

Attn: C. Carter

Transfer Ship To:

⑤ Regional Office: II

Sampling Personnel: S. Bullis (Name)

201-225-6160 (Phone)

Sampling Date: 2/26/87 (Begin) (End)

⑥ For each sample collected specify number of containers used and mark volume level on each bottle.

	Number of Containers	Approximate Total Volume
Water (Extractable)	2	160 g
Water (VOA)	2	80 ml
Soil/Sediment (Extractable)		
Soil/Sediment (VOA)		
Other PEST/PCB	1	80 g

⑦ Shipping Information

Federal Express Name of Carrier

2/26/87 Date Shipped:

495164935 Airbill Number:

⑧ Sample Description

X Surface Water ___ Mixed Media
___ Ground Water ___ Solids
___ Leachate ___ Other (specify) ___

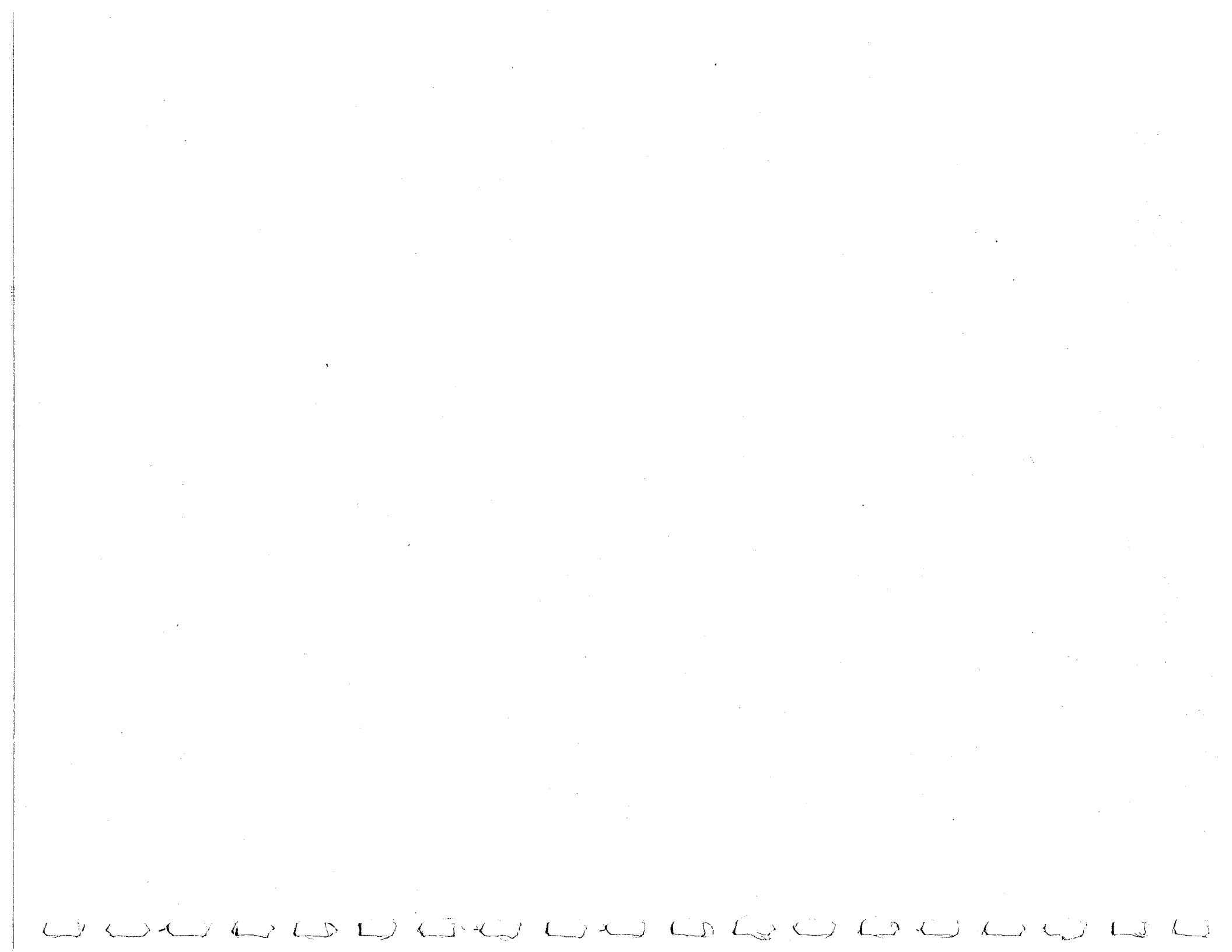
⑨ Sample Location

N753 SW 5

⑩ Special Handling Instructions: (e.g., safety precautions, hazardous nature)

Matches Dioxins MB1479

SMO COPY



SW-5

Versar, Inc., Laboratory Operations
6850 Versar Center, Springfield VA 22151 (703) 750-3000

Sample Number
BI-980

ORGANICS ANALYSIS DATA SHEET (Page 1)

Laboratory Name: VERSAR
Lab Sample ID No: 23896
Sample Matrix: WATER
Data Release Authorized By:

Case No: 6889
QC Report No: 6889
Contract No: 68-01-7082
Date Sample Received: 02/27/87

VOLATILE COMPOUNDS

Concentration: LOW
Date Extracted/Prepared: 03/04/87
Date Analyzed: 03/04/87
Conc/Dil Factor: 1 pH NA
Percent Moisture: 100

CAS Number		ug/l
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	5 u
67-64-1	Acetone	10 u
75-15-0	Carbon Disulfide	5 u
75-35-4	1,1-Dichloroethene	5 u
75-34-3	1,1-Dichloroethane	5 u
156-60-5	Trans-1,2-Dichloroethene	5 u
67-66-3	Chloroform	5 u
107-06-2	1,2-Dichloroethane	5 u
78-93-3	2-butanone	10 u
71-55-6	1,1,1-Trichloroethane	5 u
56-23-5	Carbon Tetrachloride	5 u
108-05-4	Vinyl Acetate	10 u
75-27-4	Bromodichloromethane	5 u

CAS Number		ug/l
78-87-5	1,2-Dichloropropane	5 u
10061-02-6	Trans-1,3-Dichloropropene	5 u
79-01-6	Trichloroethene	5 u
124-48-1	Dibromochloromethane	5 u
79-00-5	1,1,2-Trichloroethane	5 u
71-43-2	Benzene	5 u
10061-01-5	cis-1,3-Dichloropropene	5 u
110-75-8	2-chloroethylvinylether	10 u
75-25-2	Bromoform	5 u
108-10-1	4-Methyl-2-Pentanone	10 u
591-78-6	2-Hexanone	10 u
127-18-4	Tetrachloroethene	5 u
79-34-5	1,1,2,2-Tetrachloroethane	5 u
108-88-3	Toluene	JB
108-90-7	Chlorobenzene	5 u
100-41-4	Ethylbenzene	5 u
100-42-5	Styrene	5 u
	Total Xylenes	5 u

Data Reporting Qualifiers

lue If the result is a value greater than or equal to the detection limit, report the value.

Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample.

Estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response factor is assumed, or when the mass spectral data indicates the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero. (e.g. 10J)

C This flag applies to pesticide parameters where the identification has been confirmed by GC/MS.

B This flag is used when the analyte is found in the blank as well as the sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.

VOAF1: REV062486

Form I

300106



SW-5

Versar Inc., Laboratory Operations
6850 Versar Center, Springfield VA 22151 703/750-3000

Sample Number
BI980

Case No: 6889

ORGANICS ANALYSIS DATA SHEET (Page 2)
Semivolatile Compounds

Concentration: LOW

Date Extracted/Prepared: 03/01/87

Date Analyzed: 03/17/87

Conc/Dil Factor: 1.2

GPC Cleanup [ ]Yes [ ]No

Separatory Funnel Extraction [ ]Yes

Continuous Liquid-Liquid Extraction [X]Yes

CAS Number		ug/l
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
100-51-6	Benzyl Alcohol	10 u
95-50-1	1,2-Dichlorobenzene	10 u
95-48-7	2-Methylphenol	10 u
39638-32-9	bis(2-chloroisopropyl)ether	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
89-75-5	2-Nitrophenol	10 u
105-67-9	2,4-dimethylphenol	10 u
65-85-0	Benzoic Acid	50 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	50 u
91-58-7	2-Chloronaphthalene	10 u
88-74-4	2-Nitroaniline	50 u
131-11-3	Dimethyl Phthalate	10 u
208-96-8	Acenaphthylene	10 u
99-09-2	3-Nitroaniline	50 u

CAS Number		ug/l
83-32-9	Acenaphthene	10 u
51-28-5	2,4-Dinitrophenol	50 u
100-02-7	4-Nitrophenol	50 u
132-64-9	Dibenzofuran	10 u
121-14-2	2,4-Dinitrotoluene	10 u
606-20-2	2,6-Dinitrotoluene	10 u
84-66-2	Diethylphthalate	10 u
7005-22-3	4-Chlorophenyl-phenylether	10 u
86-73-7	Fluorene	10 u
100-01-6	4-Nitroaniline	50 u
534-52-1	4,6-dinitro-2-methylphenol	50 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	50 u
85-01-8	Phenanthrene	10 u
120-12-7	Anthracene	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	20 u
56-55-3	Benzo(a)anthracene	10 u
117-81-7	bis(2-Ethylhexyl)Phthalate	10 u
218-01-9	Chrysene	10 u
117-84-0	Di-n-Octylphthalate	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

BNAF1:R032286

Form I

300107



SW-5

Versar Inc. Laboratory Operations
6850 Versar Center, Springfield Va. 22151
(703) 750-3000

Sample Number
BI 980

ORGANICS ANALYSIS DATA SHEET
(Page 3)

Pesticides/PCBs

Concentration: Low | Medium (circle one)

GPC Cleanup [ ] Yes [X] No

Date Extracted/Prepared: 2-28-87

Separatory Funnel Extration [ ] Yes

Date Analyzed: 3-10-87

Continuous Liquid-Liquid Extraction [X] Yes [ ] No

Conc/Dil Factor 1.00

Percent Moisture(decanted) 0.00

CAS Number		ug/l
319-84-6	alpha-BHC	0.05 u
319-85-7	beta-BHC	0.05 u
319-86-8	delta-BHC	0.05 u
58-89-9	gamma-BHC (Lindane)	0.05 u
76-44-8	Heptachlor	0.05 u
309-00-2	Aldrin	0.05 u
1024-57-3	Heptachlor Epoxide	0.05 u
959-98-8	Endosulfan I	0.05 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	0.10 u
53494-70-5	Endrin Ketone	0.10 u
57-74-9	Chlordane	0.50 u
8001-35-2	Toxaphene	1.0 u
12674-11-2	Aroclor-1016	0.50 u
11104-28-2	Aroclor-1221	0.50 u
11141-16-5	Aroclor-1232	0.50 u
53469-21-9	Aroclor-1242	0.50 u
12672-29-6	Aroclor-1248	0.50 u
11097-69-1	Aroclor-1254	1.0 u
11096-82-5	Aroclor-1260	1.0 u

S. Zoufahan
3-10-87

Vi = Volume of extract injected (ul)
Vs = Volume of Water Extracted (ml)
Ws = Weight of sample extracted (g)
Vt = Volume of total extract (ul)

Vs 1000.00 or Ws _____ Vt 10000 Vi 2.00

300106



SW-5

ersar Inc., Laboratory Operations
350 Versar Center, Springfield VA 22151 (703) 750-3000

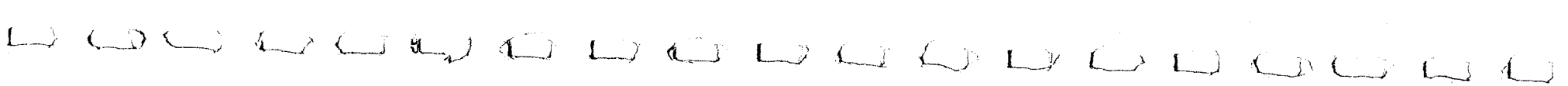
BI-980

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

	CAS Number	Compound Name	Fraction	RT or Scan	Estimated Concentration (ug/Kg or ug/l)
1.	124-38-9	CARBON DIOXIDE	VOA	27	7 J
2.					
3.					
4.					
5.					
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29.					
30.					

300109



SW-5

Versar Inc., Laboratory Operations
6850 Versar Center, Springfield VA 22151 (703) 750-3000

SAMPLE ID
BI980

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

	CAS Number	Compound Name	Fraction	RT or Scan	Estimated Concentration (ug/Kg or ug/l)
1		NO SEMIVOLATILES DETECTED	BNA	NA	NA
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
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15					
16					
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28					
29					
30					

300110

U.S. ENVIRONMENTAL PROTECTION AGENCY — EMSL Sample Management Office
P.O. Box 818, Alexandria, VA 22313 — 703/557-2490 — FTS/557-2490

INORGANICS TRAFFIC REPORT

Sample Number
MBI 479

(1) Case Number: 6889
Sample Site Name/Code:
HUDSON RIVER PSYC

(2) SAMPLE CONCENTRATION
(Check One)
X Low Concentration
___ Medium Concentration

(3) SAMPLE MATRIX
(Check One)
X Water
___ Soil/Sediment

(4) Ship To:
Century Labs
Attn: KEN BOND
Transfer Ship To:

(5) Sampling Office: FIT II
Sampling Personnel:
(Name) J. BULLIS
(Phone) 201-225-6160
Sampling Date:
(Begin) 2/26/87 (End) 2/26/87

(6) Shipping Information:
Name Of Carrier: Federal Express
Date Shipped: 2/26/87
Airbill Number: 495164773

(7) Sample Description:
(Check One)
X Surface Water
___ Ground Water
___ Leachate
___ Mixed Media
___ Solids
___ Other
(specify) B/ 980
ATCHES ORGANIC SAMPLE NO. ___

(8) Mark Volume Level On Sample Bottle
Check Analysis required
X Total Metals
___ Cyanide

N453 - SW 5

SMO COPY



SW-5

Form I

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.
MB1-479

Date 4-2-87

INORGANIC ANALYSIS DATA SHEET

LAB NAME Century Laboratories, Inc.

CASE NO. 619

SOW NO. 785

LAB SAMPLE ID. NO. 0014-15

QC REPORT NO. 021

Elements Identified and Measured

Concentration: Low ✓ Medium

Matrix: Water ✓ Soil Sludge Other

(ug/L) or mg/kg dry weight (circle one)

1. Aluminum	612 PE	13. Potassium	11,600P *
2. Antimony	~~50 U P~~	14. Selenium	415P
3. Arsenic	5.0UF	15. Silver	~~3.5 U P~~
4. Barium	244P	16. Sodium	20UP
5. Beryllium	5.0UP	17. Thallium	2510P
6. Cadmium	4.0UP	18. Vanadium	2.0UF
7. Calcium	93,600P	19. Zinc	10UP
8. Chromium	10UP	20. Cyanide	49,500PE
9. Cobalt	10UP	21. Manganese	1.0UF
10. Copper	6.0UP	22. Mercury	10UP
11. Iron	4,500P	23. Lead	25P
12. Lead	14F	Percent Solids (%)	N/A

Other:

Comments: For reporting results to EPA, analytical results submitted are to be reported to three figures. Additional figures to decimal places may be reported. Deletion of these figures may be applied and recorded to three figures, however.

Comments: Clear liquid

E = Per. dil

Lab Manager: Kenneth Bond



U.S. ENVIRONMENTAL PROTECTION AGENCY — EMSL Sample Management Office
P.O. Box 818, Alexandria, Virginia 22313 — 703/557-2491 — FTS/557-2491

ORGANICS TRAFFIC REPORT

Sample Number: BI 981

① Case Number: 6889

Sample Site Name/Code: Hudson R. PSYC

② SAMPLE CONCENTRATION (Check One)
X Low Concentration
___ Medium Concentration

③ SAMPLE MATRIX (Check One)
X Water
___ Soil/Sediment

④ Ship To: Versar Inc.

Attn: C. Carter

Transfer Ship To:

⑤ Regional Office: II

Sampling Personnel:
S. Bullis
(Name)
201-225-6160
(Phone)

Sampling Date:
2/26/87
(Begin) (End)

⑥ For each sample collected specify number of containers used and mark volume level on each bottle.

	Number of Containers	Approximate Total Volume
Water (Extractable)	2	160 ml
Water (VOA)	2	80 ml
Soil/Sediment (Extractable)		
Soil/Sediment (VOA)		
Other Pest/PCB	1	80 ml

⑦ Shipping Information

Federal Express
Name of Carrier

2/26/87
Date Shipped:

495164935
Airbill Number:

⑧ Sample Description

X Surface Water ___ Mixed Media
___ Ground Water ___ Solids
___ Leachate ___ Other (specify) _____

⑨ Sample Location

N4 53 SW 6

⑩ Special Handling Instructions:
(e.g., safety precautions, hazardous nature)

Matches Dioxins MB1480

SMO COPY



SW-6

Versar, Inc., Laboratory Operations
6850 Versar Center, Springfield VA 22151 (703) 750-3000

Sample Number
BI-981

ORGANICS ANALYSIS DATA SHEET (Page 1)

Laboratory Name: VERSAR
Lab Sample ID No: 23897
Sample Matrix: WATER
Data Release Authorized By:

Case No: 6889
QC Report No: 6889
Contract No: 68-01-7082
Date Sample Received: 02/27/87

VOLATILE COMPOUNDS

Concentration: LOW
Date Extracted/Prepared: 03/04/87
Date Analyzed: 03/04/87
Conc/Dil Factor: 1 pH NA
Percent Moisture: 100

CAS Number		ug/l
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	5 u
67-64-1	Acetone	10 u
75-15-0	Carbon Disulfide	5 u
75-35-4	1,1-Dichloroethene	5 u
75-34-3	1,1-Dichloroethane	5 u
156-60-5	Trans-1,2-Dichloroethene	5 u
67-66-3	Chloroform	5 u
107-06-2	1,2-Dichloroethane	5 u
78-93-3	2-butanone	10 u
71-55-6	1,1,1-Trichloroethane	5 u
56-23-5	Carbon Tetrachloride	5 u
108-05-4	Vinyl Acetate	10 u
75-27-4	Bromodichloromethane	5 u

CAS Number		ug/l
78-87-5	1,2-Dichloropropane	5 u
10061-02-6	Trans-1,3-Dichloropropene	5 u
79-01-6	Trichloroethene	5 u
124-48-1	Dibromochloromethane	5 u
79-00-5	1,1,2-Trichloroethane	5 u
71-43-2	Benzene	5 u
10061-01-5	cis-1,3-Dichloropropene	5 u
110-75-8	2-chloroethylvinylether	10 u
75-25-2	Bromoform	5 u
108-10-1	4-Methyl-2-Pentanone	10 u
591-78-6	2-Hexanone	10 u
127-18-4	Tetrachloroethene	5 u
79-34-5	1,1,2,2-Tetrachloroethane	5 u
108-88-3	Toluene	5 u
108-90-7	Chlorobenzene	5 u
100-41-4	Ethylbenzene	5 u
100-42-5	Styrene	5 u
	Total Xylenes	5 u

Data Reporting Qualifiers

Value If the result is a value greater than or equal to the detection limit, report the value.

U Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample.

J Estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response factor is assumed, or when the mass spectral data indicates the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero. (e.g. 10J)

C This flag applies to pesticide parameters where the identification has been confirmed by GC/MS.

B This flag is used when the analyte is found in the blank as well as the sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.

VOAF1: REV062486

300134



SW-6

Versar Inc., Laboratory Operations
6850 Versar Center, Springfield VA 22151 703/750-3000

Sample Number
BI981

Case No: 6889

ORGANICS ANALYSIS DATA SHEET (Page 2)
Semivolatile Compounds

Concentration: LOW

Date Extracted/Prepared: 03/01/87

Date Analyzed: 03/17/87

Conc/Dil Factor: 1/2

GPC Cleanup [ ]Yes [ ]No

Separatory Funnel Extraction [ ]Yes

Continuous Liquid-Liquid Extraction [X]Yes

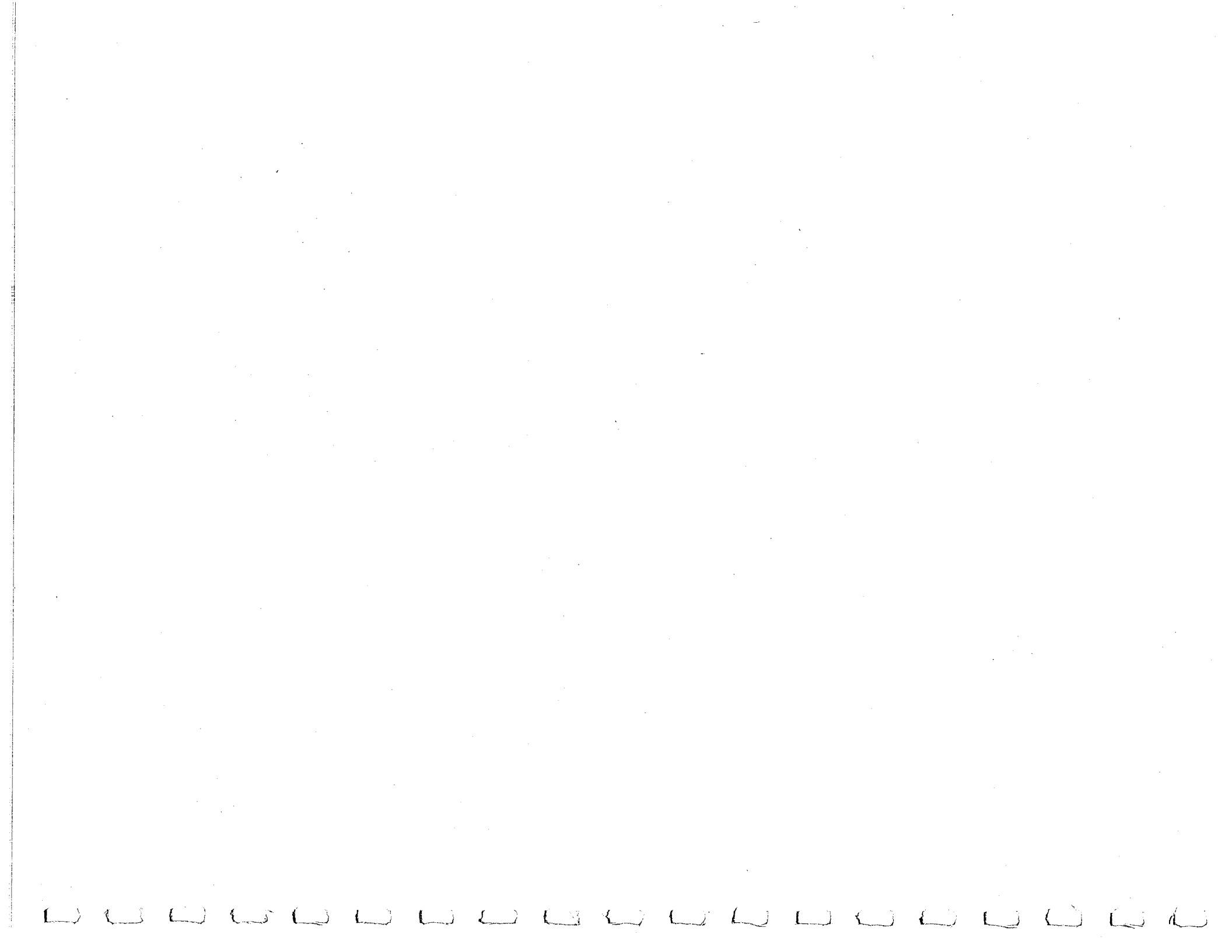
CAS Number		ug/l
108-95-2	Phenol	10 u
111-44-4	bis(2-Chloroethyl)Ether	10 u
95-57-8	2-Chlorophenol	10 u
541-73-1	1,3-Dichlorobenzene	10 u
106-46-7	1,4-Dichlorobenzene	10 u
100-51-6	Benzyl Alcohol	10 u
95-50-1	1,2-Dichlorobenzene	10 u
95-48-7	2-Methylphenol	10 u
39638-32-9	bis(2-chloroisopropyl)ether	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
65-85-0	Benzoic Acid	50 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	50 u
91-58-7	2-Chloronaphthalene	10 u
88-74-4	2-Nitroaniline	50 u
131-11-3	Dimethyl Phthalate	10 u
208-96-8	Acenaphthylene	10 u
99-09-2	3-Nitroaniline	50 u

CAS Number		ug/l
83-32-9	Acenaphthene	10 u
51-28-5	2,4-Dinitrophenol	50 u
100-02-7	4-Nitrophenol	50 u
132-64-9	Dibenzofuran	10 u
121-14-2	2,4-Dinitrotoluene	10 u
606-20-2	2,6-Dinitrotoluene	10 u
84-66-2	Diethylphthalate	10 u
7005-22-3	4-Chlorophenyl-phenylether	10 u
86-73-7	Fluorene	10 u
100-01-6	4-Nitroaniline	50 u
534-52-1	4,6-dinitro-2-methylphenol	50 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	50 u
85-01-8	Phenanthrene	10 u
120-12-7	Anthracene	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	20 u
56-55-3	Benzo(a)anthracene	10 u
117-81-7	bis(2-Ethylhexyl)Phthalate	10 u
218-01-9	Chrysene	10 u
117-84-0	Di-n-Octylphthalate	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

BNAF1:R032286 Form I

300135



SW-6

Versar Inc. Laboratory Operations
6850 Versar Center, Springfield Va. 22151
(703) 750-3000

Sample Number
BI 981

ORGANICS ANALYSIS DATA SHEET
(Page 3)

Pesticides/PCBs

Concentration: Low | Medium (circle one)

GPC Cleanup [ ] Yes [X] No

Date Extracted/Prepared: 02-28-87

Separatory Funnel Extration [ ] Yes

Date Analyzed: 03-10-87

Continuous Liquid-Liquid Extraction [X] Yes [ ] No

Conc/Dil Factor 1.00

Percent Moisture(decanted) 0.00

CAS Number		ug/l
319-84-6	alpha-BHC	0.05 u
319-85-7	beta-BHC	0.05 u
319-86-8	delta-BHC	0.05 u
58-89-9	gamma-BHC (Lindane)	0.05 u
76-44-8	Heptachlor	0.05 u
309-00-2	Aldrin	0.05 u
1024-57-3	Heptachlor Epoxide	0.05 u
959-98-8	Endosulfan I	0.05 u
60-57-1	Dieldrin	0.10 u
72-55-9	4,4'-DDE	0.06 J
72-20-8	Endrin	0.10 u
33213-65-9	Endosulfan II	0.10 u
72-54-8	4,4'-DDD	0.05 J
1031-07-8	Endosulfan Sulfate	0.10 u
50-29-3	4,4'-DDT	0.10 J
72-43-5	Methoxychlor	0.10 u
53494-70-5	Endrin Ketone	0.10 u
57-74-9	Chlordane	0.50 u
8001-35-2	Toxaphene	1.0 u
12674-11-2	Aroclor-1016	0.50 u
11104-28-2	Aroclor-1221	0.50 u
11141-16-5	Aroclor-1232	0.50 u
53469-21-9	Aroclor-1242	0.50 u
12672-29-6	Aroclor-1248	0.50 u
11097-69-1	Aroclor-1254	1.0 u
11096-82-5	Aroclor-1260	1.0 u

J - ESTIMATED VALUE; COMPOUND CONFIRMED BELOW THE DETECTION LIMIT; MEETS ALL OTHER ID CRITERIA
ACD 3/23/87

Scott Neill 3/13/87

Vi = Volume of extract injected (ul)
Vs = Volume of Water Extracted (ml)
Ws = Weight of sample extracted (g)
Vt = Volume of total extract (ul)

Vs 1000.00 or Ws _____ Vt 10000 Vi 2.00

300136

SW-6

-sar Inc., Laboratory Operations
)50 Versar Center, Springfield VA 22151 (703) 750-3000

BI-981

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

	CAS Number	Compound Name	Fraction	RT or Scan	Estimated Concentration (ug/Kg or ug/l)
	.124-38-9....	CARBON DIOXIDE.....	VOA.....	27	5 J...
	.75-43-4.....	METHANE, DICHLOROFLUORO-.....	VOA.....	159	4 J...
13.	.75-69-4.....	METHANE, TRICHLOROFLUORO-.....	VOA.....	215	29 J...
14.					
17.					
10.					
11.					
14.					
17.					
18					
21.					
24.					
25					
27.					
28.					

300137

SW-6

., Laboratory Operations
ersar Center, Springfield VA 22151 (703) 750-3000

SAMPLE ID
BI981

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

; xer	Compound Name	Fraction	RT or Scan	Estimated Concentration (ug/Kg or ug/l)
	NO SEMIVOLATILES DETECTED	BNA	NA	NA

300136

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U.S. ENVIRONMENTAL PROTECTION AGENCY, EMSL Sample Management Office
P.O. Box 818, Alexandria, Virginia 22313 — 703/557-2490 • FTS/557-2490

ORGANICS TRAFFIC REPORT

Sample Number: BI 982

① Case Number: 6887

Sample Site Name/Code: Hudson R. Psyc.

② SAMPLE CONCENTRATION (Check One)
- X Low Concentration
- ___ Medium Concentration

③ SAMPLE MATRIX (Check One)
- X Water
- ___ Soil/Sediment

④ Ship To: Versar

Attn: C. Carter

Transfer Ship To:

⑤ Regional Office: II

Sampling Personnel: J. Bullis (Name)

201-225-6160 (Phone)

Sampling Date: 2/26/87 (Begin) (End)

⑥ For each sample collected specify number of containers used and mark volume level on each bottle.

	Number of Containers	Approximate Total Volume
Water (Extractable)	2	160 g
Water (VOA)	2	80 ml
Soil/Sediment (Extractable)		
Soil/Sediment (VOA)		
Other Pest/PCB	1	80 g

⑦ Shipping Information

Federal Express — Name of Carrier

2/26/87 — Date Shipped:

495164 935 — Airbill Number:

⑧ Sample Description
- X Surface Water
- ___ Ground Water
- ___ Leachate
- ___ Mixed Media
- ___ Solids
- ___ Other (specify) ___

⑨ Sample Location

N753 SW7

⑩ Special Handling Instructions: (e.g., safety precautions, hazardous nature)

Matches Dioxin MBI 481

SMO COPY

SW-7

Versar, Inc., Laboratory Operations
6850 Versar Center, Springfield VA 22151 (703) 750-3000

Sample Number
BI-982

ORGANICS ANALYSIS DATA SHEET (Page 1)

Laboratory Name: VERSAR
Lab Sample ID No: 23898
Sample Matrix: WATER
Data Release Authorized By:

Case No: 6889
QC Report No: 6889
Contract No: 68-01-7082
Date Sample Received: 02/27/87

VOLATILE COMPOUNDS

Concentration: LOW
Date Extracted/Prepared: 03/04/87
Date Analyzed: 03/04/87
Conc/Dil Factor: 1 pH NA
Percent Moisture: 100

CAS Number		ug/l
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	5 u
67-64-1	Acetone	10 u
75-15-0	Carbon Disulfide	5 u
75-35-4	1,1-Dichloroethene	5 u
75-34-3	1,1-Dichloroethane	5 u
156-60-5	Trans-1,2-Dichloroethene	5 u
67-66-3	Chloroform	5 u
107-06-2	1,2-Dichloroethane	5 u
78-93-3	2-butanone	10 u
71-55-6	1,1,1-Trichloroethane	5 u
56-23-5	Carbon Tetrachloride	5 u
108-05-4	Vinyl Acetate	10 u
75-27-4	Bromodichloromethane	5 u

CAS Number		ug/l
78-87-5	1,2-Dichloropropane	5 u
10061-02-6	Trans-1,3-Dichloropropene	5 u
79-01-6	Trichloroethene	5 u
124-48-1	Dibromochloromethane	5 u
79-00-5	1,1,2-Trichloroethane	5 u
71-43-2	Benzene	5 u
10061-01-5	cis-1,3-Dichloropropene	5 u
110-75-8	2-chloroethylvinylether	10 u
75-25-2	Bromoform	5 u
108-10-1	4-Methyl-2-Pentanone	10 u
591-78-6	2-Hexanone	10 u
127-18-4	Tetrachloroethene	5 u
79-34-5	1,1,2,2-Tetrachloroethane	5 u
108-88-3	Toluene	5 u
108-90-7	Chlorobenzene	5 u
100-41-4	Ethylbenzene	5 u
100-42-5	Styrene	5 u
	Total Xylenes	5 u

Data Reporting Qualifiers

Value If the result is a value greater than or equal to the detection limit, report the value.

u Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample.

J Estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response factor is assumed, or when the mass spectral data indicates the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero. (e.g. 10J)

C This flag applies to pesticide parameters where the identification has been confirmed by GC/MS.

B This flag is used when the analyte is found in the blank as well as the sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.

VOAF1: REV062486

Form I

300

SW-7

Versar Inc., Laboratory Operations
6850 Versar Center, Springfield VA 22151 703/750-3000

Sample Number
BI982

Case No: 6889

ORGANICS ANALYSIS DATA SHEET (Page 2)
Semivolatile Compounds

Concentration: LOW

Date Extracted/Prepared: 03/01/87

Date Analyzed: 03/17/87

Conc/Dil Factor: 1/2

GPC Cleanup [ ]Yes [ ]No

Separatory Funnel Extraction [ ]Yes

Continuous Liquid-Liquid Extraction [X]Yes

CAS Number		ug/l
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
100-51-6	Benzyl Alcohol	10 u
95-50-1	1,2-Dichlorobenzene	10 u
95-48-7	2-Methylphenol	10 u
39638-32-9	bis(2-chloroisopropyl)ether	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
65-85-0	Benzoic Acid	50 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	50 u
91-58-7	2-Chloronaphthalene	10 u
88-74-4	2-Nitroaniline	50 u
131-11-3	Dimethyl Phthalate	10 u
208-96-8	Acenaphthylene	10 u
99-09-2	3-Nitroaniline	50 u

CAS Number		ug/l
83-32-9	Acenaphthene	10 u
51-28-5	2,4-Dinitrophenol	50 u
100-02-7	4-Nitrophenol	50 u
132-64-9	Dibenzofuran	10 u
121-14-2	2,4-Dinitrotoluene	10 u
606-20-2	2,6-Dinitrotoluene	10 u
84-66-2	Diethylphthalate	10 u
7005-22-3	4-Chlorophenyl-phenylether	10 u
86-73-7	Fluorene	10 u
100-01-6	4-Nitroaniline	50 u
534-52-1	4,6-dinitro-2-methylphenol	50 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	50 u
85-01-8	Phenanthrene	10 u
120-12-7	Anthracene	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	20 u
56-55-3	Benzo(a)anthracene	10 u
117-81-7	bis(2-Ethylhexyl)Phthalate	10 u
218-01-9	Chrysene	10 u
117-84-0	Di-n-Octylphthalate	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

BNAF1:R032286

Form I

300167

SW-7

Versar Inc. Laboratory Operations
6850 Versar Center, Springfield Va. 22151
(703) 750-3000

Sample Number
BI 982

ORGANICS ANALYSIS DATA SHEET
(Page 3)

Pesticides/PCBs

Concentration: |Low| Medium (circle one)

GPC Cleanup [ ] Yes [X] No

Date Extracted/Prepared: 2-28-87

Separatory Funnel Extration [ ] Yes

Date Analyzed: 3-10-87

Continuous Liquid-Liquid Extraction [X] Yes [ ] No

Conc/Dil Factor 1.00

Percent Moisture(decanted) 0.00

CAS Number		ug/l
319-84-6	alpha-BHC	0.05 u
319-85-7	beta-BHC	0.05 u
319-86-8	delta-BHC	0.05 u
58-89-9	gamma-BHC (Lindane)	0.05 u
76-44-8	Heptachlor	0.05 u
309-00-2	Aldrin	0.05 u
1024-57-3	Heptachlor Epoxide	0.05 u
959-98-8	Endosulfan I	0.05 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	0.10 u
53494-70-5	Endrin Ketone	0.10 u
57-74-9	Chlordane	0.50 u
8001-35-2	Toxaphene	1.0 u
12674-11-2	Aroclor-1016	0.50 u
11104-28-2	Aroclor-1221	0.50 u
11141-16-5	Aroclor-1232	0.50 u
53469-21-9	Aroclor-1242	0.50 u
12672-29-6	Aroclor-1248	0.50 u
11097-69-1	Aroclor-1254	1.0 u
11096-82-5	Aroclor-1260	1.0 u

S. Zarafshar
3-10-87

Vi = Volume of extract injected (ul)
Vs = Volume of Water Extracted (ml)
Ws = Weight of sample extracted (g)
Vt = Volume of total extract (ul)

Vs 1000.00 or Ws _____ Vt 10000 Vi 2.00

300168

SW-7

Versar Inc., Laboratory Operations
6850 Versar Center, Springfield VA 22151 (703) 750-3000

BI-982

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

	CAS Number	Compound Name	Fraction	RT or Scan	Estimated Concentration (ug/Kg or ug/l)
1.	124-38-9	CARBON DIOXIDE	VOA	27	5 J
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

300163

3W-7

Versar Inc., Laboratory Operations
6850 Versar Center, Springfield VA 22151 (703) 750-3000

SAMPLE ID
BI982

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

	CAS Number	Compound Name	Fraction	RT or Scan	Estimated Concentration (ug/Kg or ug/l)
11.		NO SEMIVOLATILES DETECTED.	BNA	NA	NA
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
110.					
111.					
112.					
113.					
114.					
115.					
116.					
117.					
118.					
119.					
120.					
121.					
122.					
123.					
124.					
125.					
126.					
127.					
128.					
129.					
130.					

300170

U.S. ENVIRONMENTAL PROTECTION AGENCY — HWI Sample Management Office
P.O. Box 818, Alexandria, VA 22313 — 703/557-2490 — FTS/557-2490

INORGANICS TRAFFIC REPORT

Sample Number
MBI 481

(1) Case Number: 6889
Sample Site Name/Code:
Hudson River PCB

(2) SAMPLE CONCENTRATION
(Check One)
X Low Concentration
___ Medium Concentration

(3) SAMPLE MATRIX
(Check One)
X Water
___ Soil/Sediment

(4) Ship To:
Century Labs
Attn: Ken Bond
Transfer
Ship To:

(5) Sampling Office: FIT II
Sampling Personnel:
(Name) S. Bullis
(Phone) 201-225-6160
Sampling Date:
(Begin) 2/26/87 (End) 2/26/87

(6) Shipping Information:
Name Of Carrier: Federal Express
Date Shipped: 2/26/87
Airbill Number: 48164773

(7) Sample Description:
(Check One)
X Surface Water
___ Ground Water
___ Leachate
___ Mixed Media
___ Solids
___ Other
(specify)
MATCHES ORGANIC SAMPLE NO. 4982

(8) Mark Volume Level On Sample Bottle
Check Analysis required
X Total Metals
___ Cyanide

W453 SW 7

SMO COPY

SW-7

Form I

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.
MB1-4F1

Date 4-2-87

INORGANIC ANALYSIS DATA SHEET

LAB NAME Century Laboratories, Inc.

CASE NO. 6419

SOW NO. 785

LAB SAMPLE ID. NO. 0014-17

QC REPORT NO. 021

Elements Identified and Measured

Concentration: Low ✓ Medium

Matrix: Water ✓ Soil Sludge Other

(ug/L) or mg/kg dry weight (circle one)

1. Aluminum	20UPE	13. Potassium	11,900P
2. Antimony	~~30UP~~	14. Selenium	3.1P
3. Arsenic	5.0UF	15. Silver	~~4.0UP~~
4. Barium	<25>P	16. Sodium	20UP
5. Beryllium	5.0UP	17. Thallium	<1.2>P
6. Cadmium	4.0UP	18. Vanadium	2.0UF
7. Calcium	79,400P	19. Zinc	10P
8. Chromium	10UP	20. Cyanide	44,000PE
9. Cobalt	10UP	21. Aluminum	1.0UF
10. Copper	6.0UP	22. Antimony	10UP
11. Iron	<62>P	23. Arsenic	<13>P
12. Lead	<2.0>F	Percent Solids (%)	N/A

Comments: The reporting results on EPA standard result summaries are based as defined on cover page. Additional flags or comments explaining results are encouraged. Deletion of such flags must be explained and recorded on cover page, however.

Comments: Clear log

E= per. dil

Lab Manager: Lennon Bond

U.S. ENVIRONMENTAL PROTECTION AGENCY - HWI Sample Management Office
P.O. Box 818, Alexandria, Virginia 22313 - 703/557-2491 - FTS/557-2491

ORGANICS TRAFFIC REPORT

Sample Number
BI 983

① Case Number: 6889

Sample Site Name/Code: Hudson R. Byc.

② SAMPLE CONCENTRATION (Check One)
X Low Concentration
___ Medium Concentration

③ SAMPLE MATRIX (Check One)
X Water
___ Soil/Sediment

④ Ship To: Versar Inc.

Attn: C. Carter

Transfer Ship To:

⑤ Regional Office: 2

Sampling Personnel:
J. Bullis
(Name)
201-225-6160
(Phone)

Sampling Date:
2/26/87 (Begin) (End)

⑥ For each sample collected specify number of containers used and mark volume level on each bottle.

	Number of Containers	Approximate Total Volume
Water (Extractable)	2	160 g
Water (VOA)	2	80 ml
Soil/Sediment (Extractable)		
Soil/Sediment (VOA)		
Other Pest/PCB	1	80 g

⑦ Shipping Information

Federal Express
Name of Carrier

2/26/87
Date Shipped:

495164935
Airbill Number:

⑧ Sample Description

X Surface Water ___ Mixed Media
___ Ground Water ___ Solids
___ Leachate ___ Other (specify) _____

⑨ Sample Location

N953 - SWP

⑩ Special Handling Instructions:
(e.g., safety precautions, hazardous nature)

Matches Dnors. MB1482

SMO COPY

SW-7

Versar, Inc., Laboratory Operations
6850 Versar Center, Springfield VA 22151 (703) 750-3000

Sample Number
BI-983

ORGANICS ANALYSIS DATA SHEET (Page 1)

Laboratory Name: VERSAR
Lab Sample ID No: 23899
Sample Matrix: WATER
Data Release Authorized By:

Case No: 6889
QC Report No: 6889
Contract No: 68-01-7082
Date Sample Received: 02/27/87

VOLATILE COMPOUNDS

Concentration: LOW
Date Extracted/Prepared: 03/04/87
Date Analyzed: 03/04/87
Conc/Dil Factor: 1 pH NA
Percent Moisture: 100

CAS Number		ug/l	CAS Number		ug/l
74-87-3	Chloromethane	10 u	78-87-5	1,2-Dichloropropane	5 u
74-83-9	Bromomethane	10 u	10061-02-6	Trans-1,3-Dichloropropene	5 u
75-01-4	Vinyl Chloride	10 u	79-01-6	Trichloroethene	5 u
75-00-3	Chloroethane	10 u	124-48-1	Dibromochloromethane	5 u
75-09-2	Methylene Chloride	5 u	79-00-5	1,1,2-Trichloroethane	5 u
67-64-1	Acetone	10 u	71-43-2	Benzene	5 u
75-15-0	Carbon Disulfide	5 u	10061-01-5	cis-1,3-Dichloropropene	5 u
75-35-4	1,1-Dichloroethene	5 u	110-75-8	2-chloroethylvinylether	10 u
75-34-3	1,1-Dichloroethane	5 u	75-25-2	Bromoform	5 u
156-60-5	Trans-1,2-Dichloroethene	5 u	108-10-1	4-Methyl-2-Pentanone	10 u
67-66-3	Chloroform	5 u	591-78-6	2-Hexanone	10 u
107-06-2	1,2-Dichloroethane	5 u	127-18-4	Tetrachloroethene	5 u
78-93-3	2-butanone	10 u	79-34-5	1,1,2,2-Tetrachloroethane	5 u
71-55-6	1,1,1-Trichloroethane	5 u	108-88-3	Toluene	1 JB
56-23-5	Carbon Tetrachloride	5 u	108-90-7	Chlorobenzene	5 u
108-05-4	Vinyl Acetate	10 u	100-41-4	Ethylbenzene	5 u
75-27-4	Bromodichloromethane	5 u	100-42-5	Styrene	5 u
				Total Xylenes	5 u

Data Reporting Qualifiers

Value If the result is a value greater than or equal to the detection limit, report the value.

u Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample.

J Estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response factor is assumed, or when the mass spectral data indicates the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero. (e.g. 10J)

C This flag applies to pesticide parameters where the identification has been confirmed by GC/MS.

B This flag is used when the analyte is found in the blank as well as the sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.

VOAF1: REV062486

300192

SW-8

Versar Inc., Laboratory Operations
6850 Versar Center, Springfield VA 22151 703/750-3000

Sample Number
BI983

Case No: 6889

ORGANICS ANALYSIS DATA SHEET (Page 2)
Semivolatile Compounds

Concentration:LOW

Date Extracted/Prepared: 03/01/87

Date Analyzed: 03/17/87

Conc/Dil Factor: 1/2

GPC Cleanup [ ]Yes [ ]No

Separatory Funnel Extraction [ ]Yes

Continuous Liquid-Liquid Extraction [X]Yes

CAS Number		ug/l
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
100-51-6	Benzyl Alcohol	10 u
95-50-1	1,2-Dichlorobenzene	10 u
95-48-7	2-Methylphenol	10 u
39638-32-9	bis(2-chloroisopropyl)ether	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
65-85-0	Benzoic Acid	50 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	50 u
91-58-7	2-Chloronaphthalene	10 u
88-74-4	2-Nitroaniline	50 u
131-11-3	Dimethyl Phthalate	10 u
208-96-8	Acenaphthylene	10 u
99-09-2	3-Nitroaniline	50 u

CAS Number		ug/l
83-32-9	Acenaphthene	10 u
51-28-5	2,4-Dinitrophenol	50 u
100-02-7	4-Nitrophenol	50 u
132-64-9	Dibenzofuran	10 u
121-14-2	2,4-Dinitrotoluene	10 u
606-20-2	2,6-Dinitrotoluene	10 u
84-66-2	Diethylphthalate	10 u
7005-22-3	4-Chlorophenyl-phenylether	10 u
86-73-7	Fluorene	10 u
100-01-6	4-Nitroaniline	50 u
534-52-1	4,6-dinitro-2-methylphenol	50 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	50 u
85-01-8	Phenanthrene	10 u
120-12-7	Anthracene	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	20 u
56-55-3	Benzo(a)anthracene	10 u
117-81-7	bis(2-Ethylhexyl)Phthalate	10 u
218-01-9	Chrysene	10 u
117-84-0	Di-n-Octylphthalate	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

300193

SW-8

Versar Inc. Laboratory Operations
6850 Versar Center, Springfield Va. 22151
(703) 750-3000

Sample Number
BI 983

ORGANICS ANALYSIS DATA SHEET
(Page 3)

Pesticides/PCBs

Concentration: |Low| Medium (circle one)

GPC Cleanup [ ] Yes [X] No

Date Extracted/Prepared: 2-28-87

Separatory Funnel Extration [ ] Yes

Date Analyzed: 3-10-87

Continuous Liquid-Liquid Extraction [X] Yes [ ] No

Conc/Dil Factor 1.00

Percent Moisture(decanted) 0.00

CAS Number		ug/l
319-84-6	alpha-BHC	0.05 u
319-85-7	beta-BHC	0.05 u
319-86-8	delta-BHC	0.05 u
58-89-9	gamma-BHC (Lindane)	0.05 u
76-44-8	Heptachlor	0.05 u
309-00-2	Aldrin	0.05 u
1024-57-3	Heptachlor Epoxide	0.05 u
959-98-8	Endosulfan I	0.05 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	0.10 u
53494-70-5	Endrin Ketone	0.10 u
57-74-9	Chlordane	0.50 u
8001-35-2	Toxaphene	1.0 u
12674-11-2	Aroclor-1016	0.50 u
11104-28-2	Aroclor-1221	0.50 u
11141-16-5	Aroclor-1232	0.50 u
53469-21-9	Aroclor-1242	0.50 u
12672-29-6	Aroclor-1248	0.50 u
11097-69-1	Aroclor-1254	1.0 u
11096-82-5	Aroclor-1260	1.0 u

S. Gorfinkel
3-10-87

Vi = Volume of extract injected (ul)
Vs = Volume of Water Extracted (ml)
Ws = Weight of sample extracted (g)
Vt = Volume of total extract (ul)

Vs 1000.00 or Ws _____ Vt 10000 Vi 2.00

300194

SW-8

Versar Inc., Laboratory Operations
350 Versar Center, Springfield VA 22151 (703) 750-3000

BI- 983

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

	CAS Number	Compound Name	Fraction	RT or Scan	Estimated Concentration (ug/Kg or ug/l)
1		UNKNOWN	VOA	27	8 J
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					

300195

SW-8

Versar Inc., Laboratory Operations
6850 Versar Center, Springfield VA 22151 (703) 750-3000

SAMPLE ID
BE983

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

	CAS Number	Compound Name	Fraction	RT or Scan	Estimated Concentration (ug/Kg or ug/l)
11.		NO SEMIVOLATILES DETECTED	BNA	NA	NA
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
110.					
111.					
112.					
113.					
114.					
115.					
116.					
117.					
118.					
119.					
120.					
121.					
122.					
123.					
124.					
125.					
126.					
127.					
128.					
129.					
130.					

300196

6-85

U.S. ENVIRONMENTAL PROTECTION AGENCY HWI Sample Management Office
P.O. Box 818; Alexandria, VA 22313—703/557-2490 • FTS/557-2490

INORGANICS TRAFFIC REPORT

Sample Number
MBI 482

(1) Case Number: 6889
Sample Site Name/Code:
HUDSON RIVER PSYC

(2) SAMPLE CONCENTRATION
(Check One)
X Low Concentration
___ Medium Concentration

(3) SAMPLE MATRIX
(Check One)
X Water
___ Soil/Sediment

(4) Ship To:
Century Labs
Attn: KEN BOND
Transfer
Ship To:

(5) Sampling Office: FIT II
Sampling Personnel:
(Name) S. BULLIS
(Phone) 201-225-6160
Sampling Date:
(Begin) 2/26/87 (End) 2/26/87

(6) Shipping Information:
Name Of Carrier: Federal Express
Date Shipped: 2/26/87
Airbill Number: 495164773

(7) Sample Description:
(Check One)
X Surface Water
___ Ground Water
___ Leachate
___ Mixed Media
___ Solids
___ Other
(specify) BI983
MATCHES ORGANIC SAMPLE NO. ___

(8) Mark Volume Level On Sample Bottle
Check Analysis required
X Total Metals
___ Cyanide

N453 SW8

SMO COPY

Form I

S - 8.

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.
MB1-41 ✓

Date 4-2-87

INORGANIC ANALYSIS DATA SHEET

LAB NAME Century Laboratories, Inc.
CASE NO. 6449
SOW NO. 785
LAB SAMPLE ID. NO. 0014-1W
QC REPORT NO. 021

Elements Identified and Measured

Concentration: Low ✓ Medium ____

Matrix: Water ✓ Soil ____ Sludge ____ Other ____

Units: ug/L or mg/kg dry weight (Circle One)

1. Aluminum	200UPE	13. Potassium	11,100P
2. Antimony	~~300UP~~	14. Selenium	30UP
3. Arsenic	5.0UF	15. Silver	~~200UP~~
4. Barium	<41> P	16. Sodium	20UP
5. Beryllium	5.0UP	17. Thallium	<25UP
6. Cadmium	4.0UP	18. Vanadium	2.0UP
7. Calcium	91 400P	19. Zinc	10UP
8. Chromium	10UP	20. Cyanide	49 900PE
9. Cobalt	10UP	21. Manganese	1.0UF
10. Copper	6.0UP	22. Iron	10UP
11. Lead	16 P	23. Mercury	10UP
12. Magnesium	<1.0> F	Percent Solids (%)	N/A

Comments: The reporting results on this standard result worksheet are used as defined on cover page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explained on cover page, however.

Comments: Aluminum
11 E = Det. dil

Lab Manager: Kenneth Bond

U.S. ENVIRONMENTAL PROTECTION AGENCY — HWI Sample Management Office
P.O. Box 818, Alexandria, Virginia 22313 — 703/557-2490 — FTS/557-2490

ORGANICS TRAFFIC REPORT

Sample Number: BI 968

① Case Number: 6889

Sample Site Name/Code: Hudson River PS4C

② SAMPLE CONCENTRATION (Check One)

- [X] Low Concentration
- [ ] Medium Concentration

③ SAMPLE MATRIX (Check One)

- [ ] Water
- [X] Soil/Sediment

④ Ship To: Versar Inc.

Attn: Charlie Carter

Transfer Ship To:

⑤ Regional Office: II

Sampling Personnel:

S. Bullis
(Name)

201-225-6160
(Phone)

Sampling Date: 2/26/87
(Begin) (End)

⑥ For each sample collected specify number of containers used and mark volume level on each bottle.

	Number of Containers	Approximate Total Volume
Water (Extractable)		
Water (VOA)		
Soil/Sediment (Extractable)	1	8 oz
Soil/Sediment (VOA)	1	120 ml
Other		
Soil /Sed Pest/PCB	1	8 oz

⑦ Shipping Information

Federal Express
Name of Carrier

2/26/87
Date Shipped:

495164 935
Airbill Number:

⑧ Sample Description

- [ ] Surface Water
- [ ] Ground Water
- [ ] Leachate
- [ ] Mixed Media
- [X] Solids
- [ ] Other (specify) _____

⑨ Sample Location

NY53 - SED 1

⑩ Special Handling Instructions: (e.g., safety precautions, hazardous nature)

Matches Inors MBI 467

SMO COPY

SED-1

Versar, Inc., Laboratory Operations
6850 Versar Center, Springfield VA 22151 (703) 750-3000

Sample Number
BI-968

ORGANICS ANALYSIS DATA SHEET (Page 1)

Laboratory Name: VERSAR
Lab Sample ID No: 23902
Sample Matrix: SOIL
Data Release Authorized By:

Case No: 6889
QC Report No: 6889
Contract No: 68-01-7082
Date Sample Received: 02/27/87

VOLATILE COMPOUNDS

Concentration: LOW
Date Extracted/Prepared: 03/03/87
Date Analyzed: 03/03/87
Conc/Dil Factor: 1 pH N/A
Percent Moisture: 39.6

CAS Number		ug/Kg
74-87-3	Chloromethane	17 u
74-83-9	Bromomethane	17 u
75-01-4	Vinyl Chloride	17 u
75-00-3	Chloroethane	17 u
75-09-2	Methylene Chloride	8 u
67-64-1	Acetone	17 u
75-15-0	Carbon Disulfide	8 u
75-35-4	1,1-Dichloroethene	8 u
75-34-3	1,1-Dichloroethane	8 u
156-60-5	Trans-1,2-Dichloroethene	8 u
67-66-3	Chloroform	8 u
107-06-2	1,2-Dichloroethane	8 u
78-93-3	2-butanone	17 u
71-55-6	1,1,1-Trichloroethane	8 u
56-23-5	Carbon Tetrachloride	8 u
108-05-4	Vinyl Acetate	17 u
75-27-4	Bromodichloromethane	8 u

CAS Number		ug/Kg
78-87-5	1,2-Dichloropropane	8 u
10061-02-6	Trans-1,3-Dichloropropene	8 u
79-01-6	Trichloroethene	8 u
124-48-1	Dibromochloromethane	8 u
79-00-5	1,1,2-Trichloroethane	8 u
71-43-2	Benzene	8 u
10061-01-5	cis-1,3-Dichloropropene	8 u
110-75-8	2-chloroethylvinylether	17 u
75-25-2	Bromoform	8 u
108-10-1	4-Methyl-2-Pentanone	17 u
591-78-6	2-Hexanone	17 u
127-18-4	Tetrachloroethene	8 u
79-34-5	1,1,2,2-Tetrachloroethane	8 u
108-88-3	Toluene	8 u
108-90-7	Chlorobenzene	8 u
100-41-4	Ethylbenzene	8 u
100-42-5	Styrene	8 u
	Total Xylenes	8 u

Data Reporting Qualifiers

Value If the result is a value greater than or equal to the detection limit, report the value.

u Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample.

J Estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response factor is assumed, or when the mass spectral data indicates the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero. (e.g. 10J)

C This flag applies to pesticide parameters where the identification has been confirmed by GC/MS.

B This flag is used when the analyte is found in the blank as well as the sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.

VOAF1: REV062486

100081

SED-1

ersar Inc., Laboratory Operations
6850 Versar Center, Springfield VA 22151 703/750-3000

Sample Number
BI968

se No: 6889

ORGANICS ANALYSIS DATA SHEET (Page 2)
Semivolatile Compounds

Concentration:LOW

Date Extracted/Prepared: 03/05/87

Date Analyzed: 03/18/87

Conc/Dil Factor: 68.5

GPC Cleanup [ ]Yes [X]No

Separatory Funnel Extraction [ ]Yes

Continuous Liquid-Liquid Extraction [ ]Yes

CAS Number		ug/Kg		CAS Number		ug/Kg	
108-95-2	Phenol	680 u		83-32-9	Acenaphthene	920	✓
111-44-4	bis(2-Chloroethyl)Ether	680 u		51-28-5	2,4-Dinitrophenol	3400 u	
95-57-8	2-Chlorophenol	680 u		100-02-7	4-Nitrophenol	3400 u	
541-73-1	1,3-Dichlorobenzene	680 u		132-64-9	Dibenzofuran	760	✓
106-46-7	1,4-Dichlorobenzene	680 u		121-14-2	2,4-Dinitrotoluene	680 u	
100-51-6	Benzyl Alcohol	680 u		606-20-2	2,6-Dinitrotoluene	680 u	
95-50-1	1,2-Dichlorobenzene	680 u		84-66-2	Diethylphthalate	680 u	
95-48-7	2-Methylphenol	680 u		7005-22-3	4-Chlorophenyl-phenylether	680 u	
39638-32-9	bis(2-chloroisopropyl)ether	680 u		86-73-7	Fluorene	1100	✓
106-44-5	4-methylphenol	680 u		100-01-6	4-Nitroaniline	3400 u	
621-64-7	N-Nitroso-Di-n-propylamine	680 u		534-52-1	4,6-dinitro-2-methylphenol	3400 u	
67-72-1	Hexachloroethane	680 u		86-30-6	N-Nitrosodiphenylamine (1)	680 u	
98-95-3	Nitrobenzene	680 u		101-55-3	4-Bromophenyl-phenylether	680 u	
78-59-1	Isophorone	680 u		118-74-1	Hexachlorobenzene	680 u	
88-75-5	2-Nitrophenol	680 u		87-86-5	Pentachlorophenol	3400 u	
105-67-9	2,4-dimethylphenol	680 u		85-01-8	Phenanthrene	8100	✓
65-85-0	Benzoic Acid	3400 u		120-12-7	Anthracene	1700	✓
111-91-1	bis(2-chloroethoxy)methane	680 u		84-74-2	Di-n-butylphthalate	680 u	
120-83-2	2,4-dichlorophenol	680 u		206-44-0	Fluoranthene	9000	✓
120-82-1	1,2,4-trichlorobenzene	680 u		129-00-0	Pyrene	6400	✓
91-20-3	Naphthalene	1100	✓	85-68-7	Butylbenzylphthalate	680 u	
106-47-8	4-Chloroaniline	680 u		91-94-1	3,3'-Dichlorobenzidine	1360 u	
87-68-3	Hexachlorobutadiene	680 u		56-55-3	Benzo(a)anthracene	4200	✓
59-50-7	4-chloro-3-methylphenol	680 u		117-81-7	bis(2-Ethylhexyl)Phthalate	680 u	
91-57-6	2-methylnaphthalene	1000	✓	218-01-9	Chrysene	4600	✓
77-47-4	Hexachlorocyclopentadiene	680 u		117-84-0	Di-n-Octylphthalate	680 u	
88-06-2	2,4,6-Trichlorophenol	680 u		205-99-2	Benzo(b)Fluoranthene	5100	✓
95-95-4	2,4,5-Trichlorophenol	3400 u		207-08-9	Benzo(k)Fluoranthene	3300	✓
91-58-7	2-Chloronaphthalene	680 u		50-32-8	Benzo(a)pyrene	4300	✓
88-74-4	2-Nitroaniline	3400 u		193-39-5	Indeno(1,2,3-cd)Pyrene	1700	✓
131-11-3	Dimethyl Phthalate	680 u		53-70-3	Dibenz(a,h)Anthracene	680 u	
208-96-8	Acenaphthylene	680 u		191-24-2	Benzo(g,h,i)Perylene	1600	✓
99-09-2	3-Nitroaniline	3400 u					

100082

SED - 1

Versar Inc. Laboratory Operations
6850 Versar Center, Springfield Va. 22151
(703) 750-3000

Sample Number
BI 968

ORGANICS ANALYSIS DATA SHEET
(Page 3)

Pesticides/PCBs

Concentration: |Low| Medium (circle one)

GPC Cleanup [ ] Yes [X] No

Date Extracted/Prepared: 03/05/87

Separatory Funnel Extration [ ] Yes

Date Analyzed: 03/12/87

Continuous Liquid-Liquid Extraction [ ] Yes [X] No

Conc/Dil Factor 1.00

Percent Moisture(decanted) 39.60

CAS Number		ug/kg
319-84-6	alpha-BHC	5.5 u
319-85-7	beta-BHC	5.5 u
319-86-8	delta-BHC	5.5 u
58-89-9	gamma-BHC (Lindane)	~~5.5~~ F
76-44-8	Heptachlor	5.5 u
309-00-2	Aldrin	5.5 u
1024-57-3	Heptachlor Epoxide	5.5 u
959-98-8	Endosulfan I	5.5 u
60-57-1	Dieldrin	11 u
72-55-9	4,4'-DDE	11 u
72-20-8	Endrin	11 u
33213-65-9	Endosulfan II	11 u
72-54-8	4,4'-DDD	11 u
1031-07-8	Endosulfan Sulfate	11 u
50-29-3	4,4'-DDT	11 u
72-43-5	Methoxychlor	11 u
53494-70-5	Endrin Ketone	11 u
57-74-9	Chlordane	55 u
8001-35-2	Toxaphene	110 u
12674-11-2	Aroclor-1016	55 u
11104-28-2	Aroclor-1221	55 u
11141-16-5	Aroclor-1232	55 u
53469-21-9	Aroclor-1242	55 u
12672-29-6	Aroclor-1248	55 u
11097-69-1	Aroclor-1254	110 u
11096-82-5	Aroclor-1260	110 u

Correct

F - SUSPECTED FALSE-POSITIVE RESULT. RESULTS QUALIFY FOR ID IN BOTH ANALYSES. HOWEVER LACK OF AGREEMENT BETWEEN THE CALCULATED RESULTS MAKES THE ID SUSPECT.
AOP 3/30/87

Vi = Volume of extract injected (ul)
Vs = Volume of Water Extracted (ml)
Ws = Weight of sample extracted (g)
Vt = Volume of total extract (ul)

Vs _____ or Ws 30.11 Vt 20000 Vi 2.00

100083

SED - 1

Versar Inc., Laboratory Operations
6850 Versar Center, Springfield VA 22151 (703) 750-3000

BI-968

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

	CAS Number	Compound Name	Fraction	RT or Scan	Estimated Concentration (ug/Kg or ug/l)
1	124-38-9	CARBON DIOXIDE	VOA	27	28 J
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					



SED - 1

Versar Inc., Laboratory Operations
6850 Versar Center, Springfield VA 22151 (703) 750-3000

BI968

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

	CAS Number	Compound Name	Fraction	RT or Scan	Estimated Concentration (ug/Kg or ug/l)
11.		UNKNOWN	BNA	615	2,800 JB.
12.		UNKNOWN	BNA	658	1,300 J...
13.		UNKNOWN	BNA	718	740 J...
14.		UNKNOWN SUBSTITUTED NAPHTHALENE	BNA	1131	620 J...
15.		UNKNOWN SUBSTITUTED NAPHTHALENE	BNA	1248	490 J...
16.		UNKNOWN	BNA	1565	340 J...
17.	74410-42-7	D-GALACTITOL,2-(ACETYLMETHYLAMINO)-2-DEOXY-3,4,6,TRI-..	BNA	1647	1,100 J...
18.		UNKNOWN SUBSTITUTED POLYAROMATIC HYDROCARBON	BNA	1701	600 J...
19.		UNKNOWN SUBSTITUTED POLYAROMATIC HYDROCARBON	BNA	1706	830 J...
110.		UNKNOWN POLYCYCLIC AROMATIC	BNA	1723	1,300 J...
111.		UNKNOWN	BNA	1764	960 J...
112.		UNKNOWN	BNA	1952	1,300 J...
113.		UNKNOWN SUBSTITUTED BENZO[B]NAPHTHO	BNA	2073	650 J...
114.		UNKNOWN	BNA	2079	460 J...
115.		UNKNOWN POLYCYCLIC AROMATIC	BNA	2140	880 J...
116.		UNKNOWN HYDROCARBON	BNA	2212	740 J...
117.		UNKNOWN	BNA	2362	2,700 J...
118.		UNKNOWN POLYCYCLIC AROMATIC	BNA	2412	2,800 J...
119.		UNKNOWN	BNA	2526	860 J...
120.					
121.					
122.					
123.					
124.					
125.					
126.					
127.					
128.					
129.					
130.					

100085



6-85

U.S. ENVIRONMENTAL PROTECTION AGENCY — HWI Sample Management Office
P.O. Box 818, Alexandria, VA 22313 — 703/557-2490 — FTS/557-2490

INORGANICS TRAFFIC REPORT

Sample Number
MBI 467

(1) Case Number: 6889
Sample Site Name/Code:
HUDSON RIVER PSYCH

(2) SAMPLE CONCENTRATION
(Check One)
X Low Concentration
___ Medium Concentration

(3) SAMPLE MATRIX
(Check One)
___ Water
X Soil/Sediment

(4) Ship To:
Century Labs
Attn: KEN BOND
Transfer
Ship To:

(5) Sampling Office: FIT II
Sampling Personnel:
(Name) JANE BULLIS
(Phone) 201-225-6160
Sampling Date:
(Begin) 2/26/87 (End) 2/26/87

(6) Shipping Information:
Name Of Carrier: Federal Express
Date Shipped: 2/26/87
Airbill Number: 495164773

(7) Sample Description:
(Check One)
___ Surface Water
___ Ground Water
___ Leachate
___ Mixed Media
X Solids
___ Other ___
(specify) BI 968
MATCHES ORGANIC SAMPLE NO. ___

(8) Mark Volume Level
On Sample Bottle
Check Analysis required
___ Total Metals
___ Cyanide

NY53-SED1

SMO COPY



SED - 1

Form I

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.
MB1-467

Date 4-2-87

INORGANIC ANALYSIS DATA SHEET

LAB NAME Century Laboratories, Inc. CASE NO. 649

SOW NO. 785

LAB SAMPLE ID. NO. 0011-01 QC REPORT NO. LFG 021

Elements Identified and Measured

Concentration: Low ✓ Medium _____

Matrix: Water _____ Soil ✓ Sludge _____ Other _____

ug/L or mg/kg dry weight (Circle One)

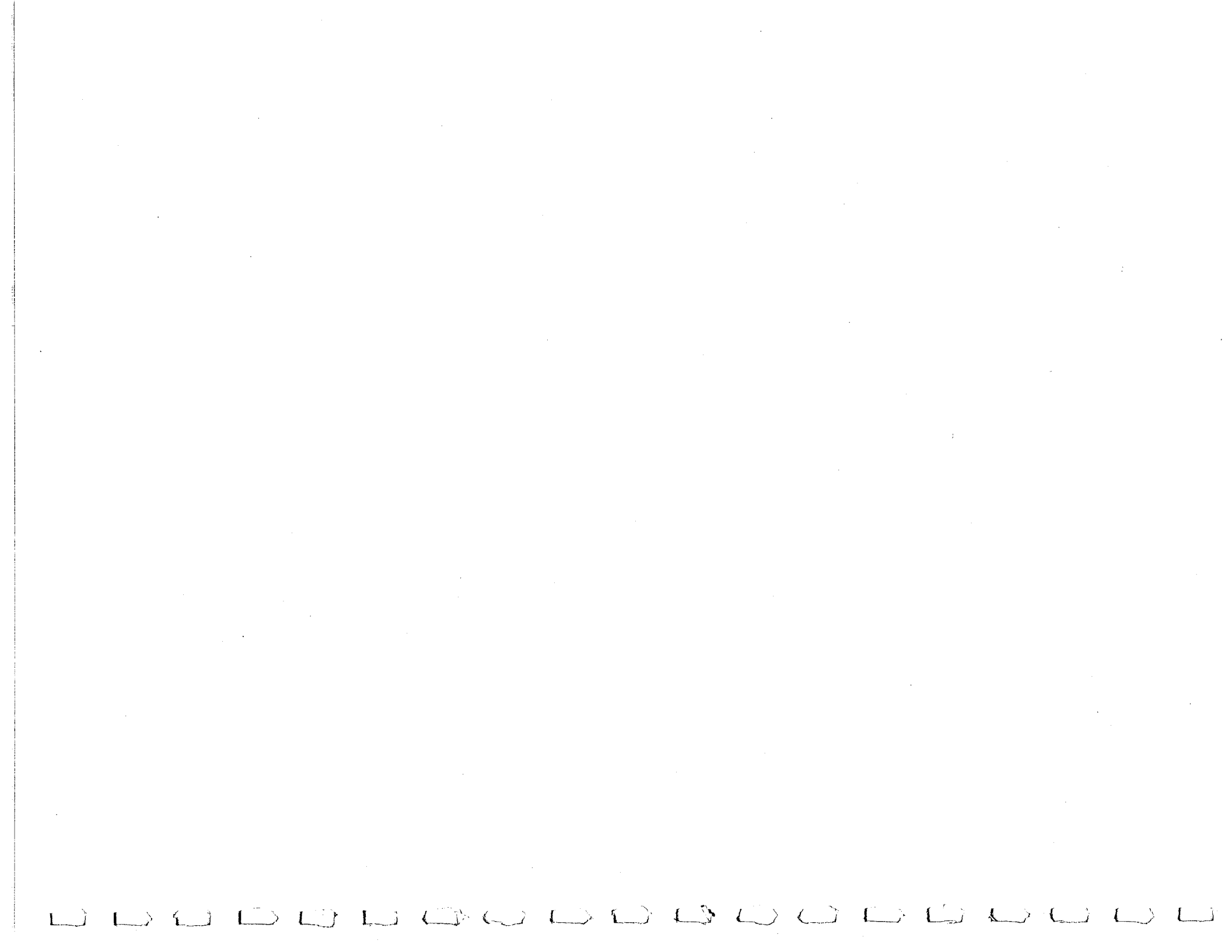
1. Aluminum	8610 P	13. Magnesium	7400P*
2. Antimony	8.9UPN	14. Manganese	2640P
3. Arsenic	12FN	15. Mercury	0.25U
4. Barium	80P	16. Nickel	22P
5. Beryllium	1.5UP	17. Potassium	[444]P
6. Cadmium	1.2UP	18. Selenium	0.62UF
7. Calcium	9470P*	19. Silver	3.0UP
8. Chromium	1FP*	20. Sodium	[illegible]
9. Cobalt	[3.7]P	21. Thallium	0.31UFN
10. Copper	35P	22. Vanadium	27P
11. Iron	31700P	23. Zinc	148P
12. Lead	32FS	Percent Solids (%)	65.5
Cyanide			

Comments: The reporting results in this section have qualifiers as-set as defined in Level IVB. Additional flags or comments qualifying results are encouraged. Definition of such flags must be explained and included in Level IVB, however.

Comments: Clear liquid medium dark pail

Lab Manager: Kenneth Bond

E - 5



6-85

U.S. ENVIRONMENTAL PROTECTION AGENCY HWI Sample Management Office
P.O. Box 818, Alexandria, VA 22313 703/557-2490 FTS/557-2490

INORGANICS TRAFFIC REPORT

Sample Number
MBI 476

(1) Case Number: 6889
Sample Site Name/Code:
Hudson River Byc

(2) SAMPLE CONCENTRATION
(Check One)
X Low Concentration
___ Medium Concentration

(3) SAMPLE MATRIX
(Check One)
X Water
___ Soil/Sediment

(4) Ship To:
Century Labs
Attn: Ken Bond
Transfer
Ship To:

(5) Sampling Office: FIT II
Sampling Personnel:
(Name) J. Bullis
(Phone) 201-225-6160
Sampling Date:
(Begin) 2/26/87 (End) 2/26/87

(6) Shipping Information:
Name Of Carrier: Federal Express
Date Shipped: 2/26/87
Airbill Number: 495164773

(7) Sample Description:
(Check One)
X Surface Water
___ Ground Water
___ Leachate
___ Mixed Media
___ Solids
___ Other
(specify) Biota
MATCHES ORGANIC SAMPLE NO. N953-SW2

(8) Mark Volume Level
On Sample Bottle
Check Analysis required
X Total Metals
___ Cyanide

SMO COPY



SW-2

Form I

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.
MB1-476

Date 6-2-89

INORGANIC ANALYSIS DATA SHEET

LAB NAME Century Laboratories, Inc.

CASE NO. 6889

SOW NO. 785

LAB SAMPLE ID. NO. 0018-10

QC REPORT NO. 021

Elements Identified and Measured

Concentration: Low ✓ Medium _____

Matrix: Water ✓ Soil _____ Sludge _____ Other _____

CLP- ug/L or mg/kg dry weight (Circle One)

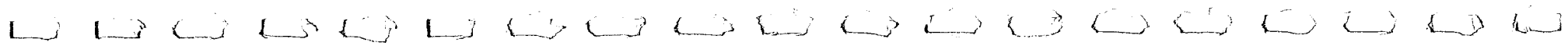
1.	Aluminum 20.0P	13.	Potassium 05=0P *
2.	Antimony ~~3.0 P~~	14.	Selenium 86P
3.	Arsenic 5.0UF	15.	Silver ~~0.20 P~~
4.	Barium <127>P	16.	Sodium 20.0P
5.	Beryllium 5.0UP	17.	Thallium <903>P
6.	Cadmium 4.0UP	18.	Vanadium 5.0UF
7.	Calcium 6F300P	19.	Zinc 10.0P
8.	Chromium 10.0F	20.	Cyanide 43,400PE
9.	Cobalt 10.0P	21.	Aluminum 1.0UFN
10.	Copper 6.0UP	22.	Tungsten 10.0P
11.	Iron 246P	23.	Zirconium 10.0F
12.	Lead 1.0UF		

Percent Solids (%) N/A

Comments: See reporting results on EPA approved results qualifiers are used as defined on cover page. Additional flags or footnotes explaining results are encouraged. Definition of each flag must be explained and included on cover page, however.

Comments: Clear liquid
E = Per dil.

Lab Manager Kenneth Sand



U.S. ENVIRONMENTAL PROTECTION AGENCY, EWI Sample Management Office
P.O. Box 818, Alexandria, Virginia 22313 — 703/557-2490 — FTS/557-2490

ORGANICS TRAFFIC REPORT

Sample Number
BI 969

① Case Number:
6889

Sample Site Name/Code:
Hudson River Psyc

② SAMPLE CONCENTRATION
(Check One)
X Low Concentration
___ Medium Concentration

③ SAMPLE MATRIX
(Check One)
___ Water
X Soil/Sediment

④ Ship To:
Versar Inc.

Attn: Charlie Carter

Transfer
Ship To:

⑤ Regional Office: II

Sampling Personnel:
S. Bullis
(Name)
201-225-6160
(Phone)

Sampling Date:
2/26/87
(Begin) (End)

⑥ For each sample collected specify number of containers used and mark volume level on each bottle.

	Number of Containers	Approximate Total Volume
Water (Extractable)		
Water (VOA)		
Soil/Sediment (Extractable)	1	8 oz
Soil/Sediment (VOA)	1	120 ml
Other		
Soil/Sed Pest/PCB	1	8 oz

⑦ Shipping Information

Federal Express
Name of Carrier

2/26/87
Date Shipped:

495164935
Airbill Number:

⑧ Sample Description

___ Surface Water ___ Mixed Media
___ Ground Water X Solids
___ Leachate ___ Other (specify) _____

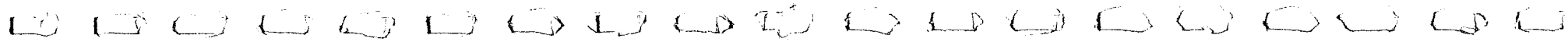
⑨ Sample Location

NY53 - SED 2

⑩ Special Handling Instructions:
(e.g., safety precautions, hazardous nature)

Matches Dkts. MB1-468

SMO COPY



SED - 2

Versar, Inc., Laboratory Operations
6850 Versar Center, Springfield VA 22151 (703) 750-3000

Sample Number
BI-969

ORGANICS ANALYSIS DATA SHEET (Page 1)

Laboratory Name: VERSAR
Lab Sample ID No: 23903
Sample Matrix: SOIL
Data Release Authorized By:

Case No: 6889
QC Report No: 6889
Contract No: 68-01-7082
Date Sample Received: 02/27/87

VOLATILE COMPOUNDS

Concentration: LOW
Date Extracted/Prepared: 03/03/87
Date Analyzed: 03/03/87
Conc/Dil Factor: 1 pH NA
Percent Moisture: 40.6

CAS Number		ug/Kg
74-87-3	Chloromethane	17 u
74-83-9	Bromomethane	17 u
75-01-4	Vinyl Chloride	17 u
75-00-3	Chloroethane	17 u
75-09-2	Methylene Chloride	8 u
67-64-1	Acetone	[illegible]
75-15-0	Carbon Disulfide	8 u
75-35-4	1,1-Dichloroethene	8 u
75-34-3	1,1-Dichloroethane	8 u
156-60-5	Trans-1,2-Dichloroethene	8 u
67-66-3	Chloroform	8 u
107-06-2	1,2-Dichloroethane	8 u
78-93-3	2-butanone	17 u
71-55-6	1,1,1-Trichloroethane	8 u
56-23-5	Carbon Tetrachloride	8 u
108-05-4	Vinyl Acetate	17 u
75-27-4	Bromodichloromethane	8 u

CAS Number		ug/Kg
78-87-5	1,2-Dichloropropane	8 u
10061-02-6	Trans-1,3-Dichloropropene	8 u
79-01-6	Trichloroethene	8 u
124-48-1	Dibromochloromethane	8 u
79-00-5	1,1,2-Trichloroethane	8 u
71-43-2	Benzene	8 u
10061-01-5	cis-1,3-Dichloropropene	8 u
110-75-8	2-chloroethylvinylether	17 u
75-25-2	Bromoform	8 u
108-10-1	4-Methyl-2-Pentanone	17 u
591-78-6	2-Hexanone	17 u
127-18-4	Tetrachloroethene	8 u
79-34-5	1,1,2,2-Tetrachloroethane	8 u
108-88-3	Toluene	[illegible]
108-90-7	Chlorobenzene	8 u
100-41-4	Ethylbenzene	8 u
100-42-5	Styrene	8 u
	Total Xylenes	8 u

Data Reporting Qualifiers

Value If the result is a value greater than or equal to the detection limit, report the value.

u Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample.

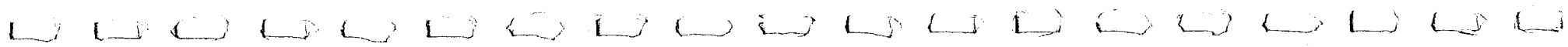
J Estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response factor is assumed, or when the mass spectral data indicates the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero. (e.g. 10J)

C This flag applies to pesticide parameters where the identification has been confirmed by GC/MS.

B This flag is used when the analyte is found in the blank as well as the sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.

VOAF1: REV062486

100198



SED-2

Versar Inc., Laboratory Operations
6850 Versar Center, Springfield VA 22151 703/750-3000

Sample Number
BI969

Case No: 6889

ORGANICS ANALYSIS DATA SHEET (Page 2)
Semivolatile Compounds

Concentration: LOW

Date Extracted/Prepared: 03/05/87

Date Analyzed: 03/19/87

Conc/Dil Factor: 68.18

GPC Cleanup [ ]Yes [X]No

Separatory Funnel Extraction [ ]Yes

Continuous Liquid-Liquid Extraction [ ]Yes

CAS Number		ug/Kg
108-95-2	Phenol	680 u
111-44-4	bis(2-Chloroethyl)Ether	680 u
95-57-8	2-Chlorophenol	680 u
541-73-1	1,3-Dichlorobenzene	680 u
106-46-7	1,4-Dichlorobenzene	680 u
100-51-6	Benzyl Alcohol	680 u
95-50-1	1,2-Dichlorobenzene	680 u
95-48-7	2-Methylphenol	680 u
39638-32-9	bis(2-chloroisopropyl)ether	680 u
106-44-5	4-methylphenol	680 u
621-64-7	N-Nitroso-Di-n-propylamine	680 u
67-72-1	Hexachloroethane	680 u
98-95-3	Nitrobenzene	680 u
78-59-1	Isophorone	680 u
88-75-5	2-Nitrophenol	680 u
105-67-9	2,4-dimethylphenol	680 u
65-85-0	Benzoic Acid	3400 u
111-91-1	bis(2-chloroethoxy)methane	680 u
120-83-2	2,4-dichlorophenol	680 u
120-82-1	1,2,4-trichlorobenzene	680 u
91-20-3	Naphthalene	190 J
106-47-8	4-Chloroaniline	680 u
87-68-3	Hexachlorobutadiene	680 u
59-50-7	4-chloro-3-methylphenol	680 u
91-57-6	2-methylnaphthalene	680 u
77-47-4	Hexachlorocyclopentadiene	680 u
88-06-2	2,4,6-Trichlorophenol	680 u
95-95-4	2,4,5-Trichlorophenol	3400 u
91-58-7	2-Chloronaphthalene	680 u
88-74-4	2-Nitroaniline	3400 u
131-11-3	Dimethyl Phthalate	680 u
208-96-8	Acenaphthylene	680 u
99-09-2	3-Nitroaniline	3400 u

CAS Number		ug/Kg
83-32-9	Acenaphthene	290 J
51-28-5	2,4-Dinitrophenol	3400 u
100-02-7	4-Nitrophenol	3400 u
132-64-9	Dibenzofuran	230 J
121-14-2	2,4-Dinitrotoluene	680 u
606-20-2	2,6-Dinitrotoluene	680 u
84-66-2	Diethylphthalate	680 u
7005-22-3	4-Chlorophenyl-phenylether	680 u
86-73-7	Fluorene	360
100-01-6	4-Nitroaniline	3400 u
534-52-1	4,6-dinitro-2-methylphenol	3400 u
86-30-6	N-Nitrosodiphenylamine (1)	680 u
101-55-3	4-Bromophenyl-phenylether	680 u
118-74-1	Hexachlorobenzene	680 u
87-86-5	Pentachlorophenol	3400 u
85-01-8	Phenanthrene	2800
120-12-7	Anthracene	510 J
84-74-2	Di-n-butylphthalate	680 u
206-44-0	Fluoranthene	2700
129-00-0	Pyrene	2000
85-68-7	Butylbenzylphthalate	680 u
91-94-1	3,3'-Dichlorobenzidine	1360 u
56-55-3	Benzo(a)anthracene	970
117-81-7	bis(2-Ethylhexyl)Phthalate	680 u
218-01-9	Chrysene	1000
117-84-0	Di-n-Octylphthalate	680 u
205-99-2	Benzo(b)Fluoranthene	770
207-08-9	Benzo(k)Fluoranthene	730
50-32-8	Benzo(a)pyrene	810
193-39-5	Indeno(1,2,3-cd)Pyrene	680 u
53-70-3	Dibenz(a,h)Anthracene	680 u
191-24-2	Benzo(g,h,i)Perylene	680 u

(1)-Cannot be separated from diphenylamine



SED -2

Versar Inc. Laboratory Operations
6850 Versar Center, Springfield Va. 22151
(703) 750-3000

Sample Number
BI 969

ORGANICS ANALYSIS DATA SHEET
(Page 3)

Pesticides/PCBs

Concentration: |Low| Medium (circle one)

GPC Cleanup [ ] Yes [X] No

Date Extracted/Prepared: 03/05/87

Separatory Funnel Extration [ ] Yes

Date Analyzed: 03/13/87

Continuous Liquid-Liquid Extraction [ ] Yes [X] No

Conc/Dil Factor 1.00

Percent Moisture(decanted) 40.60

CAS Number		ug/kg
319-84-6	alpha-BHC	5.5 u
319-85-7	beta-BHC	5.5 u
319-86-8	delta-BHC	5.5 u
58-89-9	gamma-BHC (Lindane)	5.5 u
76-44-8	Heptachlor	5.5 u
309-00-2	Aldrin	5.5 u
1024-57-3	Heptachlor Epoxide	5.5 u
959-98-8	Endosulfan I	5.5 u
60-57-1	Dieldrin	11 u
72-55-9	4,4'-DDE 7.8 J	J7.8
72-20-8	Endrin	11 u
33213-65-9	Endosulfan II	11 u
72-54-8	4,4'-DDD	11 u
1031-07-8	Endosulfan Sulfate	11 u
50-29-3	4,4'-DDT	11 u
72-43-5	Methoxychlor	11 u
53494-70-5	Endrin Ketone	11 u
57-74-9	Chlordane	55 u
8001-35-2	Toxaphene	110 u
12674-11-2	Aroclor-1016	55 u
11104-28-2	Aroclor-1221	55 u
11141-16-5	Aroclor-1232	55 u
53469-21-9	Aroclor-1242	55 u
12672-29-6	Aroclor-1248	55 u
11097-69-1	Aroclor-1254	110 u
11096-82-5	Aroclor-1260	110 u

J- ESTIMATED CONCENTRATION; COMPOUNDS MEETS ID CRITERIA IN BOTH ANALYSES, BUT CALCULATED RESULTS ARE BELOW DETECTION LIMIT IN ONE OR BOTH ANALYSES. RELATIVE AGREEMENT BETWEEN THE RESULTS SUPPORT THE ID AND ITS ESTIMATED RESULTS.
ADD 3/30/87

Vi = Volume of extract injected (ul)
Vs = Volume of Water Extracted (ml)
Ws = Weight of sample extracted (g)
Vt = Volume of total extract (ul)

Vs _____ or Ws 30.80 Vt 20000 Vi 2.00

100200



SED -2

Versar Inc., Laboratory Operations
6850 Versar Center, Springfield VA 22151 (703) 750-3000

BI-969

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

	CAS Number	Compound Name	Fraction	RT or Scan	Estimated Concentration (ug/Kg or ug/l)
11.	124-38-9	CARBON DIOXIDE	VOA	27	79 J
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
110.					
111.					
112.					
113.					
114.					
115.					
116.					
117.					
118.					
119.					
120.					
121.					
122.					
123.					
124.					
125.					
126.					
127.					
128.					
129.					
130.					

100201



SED - 2

Versar Inc., Laboratory Operations
6850 Versar Center, Springfield VA 22151 (703) 750-3000

BI969

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

	CAS Number	Compound Name	Fraction	RT or Scan	Estimated Concentration (ug/Kg or ug/l)
11.		UNKNOWN	BNA	615	2,800 J,B.
12.		UNKNOWN	BNA	658	750 J...
13.		UNKNOWN	BNA	717	470 J...
14.		UNKNOWN	BNA	740	220 J...
15.		UNKNOWN	BNA	796	500 J...
16.	65-85-0	BENZOIC ACID	BNA	933	36 J,T.
17.		UNKNOWN	BNA	1645	210 J...
18.		UNKNOWN SUBSTITUTED POLYAROMATIC HYDROCARBON	BNA	1704	240 J...
19.		UNKNOWN POLYAROMATIC HYDROCARBON	BNA	1721	320 J...
110.		UNKNOWN POLYAROMATIC HYDROCARBON	BNA	1762	240 J...
111.		UNKNOWN POLYAROMATIC HYDROCARBON	BNA	1950	470 J...
112.		UNKNOWN	BNA	2093	270 J...
113.		UNKNOWN	BNA	2137	330 J...
114.		UNKNOWN HYDROCARBON	BNA	2210	510 J...
115.		UNKNOWN HYDROCARBON	BNA	2313	740 J...
116.		UNKNOWN HYDROCARBON	BNA	2359	1,300 J...
117.		UNKNOWN POLYAROMATIC HYDROCARBON	BNA	2405	580 J...
118.		UNKNOWN	BNA	2567	570 J...
119.	193-39-5	INDENO[1,2,3-CD]PYRENE	BNA	2803	170 J,T.
120.	191-24-2	BENZO[GHI]PERYLENE	BNA	2916	180 J,T.
121.					
122.					
123.					
124.					
125.					
126.					
127.					
128.					
129.					
130.					

T - Spectrum for this HSL Compound does not meet CLP criteria for confirmation, but does indicate compound presence.

100202



6-85

U.S. ENVIRONMENTAL PROTECTION AGENCY — HWI Sample Management Office
P.O. Box 818, Alexandria, VA 22313 — 703/557-2490 - FTS/557-2490

INORGANICS TRAFFIC REPORT

Sample Number
MBI 468

(1) Case Number: 6889
Sample Site Name/Code:
HUDSON RIVER PSYC

(2) SAMPLE CONCENTRATION
(Check One)
X Low Concentration
___ Medium Concentration

(3) SAMPLE MATRIX
(Check One)
___ Water
X Soil/Sediment

(4) Ship To:
Century Labs
Attn: KEN BOND
Transfer
Ship To:

(5) Sampling Office: FIT II
Sampling Personnel:
(Name) J BOLLIS
(Phone) 281-225-6160
Sampling Date:
(Begin) 2/26/87 (End) 2/26/87

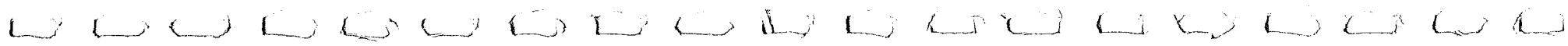
(6) Shipping Information:
Name Of Carrier: Federal Express
Date Shipped: 2/26/87
Airbill Number: 495164773

(7) Sample Description:
(Check One)
___ Surface Water
___ Ground Water
___ Leachate
___ Mixed Media
X Solids
___ Other
(specify) BI 969
MATCHES ORGANIC SAMPLE NO. ___

(8) Mark Volume Level
On Sample Bottle
Check Analysis required
X Total Metals
___ Cyanide

NY53-SED2

SMO COPY



SED - 2

Form I

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.
MB1- 4L4

Date 2-4-87

INORGANIC ANALYSIS DATA SHEET

LAB NAME Century Laboratories, Inc.

CASE NO. 644

SOW NO. 785

LAB SAMPLE ID. NO. 001F-05

QC REPORT NO. 021

Elements Identified and Measured

Concentration: Low ✓ Medium

Matrix: Water ____ Soil ✓ Sludge ____ Other ____

Units: ug/L or mg/kg dry weight (Circle One)

1. Aluminum	11,900P	13. Potassium	934.0P*
2. Antimony	2.5PN	14. Selenium	2.0P 6.23P
3. Arsenic	4.1F [2.0] FSN	15. Silver	0.17U
4. Barium	[42]P	16. Sodium	2.4P
5. Beryllium	1.4UP	17. Thallium	<6.79> P
6. Cadmium	1.1UP	18. Vanadium	0.56UF
7. Calcium	7920P*	19. Zinc	2.4UP
8. Chromium	19.4P*	20. Cyanide	
9. Cobalt	2.4UP	21. Manganese	0.24UFN
10. Copper	31P	22. Iron	23P
11. Lead	33.100P	23. Mercury	150P
12. Nickel	29FS	Percent Solids (%)	70.70

Color Before: N/A

Color After: ____

Comments: Use reporting results to EPA, analytical results qualified with flags as defined on cover page. Additional flags or footnotes explaining results are encouraged. Definitions of such flags must be explained and submitted on cover page, however.

Comments: ~~Sediment dark gray~~ Sediment light medium dark gray

Lab Manager Kenneth Bond

E - 8

271



U.S. ENVIRONMENTAL PROTECTION AGENCY, EPA/ESD Sample Management Office
P.O. Box 818, Alexandria, Virginia 22313 - 703/557-2490 - FTS/557-2490

ORGANICS TRAFFIC REPORT

Sample Number: BI 970

① Case Number: 6889

Sample Site Name/Code: Hudson River Psyc

② SAMPLE CONCENTRATION (Check One)

X Low Concentration
___ Medium Concentration

③ SAMPLE MATRIX (Check One)

___ Water
X Soil/Sediment

④ Ship To: Versar Inc.

Attn: Charlie Carter

Transfer Ship To:

⑤ Regional Office: II

Sampling Personnel: S. Bullis

(Name) 201-225-6160 (Phone)

Sampling Date: 2/26/87 (Begin) (End)

⑥ For each sample collected specify number of containers used and mark volume level on each bottle.

	Number of Containers	Approximate Total Volume
Water (Extractable)		
Water (VOA)		
Soil/Sediment (Extractable)	1	8 oz
Soil/Sediment (VOA)	1	120 ml
Other		
PEST/PCB	1	8 oz

⑦ Shipping Information

Federal Express — Name of Carrier

2/26/87 — Date Shipped:

495164935 — Airbill Number:

⑧ Sample Description

___ Surface Water ___ Mixed Media
___ Ground Water X Solids
___ Leachate ___ Other (specify) _____

⑨ Sample Location

N953 SED3

⑩ Special Handling Instructions: (e.g., safety precautions, hazardous nature)

matches Dnrs. MB1469

SMO COPY



SED -3

Versar, Inc., Laboratory Operations
6850 Versar Center, Springfield VA 22151 (703) 750-3000

Sample Number
BI-970

ORGANICS ANALYSIS DATA SHEET (Page 1)

Laboratory Name: VERSAR
Lab Sample ID No: 23904
Sample Matrix: SOIL
Data Release Authorized By:

Case No: 6889
QC Report No: 6889
Contract No: 68-01-7082
Date Sample Received: 02/27/87

VOLATILE COMPOUNDS

Concentration: LOW
Date Extracted/Prepared: 03/03/87
Date Analyzed: 03/03/87
Conc/Dil Factor: 1
Percent Moisture: 43.2

pH NA

CAS Number		ug/Kg
74-87-3	Chloromethane	18 u
74-83-9	Bromomethane	18 u
75-01-4	Vinyl Chloride	18 u
75-00-3	Chloroethane	18 u
75-09-2	Methylene Chloride	9 u
67-64-1	Acetone	18 u
75-15-0	Carbon Disulfide	9 u
75-35-4	1,1-Dichloroethene	9 u
75-34-3	1,1-Dichloroethane	9 u
156-60-5	Trans-1,2-Dichloroethene	9 u
67-66-3	Chloroform	9 u
107-06-2	1,2-Dichloroethane	9 u
78-93-3	2-butanone	18 u
71-55-6	1,1,1-Trichloroethane	9 u
56-23-5	Carbon Tetrachloride	9 u
108-05-4	Vinyl Acetate	18 u
75-27-4	Bromodichloromethane	9 u

CAS Number		ug/Kg
78-87-5	1,2-Dichloropropane	9 u
10061-02-6	Trans-1,3-Dichloropropene	9 u
79-01-6	Trichloroethene	9 u
124-48-1	Dibromochloromethane	9 u
79-00-5	1,1,2-Trichloroethane	9 u
71-43-2	Benzene	9 u
10061-01-5	cis-1,3-Dichloropropene	9 u
110-75-8	2-chloroethylvinylether	18 u
75-25-2	Bromoform	9 u
108-10-1	4-Methyl-2-Pentanone	18 u
591-78-6	2-Hexanone	18 u
127-18-4	Tetrachloroethene	9 u
79-34-5	1,1,2,2-Tetrachloroethane	9 u
108-88-3	Toluene	9 u
108-90-7	Chlorobenzene	9 u
100-41-4	Ethylbenzene	9 u
100-42-5	Styrene	9 u
	Total Xylenes	9 u

Data Reporting Qualifiers

Value If the result is a value greater than or equal to the detection limit, report the value.

u Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample.

J Estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response factor is assumed, or when the mass spectral data indicates the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero. (e.g. 10J)

C This flag applies to pesticide parameters where the identification has been confirmed by GC/MS.

B This flag is used when the analyte is found in the blank as well as the sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.

VOAF1: REV062486

100313



SED - 3

Versar Inc., Laboratory Operations
6850 Versar Center, Springfield VA 22151 703/750-3000

Sample Number
BI970

Case No: 6889

ORGANICS ANALYSIS DATA SHEET (Page 2)
Semivolatile Compounds

Concentration:LOW

Date Extracted/Prepared: 03/05/87

Date Analyzed: 03/20/87

Conc/Dil Factor: 1/0.83

GPC Cleanup [ ]Yes [X]No

Separatory Funnel Extraction [ ]Yes

Continuous Liquid-Liquid Extraction [ ]Yes

CAS Number		ug/Kg
108-95-2	Phenol	700 u
111-44-4	bis(2-Chloroethyl)Ether	700 u
95-57-8	2-Chlorophenol	700 u
541-73-1	1,3-Dichlorobenzene	700 u
106-46-7	1,4-Dichlorobenzene	700 u
100-51-6	Benzyl Alcohol	700 u
95-50-1	1,2-Dichlorobenzene	700 u
95-48-7	2-Methylphenol	700 u
39638-32-9	bis(2-chloroisopropyl)ether	700 u
106-44-5	4-methylphenol	700 u
621-64-7	N-Nitroso-Di-n-propylamine	700 u
67-72-1	Hexachloroethane	700 u
98-95-3	Nitrobenzene	700 u
78-59-1	Isophorone	700 u
88-75-5	2-Nitrophenol	700 u
105-67-9	2,4-dimethylphenol	700 u
65-85-0	Benzoic Acid	3600 u
111-91-1	bis(2-chloroethoxy)methane	700 u
120-83-2	2,4-dichlorophenol	700 u
120-82-1	1,2,4-trichlorobenzene	700 u
91-20-3	Naphthalene	700 u
106-47-8	4-Chloroaniline	700 u
87-68-3	Hexachlorobutadiene	700 u
59-50-7	4-chloro-3-methylphenol	700 u
91-57-6	2-methylnaphthalene	700 u
77-47-4	Hexachlorocyclopentadiene	700 u
88-06-2	2,4,6-Trichlorophenol	700 u
95-95-4	2,4,5-Trichlorophenol	3600 u
91-58-7	2-Chloronaphthalene	700 u
88-74-4	2-Nitroaniline	3600 u
131-11-3	Dimethyl Phthalate	700 u
208-96-8	Acenaphthylene	700 u
99-09-2	3-Nitroaniline	3600 u

CAS Number		ug/Kg
83-32-9	Acenaphthene	700 u
51-28-5	2,4-Dinitrophenol	3600 u
100-02-7	4-Nitrophenol	3600 u
132-64-9	Dibenzofuran	700 u
121-14-2	2,4-Dinitrotoluene	700 u
606-20-2	2,6-Dinitrotoluene	700 u
84-66-2	Diethylphthalate	700 u
7005-22-3	4-Chlorophenyl-phenylether	700 u
86-73-7	Fluorene	700 u
100-01-6	4-Nitroaniline	3600 u
534-52-1	4,6-dinitro-2-methylphenol	3600 u
86-30-6	N-Nitrosodiphenylamine (1)	700 u
101-55-3	4-Bromophenyl-phenylether	700 u
118-74-1	Hexachlorobenzene	700 u
87-86-5	Pentachlorophenol	3600 u
85-01-8	Phenanthrene	180 J
120-12-7	Anthracene	700 u
84-74-2	Di-n-butylphthalate	700 u
206-44-0	Fluoranthene	290 J
129-00-0	Pyrene	280 J
85-68-7	Butylbenzylphthalate	700 u
91-94-1	3,3'-Dichlorobenzidine	1420 u
56-55-3	Benzo(a)anthracene	700 u
117-81-7	bis(2-Ethylhexyl)Phthalate	180 J
218-01-9	Chrysene	220 J
117-84-0	Di-n-Octylphthalate	700 u
205-99-2	Benzo(b)Fluoranthene	700 u
207-08-9	Benzo(k)Fluoranthene	700 u
50-32-8	Benzo(a)pyrene	700 u
193-39-5	Indeno(1,2,3-cd)Pyrene	700 u
53-70-3	Dibenz(a,h)Anthracene	700 u
191-24-2	Benzo(g,h,i)Perylene	700 u

(1)-Cannot be separated from diphenylamine



SED - 3

Versar Inc. Laboratory Operations
6850 Versar Center, Springfield Va. 22151
(703) 750-3000

Sample Number
BI 970

ORGANICS ANALYSIS DATA SHEET
(Page 3)

Pesticides/PCBs

Concentration: |Low| Medium (circle one)

GPC Cleanup [ ] Yes [X] No

Date Extracted/Prepared: 03/05/87

Separatory Funnel Extration [ ] Yes

Date Analyzed: 03/13/87

Continuous Liquid-Liquid Extraction [ ] Yes [X] No

Conc/Dil Factor 1.00

Percent Moisture(decanted) 43.20

CAS Number		ug/kg	
319-84-6	alpha-BHC	5.7 u	
319-85-7	beta-BHC	5.7 u	
319-86-8	delta-BHC	5.7 u	
58-89-9	gamma-BHC (Lindane)	5.7 u	
76-44-8	Heptachlor	5.7 u	
309-00-2	Aldrin	5.7 u	
1024-57-3	Heptachlor Epoxide	5.7 u	
959-98-8	Endosulfan I	5.7 u	
60-57-1	Dieldrin	11 u	
72-55-9	4,4'-DDE	J16	16J
72-20-8	Endrin	11 u	
33213-65-9	Endosulfan II	11 u	
72-54-8	4,4'-DDD	J6.2	6.2J
1031-07-8	Endosulfan Sulfate	11 u	
50-29-3	4,4'-DDT	11 u	
72-43-5	Methoxychlor	11 u	
53494-70-5	Endrin Ketone	11 u	
57-74-9	Chlordane	57 u	
8001-35-2	Toxaphene	110 u	
12674-11-2	Aroclor-1016	57 u	
11104-28-2	Aroclor-1221	57 u	
11141-16-5	Aroclor-1232	57 u	
53469-21-9	Aroclor-1242	57 u	
12672-29-6	Aroclor-1248	57 u	
11097-69-1	Aroclor-1254	110 u	
11096-82-5	Aroclor-1260	110 u	

J- ESTIMATED CONCENTRATION; COMPOUNDS MEET ID CRITERIA IN BOTH QUANT/CONF., BUT CALCULATED RESULTS ARE BELOW THE MDL IN ONE OR BOTH ANALYSES. RELATIVE AGREEMENT BETWEEN THE RESULTS SUPPORT THESE ID'S AND THEIR ESTIMATED VALUES

4D 3/30/87

Vi = Volume of extract injected (ul)
Vs = Volume of Water Extracted (ml)
Ws = Weight of sample extracted (g)
Vt = Volume of total extract (ul)

Vs _____ or Ws 31.06

Vt 20000 Vi 2.00

100315

SED -3

Versar Inc., Laboratory Operations
6850 Versar Center, Springfield VA 22151 (703) 750-3000

BI-970

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

	CAS Number	Compound Name	Fraction	RT or Scan	Estimated Concentration (ug/Kg or ug/l)
11.	124-38-9	CARBON DIOXIDE	VOA	27	47 J
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
110.					
111.					
112.					
113.					
114.					
115.					
116.					
117.					
118.					
119.					
120.					
121.					
122.					
123.					
124.					
125.					
126.					
127.					
128.					
129.					
130.					

100316



SED - 3

Versar Inc., Laboratory Operations
6850 Versar Center, Springfield VA 22151 (703) 750-3000

BI970

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

	CAS Number	Compound Name	Fraction	RT or Scan	Estimated Concentration (ug/Kg or ug/l)
11.		UNKNOWN.	BNA.	564	310 J...
12.		UNKNOWN.	BNA.	615	4,100 J,B.
13.		UNKNOWN.	BNA.	658	890 J...
14.		UNKNOWN.	BNA.	672	420 J...
15.		UNKNOWN.	BNA.	718	1,200 J...
16.		UNKNOWN.	BNA.	740	420 J...
17.		UNKNOWN.	BNA.	797	480 J...
18.	65-85-0	BENZOIC ACID.	BNA.	933	38 J,T.
19.		UNKNOWN.	BNA.	2037	460 J...
110.		UNKNOWN.	BNA.	2078	2,800 J...
111.		UNKNOWN.	BNA.	2094	370 J...
112.		UNKNOWN HYDROCARBON.	BNA.	2107	1,200 J...
113.		UNKNOWN.	BNA.	2210	630 J...
114.		UNKNOWN.	BNA.	2278	310 J...
115.		UNKNOWN.	BNA.	2314	890 J...
116.		UNKNOWN HYDROCARBON.	BNA.	2359	1,600 J...
117.		UNKNOWN.	BNA.	2506	430 J...
118.		UNKNOWN.	BNA.	2567	1,000 J...
119.		UNKNOWN.	BNA.	2660	470 J...
120.					
121.					
122.					
123.					
124.					
125.					
126.					
127.					
128.					
129.					
130.					

T - Spectrum for this HSL compound does not meet CLP criteria for confirmation, but does indicate compound presence.

100317

U.S. ENVIRONMENTAL PROTECTION AGENCY — EPA/ESD Sample Management Office
P.O. Box 818, Alexandria, VA 22313 — 703/557-2490 - FTS/557-2490

INORGANICS TRAFFIC REPORT

Sample Number
MBI 469

(1) Case Number: 6889
Sample Site Name/Code:
HUDSON RIVER Byc

(2) SAMPLE CONCENTRATION
(Check One)
X Low Concentration
___ Medium Concentration

(3) SAMPLE MATRIX
(Check One)
___ Water
X Soil/Sediment

(4) Ship To:
Century Labs
Attn: KEN BOND
Transfer Ship To:

(5) Sampling Office: FIT II
Sampling Personnel:
(Name) J. BULLIS
(Phone) 201-225-6160
Sampling Date:
(Begin) 2/26/87 (End) 2/26/87

(6) Shipping Information:
Name Of Carrier: Federal Express
Date Shipped: 2/26/87
Airbill Number: 495164773

(7) Sample Description:
(Check One)
___ Surface Water
___ Ground Water
___ Leachate
___ Mixed Media
X Solids
___ Other ___
(specify) B1970
MATCHES ORGANIC SAMPLE NO. ___

(8) Mark Volume Level On Sample Bottle
Check Analysis required
X Total Metals
___ Cyanide

NY53 SED3

SMO COPY

SED - 3

Form I

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.
MB1-469

Date 4-2-89

INORGANIC ANALYSIS DATA SHEET

LAB NAME Century Laboratories, Inc.

CASE NO. 6449

SOW NO. 785

LAB SAMPLE ID. NO. 0012-01

QC REPORT NO. 021

Elements Identified and Measured

Concentration: Low ✓ Medium _____

Matrix: Water _____ Soil ✓ Sludge _____ Other _____

If "Other" or "Low" or "Medium" entry value (Circle One)

1. Aluminum	9200P	13. Mercury	4440P*
2. Antimony	14UFN	14. Magnesium	2710P
3. Arsenic	6.0FsN	15. Manganese	0.42
4. Barium	116P	16. Nickel	9.7P
5. Beryllium	2.4UP	17. Potassium	<484>P
6. Cadmium	1.9UP	18. Selenium	0.95uF
7. Calcium	6230P*	19. Silver	53P
8. Cerium	4.5UF*	20. Sodium	<6787P>
9. Cobalt	4.5UP	21. Thallium	0.47UFN
10. Copper	2.9UP	22. Vanadium	<13>P
11. Iron	53,200P	23. Zinc	150P
12. Lead	95Fs	Percent Solids (%)	41.35
Cyanide	N/A		

Comments: In reporting results to EPA, analytical results qualified as listed on cover page. Additional flags or footnotes qualifying results are encouraged. Definition of all flags used should be included on cover page, however.

Comments: Medium dark soil

~~F - fine~~ dirt

Lab Manager: Kenneth Ford

U.S. ENVIRONMENTAL PROTECTION AGENCY, EWE Sample Management Office
P.O. Box 818, Alexandria, Virginia 22313 — 703/557-2490 — FTS/557-2490

ORGANICS TRAFFIC REPORT

Sample Number
BI 971

① Case Number: 6889

Sample Site Name/Code: Hudson River Byc

② SAMPLE CONCENTRATION (Check One)
X Low Concentration
___ Medium Concentration

③ SAMPLE MATRIX (Check One)
___ Water
X Soil/Sediment

④ Ship To:
Vassar Inc.
Attn: Charlie Carter ~~Ken Bond~~ BI

Transfer Ship To:

⑤ Regional Office: II

Sampling Personnel:
S. Bullis
(Name)
201-225-6160
(Phone)

Sampling Date:
8/26/87
(Begin) (End)

⑥ For each sample collected specify number of containers used and mark volume level on each bottle.

	Number of Containers	Approximate Total Volume
Water (Extractable)		
Water (VOA)		
Soil/Sediment (Extractable)	1	802
Soil/Sediment (VOA)	1	120ml
Other		
soil/sed Pest PCB	1	802

⑦ Shipping Information
Federal Express
Name of Carrier
2/26/87
Date Shipped:
495164935
Airbill Number:

⑧ Sample Description
___ Surface Water ___ Mixed Media
___ Ground Water X Solids
___ Leachate ___ Other (specify) _____

⑨ Sample Location
N953 SED 4

⑩ Special Handling Instructions:
(e.g., safety precautions, hazardous nature)
Matches Dnors. MB1 470

SMO COPY

SED - 4

ar, Inc., Laboratory Operations
Versar Center, Springfield VA 22151 (703) 750-3000

Sample Number
BI-971

ORGANICS ANALYSIS DATA SHEET (Page 1)

Laboratory Name: VERSAR
Lab Sample ID No: 23905
Sample Matrix: SOIL
Data Release Authorized By:

Case No: 6889
QC Report No: 6889
Contract No: 68-01-7082
Date Sample Received: 02/27/87

VOLATILE COMPOUNDS

Concentration: LOW
Date Extracted/Prepared: 03/03/87
Date Analyzed: 03/03/87
Conc/Dil Factor: 1 pH NA
Percent Moisture: 38.9

CAS Number		ug/Kg
74-87-3	Chloromethane	16 u
74-83-9	Bromomethane	16 u
75-01-4	Vinyl Chloride	16 u
75-00-3	Chloroethane	16 u
75-09-2	Methylene Chloride	8 u
67-64-1	Acetone	16 u
75-15-0	Carbon Disulfide	8 u
75-35-4	1,1-Dichloroethene	8 u
75-34-3	1,1-Dichloroethane	8 u
156-60-5	Trans-1,2-Dichloroethene	8 u
67-66-3	Chloroform	8 u
107-06-2	1,2-Dichloroethane	8 u
78-93-3	2-butanone	16 u
71-55-6	1,1,1-Trichloroethane	8 u
56-23-5	Carbon Tetrachloride	8 u
108-05-4	Vinyl Acetate	16 u
75-27-4	Bromodichloromethane	8 u

CAS Number		ug/Kg
78-87-5	1,2-Dichloropropane	8 u
10061-02-6	Trans-1,3-Dichloropropene	8 u
79-01-6	Trichloroethene	8 u
124-48-1	Dibromochloromethane	8 u
79-00-5	1,1,2-Trichloroethane	8 u
71-43-2	Benzene	8 u
10061-01-5	cis-1,3-Dichloropropene	8 u
110-75-8	2-chloroethylvinylether	16 u
75-25-2	Bromoform	8 u
108-10-1	4-Methyl-2-Pentanone	16 u
591-78-6	2-Hexanone	16 u
127-18-4	Tetrachloroethene	8 u
79-34-5	1,1,2,2-Tetrachloroethane	8 u
108-88-3	Toluene	8 u
108-90-7	Chlorobenzene	8 u
100-41-4	Ethylbenzene	8 u
100-42-5	Styrene	8 u
	Total Xylenes	8 u

Data Reporting Qualifiers

Value If the result is a value greater than or equal to the detection limit, report the value.

u Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample.

J Estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response factor is assumed, or when the mass spectral data indicates the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero. (e.g. 10J)

C This flag applies to pesticide parameters where the identification has been confirmed by GC/MS.

B This flag is used when the analyte is found in the blank as well as the sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.

VOAF1: REV062486

200003

SED -4

Versar Inc., Laboratory Operations
6850 Versar Center, Springfield VA 22151 703/750-3000

Sample Number
BI971

Case No: 6889

ORGANICS ANALYSIS DATA SHEET (Page 2)
Semivolatile Compounds

Concentration:LOW

Date Extracted/Prepared: 03/05/87

Date Analyzed: 03/20/87

Conc/Dil Factor: 1/1652

GPC Cleanup [ ]Yes [X]No

Separatory Funnel Extraction [ ]Yes

Continuous Liquid-Liquid Extraction [ ]Yes

CAS Number		ug/Kg
108-95-2	Phenol	660 u
111-44-4	bis(2-Chloroethyl)Ether	660 u
95-57-8	2-Chlorophenol	660 u
541-73-1	1,3-Dichlorobenzene	660 u
106-46-7	1,4-Dichlorobenzene	660 u
100-51-6	Benzyl Alcohol	660 u
95-50-1	1,2-Dichlorobenzene	660 u
95-48-7	2-Methylphenol	660 u
39638-32-9	bis(2-chloroisopropyl)ether	660 u
106-44-5	4-methylphenol	170 J
621-64-7	N-Nitroso-Di-n-propylamine	660 u
67-72-1	Hexachloroethane	660 u
98-95-3	Nitrobenzene	660 u
78-59-1	Isophorone	660 u
88-75-5	2-Nitrophenol	660 u
105-67-9	2,4-dimethylphenol	660 u
65-85-0	Benzoic Acid	3400 u
111-91-1	bis(2-chloroethoxy)methane	660 u
120-83-2	2,4-dichlorophenol	660 u
120-82-1	1,2,4-trichlorobenzene	660 u
91-20-3	Naphthalene	660 u
106-47-8	4-Chloroaniline	660 u
87-68-3	Hexachlorobutadiene	660 u
59-50-7	4-chloro-3-methylphenol	660 u
91-57-6	2-methylnaphthalene	660 u
77-47-4	Hexachlorocyclopentadiene	660 u
88-06-2	2,4,6-Trichlorophenol	660 u
95-95-4	2,4,5-Trichlorophenol	3400 u
91-58-7	2-Chloronaphthalene	660 u
88-74-4	2-Nitroaniline	3400 u
131-11-3	Dimethyl Phthalate	660 u
208-96-8	Acenaphthylene	660 u
99-09-2	3-Nitroaniline	3400 u

CAS Number		ug/Kg
83-32-9	Acenaphthene	660 u
51-28-5	2,4-Dinitrophenol	3400 u
100-02-7	4-Nitrophenol	3400 u
132-64-9	Dibenzofuran	660 u
121-14-2	2,4-Dinitrotoluene	660 u
606-20-2	2,6-Dinitrotoluene	660 u
84-66-2	Diethylphthalate	660 u
7005-22-3	4-Chlorophenyl-phenylether	660 u
86-73-7	Fluorene	660 u
100-01-6	4-Nitroaniline	3400 u
534-52-1	4,6-dinitro-2-methylphenol	3400 u
86-30-6	N-Nitrosodiphenylamine (1)	660 u
101-55-3	4-Bromophenyl-phenylether	660 u
118-74-1	Hexachlorobenzene	660 u
87-86-5	Pentachlorophenol	3400 u
85-01-8	Phenanthrene	220 J
120-12-7	Anthracene	660 u
84-74-2	Di-n-butylphthalate	660 u
206-44-0	Fluoranthene	430 J
129-00-0	Pyrene	390 J
85-68-7	Butylbenzylphthalate	660 u
91-94-1	3,3'-Dichlorobenzidine	1340 u
56-55-3	Benzo(a)anthracene	210 J
117-81-7	bis(2-Ethylhexyl)Phthalate	220 J
218-01-9	Chrysene	260 J
117-84-0	Di-n-Octylphthalate	660 u
205-99-2	Benzo(b)Fluoranthene	660 u
207-08-9	Benzo(k)Fluoranthene	660 u
50-32-8	Benzo(a)pyrene	660 u
193-39-5	Indeno(1,2,3-cd)Pyrene	660 u
53-70-3	Dibenz(a,h)Anthracene	660 u
191-24-2	Benzo(g,h,i)Perylene	660 u

(1)-Cannot be separated from diphenylamine

SED - 4

Versar Inc. Laboratory Operations
6850 Versar Center, Springfield Va. 22151
(703) 750-3000

Sample Number
BI 971

ORGANICS ANALYSIS DATA SHEET
(Page 3)

Pesticides/PCBs

Concentration: Low | Medium (circle one)

GPC Cleanup [ ] Yes [X] No

Date Extracted/Prepared: 03/05/87

Separatory Funnel Extration [ ] Yes

Date Analyzed: 03/14/87

Continuous Liquid-Liquid Extraction [ ] Yes [X] No

Conc/Dil Factor 1.00

Percent Moisture(decanted) 38.90

CAS Number		ug/kg
319-84-6	alpha-BHC	5.3 u
319-85-7	beta-BHC	5.3 u
319-86-8	delta-BHC	5.3 u
58-89-9	gamma-BHC (Lindane)	5.3 u
76-44-8	Heptachlor	5.3 u
309-00-2	Aldrin	5.3 u
1024-57-3	Heptachlor Epoxide	5.3 u
959-98-8	Endosulfan I	5.3 u
60-57-1	Dieldrin	11 u
72-55-9	4,4'-DDE	46
72-20-8	Endrin	11 u
33213-65-9	Endosulfan II	11 u
72-54-8	4,4'-DDD	11 u
1031-07-8	Endosulfan Sulfate	11 u
50-29-3	4,4'-DDT	85
72-43-5	Methoxychlor	11 u
53494-70-5	Endrin Ketone	11 u
57-74-9	Chlordane	53 u
8001-35-2	Toxaphene	110 u
12674-11-2	Aroclor-1016	53 u
11104-28-2	Aroclor-1221	53 u
11141-16-5	Aroclor-1232	53 u
53469-21-9	Aroclor-1242	53 u
12672-29-6	Aroclor-1248	53 u
11097-69-1	Aroclor-1254	110 u
11096-82-5	Aroclor-1260	110 u

Vi = Volume of extract injected (ul)
Vs = Volume of Water Extracted (ml)
Ws = Weight of sample extracted (g)
Vt = Volume of total extract (ul)

Vs _____ or Ws 30.82 Vt 20000 Vi 2.00

200005

SED - 4

Versar Inc., Laboratory Operations
6850 Versar Center, Springfield VA 22151 (703) 750-3000

BI-971

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

	CAS Number	Compound Name	Fraction	RT or Scan	Estimated Concentration (ug/Kg or ug/l)
11.	124-38-9	CARBON DIOXIDE	VOA	27	24 J
12.		UNKNOWN	VOA	5.65	6 J
13.					
14.					
15.					
16.					
17.					
18.					
19.					
110.					
111.					
112.					
113.					
114.					
115.					
116.					
117.					
118.					
119.					
120.					
121.					
122.					
123.					
124.					
125.					
126.					
127.					
128.					
129.					
130.					

200006

SED - 4

Versar Inc., Laboratory Operations
6850 Versar Center, Springfield VA 22151 (703) 750-3000

BI971

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

	CAS Number	Compound Name	Fraction	RT or Scan	Estimated Concentration (ug/Kg or ug/l)
1.		UNKNOWN	BNA	615	2,700 JB.
2.		UNKNOWN	BNA	658	1,100 J...
3.		UNKNOWN	BNA	717	760 J...
4.		UNKNOWN	BNA	2209	310 J...
5.		UNKNOWN	BNA	2277	690 J...
6.		UNKNOWN HYDROCARBON	BNA	2312	890 J...
7.	205-99-2	BENZO(B)FLUORANTHENE	BNA	2334	220 J,T.
8.	207-08-9	BENZO[K]FLUORANTHENE	BNA	2339	180 J,T.
9.		UNKNOWN	BNA	2358	2,300 J...
10.	50-32-8	BENZO[A]PYRENE	BNA	2418	250 J,T.
11.		UNKNOWN	BNA	2566	1,300 J...
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

T - Spectrum for this HSL compound does not meet CLP criteria for confirmation, but does indicate compound presence.

200007

U.S. ENVIRONMENTAL PROTECTION AGENCY — EMSL Sample Management Office
P.O. Box 818, Alexandria, VA 22313 — 703/557-2490 - FTS/557-2490

INORGANICS TRAFFIC REPORT

Sample Number
MBI 470

(1) Case Number: 6889
Sample Site Name/Code:
HUDSON RIVER BULK

(2) SAMPLE CONCENTRATION
(Check One)
X Low Concentration
___ Medium Concentration

(3) SAMPLE MATRIX
(Check One)
___ Water
X Soil/Sediment

(4) Ship To:
Century Labs

Attn: KEN BOND

Transfer
Ship To:

(5) Sampling Office: EIT II

Sampling Personnel:

(Name) J. BULLIS

(Phone) 201-225-6160

Sampling Date:

(Begin) 2/26/87 (End) 2/26/87

(6) Shipping Information:

Name Of Carrier:
Federal Express

Date Shipped: 2/26/87

Airbill Number: 495164773

(7) Sample Description:
(Check One)
___ Surface Water
___ Ground Water
___ Leachate
___ Mixed Media
X Solids
___ Other ___
(specify) BI 971

MATCHES ORGANIC SAMPLE NO. ___

(8) Mark Volume Level
On Sample Bottle
Check Analysis required
___ Total Metals
___ Cyanide

NY53-SED4

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SED - 4

Form I

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.
MBI- 470

Date 4-2-87

INORGANIC ANALYSIS DATA SHEET

LAB NAME Century Laboratories, Inc.

CASE NO. 644

SOW NO. 785

LAB SAMPLE ID. NO. 001F-09

QC REPORT NO. 021

Elements Identified and Measured

Concentration: Low ✓ Medium _____

Matrix: Water _____ Soil ✓ Sludge _____ Other _____

Units: ug/L or ug/Kg dry weight (Circle One)

1.	Aluminum	5560P	13.	Mercury	2160P *
2.	Antimony	9.3PN J	14.	Nickel	462P
3.	Arsenic	3.7FSN J	15.	Lead	0.41
4.	Barium	<29>P	16.	Thallium	6.2UP
5.	Beryllium	1.5UP	17.	Vanadium	<462>P
6.	Cadmium	1.2UP	18.	Selenium	0.61UF
7.	Calcium	3400P *	19.	Silver	3.1UP
8.	Chromium	3.1UP *	20.	Sodium	
9.	Cobalt	3.1UP	21.	Cyanide	0.34UFN
10.	Copper	31P	22.	Zinc	<4.07P
11.	Iron	10,400P	23.	Zinc	111P
12.	Lead	99FS		Percent Solids (%)	59.35
	Cyanide	N/A			

Comments: The reporting results in this analytical data summary are based on dry weight as listed on cover page. Additional flags or footnotes explaining results are encouraged. Definition of each flag must be explained on cover page, below.

Comments: Medium dark soil
E =

Lab Manager Kenneth Ford

U.S. ENVIRONMENTAL PROTECTION AGENCY - EMSL Sample Management Office
P.O. Box 818, Alexandria, Virginia 22313 - 703/557-2490 - FTS/557-2490

ORGANICS TRAFFIC REPORT

Sample Number: BI 972

① Case Number: 6889

Sample Site Name/Code: Hudson Riv. Pkg

② SAMPLE CONCENTRATION (Check One)

X Low Concentration
___ Medium Concentration

③ SAMPLE MATRIX (Check One)

___ Water
X Soil/Sediment

④ Ship To:

Versar Inc.

Attn: Charlie Carter

Transfer Ship To:

⑤ Regional Office: II

Sampling Personnel:

J. Bullis
(Name)

201-225-6160
(Phone)

Sampling Date:
2/26/87
(Begin) (End)

⑥ For each sample collected specify number of containers used and mark volume level on each bottle.

	Number of Containers	Approximate Total Volume
Water (Extractable)		
Water (VOA)		
Soil/Sediment (Extractable)	1	8 oz
Soil/Sediment (VOA)	1	120 ml
Other		
Soil/Sed Pest/PCB	1	8 oz

⑦ Shipping Information

Federal Express
Name of Carrier

2/26/87
Date Shipped:

495-164935
Airbill Number:

⑧ Sample Description

___ Surface Water ___ Mixed Media
___ Ground Water X Solids
___ Leachate ___ Other (specify) _____

⑨ Sample Location

NY 53 SED 5

⑩ Special Handling Instructions:
(e.g., safety precautions, hazardous nature)

Matches Inors. MBI 471

SMO COPY

SED - 5

ar, Inc., Laboratory Operations
50 Versar Center, Springfield VA 22151 (703) 750-3000

Sample Number
BI-972

ORGANICS ANALYSIS DATA SHEET (Page 1)

Laboratory Name: VERSAR
Lab Sample ID No: 23906
Sample Matrix: SOIL
Data Release Authorized By:

Case No: 6889
QC Report No: 6889
Contract No: 68-01-7082
Date Sample Received: 02/27/87

VOLATILE COMPOUNDS

Concentration: LOW
Date Extracted/Prepared: 03/03/87
Date Analyzed: 03/03/87
Conc/Dil Factor: 1 pH NA
Percent Moisture: 60.5

CAS Number		ug/Kg
74-87-3	Chloromethane	25 u
74-83-9	Bromomethane	25 u
75-01-4	Vinyl Chloride	25 u
75-00-3	Chloroethane	25 u
75-09-2	Methylene Chloride	13 u
67-64-1	Acetone	25 u
75-15-0	Carbon Disulfide	13 u
75-35-4	1,1-Dichloroethene	13 u
75-34-3	1,1-Dichloroethane	13 u
156-60-5	Trans-1,2-Dichloroethene	13 u
67-66-3	Chloroform	13 u
107-06-2	1,2-Dichloroethane	13 u
78-93-3	2-butanone	25 u
71-55-6	1,1,1-Trichloroethane	13 u
56-23-5	Carbon Tetrachloride	13 u
108-05-4	Vinyl Acetate	25 u
75-27-4	Bromodichloromethane	13 u

CAS Number		ug/Kg
78-87-5	1,2-Dichloropropane	13 u
10061-02-6	Trans-1,3-Dichloropropene	13 u
79-01-6	Trichloroethene	13 u
124-48-1	Dibromochloromethane	13 u
79-00-5	1,1,2-Trichloroethane	13 u
71-43-2	Benzene	13 u
10061-01-5	cis-1,3-Dichloropropene	13 u
110-75-8	2-chloroethylvinylether	25 u
75-25-2	Bromoform	13 u
108-10-1	4-Methyl-2-Pentanone	25 u
591-78-6	2-Hexanone	25 u
127-18-4	Tetrachloroethene	13 u
79-34-5	1,1,2,2-Tetrachloroethane	13 u
108-88-3	Toluene	13 u
108-90-7	Chlorobenzene	13 u
100-41-4	Ethylbenzene	13 u
100-42-5	Styrene	13 u
	Total Xylenes	13 u

Data Reporting Qualifiers

Value If the result is a value greater than or equal to the detection limit, report the value.

u Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample.

J Estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response factor is assumed, or when the mass spectral data indicates the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero. (e.g. 10J)

C This flag applies to pesticide parameters where the identification has been confirmed by GC/MS.

B This flag is used when the analyte is found in the blank as well as the sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.

VOAF1: REV062486

200078

SED -5

Versar Inc., Laboratory Operations
6850 Versar Center, Springfield VA 22151 703/750-3000

Sample Number
BI972

Case No: 6889

ORGANICS ANALYSIS DATA SHEET (Page 2)
Semivolatile Compounds

Concentration: LOW

Date Extracted/Prepared: 3/5/87

Date Analyzed: 3/20/87

Conc/Dil Factor: 1/2.68

GPC Cleanup [ ]Yes [X]No

Separatory Funnel Extraction [ ]Yes

Continuous Liquid-Liquid Extraction [ ]Yes

CAS Number		ug/Kg
108-95-2	Phenol	1020 u
111-44-4	bis(2-Chloroethyl)Ether	1020 u
95-57-8	2-Chlorophenol	1020 u
541-73-1	1,3-Dichlorobenzene	1020 u
106-46-7	1,4-Dichlorobenzene	1020 u
100-51-6	Benzyl Alcohol	1020 u
95-50-1	1,2-Dichlorobenzene	1020 u
95-48-7	2-Methylphenol	1020 u
39638-32-9	bis(2-chloroisopropyl)ether	1020 u
106-44-5	4-methylphenol	1020 u
621-64-7	N-Nitroso-Di-n-propylamine	1020 u
67-72-1	Hexachloroethane	1020 u
98-95-3	Nitrobenzene	1020 u
78-59-1	Isophorone	1020 u
88-75-5	2-Nitrophenol	1020 u
105-67-9	2,4-dimethylphenol	1020 u
65-85-0	Benzoic Acid	5200 u
111-91-1	bis(2-chloroethoxy)methane	1020 u
120-83-2	2,4-dichlorophenol	1020 u
120-82-1	1,2,4-trichlorobenzene	1020 u
91-20-3	Naphthalene	1020 u
106-47-8	4-Chloroaniline	1020 u
87-68-3	Hexachlorobutadiene	1020 u
59-50-7	4-chloro-3-methylphenol	1020 u
91-57-6	2-methylnaphthalene	1020 u
77-47-4	Hexachlorocyclopentadiene	1020 u
88-06-2	2,4,6-Trichlorophenol	1020 u
95-95-4	2,4,5-Trichlorophenol	5200 u
91-58-7	2-Chloronaphthalene	1020 u
88-74-4	2-Nitroaniline	5200 u
131-11-3	Dimethyl Phthalate	1020 u
208-96-8	Acenaphthylene	1020 u
99-09-2	3-Nitroaniline	5200 u

CAS Number		ug/Kg
83-32-9	Acenaphthene	1020 u
51-28-5	2,4-Dinitrophenol	5200 u
100-02-7	4-Nitrophenol	5200 u
132-64-9	Dibenzofuran	1020 u
121-14-2	2,4-Dinitrotoluene	1020 u
606-20-2	2,6-Dinitrotoluene	1020 u
84-66-2	Diethylphthalate	1020 u
7005-22-3	4-Chlorophenyl-phenylether	1020 u
86-73-7	Fluorene	1020 u
100-01-6	4-Nitroaniline	5200 u
534-52-1	4,6-dinitro-2-methylphenol	5200 u
86-30-6	N-Nitrosodiphenylamine (1)	1020 u
101-55-3	4-Bromophenyl-phenylether	1020 u
118-74-1	Hexachlorobenzene	1020 u
87-86-5	Pentachlorophenol	5200 u
85-01-8	Phenanthrene	420 J
120-12-7	Anthracene	1020 u
84-74-2	Di-n-butylphthalate	1020 u
206-44-0	Fluoranthene	740 J
129-00-0	Pyrene	710 J
85-68-7	Butylbenzylphthalate	220 J
91-94-1	3,3'-Dichlorobenzidine	2000 u
56-55-3	Benzo(a)anthracene	420 J
117-81-7	bis(2-Ethylhexyl)Phthalate	1780
218-01-9	Chrysene	600 J
117-84-0	Di-n-Octylphthalate	1020 u
205-99-2	Benzo(b)Fluoranthene	1020 u
207-08-9	Benzo(k)Fluoranthene	1020 u
50-32-8	Benzo(a)pyrene	1020 u
193-39-5	Indeno(1,2,3-cd)Pyrene	1020 u
53-70-3	Dibenz(a,h)Anthracene	1020 u
191-24-2	Benzo(g,h,i)Perylene	1020 u

(1)-Cannot be separated from diphenylamine

200079

SED - 5

Versar Inc. Laboratory Operations
6850 Versar Center, Springfield Va. 22151
(703) 750-3000

Sample Number
BI 972

ORGANICS ANALYSIS DATA SHEET
(Page 3)

Pesticides/PCBs

Concentration: Low | Medium (circle one)

GPC Cleanup [ ] Yes [X] No

Date Extracted/Prepared: 03/05/87

Separatory Funnel Extration [ ] Yes

Date Analyzed: 03/14/87

Continuous Liquid-Liquid Extraction [ ] Yes [X] No

Conc/Dil Factor 1.00

Percent Moisture(decanted) 60.50

CAS Number		ug/kg
319-84-6	alpha-BHC	8.2 u
319-85-7	beta-BHC	8.2 u
319-86-8	delta-BHC	8.2 u
58-89-9	gamma-BHC (Lindane)	8.2 u
76-44-8	Heptachlor	8.2 u
309-00-2	Aldrin	8.2 u
1024-57-3	Heptachlor Epoxide	8.2 u
959-98-8	Endosulfan I	8.2 u
60-57-1	Dieldrin	16 u
72-55-9	4,4'-DDE	100
72-20-8	Endrin	16 u
33213-65-9	Endosulfan II	16 u
72-54-8	4,4'-DDD	16 u
1031-07-8	Endosulfan Sulfate	16 u
50-29-3	4,4'-DDT	16 u
72-43-5	Methoxychlor	16 u
53494-70-5	Endrin Ketone	16 u
57-74-9	Chlordane	82 u
8001-35-2	Toxaphene	160 u
12674-11-2	Aroclor-1016	82 u
11104-28-2	Aroclor-1221	82 u
11141-16-5	Aroclor-1232	82 u
53469-21-9	Aroclor-1242	82 u
12672-29-6	Aroclor-1248	(700) ~~82 u~~ REVISED 8/31/87
11097-69-1	Aroclor-1254	160 u JDD
11096-82-5	Aroclor-1260	1600

J - CONTRACT FLAG; DENOTES ESTIMATED CONC. RESULT AMMENDED TO ORIGINAL PKG. ALTHOUGH AROCLOR 1248 WAS APPARENT IN THE PRIMARY ANALYSIS, IT WAS NOT RECOGNIZED AS BEING INDEPENDENT OF THE 1260 RESULT. SINCE IT WAS NOT I DID APPROPRIATE STD'S WERE NOT INCLUDED IN CONFIRMATION. SINCE NO STD'S WERE INCLUDED IN CONF, RESULT DOES NOT QUALIFY FOR POSITIVE ID, THUS THE FLAG. REVIEW CONFIDENT IN IDENTIFICATION AND QUANTITATED RESULT, YET THE INADEQUACIES OF THE STD PACKAGE DICTATE NECESSITY OF THE QUALIFIER.
JDD
8/31/87

Vi = Volume of extract injected (ul)
Vs = Volume of Water Extracted (ml)
Ws = Weight of sample extracted (g)
Vt = Volume of total extract (ul)

Vs ____ or Ws 30.80

Vt 20000 Vi 2.00

200080-RE
291

SED - 5

rsar Inc., Laboratory Operations
6850 Versar Center, Springfield VA 22151 (703) 750-3000

BI-972

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

	CAS Number	Compound Name	Fraction	RT or Scan	Estimated Concentration (ug/Kg or ug/l)
1.	124-38-9	CARBON DIOXIDE	VOA	27	60 J
2.					
3.					
4.					
5.					
6.					
7.					
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27.					
28.					
29.					
30.					

200081

SED - 5

Versar Inc., Laboratory Operations
6850 Versar Center, Springfield VA 22151 (703) 750-3000

BI972

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

	CAS Number	Compound Name	Fraction	RT or Scan	Estimated Concentration (ug/Kg or ug/l)
1.		UNKNOWN	BNA	615	4,400 JB.
2.		UNKNOWN	BNA	658	660 J...
3.		UNKNOWN	BNA	672	500 J...
4.		UNKNOWN	BNA	717	560 J...
5.	65-85-0	BENZOIC ACID	BNA	934	68 J,T.
6.		UNKNOWN HYDROCARBON	BNA	2078	920 J...
7.		UNKNOWN	BNA	2094	750 J...
8.		UNKNOWN	BNA	2107	840 J...
9.		UNKNOWN	BNA	2151	490 J...
10.		UNKNOWN	BNA	2181	520 J...
11.		UNKNOWN	BNA	2210	1,700 J...
12.		UNKNOWN	BNA	2226	1,300 J...
13.		UNKNOWN HYDROCARBON	BNA	2280	1,600 J...
14.		UNKNOWN	BNA	2315	1,400 J...
15.	205-99-2	BENZO (B) FLUORANTHENE	BNA	2336	500 J,T.
16.	207-08-9	BENZO (K) FLUORANTHENE	BNA	2341	540 J,T.
17.		UNKNOWN	BNA	2360	5,600 J...
18.		UNKNOWN	BNA	2380	440 J...
19.	50-32-8	BENZO (A) PYRENE	BNA	2420	600 J,T.
20.		UNKNOWN	BNA	2454	1,100 J...
21.		UNKNOWN	BNA	2472	750 J...
22.		UNKNOWN	BNA	2569	2,100 J...
23.		UNKNOWN	BNA	2621	770 J...
24.		UNKNOWN	BNA	2737	1,000 J...
25.					
26.					
27.					
28.					
29.					
30.					

T - Spectrum for this HSL compound does not meet CLP criteria for confirmation, but does indicate compound presence.

200082

U.S. ENVIRONMENTAL PROTECTION AGENCY — EPA/ESD Sample Management Office
P.O. Box 818, Alexandria, VA 22313 — 703/557-2490 — FTS/557-2490

INORGANICS TRAFFIC REPORT

Sample Number: MBI 471

(1) Case Number: 6889
Sample Site Name/Code: Hudson River Proj

(2) SAMPLE CONCENTRATION (Check One)
- [X] Low Concentration
- [ ] Medium Concentration

(3) SAMPLE MATRIX (Check One)
- [ ] Water
- [X] Soil/Sediment

(4) Ship To: Century Labs
Attn: Ken Bond
Transfer Ship To:

(5) Sampling Office: FIT II
Sampling Personnel:
(Name) J. Bullis
(Phone) 201-225-6160
Sampling Date:
(Begin) 2/26/87 (End) 2/26/87

(6) Shipping Information:
Name Of Carrier: Federal Express
Date Shipped: 2/26/87
Airbill Number: 495164773

(7) Sample Description: (Check One)
- [ ] Surface Water
- [ ] Ground Water
- [ ] Leachate
- [ ] Mixed Media
- [X] Solids
- [ ] Other

(specify) Bi 972
MATCHES ORGANIC SAMPLE NO.

(8) Mark Volume Level On Sample Bottle
Check Analysis required
- [ ] Total Metals
- [ ] Cyanide

M953 SET 5

SMO COPY

SED-5

Form I

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.
MBI-471

Date 4-2-87

INORGANIC ANALYSIS DATA SHEET

LAB NAME Century Laboratories, Inc.
CASE NO. 6744
SOW NO. 785
LAB SAMPLE ID. NO. 0014-11
QC REPORT NO. 021

Elements Identified and Measured

Concentration: Low ✓ Medium
Matrix: Water Soil ✓ Sludge Other

ug/L or mg/kg dry weight (Circle One)

1. Aluminum	12,500P	13. Potassium	5140P *
2. Antimony	13 UPN	J	14. Selenium	9.7P
3. Arsenic	16 FS N	J	15. Silver	0.31 U
4. Barium	104P	16. Sodium	8.6 UP
5. Beryllium	2.2 PUP	17. Thallium	<2446>P
6. Cadmium	1.7 PUP	18. Vanadium	0.4 UF
7. Calcium	562 OP *	19. Zinc	10 UP
8. Chromium	4.3 UP *	20. Cyanide	1550P
9. Cobalt	4.3 UP	21. Iron	0.43 UFN
10. Copper	56P	22. Lead	44P
11. Iron	30,100P	23. Mercury	4.2P
12. Lead	23 FS	Percent Solids (%)	45.79

Comments: The reporting results in this report have been corrected as noted in Form IIIA. Additional flags or comments which are necessary. Attach a new flag may be explained in Form IIIA, below.

Comments: Medium desk pad

Lab Manager: Kenneth Bond

I - 2

295

U.S. ENVIRONMENTAL PROTECTION AGENCY, EPA Sample Management Offices
P.O. Box 818, Alexandria, Virginia 22313 — 703/557-2490 — FTS/557-2490

ORGANICS TRAFFIC REPORT

Sample Number
BI 973

① Case Number: 6889

Sample Site Name/Code: Hudson Riv. Psyc.

② SAMPLE CONCENTRATION (Check One)

X Low Concentration
___ Medium Concentration

③ SAMPLE MATRIX (Check One)

___ Water
X Soil/Sediment

④ Ship To: Versar

Attn: Charlie Carter

Transfer Ship To:

⑤ Regional Office: II

Sampling Personnel: S. Billis

(Name)

201-225-6160

(Phone)

Sampling Date: 2/26/87

(Begin) (End)

⑥ For each sample collected specify number of containers used and mark volume level on each bottle.

	Number of Containers	Approximate Total Volume
Water (Extractable)		
Water (VOA)		
Soil/Sediment (Extractable)	1	8 oz
Soil/Sediment (VOA)	1	120 ml
Other		
Soil/Sed Pest/PCB	1	8 oz

⑦ Shipping Information

Federal Express
Name of Carrier

2/26/87
Date Shipped:

495 164 935
Airbill Number:

⑧ Sample Description

___ Surface Water ___ Mixed Media
___ Ground Water X Solids
___ Leachate ___ Other (specify) _____

⑨ Sample Location

N453 SED 6 six

⑩ Special Handling Instructions:
(e.g., safety precautions, hazardous nature)

Matches Inors. MB1472

SMO COPY

SED - 6

Versar, Inc., Laboratory Operations
6850 Versar Center, Springfield VA 22151 (703) 750-3000

Sample Number
BI-973

ORGANICS ANALYSIS DATA SHEET (Page 1)

Laboratory Name: VERSAR
Lab Sample ID No: 23907
Sample Matrix: SOIL
Data Release Authorized By:

Case No: 6889
QC Report No: 6889
Contract No: 68-01-7082
Date Sample Received: 02/27/87

VOLATILE COMPOUNDS

Concentration: LOW
Date Extracted/Prepared: 03/03/87
Date Analyzed: 03/03/87
Conc/Dil Factor: 1 pH NA
Percent Moisture: 52.8

CAS Number		ug/Kg	CAS Number		ug/Kg
74-87-3	Chloromethane	21 u	78-87-5	1,2-Dichloropropane	11 u
74-83-9	Bromomethane	21 u	10061-02-6	Trans-1,3-Dichloropropene	11 u
75-01-4	Vinyl Chloride	21 u	79-01-6	Trichloroethene	11 u
75-00-3	Chloroethane	21 u	124-48-1	Dibromochloromethane	11 u
75-09-2	Methylene Chloride	11 u	79-00-5	1,1,2-Trichloroethane	11 u
67-64-1	Acetone	21 u	71-43-2	Benzene	11 u
75-15-0	Carbon Disulfide	11 u	10061-01-5	cis-1,3-Dichloropropene	11 u
75-35-4	1,1-Dichloroethene	11 u	110-75-8	2-chloroethylvinylether	21 u
75-34-3	1,1-Dichloroethane	11 u	75-25-2	Bromoform	11 u
156-60-5	Trans-1,2-Dichloroethene	11 u	108-10-1	4-Methyl-2-Pentanone	21 u
67-66-3	Chloroform	11 u	591-78-6	2-Hexanone	21 u
107-06-2	1,2-Dichloroethane	11 u	127-18-4	Tetrachloroethene	11 u
78-93-3	2-butanone	21 u	79-34-5	1,1,2,2-Tetrachloroethane	11 u
71-55-6	1,1,1-Trichloroethane	11 u	108-88-3	Toluene	[illegible]
56-23-5	Carbon Tetrachloride	11 u	108-90-7	Chlorobenzene	11 u
108-05-4	Vinyl Acetate	21 u	100-41-4	Ethylbenzene	11 u
75-27-4	Bromodichloromethane	11 u	100-42-5	Styrene	11 u
				Total Xylenes	11 u

Data Reporting Qualifiers

Value If the result is a value greater than or equal to the detection limit, report the value.

u Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample.

J Estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response factor is assumed, or when the mass spectral data indicates the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero. (e.g. 10J)

C This flag applies to pesticide parameters where the identification has been confirmed by GC/MS.

B This flag is used when the analyte is found in the blank as well as the sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.

VOAF1: REV062486

200190

SED - 6

Versar Inc., Laboratory Operations
6850 Versar Center, Springfield VA 22151 703/750-3000

Sample Number
BI973

Case No: 6889

ORGANICS ANALYSIS DATA SHEET (Page 2)
Semivolatile Compounds

Concentration: LOW

Date Extracted/Prepared: 3/5/87

Date Analyzed: 3/20/87

Conc/Dil Factor: 1/198.0

GPC Cleanup [ ]Yes [X]No

Separatory Funnel Extraction [ ]Yes

Continuous Liquid-LIquid Extraction [ ]Yes

CAS Number		ug/Kg
108-95-2	Phenol	1980 u
111-44-4	bis(2-Chloroethyl)Ether	1980 u
95-57-8	2-Chlorophenol	1980 u
541-73-1	1,3-Dichlorobenzene	1980 u
106-46-7	1,4-Dichlorobenzene	1980 u
100-51-6	Benzyl Alcohol	1980 u
95-50-1	1,2-Dichlorobenzene	1980 u
95-48-7	2-Methylphenol	1980 u
39638-32-9	bis(2-chloroisopropyl)ether	1980 u
106-44-5	4-methylphenol	1980 u
621-64-7	N-Nitroso-Di-n-propylamine	1980 u
67-72-1	Hexachloroethane	1980 u
98-95-3	Nitrobenzene	1980 u
78-59-1	Isophorone	1980 u
88-75-5	2-Nitrophenol	1980 u
105-67-9	2,4-dimethylphenol	1980 u
65-85-0	Benzoic Acid	10000 u
111-91-1	bis(2-chloroethoxy)methane	1980 u
120-83-2	2,4-dichlorophenol	1980 u
120-82-1	1,2,4-trichlorobenzene	1980 u
91-20-3	Naphthalene	1980 u
106-47-8	4-Chloroaniline	1980 u
87-68-3	Hexachlorobutadiene	1980 u
59-50-7	4-chloro-3-methylphenol	1980 u
91-57-6	2-methylnaphthalene	1980 u
77-47-4	Hexachlorocyclopentadiene	1980 u
88-06-2	2,4,6-Trichlorophenol	1980 u
95-95-4	2,4,5-Trichlorophenol	10000 u
91-58-7	2-Chloronaphthalene	1980 u
88-74-4	2-Nitroaniline	10000 u
131-11-3	Dimethyl Phthalate	1980 u
208-96-8	Acenaphthylene	1980 u
99-09-2	3-Nitroaniline	10000 u

CAS Number		ug/Kg
83-32-9	Acenaphthene	1980 u
51-28-5	2,4-Dinitrophenol	10000 u
100-02-7	4-Nitrophenol	10000 u
132-64-9	Dibenzofuran	1980 u
121-14-2	2,4-Dinitrotoluene	1980 u
606-20-2	2,6-Dinitrotoluene	1980 u
84-66-2	Diethylphthalate	1980 u
7005-22-3	4-Chlorophenyl-phenylether	1980 u
86-73-7	Fluorene	1980 u
100-01-6	4-Nitroaniline	10000 u
534-52-1	4,6-dinitro-2-methylphenol	10000 u
86-30-6	N-Nitrosodiphenylamine (1)	1980 u
101-55-3	4-Bromophenyl-phenylether	1980 u
118-74-1	Hexachlorobenzene	1980 u
87-86-5	Pentachlorophenol	10000 u
85-01-8	Phenanthrene	1980 u
120-12-7	Anthracene	1980 u
84-74-2	Di-n-butylphthalate	1980 u
206-44-0	Fluoranthene	2600
129-00-0	Pyrene	2100
85-68-7	Butylbenzylphthalate	1980 u
91-94-1	3,3'-Dichlorobenzidine	4000 u
56-55-3	Benzo(a)anthracene	1200 J
117-81-7	bis(2-Ethylhexyl)Phthalate	2200
218-01-9	Chrysene	1700 J
117-84-0	Di-n-Octylphthalate	1980 u
205-99-2	Benzo(b)Fluoranthene	3100
207-08-9	Benzo(k)Fluoranthene	1980 u
50-32-8	Benzo(a)pyrene	1300
193-39-5	Indeno(1,2,3-cd)Pyrene	1980 u
53-70-3	Dibenz(a,h)Anthracene	1980 u
191-24-2	Benzo(g,h,i)Perylene	1980 u

(1)-Cannot be separated from diphenylamine

200191

SED - 6

Versar Inc. Laboratory Operations
6850 Versar Center, Springfield Va. 22151
(703) 750-3000

Sample Number
BI 973

ORGANICS ANALYSIS DATA SHEET
(Page 3)

Pesticides/PCBs

Concentration: |Low| Medium (circle one)

GPC Cleanup [ ] Yes [X] No

Date Extracted/Prepared: 03/05/87

Separatory Funnel Extration [ ] Yes

Date Analyzed: 03/14/87

Continuous Liquid-Liquid Extraction [ ] Yes [X] No

Conc/Dil Factor 1.00

Percent Moisture(decanted) 52.80

CAS Number		ug/kg
319-84-6	alpha-BHC	7.0 u
319-85-7	beta-BHC	7.0 u
319-86-8	delta-BHC	7.0 u
58-89-9	gamma-BHC (Lindane)	7.0 u
76-44-8	Heptachlor	7.0 u
309-00-2	Aldrin	7.0 u
1024-57-3	Heptachlor Epoxide	7.0 u
959-98-8	Endosulfan I	7.0 u
60-57-1	Dieldrin	14
72-55-9	4,4'-DDE	250
72-20-8	Endrin	14 u
33213-65-9	Endosulfan II	14 u
72-54-8	4,4'-DDD	210
1031-07-8	Endosulfan Sulfate	14 u
50-29-3	4,4'-DDT	170
72-43-5	Methoxychlor	14 u
53494-70-5	Endrin Ketone	14 u
57-74-9	Chlordane	70 u
8001-35-2	Toxaphene	140 u
12674-11-2	Aroclor-1016	70 u
11104-28-2	Aroclor-1221	70 u
11141-16-5	Aroclor-1232	70 u
53469-21-9	Aroclor-1242	70 u
12672-29-6	Aroclor-1248	70 u
11097-69-1	Aroclor-1254	140 u
11096-82-5	Aroclor-1260	140 u

1445

S DETECTION LIMIT SUSPECT DUE TO MAGNITUDE OF 4,4'DDE RESPONSE, DILUTION ON THE QUANT. ANALYSIS, AND ID IN CONF. 4OD 3/3/87

Vi = Volume of extract injected (ul)
Vs = Volume of Water Extracted (ml)
Ws = Weight of sample extracted (g)
Vt = Volume of total extract (ul)

Vs ____ or Ws 30.30 Vt 20000 Vi 2.00

200192

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SED - 6

Versar Inc., Laboratory Operations
6850 Versar Center, Springfield VA 22151 (703) 750-3000

BI-973

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

	CAS Number	Compound Name	Fraction	RT or Scan	Estimated Concentration (ug/Kg or ug/l)
1.	124-38-9	CARBON DIOXIDE	VOA	27	190 J
2.	75-43-4	METHANE, DICHLOROFLUORO-	VOA	159	13 J
3.	75-69-4	METHANE, TRICHLOROFLUORO	VOA	215	150 J
4.					
5.					
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200193

SED - 6

Versar Inc., Laboratory Operations
6850 Versar Center, Springfield VA 22151 (703) 750-3000

BI973

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

	CAS Number	Compound Name	Fraction	RT or Scan	Estimated Concentration (ug/Kg or ug/l)
1		UNKNOWN	BNA	616	8,500 JB.
2		UNKNOWN	BNA	658	1,100 J...
3		UNKNOWN	BNA	672	970 J...
4		UNKNOWN	BNA	717	1,000 J...
5	65-85-0	BENZOIC ACID	BNA	934	180 J,T.
6		UNKNOWN	BNA	998	1,400 J...
7	85-01*8	PHENANTHRENE	BNA	1603	1,800 J,T.
8		UNKNOWN	BNA	2015	1,500 J...
9		UNKNOWN HYDROCARBON	BNA	2036	5,600 J...
10		UNKNOWN	BNA	2078	14,000 J...
11		UNKNOWN	BNA	2093	1,800 J...
12		UNKNOWN POLYAROMATIC HYDROCARBON	BNA	2104	3,700 J...
13		UNKNOWN	BNA	2180	840 J...
14		UNKNOWN HYDROCARBON	BNA	2209	5,100 J...
15		UNKNOWN	BNA	2225	1,300 J...
16		UNKNOWN	BNA	2313	6,900 J...
17		UNKNOWN	BNA	2359	14,000 J...
18		UNKNOWN POLYAROMATIC HYDROCARBON	BNA	2406	1,200 J...
19		UNKNOWN	BNA	2506	4,500 J...
20		UNKNOWN HYDROCARBON	BNA	2568	14,000 J...
21		UNKNOWN	BNA	2661	1,200 J...
22					
23					
24					
25					
26					
27					
28					
29					
30					

T- Spectrum for this HSL compound does not meet CLP criteria for confirmation, but does indicate compound presence.

200194

US ENVIRONMENTAL PROTECTION AGENCY · EPA/ESD Sample Management Office
P.O. Box 818, Alexandria, VA 22313 · 703/557-2490 · FTS/557-2490

INORGANICS TRAFFIC REPORT

Sample Number
MBI 472

(1) Case Number: 6889
Sample Site Name/Code:
HUDSON RIVER PSYC

(2) SAMPLE CONCENTRATION
(Check One)
X Low Concentration
___ Medium Concentration

(3) SAMPLE MATRIX
(Check One)
___ Water
X Soil/Sediment

(4) Ship To:
Century Labs
Attn: KEN BOND
Transfer
Ship To:

(5) Sampling Office: FIT II
Sampling Personnel:
(Name) J. BILLIS
(Phone) 201-225-6160
Sampling Date:
(Begin) 2/26/87 (End) 2/26/87

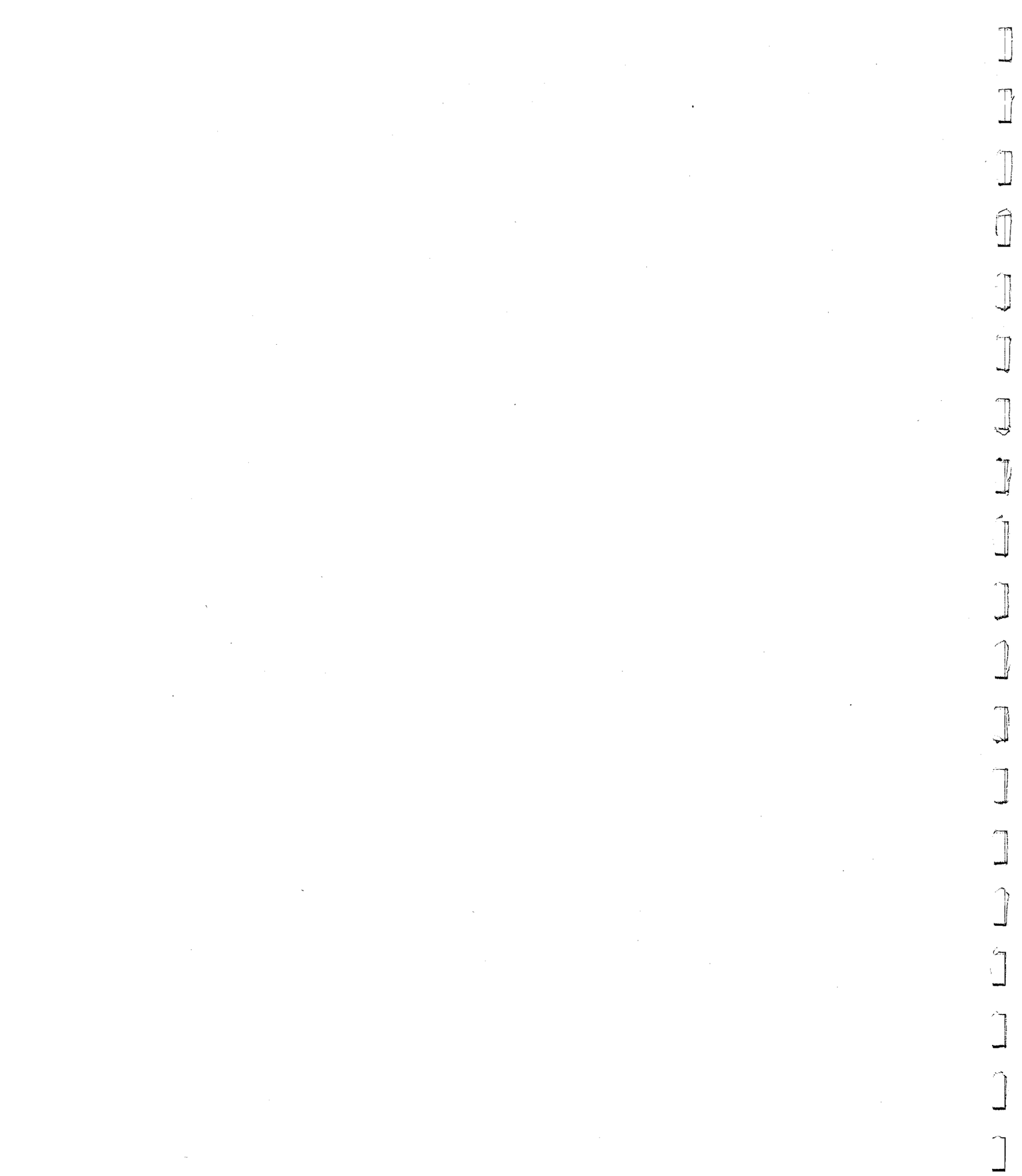
(6) Shipping Information:
Name Of Carrier:
Federal Express
Date Shipped: 2/26/87
Airbill Number: 4951647773

(7) Sample Description:
(Check One)
___ Surface Water
___ Ground Water
___ Leachate
___ Mixed Media
X Solids
___ Other ___
(specify)
MATCHES ORGANIC SAMPLE NO: BJ973

(8) Mark Volume Level
On Sample Bottle
Check Analysis required
X Total Metals
___ Cyanide

NY53 SED-6

SMO COPY



SED - 1

Form I

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.
MB1-472

Date 4-2-87

INORGANIC ANALYSIS DATA SHEET

LAB NAME Century Laboratories, Inc.
CASE NO. 6879
SOW NO. 785
LAB SAMPLE ID. NO. 0014-12
QC REPORT NO. 021

Elements Identified and Measured

Concentration: Low ✓ Medium
Matrix: Water Soil ✓ Sludge Other

ug/L or mg/kg dry weight (Circle One)

1. Aluminum	9910 P	14. Mercury	4740 *
2. Antimony	31.0 P N	15. Nickel	6660 P
3. Arsenic	17 F N	16. Potassium	0.83
4. Barium	<243> P	17. Selenium	26 P
5. Beryllium	6.4 P	18. Silicon	<1190> P
6. Cadmium	105 P	19. Silver	2.6 U F
7. Calcium	19200 P *	20. Sodium	13 U P
8. Chromium	105 P *	21. Thallium	<1790> P
9. Cobalt	13 P	22. Vanadium	14 U F N
10. Copper	249 P	23. Zinc	141 P
11. Iron	58900 P	24. Cyanide	794 P
12. Lead	169 F S	25. Percent Solids (%)	14.1
13. Magnesium			

Comments: In reporting results on this report form, qualifiers are used as defined in user's guide. Additional flags or comments explaining the meaning of each flag may be entered in the space provided below.

Comments: Medium dark soil

Lab Manager: Beverly Bond

U.S. ENVIRONMENTAL PROTECTION AGENCY, EMSL Sample Management Office
P.O. Box 818, Alexandria, Virginia 22313 703/557-2490 FTS/557-2490

ORGANICS TRAFFIC REPORT

Sample Number
BI 974

① Case Number: 6889

Sample Site Name/Code:
Hudson River
Psyc

② SAMPLE CONCENTRATION (Check One)
X Low Concentration
___ Medium Concentration

③ SAMPLE MATRIX (Check One)
___ Water
X Soil/Sediment

④ Ship To:
Versar Inc.
Attn: Charlie Carter
Transfer
Ship To:

⑤ Regional Office: 4
Sampling Personnel:
S. Bollis
(Name)
201-225-6160
(Phone)
Sampling Date:
2/26/87
(Begin) (End)

⑥ For each sample collected specify number of containers used and mark volume level on each bottle.

	Number of Containers	Approximate Total Volume
Water (Extractable)		
Water (VOA)		
Soil/Sediment (Extractable)	1	8 oz
Soil/Sediment (VOA)	1	120 ml
Other		
Soil/Sed Pest/PCB	1	8 oz

⑦ Shipping Information
Federal Express
Name of Carrier
2/26/87
Date Shipped:
495164935
Airbill Number:

⑧ Sample Description
___ Surface Water ___ Mixed Media
___ Ground Water X Solids
___ Leachate ___ Other (specify) _____

⑨ Sample Location
N453 SED 7

⑩ Special Handling Instructions:
(e.g., safety precautions, hazardous nature)
Matches Dnrs MBI 473

SMO COPY

SED - 7

Versar, Inc., Laboratory Operations
6850 Versar Center, Springfield VA 22151 (703) 750-3000

Sample Number
BI-974

ORGANICS ANALYSIS DATA SHEET (Page 1)

Laboratory Name: VERSAR
Lab Sample ID No: 23908
Sample Matrix: SOIL
Data Release Authorized By:

Case No: 6889
QC Report No: 6889
Contract No: 68-01-7082
Date Sample Received: 02/27/87

VOLATILE COMPOUNDS

Concentration: LOW
Date Extracted/Prepared: 03/03/87
Date Analyzed: 03/03/87
Conc/Dil Factor: 1 pH NA
Percent Moisture: 32.9

CAS Number		ug/Kg
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	7 u
67-64-1	Acetone	15 u
75-15-0	Carbon Disulfide	7 u
75-35-4	1,1-Dichloroethene	7 u
75-34-3	1,1-Dichloroethane	7 u
156-60-5	Trans-1,2-Dichloroethene	7 u
67-66-3	Chloroform	7 u
107-06-2	1,2-Dichloroethane	7 u
78-93-3	2-butanone	15 u
71-55-6	1,1,1-Trichloroethane	7 u
56-23-5	Carbon Tetrachloride	7 u
108-05-4	Vinyl Acetate	15 u
75-27-4	Bromodichloromethane	7 u

CAS Number		ug/Kg
78-87-5	1,2-Dichloropropane	7 u
10061-02-6	Trans-1,3-Dichloropropene	7 u
79-01-6	Trichloroethene	7 u
124-48-1	Dibromochloromethane	7 u
79-00-5	1,1,2-Trichloroethane	7 u
71-43-2	Benzene	7 u
10061-01-5	cis-1,3-Dichloropropene	7 u
110-75-8	2-chloroethylvinylether	15 u
75-25-2	Bromoform	7 u
108-10-1	4-Methyl-2-Pentanone	15 u
591-78-6	2-Hexanone	15 u
127-18-4	Tetrachloroethene	7 u
79-34-5	1,1,2,2-Tetrachloroethane	7 u
108-88-3	Toluene	4 J
108-90-7	Chlorobenzene	7 u
100-41-4	Ethylbenzene	7 u
100-42-5	Styrene	7 u
	Total Xylenes	7 u

Data Reporting Qualifiers

Value If the result is a value greater than or equal to the detection limit, report the value.

u Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample.

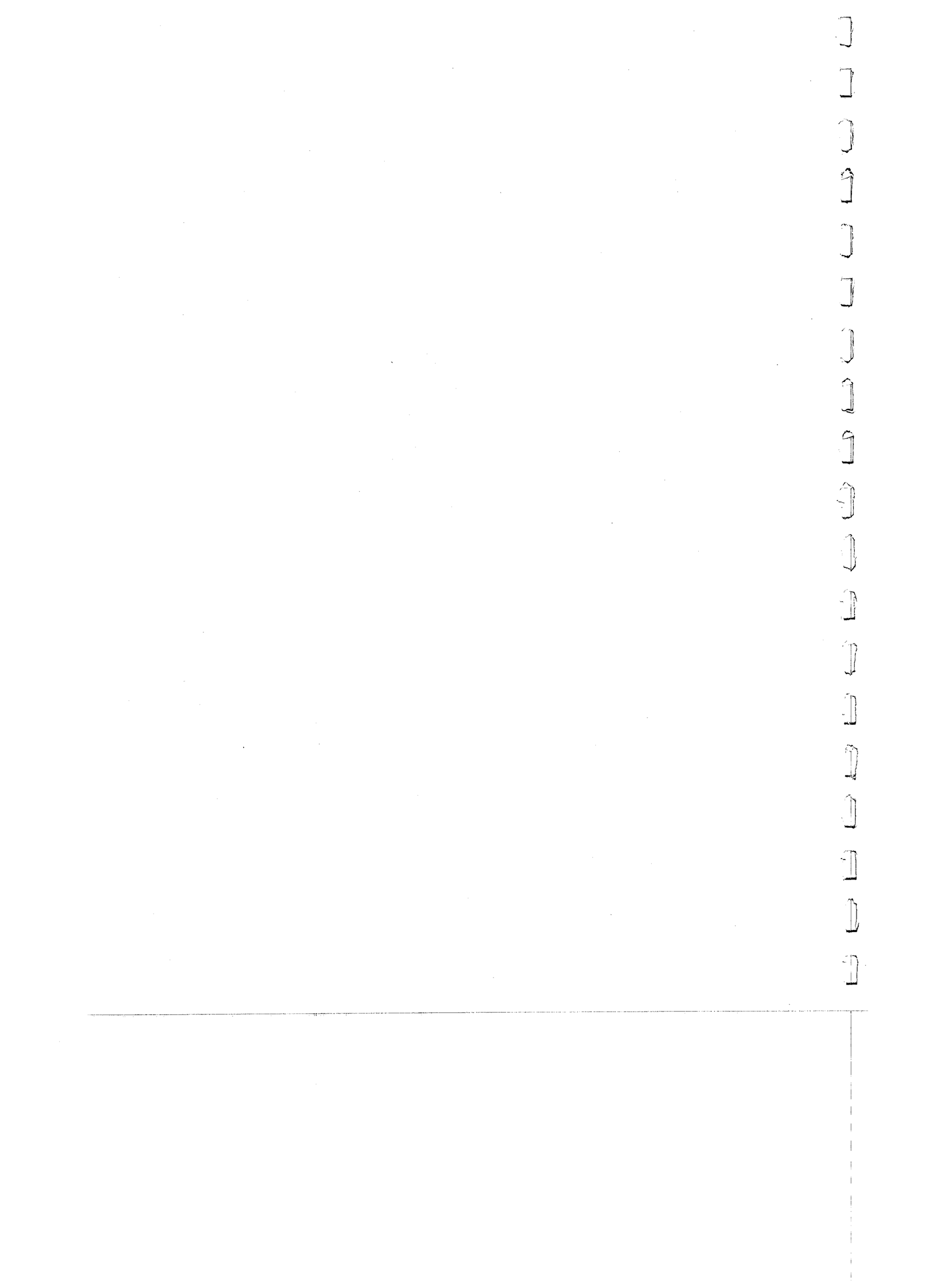
J Estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response factor is assumed, or when the mass spectral data indicates the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero. (e.g. 10J)

C This flag applies to pesticide parameters where the identification has been confirmed by GC/MS.

B This flag is used when the analyte is found in the blank as well as the sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.

VOAF1: REV062486

200290



SED - 7

Versar Inc., Laboratory Operations
6850 Versar Center, Springfield VA 22151 703/750-3000

Sample Number
BI974

Case No: 6889

ORGANICS ANALYSIS DATA SHEET (Page 2)
Semivolatile Compounds

Concentration: MID

Date Extracted/Prepared: 3/6/87

Date Analyzed: 3/14/87

Conc/Dil Factor: 1/2838

GPC Cleanup [ ]Yes [X]No

Separatory Funnel Extraction [ ]Yes

Continuous Liquid-LIquid Extraction [ ]Yes

CAS Number		ug/Kg
108-95-2	Phenol	28000 u
111-44-4	bis(2-Chloroethyl)Ether	28000 u
95-57-8	2-Chlorophenol	28000 u
541-73-1	1,3-Dichlorobenzene	28000 u
106-46-7	1,4-Dichlorobenzene	28000 u
100-51-6	Benzyl Alcohol	28000 u
95-50-1	1,2-Dichlorobenzene	28000 u
95-48-7	2-Methylphenol	28000 u
39638-32-9	bis(2-chloroisopropyl)ether	28000 u
106-44-5	4-methylphenol	28000 u
621-64-7	N-Nitroso-Di-n-propylamine	28000 u
67-72-1	Hexachloroethane	28000 u
98-95-3	Nitrobenzene	28000 u
78-59-1	Isophorone	28000 u
88-75-5	2-Nitrophenol	28000 u
105-67-9	2,4-dimethylphenol	28000 u
65-85-0	Benzoic Acid	142000 u
111-91-1	bis(2-chloroethoxy)methane	28000 u
120-83-2	2,4-dichlorophenol	28000 u
120-82-1	1,2,4-trichlorobenzene	28000 u
91-20-3	Naphthalene	28000 u
106-47-8	4-Chloroaniline	28000 u
87-68-3	Hexachlorobutadiene	28000 u
59-50-7	4-chloro-3-methylphenol	28000 u
91-57-6	2-methylnaphthalene	28000 u
77-47-4	Hexachlorocyclopentadiene	28000 u
88-06-2	2,4,6-Trichlorophenol	28000 u
95-95-4	2,4,5-Trichlorophenol	142000 u
91-58-7	2-Chloronaphthalene	28000 u
88-74-4	2-Nitroaniline	142000 u
131-11-3	Dimethyl Phthalate	28000 u
208-96-8	Acenaphthylene	28000 u
99-09-2	3-Nitroaniline	142000 u

CAS Number		ug/Kg
83-32-9	Acenaphthene	28000 u
51-28-5	2,4-Dinitrophenol	142000 u
100-02-7	4-Nitrophenol	142000 u
132-64-9	Dibenzofuran	28000 u
121-14-2	2,4-Dinitrotoluene	28000 u
606-20-2	2,6-Dinitrotoluene	28000 u
84-66-2	Diethylphthalate	28000 u
7005-22-3	4-Chlorophenyl-phenylether	28000 u
86-73-7	Fluorene	28000 u
100-01-6	4-Nitroaniline	142000 u
534-52-1	4,6-dinitro-2-methylphenol	142000 u
86-30-6	N-Nitrosodiphenylamine (1)	28000 u
101-55-3	4-Bromophenyl-phenylether	28000 u
118-74-1	Hexachlorobenzene	28000 u
87-86-5	Pentachlorophenol	142000 u
85-01-8	Phenanthrene	5500 J
120-12-7	Anthracene	28000 u
84-74-2	Di-n-butylphthalate	28000 u
206-44-0	Fluoranthene	6400 J
129-00-0	Pyrene	6000 J
85-68-7	Butylbenzylphthalate	28000 u
91-94-1	3,3'-Dichlorobenzidine	56000 u
56-55-3	Benzo(a)anthracene	28000 u
117-81-7	bis(2-Ethylhexyl)Phthalate	28000 u
218-01-9	Chrysene	28000 u
117-84-0	Di-n-Octylphthalate	28000 u
205-99-2	Benzo(b)Fluoranthene	28000 u
207-08-9	Benzo(k)Fluoranthene	28000 u
50-32-8	Benzo(a)pyrene	28000 u
193-39-5	Indeno(1,2,3-cd)Pyrene	28000 u
53-70-3	Dibenz(a,h)Anthracene	28000 u
191-24-2	Benzo(g,h,i)Perylene	28000 u

(1)-Cannot be separated from diphenylamine

200291

SED - 7

Versar Inc. Laboratory Operations
6850 Versar Center, Springfield Va. 22151
(703) 750-3000

Sample Number
BI 974

ORGANICS ANALYSIS DATA SHEET
(Page 3)

Pesticides/PCBs

Concentration: Low | Medium | (circle one)

GPC Cleanup [ ] Yes [X] No

Date Extracted/Prepared: 03/06/87

Separatory Funnel Extration [ ] Yes

Date Analyzed: 03/11/87

Continuous Liquid-Liquid Extraction [ ] Yes [X] No

Conc/Dil Factor 1.00

Percent Moisture(decanted) 32.90

CAS Number		ug/kg
319-84-6	alpha-BHC	75 u
319-85-7	beta-BHC	75 u
319-86-8	delta-BHC	75 u
58-89-9	gamma-BHC (Lindane)	75 u
76-44-8	Heptachlor	75 u
309-00-2	Aldrin	~~2500~~
1024-57-3	Heptachlor Epoxide	750 u
959-98-8	Endosulfan I	750 u
60-57-1	Dieldrin	1500 u
72-55-9	4,4'-DDE	1500 u
72-20-8	Endrin	1500 u
33213-65-9	Endosulfan II	1500 u
72-54-8	4,4'-DDD	1500 u
1031-07-8	Endosulfan Sulfate	1500 u
50-29-3	4,4'-DDT	1500 u
72-43-5	Methoxychlor	1500 u
53494-70-5	Endrin Ketone	1500 u
57-74-9	Chlordane	7500 u
8001-35-2	Toxaphene	15000 u
12674-11-2	Aroclor-1016	7500 u
11104-28-2	Aroclor-1221	7500 u
11141-16-5	Aroclor-1232	7500 u
53469-21-9	Aroclor-1242	7500 u
12672-29-6	Aroclor-1248	7500 u
11097-69-1	Aroclor-1254	15000 u
11096-82-5	Aroclor-1260	1700000

F - SUSPECTED FALSE-POSITIVE; LACK OF AGREEMENT BETWEEN CALCULATED RESULTS INDICATES A HIGH PROBABILITY OF FALSE ID ALTHOUGH ID CRITERIA WERE MET IN QUANT / CONF. MAY BE DUE TO HIGH CONC. ARIZ60. JOD 3/30/87

NA- Spiked compounds not to be included on Forms I.
Vi = Volume of extract injected (ul)
Vs = Volume of Water Extracted (ml)
Ws = Weight of sample extracted (g)
Vt = Volume of total extract (ul)

Vs ____ or Ws 1.00 Vt 10000 Vi 2.00

200292

SED - 7

Versar Inc., Laboratory Operations
5850 Versar Center, Springfield VA 22151 (703) 750-3000

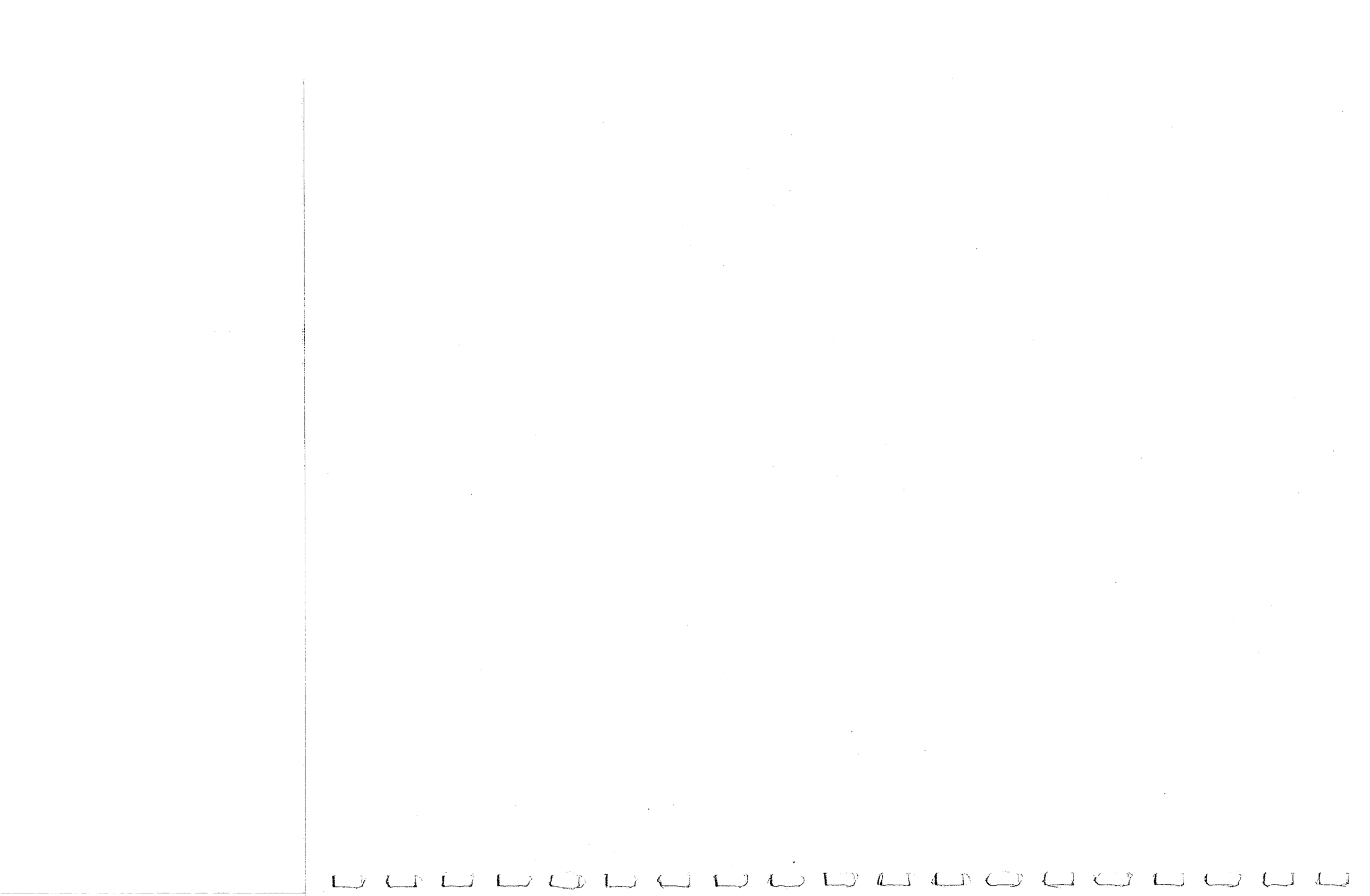
BI-974

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

	CAS Number	Compound Name	Fraction	RT or Scan	Estimated Concentration (ug/Kg or ug/l)
1	124-38-9	CARBON DIOXIDE	VOA	27	7 J
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					

200293



SED - 7

Versar Inc., Laboratory Operations
6850 Versar Center, Springfield VA 22151 (703) 750-3000

BI- 974

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

	CAS Number	Compound Name	Fraction	RT or Scan	Estimated Concentration (ug/Kg or ug/l)
11.	UNKNOWN POLYCHLORINATED BIPHENYL		BNA	1932	11,000 J...
12.	UNKNOWN POLYCHLORINATED BIPHENYL		BNA	1952	17,000 J...
13.	UNKNOWN POLYCHLORINATED BIPHENYL		BNA	1970	50,000 J...
14.	UNKNOWN POLYCHLORINATED BIPHENYL		BNA	2005	52,000 J...
15.	UNKNOWN POLYCHLORINATED BIPHENYL		BNA	2013	14,000 J...
16.	UNKNOWN POLYCHLORINATED BIPHENYL		BNA	2048	39,000 J...
17.	UNKNOWN POLYCHLORINATED BIPHENYL		BNA	2070	20,000 J...
18.	UNKNOWN POLYCHLORINATED BIPHENYL		BNA	2078	11,000 J...
19.	UNKNOWN POLYCHLORINATED BIPHENYL		BNA	2104	17,000 J...
110.	UNKNOWN POLYCHLORINATED BIPHENYL		BNA	2140	36,000 J...
111.	UNKNOWN POLYCHLORINATED BIPHENYL		BNA	2183	15,000 J...
112.	UNKNOWN POLYCHLORINATED BIPHENYL		BNA	2202	5,800 J...
113.					
114.					
115.					
116.					
117.					
118.					
119.					
120.					
121.					
122.					
123.					
124.					
125.					
126.					
127.					
128.					
129.					
130.					

200294

6-85

U.S. ENVIRONMENTAL PROTECTION AGENCY - HWI Sample Management Office
P.O. Box 818, Alexandria, VA 22313 - 703/557-2490 - FTS/557-2490

INORGANICS TRAFFIC REPORT

Sample Number
MBI 473

(1) Case Number: 6889
Sample Site Name/Code:
HUDSON RIVER Psyc

(2) SAMPLE CONCENTRATION
(Check One)
X Low Concentration
___ Medium Concentration

(3) SAMPLE MATRIX
(Check One)
___ Water
X Soil/Sediment

(4) Ship To:
Century Labs
Attn: KEN BOND
Transfer
Ship To:

(5) Sampling Office: FIT II
Sampling Personnel:
(Name) J. BULLIS
(Phone) 201-225-6160
Sampling Date:
(Begin) 2/26/87 (End) 2/26/87

(6) Shipping Information:
Name Of Carrier: Federal Express
Date Shipped: 2/26/87
Airbill Number: 4951647 73

(7) Sample Description:
(Check One)
___ Surface Water
___ Ground Water
___ Leachate
___ Mixed Media
X Solids
___ Other
(specify) BI 974
MATCHES ORGANIC SAMPLE NO. ___

(8) Mark Volume Level
On Sample Bottle
Check Analysis required
X Total Metals
___ Cyanide

N453 SED 7

SMO COPY

SED - 7

Form I

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.
MB1-473

Date 4-2-87

INORGANIC ANALYSIS DATA SHEET

LAB NAME Century Laboratories, Inc.

CASE NO. 6449

SOW NO. 785

LAB SAMPLE ID. NO. 0014-13

QC REPORT NO. 021

Elements Identified and Measured

Concentration: Low ✓ Medium _____

Matrix: Water _____ Soil ✓ Sludge _____ Other _____

All results are reported in ug/Kg dry weight (Circle One)

1. Aluminum	9220 P	13. Barium	7630 P *
2. Antimony	9.5 UPN J	14. Beryllium	4.3 P
3. Arsenic	4.6 FN J	15. Cadmium	1.1 U
4. Barium	<44.7 P	16. Calcium	<111> P
5. Beryllium	1.6 UP	17. Chromium	<1140> P
6. Cadmium	1.3 UP	18. Cobalt	0.66 UF
7. Calcium	16,200 P *	19. Copper	3.2 P
8. Chromium	22 P *	20. Iron	[redacted]
9. Cobalt	3.2 P	21. Lead	0.33 UFN
10. Copper	175 P	22. Magnesium	29 P
11. Iron	25,000 P	23. Manganese	413 P
12. Lead	2.4 FFS	Percent Solids (%)	59.93
Cyanide	N/A		

Comments: In reporting results to EPA, spiked sample recoveries are to be as listed in Form IIIA. Additional lines or columns may be added. Deletion of any lines may be objectionable to users.

Comments: Nelson dark soil

Lab Manager: [signature]

U.S. ENVIRONMENTAL PROTECTION AGENCY — EWB Sample Management Office
P.O. Box 818, Alexandria, Virginia 22313 — 703/557-2490 - FTS 557-2490

ORGANICS TRAFFIC REPORT

Sample Number: BI 975

① **Case Number:** 6889

Sample Site Name/Code: Hudson River Bkg.

② **SAMPLE CONCENTRATION** (Check One)

✓ Low Concentration
___ Medium Concentration

③ **SAMPLE MATRIX** (Check One)

___ Water
✓ Soil/Sediment

④ **Ship To:** VERSAR D.C.

Attn: Charlie Carter

Transfer Ship To:

⑤ **Regional Office:** II

Sampling Personnel:

S. Bullis
(Name)

201-225-6160
(Phone)

Sampling Date: 2/26/87
(Begin) (End)

⑥ **For each sample collected specify number of containers used and mark volume level on each bottle.**

	Number of Containers	Approximate Total Volume
Water (Extractable)		
Water (VOA)		
Soil/Sediment (Extractable)	1	8 oz
Soil/Sediment (VOA)	1	120ml
Other		
Soil/Sed Pest/PCB	1	8 oz

⑦ **Shipping Information**

Federal Express
Name of Carrier

2/26/87
Date Shipped:

495164935
Airbill Number:

⑧ **Sample Description**

___ Surface Water ___ Mixed Media
___ Ground Water X Solids
___ Leachate ___ Other (specify) _____

⑨ **Sample Location**

N453 SED 8

⑩ **Special Handling Instructions:**
(e.g., safety precautions, hazardous nature)

Matches Dnrs MB1474

SMO COPY

SED - 8

Versar, Inc., Laboratory Operations
6850 Versar Center, Springfield VA 22151 (703) 750-3000

Sample Number
BI-975

ORGANICS ANALYSIS DATA SHEET (Page 1)

Laboratory Name: VERSAR
Lab Sample ID No: 23909
Sample Matrix: SOIL
Data Release Authorized By:

Case No: 6889
QC Report No: 6889
Contract No: 68-01-7082
Date Sample Received: 02/27/87

VOLATILE COMPOUNDS

Concentration: LOW
Date Extracted/Prepared: 03/03/87
Date Analyzed: 03/03/87
Conc/Dil Factor: 1 pH NA
Percent Moisture: 39.1

CAS Number		ug/Kg
74-87-3	Chloromethane	16 u
74-83-9	Bromomethane	16 u
75-01-4	Vinyl Chloride	16 u
75-00-3	Chloroethane	16 u
75-09-2	Methylene Chloride	8 u
67-64-1	Acetone	[illegible]
75-15-0	Carbon Disulfide	8 u
75-35-4	1,1-Dichloroethene	8 u
75-34-3	1,1-Dichloroethane	8 u
156-60-5	Trans-1,2-Dichloroethene	8 u
67-66-3	Chloroform	8 u
107-06-2	1,2-Dichloroethane	8 u
78-93-3	2-butanone	16 u
71-55-6	1,1,1-Trichloroethane	8 u
56-23-5	Carbon Tetrachloride	8 u
108-05-4	Vinyl Acetate	16 u
75-27-4	Bromodichloromethane	8 u

CAS Number		ug/Kg
78-87-5	1,2-Dichloropropane	8 u
10061-02-6	Trans-1,3-Dichloropropene	8 u
79-01-6	Trichloroethene	8 u
124-48-1	Dibromochloromethane	8 u
79-00-5	1,1,2-Trichloroethane	8 u
71-43-2	Benzene	8 u
10061-01-5	cis-1,3-Dichloropropene	8 u
110-75-8	2-chloroethylvinylether	16 u
75-25-2	Bromoform	8 u
108-10-1	4-Methyl-2-Pentanone	16 u
591-78-6	2-Hexanone	16 u
127-18-4	Tetrachloroethene	8 u
79-34-5	1,1,2,2-Tetrachloroethane	8 u
108-88-3	Toluene	8 u
108-90-7	Chlorobenzene	9
100-41-4	Ethylbenzene	8 u
100-42-5	Styrene	8 u
	Total Xylenes	8 u

Data Reporting Qualifiers

Value If the result is a value greater than or equal to the detection limit, report the value.

u Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample.

J Estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response factor is assumed, or when the mass spectral data indicates the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero. (e.g. 10J)

C This flag applies to pesticide parameters where the identification has been confirmed by GC/MS.

B This flag is used when the analyte is found in the blank as well as the sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.

VOAF1: REV062486

200365

SED - 8

Versar Inc., Laboratory Operations
6850 Versar Center, Springfield VA 22151 703/750-3000

Sample Number
BI975

Case No: 6889

ORGANICS ANALYSIS DATA SHEET (Page 2)
Semivolatile Compounds

Concentration:LOW

Date Extracted/Prepared: 3/5/87

Date Analyzed: 3/20/87

Conc/Dil Factor: x 62.93

GPC Cleanup [ ]Yes [X]No

Separatory Funnel Extraction [ ]Yes

Continuous Liquid-LIquid Extraction [ ]Yes

CAS Number		ug/Kg
108-95-2	Phenol	680 u
111-44-4	bis(2-Chloroethyl)Ether	680 u
95-57-8	2-Chlorophenol	680 u
541-73-1	1,3-Dichlorobenzene	680 u
106-46-7	1,4-Dichlorobenzene	680 u
100-51-6	Benzyl Alcohol	680 u
95-50-1	1,2-Dichlorobenzene	680 u
95-48-7	2-Methylphenol	680 u
39638-32-9	bis(2-chloroisopropyl)ether	680 u
106-44-5	4-methylphenol	680 u
621-64-7	N-Nitroso-Di-n-propylamine	680 u
67-72-1	Hexachloroethane	680 u
98-95-3	Nitrobenzene	680 u
78-59-1	Isophorone	680 u
88-75-5	2-Nitrophenol	680 u
105-67-9	2,4-dimethylphenol	680 u
65-85-0	Benzoic Acid	3400 u
111-91-1	bis(2-chloroethoxy)methane	680 u
120-83-2	2,4-dichlorophenol	680 u
120-82-1	1,2,4-trichlorobenzene	680 u
91-20-3	Naphthalene	680 u
106-47-8	4-Chloroaniline	680 u
87-68-3	Hexachlorobutadiene	680 u
59-50-7	4-chloro-3-methylphenol	680 u
91-57-6	2-methylnaphthalene	680 u
77-47-4	Hexachlorocyclopentadiene	680 u
88-06-2	2,4,6-Trichlorophenol	680 u
95-95-4	2,4,5-Trichlorophenol	3400 u
91-58-7	2-Chloronaphthalene	680 u
88-74-4	2-Nitroaniline	3400 u
131-11-3	Dimethyl Phthalate	680 u
208-96-8	Acenaphthylene	680 u
99-09-2	3-Nitroaniline	3400 u

CAS Number		ug/Kg
83-32-9	Acenaphthene	680 u
51-28-5	2,4-Dinitrophenol	3400 u
100-02-7	4-Nitrophenol	3400 u
132-64-9	Dibenzofuran	680 u
121-14-2	2,4-Dinitrotoluene	680 u
606-20-2	2,6-Dinitrotoluene	680 u
84-66-2	Diethylphthalate	680 u
7005-22-3	4-Chlorophenyl-phenylether	680 u
86-73-7	Fluorene	680 u
100-01-6	4-Nitroaniline	3400 u
534-52-1	4,6-dinitro-2-methylphenol	3400 u
86-30-6	N-Nitrosodiphenylamine (1)	680 u
101-55-3	4-Bromophenyl-phenylether	680 u
118-74-1	Hexachlorobenzene	680 u
87-86-5	Pentachlorophenol	3400 u
85-01-8	Phenanthrene	680 u
120-12-7	Anthracene	680 u
84-74-2	Di-n-butylphthalate	680 u
206-44-0	Fluoranthene	680 u
129-00-0	Pyrene	680 u
85-68-7	Butylbenzylphthalate	680 u
91-94-1	3,3'-Dichlorobenzidine	1360 u
56-55-3	Benzo(a)anthracene	680 u
117-81-7	bis(2-Ethylhexyl)Phthalate	~~150 J~~
218-01-9	Chrysene	680 u
117-84-0	Di-n-Octylphthalate	680 u
205-99-2	Benzo(b)Fluoranthene	680 u
207-08-9	Benzo(k)Fluoranthene	680 u
50-32-8	Benzo(a)pyrene	680 u
193-39-5	Indeno(1,2,3-cd)Pyrene	680 u
53-70-3	Dibenz(a,h)Anthracene	680 u
191-24-2	Benzo(g,h,i)Perylene	680 u

(1)-Cannot be separated from diphenylamine

SED - 8

Versar Inc. Laboratory Operations
6850 Versar Center, Springfield Va. 22151
(703) 750-3000

Sample Number
BI 975

ORGANICS ANALYSIS DATA SHEET
(Page 3)

Pesticides/PCBs

Concentration: Low | Medium (circle one)

GPC Cleanup [ ] Yes [X] No

Date Extracted/Prepared: 03-05-87

Separatory Funnel Extration [ ] Yes

Date Analyzed: 03-14-87

Continuous Liquid-Liquid Extraction [ ] Yes [X] No

Conc/Dil Factor 1.00

Percent Moisture(decanted) 39.10

CAS Number		ug/kg
319-84-6	alpha-BHC	5.4 u
319-85-7	beta-BHC	5.4 u
319-86-8	delta-BHC	5.4 u
58-89-9	gamma-BHC (Lindane)	5.4 u
76-44-8	Heptachlor	5.4 u
309-00-2	Aldrin	5.4 u
1024-57-3	Heptachlor Epoxide	5.4 u
959-98-8	Endosulfan I	5.4 u
60-57-1	Dieldrin	11 u
72-55-9	4,4'-DDE	11 u
72-20-8	Endrin	11 u
33213-65-9	Endosulfan II	11 u
72-54-8	4,4'-DDD	11 u
1031-07-8	Endosulfan Sulfate	11 u
50-29-3	4,4'-DDT	11 u
72-43-5	Methoxychlor	11 u
53494-70-5	Endrin Ketone	11 u
57-74-9	Chlordane	54 u
8001-35-2	Toxaphene	110 u
12674-11-2	Aroclor-1016	54 u
11104-28-2	Aroclor-1221	54 u
11141-16-5	Aroclor-1232	54 u
53469-21-9	Aroclor-1242	54 u
12672-29-6	Aroclor-1248	54 u
11097-69-1	Aroclor-1254	110 u
11096-82-5	Aroclor-1260	110 u

Vi = Volume of extract injected (ul)
Vs = Volume of Water Extracted (ml)
Ws = Weight of sample extracted (g)
Vt = Volume of total extract (ul)

JHH
03-24-87

Vs _____ or Ws 30.18 Vt 20000 Vi 2.00

200367

SED - 8

Versar Inc., Laboratory Operations
6850 Versar Center, Springfield VA 22151 (703) 750-3000

BI-975

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

	CAS Number	Compound Name	Fraction	RT or Scan	Estimated Concentration (ug/Kg or ug/l)
1	124-38-9	CARBON DIOXIDE	VOA	27	28 J
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					

200368

SED - F

Versar Inc., Laboratory Operations
6850 Versar Center, Springfield VA 22151 (703) 750-3000

BI975

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

	CAS Number	Compound Name	Fraction	RT or Scan	Estimated Concentration (ug/Kg or ug/l)
1.		UNKNOWN.	BNA	615	3,100 JB.
2.		UNKNOWN.	BNA	658	360 J...
3.		UNKNOWN.	BNA	718	350 J...
4.	65-85-0	BENZOIC ACID.	BNA	934	33 J,T.
5.		UNKNOWN.	BNA	2104	330 J...
6.		UNKNOWN HYDROCARBON.	BNA	2358	750 J...
7.		UNKNOWN.	BNA	2567	540 J...
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

T - Spectrum for this HSL compound does not meet CLP criteria for confirmation, but does indicate compound presence.

200369

6-85

U.S. ENVIRONMENTAL PROTECTION AGENCY — EPA/ESD Sample Management Office
P.O. Box 818, Alexandria, VA 22313 — 703/557-2490 - FTS/557-2490

INORGANICS TRAFFIC REPORT

Sample Number
MBI 474

(1) **Case Number:** 6889
Sample Site Name/Code:
Hudson River Psy C

(2) **SAMPLE CONCENTRATION**
(Check One)
X Low Concentration
___ Medium Concentration

(3) **SAMPLE MATRIX**
(Check One)
___ Water
X Soil/Sediment

(4) **Ship To:**
Century Labs
Attn: Ken Bond
Transfer Ship To:

(5) **Sampling Office:** FIT II
Sampling Personnel:
(Name) J. Bullis
(Phone) 201-225-6160
Sampling Date:
(Begin) 2/26/87 (End) 2/26/87

(6) **Shipping Information:**
Name Of Carrier: Federal Express
Date Shipped: 2/26/87
Airbill Number: 495164773

(7) **Sample Description:**
(Check One)
___ Surface Water
___ Ground Water
___ Leachate
___ Mixed Media
X Solids
___ Other (specify) B 975
MATCHES ORGANIC SAMPLE NO.

(8) **Mark Volume Level On Sample Bottle**
Check Analysis required
X Total Metals
___ Cyanide

NY53 SED 8

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SED -8

Form I

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.
MB1-474

Date 4-2-87

INORGANIC ANALYSIS DATA SHEET

LAB NAME Century Laboratories, Inc.

CASE NO. 644

SOW NO. 785

LAB SAMPLE ID. NO. 0018-14

QC REPORT NO. 021

Elements Identified and Measured

Concentration: Low ✓ Medium

Matrix: Water Soil ✓ Sludge Other

ug/L or mg/kg dry weight (Circle One)

1. Aluminum	17,300P	13. Mercury	7F20P *
2. Antimony	9.8UPN J	14. Nickel	199P
3. Arsenic	5.4FN J	15. Potassium	0.22
4. Barium	65P	16. Silver	<11>P
5. Beryllium	1.6P	17. Sodium	<782>
6. Cadmium	1.3F	18. Selenium	0.67UF=
7. Calcium	3260P +	19. Silver	3.3UP
8. Chromium	14P +	20. Sodium	[redacted]
9. Cobalt	3.3UP	21. Thallium	0.34UFN
10. Copper	33P	22. Vanadium	26P
11. Iron	36F00P	23. Zinc	104P
12. Lead	111F	Percent Solids (%)	59.53
Cyanide	N/A		

Comments: The reporting results on this original data summary sheet are those as listed on lower tape. Additional tape or footnote clarifying data are encouraged. Deletion of any tape must be explained and annotated on lower tape, however.

Comments: Medium dark soil

Lab Manager: Kenneth Ford

U.S. ENVIRONMENTAL PROTECTION AGENCY, EMSL Sample Management Office
P.O. Box 818, Alexandria, Virginia 22313 — 703/557-2490 — FTS/557-2490

ORGANICS TRAFFIC REPORT

Sample Number
BI 967

① **Case Number:** 6889

Sample Site Name/Code: Hudson Riv. Pyc

② **SAMPLE CONCENTRATION** (Check One)

X Low Concentration
___ Medium Concentration

③ **SAMPLE MATRIX** (Check One)

___ Water
X Soil/Sediment

④ **Ship To:** Versar Inc.

Attn: Charlie Carter

Transfer Ship To:

⑤ **Regional Office:** II

Sampling Personnel:
J. Bullis
(Name)
201-225-6160
(Phone)

Sampling Date:
2/26/87
(Begin) (End)

⑥ **For each sample collected specify number of containers used and mark volume level on each bottle.**

	Number of Containers	Approximate Total Volume
Water (Extractable)		
Water (VOA)		
Soil/Sediment (Extractable)	1	8 oz
Soil/Sediment (VOA)	1	120 ml
Other		
Soil/SED PEST/PCB	1	8 oz

⑦ **Shipping Information**

Federal Express
Name of Carrier

2/26/87
Date Shipped:

495164935
Airbill Number:

⑧ **Sample Description**

___ Surface Water ___ Mixed Media
___ Ground Water X Solids
___ Leachate ___ Other (specify) _____

⑨ **Sample Location**

N453-51

⑩ **Special Handling Instructions:**
(e.g., safety precautions, hazardous nature)

Matches Inorgs. MB1-466

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S-1

ersar, Inc., Laboratory Operations
6850 Versar Center, Springfield VA 22151 (703) 750-3000

Sample Number
BI-967

ORGANICS ANALYSIS DATA SHEET (Page 1)

Laboratory Name: VERSAR
Lab Sample ID No: 23901
Sample Matrix: SOIL
Data Release Authorized By:

Case No: 6889
QC Report No: 6889
Contract No: 68-01-7082
Date Sample Received: 02/27/87

VOLATILE COMPOUNDS

Concentration: LOW
Date Extracted/Prepared: 03/03/87
Date Analyzed: 03/03/87
Conc/Dil Factor: 1 pH N/A
Percent Moisture: 83.8

CAS Number		ug/Kg
74-87-3	Chloromethane	62 u
74-83-9	Bromomethane	62 u
75-01-4	Vinyl Chloride	62 u
75-00-3	Chloroethane	62 u
75-09-2	Methylene Chloride	31 u
67-64-1	Acetone	62 u
75-15-0	Carbon Disulfide	31 u
75-35-4	1,1-Dichloroethene	31 u
75-34-3	1,1-Dichloroethane	31 u
156-60-5	Trans-1,2-Dichloroethene	31 u
67-66-3	Chloroform	31 u
107-06-2	1,2-Dichloroethane	31 u
78-93-3	2-butanone	62 u
71-55-6	1,1,1-Trichloroethane	31 u
56-23-5	Carbon Tetrachloride	31 u
108-05-4	Vinyl Acetate	62 u
75-27-4	Bromodichloromethane	31 u

CAS Number		ug/Kg
78-87-5	1,2-Dichloropropane	31 u
10061-02-6	Trans-1,3-Dichloropropene	31 u
79-01-6	Trichloroethene	31 u
124-48-1	Dibromochloromethane	31 u
79-00-5	1,1,2-Trichloroethane	31 u
71-43-2	Benzene	31 u
10061-01-5	cis-1,3-Dichloropropene	31 u
110-75-8	2-chloroethylvinylether	62 u
75-25-2	Bromoform	31 u
108-10-1	4-Methyl-2-Pentanone	62 u
591-78-6	2-Hexanone	62 u
127-18-4	Tetrachloroethene	31 u
79-34-5	1,1,2,2-Tetrachloroethane	31 u
108-88-3	Toluene	31 u
108-90-7	Chlorobenzene	31 u
100-41-4	Ethylbenzene	31 u
100-42-5	Styrene	31 u
	Total Xylenes	31 u

Data Reporting Qualifiers

Value If the result is a value greater than or equal to the detection limit, report the value.

u Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample.

J Estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response factor is assumed, or when the mass spectral data indicates the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero. (e.g. 10J)

C This flag applies to pesticide parameters where the identification has been confirmed by GC/MS.

B This flag is used when the analyte is found in the blank as well as the sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.

VOAF1: REV062486

100033

S - 1

ersar Inc., Laboratory Operations
6850 Versar Center, Springfield VA 22151 703/750-3000

Case No: 6889

Sample Number
BI967

ORGANICS ANALYSIS DATA SHEET (Page 2)
Semivolatile Compounds

Concentration:LOW

Date Extracted/Prepared: 03/05/87

Date Analyzed: 03/18/87

Conc/Dil Factor: X 254.4

GPC Cleanup [ ]Yes [X]No

Separatory Funnel Extraction [ ]Yes

Continuous Liquid-LIquid Extraction [ ]Yes

CAS Number		ug/Kg
108-95-2	Phenol	2500 u
111-44-4	bis(2-Chloroethyl)Ether	2500 u
95-57-8	2-Chlorophenol	2500 u
541-73-1	1,3-Dichlorobenzene	2500 u
106-46-7	1,4-Dichlorobenzene	2500 u
100-51-6	Benzyl Alcohol	2500 u
95-50-1	1,2-Dichlorobenzene	2500 u
95-48-7	2-Methylphenol	2500 u
39638-32-9	bis(2-chloroisopropyl)ether	2500 u
106-44-5	4-methylphenol	2500 u
621-64-7	N-Nitroso-Di-n-propylamine	2500 u
67-72-1	Hexachloroethane	2500 u
98-95-3	Nitrobenzene	2500 u
78-59-1	Isophorone	2500 u
88-75-5	2-Nitrophenol	2500 u
105-67-9	2,4-dimethylphenol	2500 u
65-85-0	Benzoic Acid	12800 u
111-91-1	bis(2-chloroethoxy)methane	2500 u
120-83-2	2,4-dichlorophenol	2500 u
120-82-1	1,2,4-trichlorobenzene	2500 u
91-20-3	Naphthalene	2500 u
106-47-8	4-Chloroaniline	2500 u
87-68-3	Hexachlorobutadiene	2500 u
59-50-7	4-chloro-3-methylphenol	2500 u
91-57-6	2-methylnaphthalene	2500 u
77-47-4	Hexachlorocyclopentadiene	2500 u
88-06-2	2,4,6-Trichlorophenol	2500 u
95-95-4	2,4,5-Trichlorophenol	12800 u
91-58-7	2-Chloronaphthalene	2500 u
88-74-4	2-Nitroaniline	12800 u
131-11-3	Dimethyl Phthalate	2500 u
208-96-8	Acenaphthylene	2500 u
99-09-2	3-Nitroaniline	12800 u

CAS Number		ug/Kg
83-32-9	Acenaphthene	2500 u
51-28-5	2,4-Dinitrophenol	12800 u
100-02-7	4-Nitrophenol	12800 u
132-64-9	Dibenzofuran	2500 u
121-14-2	2,4-Dinitrotoluene	2500 u
606-20-2	2,6-Dinitrotoluene	2500 u
84-66-2	Diethylphthalate	2500 u
7005-22-3	4-Chlorophenyl-phenylether	2500 u
86-73-7	Fluorene	2500 u
100-01-6	4-Nitroaniline	12800 u
534-52-1	4,6-dinitro-2-methylphenol	12800 u
86-30-6	N-Nitrosodiphenylamine (1)	2500 u
101-55-3	4-Bromophenyl-phenylether	2500 u
118-74-1	Hexachlorobenzene	2500 u
87-86-5	Pentachlorophenol	12800 u
85-01-8	Phenanthrene	2500 u
120-12-7	Anthracene	2500 u
84-74-2	Di-n-butylphthalate	2500 u
206-44-0	Fluoranthene	2500 u
129-00-0	Pyrene	2500 u
85-68-7	Butylbenzylphthalate	2500 u
91-94-1	3,3'-Dichlorobenzidine	5000 u
56-55-3	Benzo(a)anthracene	2500 u
117-81-7	bis(2-Ethylhexyl)Phthalate	2500 u
218-01-9	Chrysene	2500 u
117-84-0	Di-n-Octylphthalate	2500 u
205-99-2	Benzo(b)Fluoranthene	2500 u
207-08-9	Benzo(k)Fluoranthene	2500 u
50-32-8	Benzo(a)pyrene	2500 u
193-39-5	Indeno(1,2,3-cd)Pyrene	2500 u
53-70-3	Dibenz(a,h)Anthracene	2500 u
191-24-2	Benzo(g,h,i)Perylene	2500 u

(1)-Cannot be separated from diphenylamine

Versar Inc. Laboratory Operations
6850 Versar Center, Springfield Va. 22151
(703) 750-3000

Sample Number
BI 967

ORGANICS ANALYSIS DATA SHEET
(Page 3)

Pesticides/PCBs

Concentration: |Low| Medium (circle one)

GPC Cleanup [ ] Yes [X] No

Date Extracted/Prepared: 03-05-87

Separatory Funnel Extration [ ] Yes

Date Analyzed: 03-12-87 3/12/87

Continuous Liquid-Liquid Extraction [ ] Yes [X] No

Conc/Dil Factor 1.00

Percent Moisture(decanted) 83.80

CAS Number		ug/kg
319-84-6	alpha-BHC	20 u
319-85-7	beta-BHC	20 u
319-86-8	delta-BHC	20 u
58-89-9	gamma-BHC (Lindane)	20 u
76-44-8	Heptachlor	20 u
309-00-2	Aldrin	20 u
1024-57-3	Heptachlor Epoxide	20 u
959-98-8	Endosulfan I	20 u
60-57-1	Dieldrin	41 u
72-55-9	4,4'-DDE	41 u
72-20-8	Endrin	41 u
33213-65-9	Endosulfan II	41 u
72-54-8	4,4'-DDD	41 u
1031-07-8	Endosulfan Sulfate	41 u
50-29-3	4,4'-DDT	41 u
72-43-5	Methoxychlor	41 u
53494-70-5	Endrin Ketone	41 u
57-74-9	Chlordane	200 u
8001-35-2	Toxaphene	410 u
12674-11-2	Aroclor-1016	200 u
11104-28-2	Aroclor-1221	200 u
11141-16-5	Aroclor-1232	200 u
53469-21-9	Aroclor-1242	200 u
12672-29-6	Aroclor-1248	200 u
11097-69-1	Aroclor-1254	410 u
11096-82-5	Aroclor-1260	410 u

Vi = Volume of extract injected (ul)
Vs = Volume of Water Extracted (ml)
Ws = Weight of sample extracted (g)
Vt = Volume of total extract (ul)

LMC
03-24-87

Vs _____ or Ws 30.37 Vt 20000 Vi 2.00

100035

S - 1

ersar Inc., Laboratory Operations
6850 Versar Center, Springfield VA 22151 (703) 750-3000

BI-967

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

	CAS Number	Compound Name	Fraction	RT or Scan	Estimated Concentration (ug/Kg or ug/l)
11.	124-38-9	CARBON DIOXIDE	VOA	27	260 J
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
110.					
111.					
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127.					
128.					
129.					
130.					

100036

S-1

rsar Inc., Laboratory Operations
850 Versar Center, Springfield VA 22151 (703) 750-3000

BI967

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

	CAS Number	Compound Name	Fraction	RT or Scan	Estimated Concentration (ug/Kg or ug/l)
1.	UNKNOWN		BNA	659	1,800 J
2.	UNKNOWN		BNA	718	3,700 J
3.	UNKNOWN		BNA	741	1,500 J
4.	UNKNOWN		BNA	798	1,300 J
5.	UNKNOWN HYDROCARBON		BNA	2094	2,100 J
6.	UNKNOWN HYDROCARBON		BNA	2211	1,700 J
7.	UNKNOWN HYDROCARBON		BNA	2315	2,300 J
8.	UNKNOWN		BNA	2360	3,800 J
9.	UNKNOWN		BNA	916	11,000 J
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
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29.					
30.					

100037

6-85

U.S. ENVIRONMENTAL PROTECTION AGENCY HWI Sample Management Office
P.O. Box 818, Alexandria, VA 22313—703/557-2490 - FTS/557-2490

INORGANICS TRAFFIC REPORT

Sample Number
MBI 466

(1) Case Number: 6889
Sample Site Name/Code:
HUDSON RIVER
Psychiatric Center

(2) SAMPLE CONCENTRATION
(Check One)
X Low Concentration
___ Medium Concentration

(3) SAMPLE MATRIX
(Check One)
___ Water
X Soil/Sediment

(4) Ship To:
Century Labs
Attn: KEN BOND
Transfer
Ship To:

(5) Sampling Office: FIT II
Sampling Personnel:
(Name) J. BOLLIS
(Phone) 201-225-6160
Sampling Date:
(Begin) 2/26/87 (End) 2/26/87

(6) Shipping Information:
Name Of Carrier:
FEDERAL Express
Date Shipped: 2/26/87
Airbill Number: 495164773

(7) Sample Description:
(Check One)
___ Surface Water
___ Ground Water
___ Leachate
___ Mixed Media
X Solids
___ Other ___
(specify)
MATCHES ORGANIC SAMPLE NO. BI 967

(8) Mark Volume Level
On Sample Bottle
Check Analysis required
X Total Metals
___ Cyanide

NY53 - S1

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S-1

Form I

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.
MB1-466

Date 4-2-87

INORGANIC ANALYSIS DATA SHEET

LAB NAME Century Laboratories, Inc. CASE NO. 644

SOW NO. 785

LAB SAMPLE ID. NO. 0014-01 QC REPORT NO. 021

Elements Identified and Measured

Concentration: Low ✓ Medium _____

Matrix: Water _____ Soil ✓ Sludge _____ Other _____

ug/L or mg/Kg dry weight (Circle One)

1.	Aluminum	6200P	13.	Mercury	[1760]P
2.	Antimony	35PN J	14.	Nickel	3630P
3.	Arsenic	67FN J	15.	Potassium	2.6
4.	Barium	316P	16.	Silver	23UP
5.	Beryllium	5.4UP	17.	Sodium	[714]P
6.	Cadmium	5.2P	18.	Selenium	2.2UF
7.	Calcium	10,100P	19.	Silver	12UP
8.	Chromium	12UP	20.	Sodium	[1290]P
9.	Cobalt	12UP	21.	Thallium	1.1UFN <1.1>FN J
10.	Copper	63P	22.	Vanadium	[26]P
11.	Iron	22,000P	23.	Zinc	264P
12.	Lead	107FS		Percent Solids (%)	17.05

Other:

Comments: See reporting notes in EPA, Standard Data Qualifiers for data as defined in Level IIIB. Additional flags to indicate validity results are encouraged. Definitions of such flags must be supplied as included in Level IIIB, Report.

Comments: Medium dark soil

Lab Manager: Kenneth Bond

U.S. ENVIRONMENTAL PROTECTION AGENCY, EMSL Sample Management Office
P.O. Box 818, Alexandria, Virginia 22313 — 703/557-2490 — FTS/557-2490

ORGANICS TRAFFIC REPORT

Sample Number: BI 984

① **Case Number:** 6889

Sample Site Name/Code: Hudson River Psyc.

② **SAMPLE CONCENTRATION** (Check One)

X Low Concentration
___ Medium Concentration

③ **SAMPLE MATRIX** (Check One)

X Water
___ Soil/Sediment

④ **Ship To:** Vesa Lab.

Attn: C. Carter

Transfer Ship To:

⑤ **Regional Office:** II

Sampling Personnel:

J. Bullis
(Name)

201-225-6160
(Phone)

Sampling Date: 2/26/87
(Begin) (End)

⑥ **For each sample collected specify number of containers used and mark volume level on each bottle.**

	Number of Containers	Approximate Total Volume
Water (Extractable)	2	160 oz
Water (VOA)	2	80 ml
Soil/Sediment (Extractable)		
Soil/Sediment (VOA)		
Other PEST/PCB	1	80 oz

⑦ **Shipping Information**

Federal Express
Name of Carrier

2/26/87
Date Shipped:

495164935
Airbill Number:

⑧ **Sample Description**

___ Surface Water ___ Mixed Media
___ Ground Water ___ Solids
___ Leachate ✓ Other (specify) Trip Blank

⑨ **Sample Location**

N453 - BLK - 1

⑩ **Special Handling Instructions:**
(e.g., safety precautions, hazardous nature)

Matches Diors. MBI 483

SMO COPY

3-1

Versar, Inc., Laboratory Operations
6850 Versar Center, Springfield VA 22151 (703) 750-3000

Sample Number
BI-984

ORGANICS ANALYSIS DATA SHEET (Page 1)

Laboratory Name: VERSAR
Lab Sample ID No: 23900
Sample Matrix: WATER?
Data Release Authorized By:

Case No: 6889
QC Report No: 6889
Contract No: 68-01-7082
Date Sample Received: 02/27/87

VOLATILE COMPOUNDS

Concentration: LOW
Date Extracted/Prepared: 03/04/87
Date Analyzed: 03/04/87
Conc/Dil Factor: 1 pH NA
Percent Moisture: 100

CAS Number		ug/l
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	5 u
67-64-1	Acetone	36
75-15-0	Carbon Disulfide	5 u
75-35-4	1,1-Dichloroethene	5 u
75-34-3	1,1-Dichloroethane	5 u
156-60-5	Trans-1,2-Dichloroethene	5 u
67-66-3	Chloroform	5 u
107-06-2	1,2-Dichloroethane	5 u
78-93-3	2-butanone	10 u
71-55-6	1,1,1-Trichloroethane	5 u
56-23-5	Carbon Tetrachloride	5 u
108-05-4	Vinyl Acetate	10 u
75-27-4	Bromodichloromethane	5 u

CAS Number		ug/l
78-87-5	1,2-Dichloropropane	5 u
10061-02-6	Trans-1,3-Dichloropropene	5 u
79-01-6	Trichloroethene	5 u
124-48-1	Dibromochloromethane	5 u
79-00-5	1,1,2-Trichloroethane	5 u
71-43-2	Benzene	5 u
10061-01-5	cis-1,3-Dichloropropene	5 u
110-75-8	2-chloroethylvinylether	10 u
75-25-2	Bromoform	5 u
108-10-1	4-Methyl-2-Pentanone	10 u
591-78-6	2-Hexanone	10 u
127-18-4	Tetrachloroethene	5 u
79-34-5	1,1,2,2-Tetrachloroethane	5 u
108-88-3	Toluene	1 B
108-90-7	Chlorobenzene	5 u
100-41-4	Ethylbenzene	5 u
100-42-5	Styrene	5 u
	Total Xylenes	5 u

Data Reporting Qualifiers

alue If the result is a value greater than or equal to the detection limit, report the value.

Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample.

Estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response factor is assumed, or when the mass spectral data indicates the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero. (e.g. 10J)

C This flag applies to pesticide parameters where the identification has been confirmed by GC/MS.

B This flag is used when the analyte is found in the blank as well as the sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.

VOAF1: REV062486

300220

B - 1

Versar Inc., Laboratory Operations
6850 Versar Center, Springfield VA 22151 703/750-3000

Sample Number
BI984

Case No: 6889

ORGANICS ANALYSIS DATA SHEET (Page 2)
Semivolatile Compounds

Concentration: LOW

Date Extracted/Prepared: 03/01/87

Date Analyzed: 03/17/87

Conc/Dil Factor: 1/2

GPC Cleanup [ ]Yes [ ]No

Separatory Funnel Extraction [ ]Yes

Continuous Liquid-Liquid Extraction [X]Yes

CAS Number		ug/l
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
100-51-6	Benzyl Alcohol	10 u
95-50-1	1,2-Dichlorobenzene	10 u
95-48-7	2-Methylphenol	10 u
39638-32-9	bis(2-chloroisopropyl)ether	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
65-85-0	Benzoic Acid	50 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	50 u
91-58-7	2-Chloronaphthalene	10 u
88-74-4	2-Nitroaniline	50 u
131-11-3	Dimethyl Phthalate	10 u
208-96-8	Acenaphthylene	10 u
99-09-2	3-Nitroaniline	50 u

CAS Number		ug/l
83-32-9	Acenaphthene	10 u
51-28-5	2,4-Dinitrophenol	50 u
100-02-7	4-Nitrophenol	50 u
132-64-9	Dibenzofuran	10 u
121-14-2	2,4-Dinitrotoluene	10 u
606-20-2	2,6-Dinitrotoluene	10 u
84-66-2	Diethylphthalate	10 u
7005-22-3	4-Chlorophenyl-phenylether	10 u
86-73-7	Fluorene	10 u
100-01-6	4-Nitroaniline	50 u
534-52-1	4,6-dinitro-2-methylphenol	50 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	50 u
85-01-8	Phenanthrene	10 u
120-12-7	Anthracene	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	20 u
56-55-3	Benzo(a)anthracene	10 u
117-81-7	bis(2-Ethylhexyl)Phthalate	17
218-01-9	Chrysene	10 u
117-84-0	Di-n-Octylphthalate	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

B - 1

Versar Inc. Laboratory Operations
6850 Versar Center, Springfield Va. 22151
(703) 750-3000

Sample Number
BI 984

ORGANICS ANALYSIS DATA SHEET
(Page 3)

Pesticides/PCBs

Concentration: |Low| Medium (circle one)

GPC Cleanup [ ] Yes [X] No

Date Extracted/Prepared: 2-28-87

Separatory Funnel Extration [ ] Yes

Date Analyzed: 3-10-87

Continuous Liquid-Liquid Extraction [X] Yes [ ] No

Conc/Dil Factor 1.00

Percent Moisture(decanted) 0.00

CAS Number		ug/l
319-84-6	alpha-BHC	0.05 u
319-85-7	beta-BHC	0.05 u
319-86-8	delta-BHC	0.05 u
58-89-9	gamma-BHC (Lindane)	0.05 u
76-44-8	Heptachlor	0.05 u
309-00-2	Aldrin	0.05 u
1024-57-3	Heptachlor Epoxide	0.05 u
959-98-8	Endosulfan I	0.05 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	0.10 u
53494-70-5	Endrin Ketone	0.10 u
57-74-9	Chlordane	0.50 u
8001-35-2	Toxaphene	1.0 u
12674-11-2	Aroclor-1016	0.50 u
11104-28-2	Aroclor-1221	0.50 u
11141-16-5	Aroclor-1232	0.50 u
53469-21-9	Aroclor-1242	0.50 u
12672-29-6	Aroclor-1248	0.50 u
11097-69-1	Aroclor-1254	1.0 u
11096-82-5	Aroclor-1260	1.0 u

S. Jonathan
3-10-87

Vi = Volume of extract injected (ul)
Vs = Volume of Water Extracted (ml)
Ws = Weight of sample extracted (g)
Vt = Volume of total extract (ul)

Vs 1000.00 or Ws _____ Vt 10000 Vi 2.00

300222

B - 1

Versar Inc., Laboratory Operations
5850 Versar Center, Springfield VA 22151 (703) 750-3000

SAMPLE ID
BI-984

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

	CAS Number	Compound Name	Fraction	RT or Scan	Estimated Concentration (ug/Kg or ug/l)
11.		NO VOLATILES DETECTED	VOA	NA	NA
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
110.					
111.					
112.					
113.					
114.					
115.					
116.					
117.					
118.					
119.					
120.					
121.					
122.					
123.					
124.					
125.					
126.					
127.					
128.					
129.					
130.					

300223

B - 1

Versar Inc., Laboratory Operations
6850 Versar Center, Springfield VA 22151 (703) 750-3000

BI984

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

	CAS Number	Compound Name	Fraction	RT or Scan	Estimated Concentration (ug/Kg or ug/l)
1.	UNKNOWN ORGANIC ACID.	BNA	2035	100 J...
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

300224

5-85

U.S. ENVIRONMENTAL PROTECTION AGENCY — EWI Sample Management Office
P.O. Box 818, Alexandria, VA 22313 — 703/557-2490 - FTS/557-2490

INORGANICS TRAFFIC REPORT

Sample Number
MBI 483

(1) Case Number: 6889
Sample Site Name/Code:
Hudson River Psyc.

(2) SAMPLE CONCENTRATION
(Check One)
✓ Low Concentration
___ Medium Concentration

(3) SAMPLE MATRIX
(Check One)
✓ Water
___ Soil/Sediment

(4) Ship To:
Century Labs
Attn: Ken Bond
Transfer
Ship To:

(5) Sampling Office: FIT II
Sampling Personnel:
(Name) S. BULLIS
(Phone) 201-225-6160
Sampling Date:
(Begin) 2/26/87 (End) 2/26/87

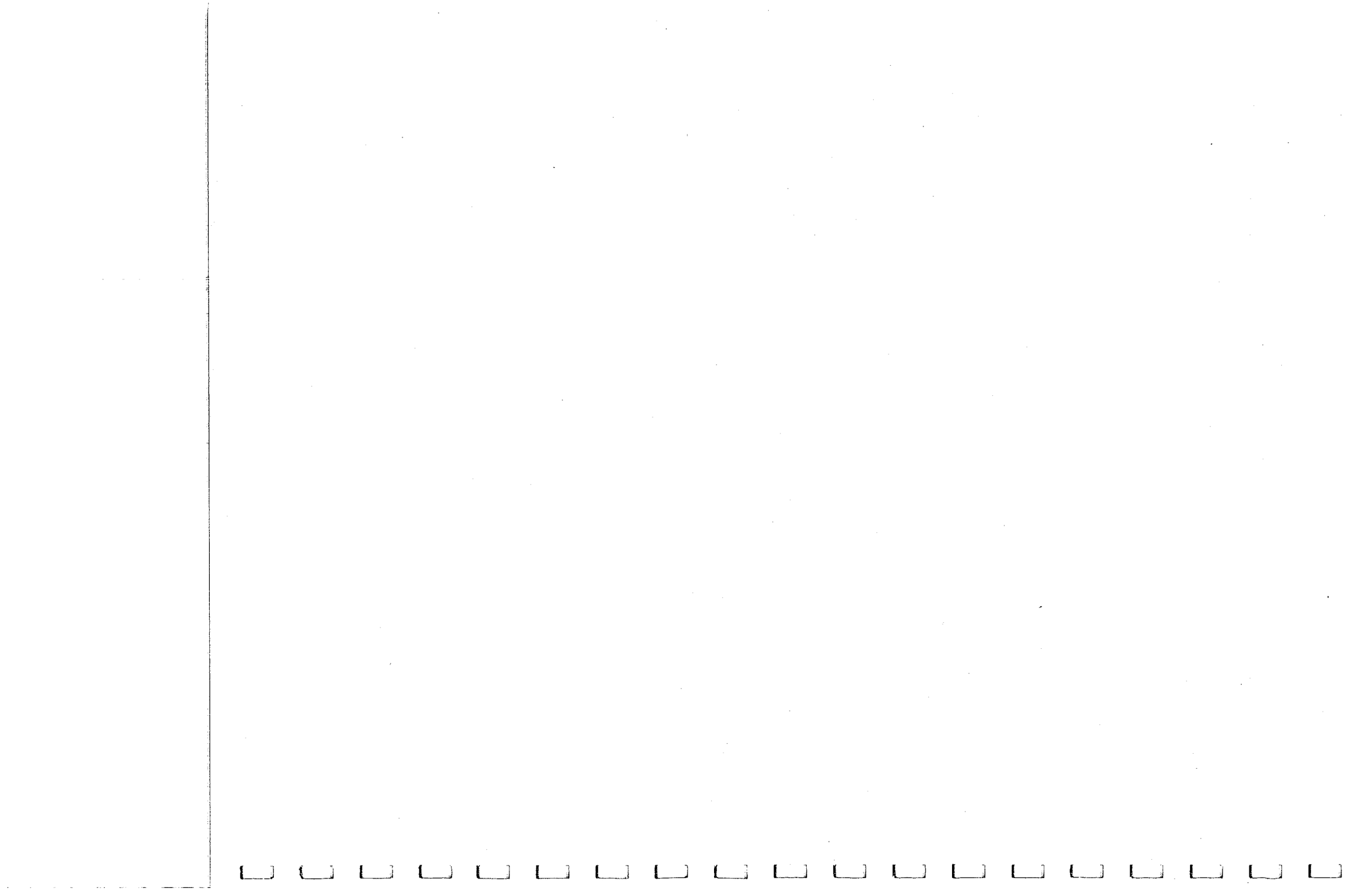
(6) Shipping Information:
Name Of Carrier: Federal Express
Date Shipped: 2/26/87
Airbill Number: 4951647 73

(7) Sample Description:
(Check One)
___ Surface Water
___ Ground Water
___ Leachate
___ Mixed Media
___ Solids
✓ Other Trip Blank
(specify)
MATCHES ORGANIC SAMPLE NO. B1984

(8) Mark Volume Level
On Sample Bottle
Check Analysis required
X Total Metals
___ Cyanide

N453 - BLK-1

SMO COPY



B - 1

Form I

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.
MB1-443

Date 4-2-87

INORGANIC ANALYSIS DATA SHEET

LAB NAME Century Laboratories, Inc. CASE NO. 644

SOW NO. 785

LAB SAMPLE ID. NO. 001A-1V QC REPORT NO. 021

Elements Identified and Measured

Concentration: Low ✓ Medium

Matrix: Water ✓ Soil Sludge Other

ug/L or mg/kg dry weight (Circle One)

1. Aluminum	20UPE	13. Barium	100UP*
2. Antimony	~~50TPN~~	14. Beryllium	5.0UP
3. Arsenic	5.0UF	15. Boron	~~0.2mgL~~
4. Barium	10UP	16. Cadmium	20UP
5. Beryllium	5.0UP	17. Calcium	500UP
6. Cadmium	4.0UP	18. Selenium	2.0UF
7. Calcium	100UP	19. Silver	10UP
8. Chromium	10UP	20. Sodium	~~5.0UPE TPE~~
9. Cobalt	10UP	21. Thallium	<2.0>FN
10. Copper	6.0UP	22. Vanadium	10UP
11. Iron	60UP	23. Zinc	[IN]P
12. Lead	1.0UF	Percent Solids (%)	N/A
Cyanide	N/A		

Comments: In reporting results to EPA, sample results entered on this form will be identical to those data listed on computer printouts. Additional data qualifiers may be assigned. Definitions of all flags used by the laboratory should be listed on cover page, above.

Clear Digest
E: Sm. Vol

Lab Manager: Kenneth Bond

B - E

REFERENCE NO. 14

0001-C
02-8611-63

NUS CORPORATION — TELECON NOTE

CONTROL NO:	DATE:	TIME:
02-8611-63	11/4/86	0905

DISTRIBUTION:
File
P. Morton

BETWEEN:	OF:	PHONE:
Mr. Robert Coffey	Hudson River Psychiatric center	(914) 452-8000

AND:
J. Mayo (NUS)

DISCUSSION:

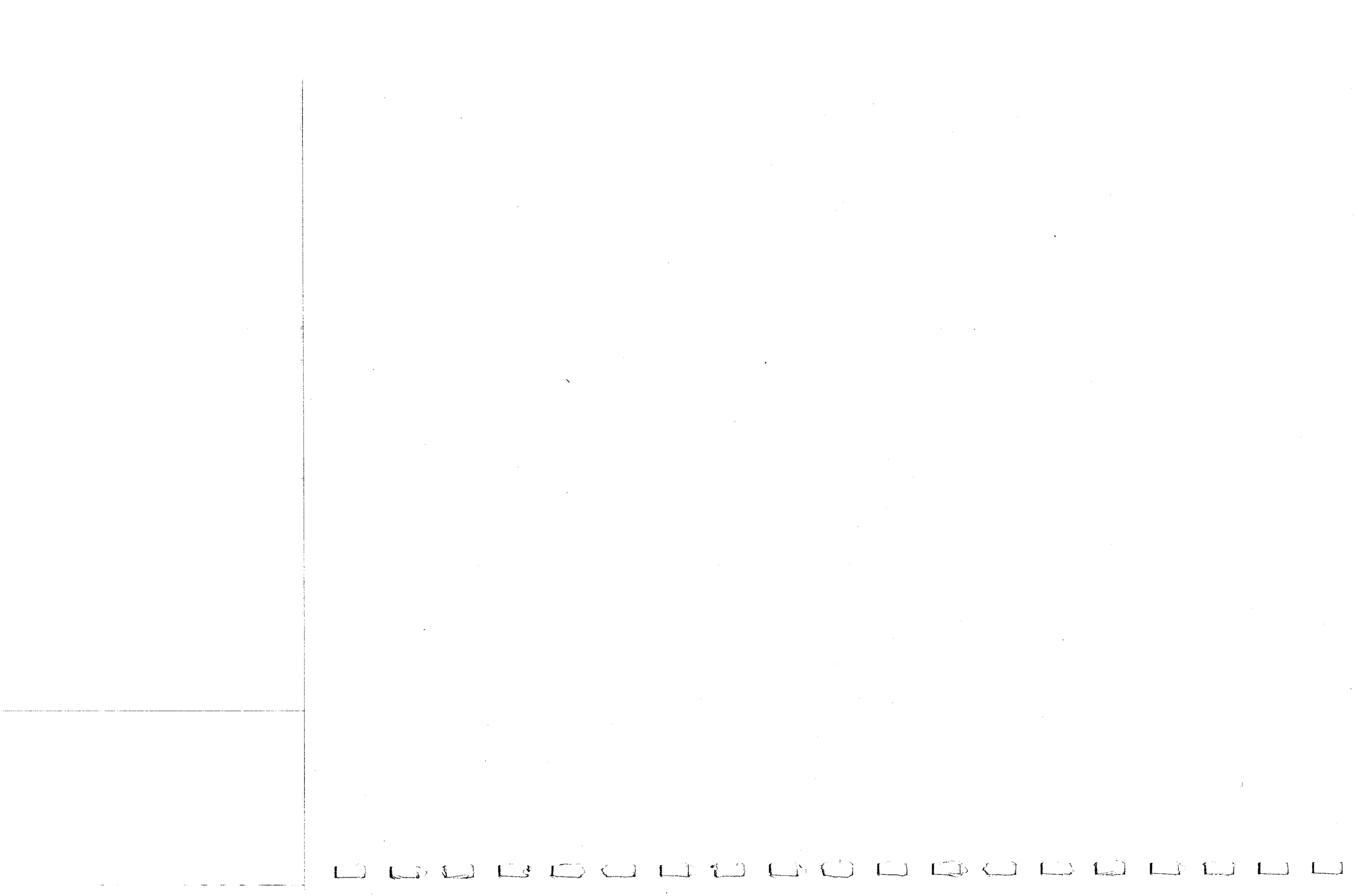
Site Access -

- Mr. Coffey say he has no knowledge of any active or inactive waste disposal areas on the property. He said he heard once that some low area may have been filled in but he doesn't know if municipal refuse was used for fill.

- There are no wells on the site.
- I indicated that SI would take place in ~~on~~ November. An exact date would be determined later.

—

ACTION ITEMS:
- Send address letter to Mr. Coffey
Hudson River Psychiatric Center
Rt. 9
Branch B
Poughkeepsie, N.Y.
Attn: Mr. Robert Coffey.



REFERENCE NO. 15

0019-C
02-8611-63

NUS CORPORATION AND SUBSIDIARIES — TELECON NOTE

CONTROL NO:	DATE:	TIME:
02-8611-63	3/17/87	1550

DISTRIBUTION:

File
Hudson River Psychiatric Center

BETWEEN:	OF:	PHONE:
Mr. Robert Coffey	HRPC	x120 (914) 452-8000

AND: Peter Morton

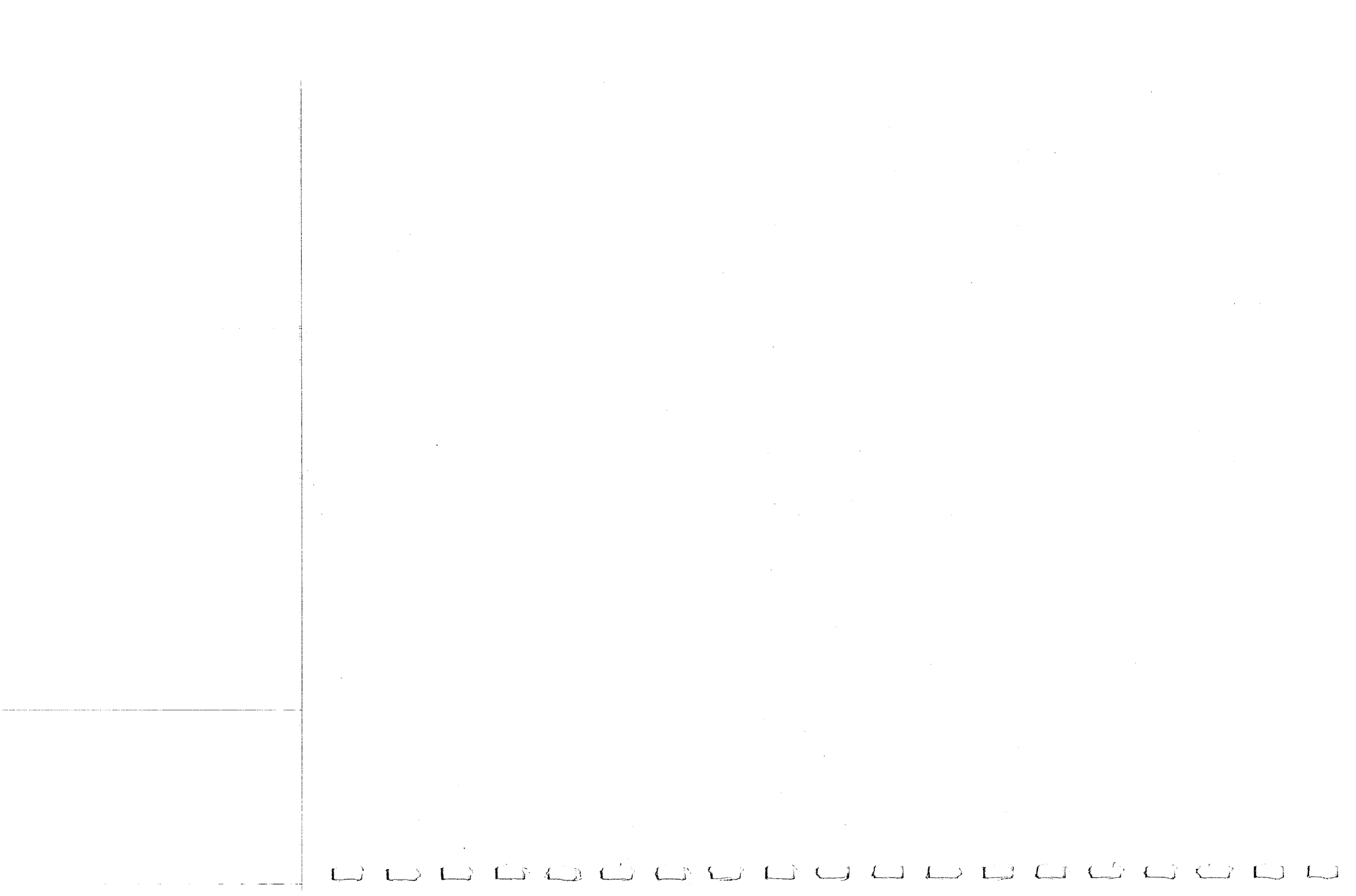
DISCUSSION:

I called Mr. Coffey about permits that the HRPC had when they were accepting waste. To the best of his knowledge, they had no permit - just a spoken agreement with the town

ACTION ITEMS:

NUS 067 REVISED 0685

REFERENCE NO. 16



NATIONAL FLOOD INSURANCE PROGRAM

FLOOD INSURANCE RATE MAP

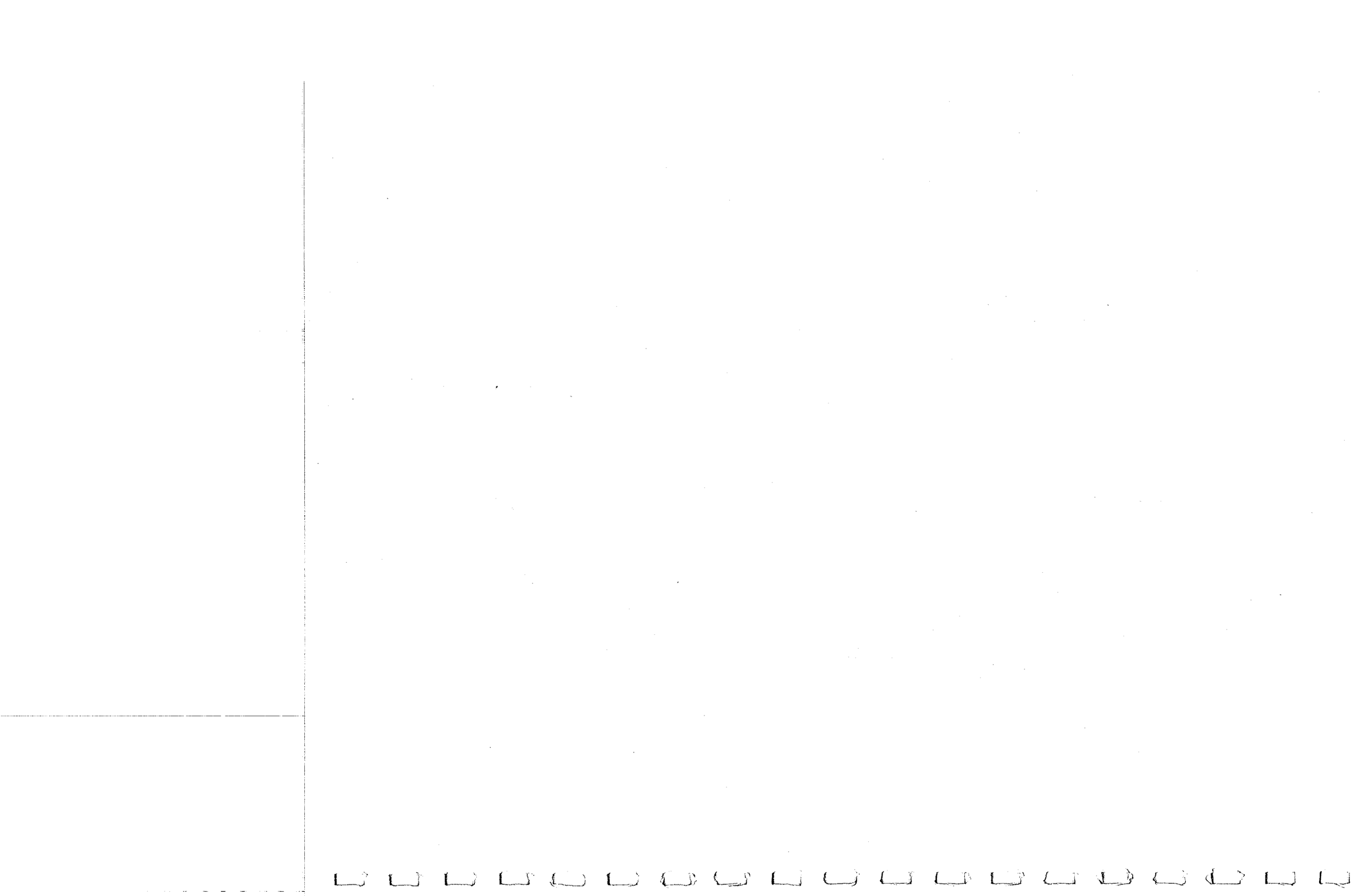
TOWN OF
POUGHKEEPSIE,
NEW YORK
DUTCHESS COUNTY

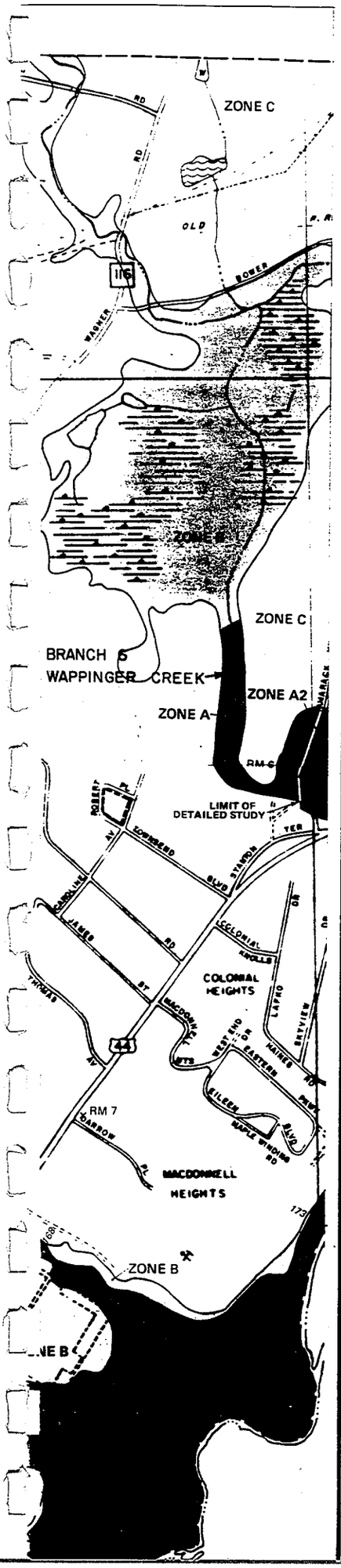
COMMUNITY-PANEL NUMBER
361142 0005 A

PAGE 5 OF 20
(SEE MAP INDEX FOR PAGES NOT PRINTED)

EFFECTIVE
NOVEMBER 15, 1978

U.S. DEPARTMENT OF HOUSING
AND URBAN DEVELOPMENT
FEDERAL INSURANCE ADMINISTRATION





KEY TO MAP

500-Year Flood Boundary

100-Year Flood Boundary

Zone Designations* With Date of Identification e.g., 12/2/74

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 RM7×

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.
A0	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.

NOTES TO USER

Certain areas not in the special flood hazard areas (zones A and V) may be protected by flood control structures.

This map is for flood insurance purposes only; it does not necessarily show all areas subject to flooding in the community or all planimetric features outside special flood hazard areas.

For adjoining map panels, see separately printed Index To Map Panels.

For Description of Elevation Reference Marks, See Panel 361142 0010

INITIAL IDENTIFICATION
NOVEMBER 29, 1974

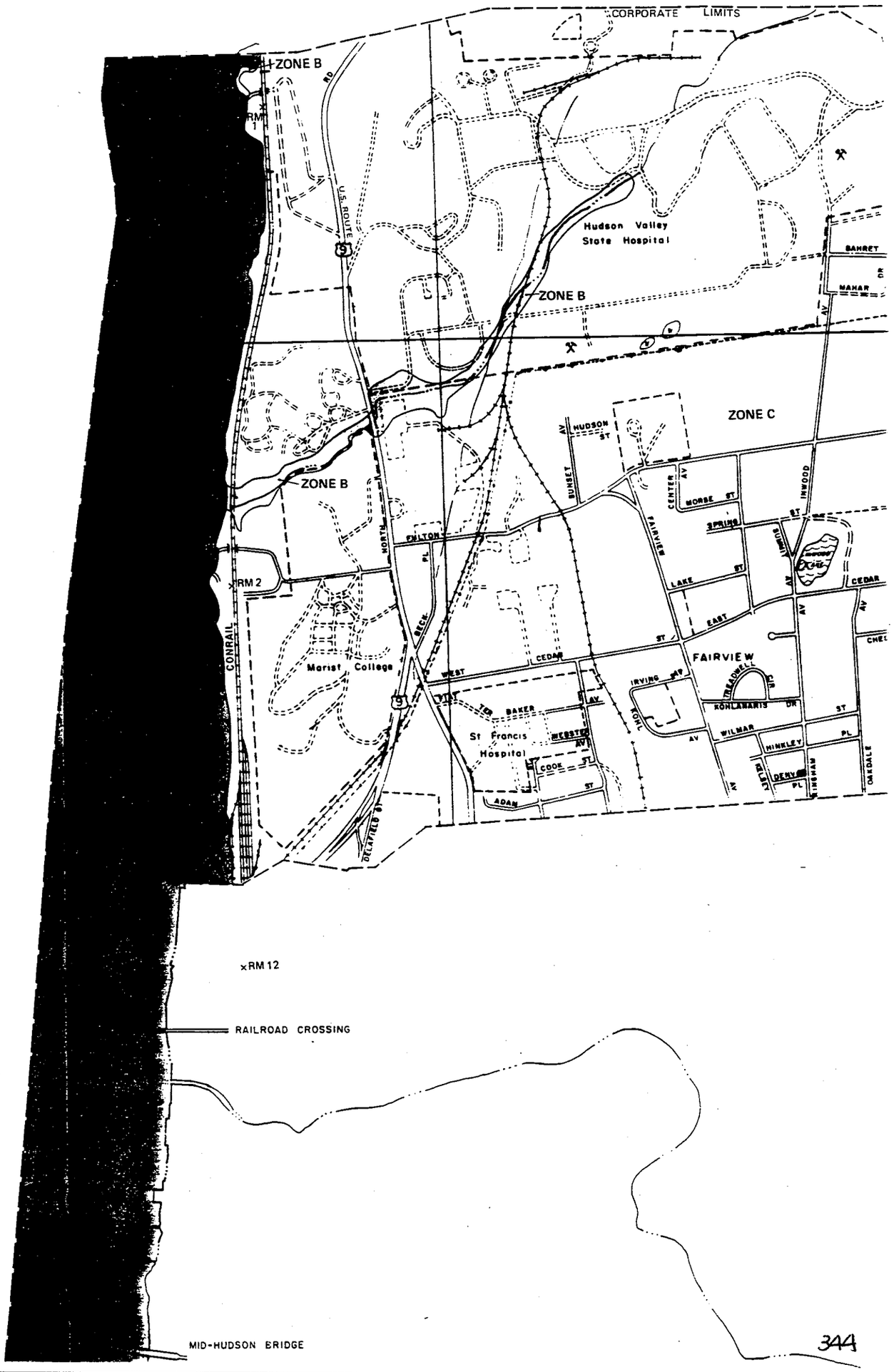
CONVERSION TO REGULAR PROGRAM
NOVEMBER 15, 1978

Refer to the CONVERSION TO REGULAR PROGRAM date shown on this map to determine when actuarial rates apply to structures in the zones where elevations or depths have been established.

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, or (800) 424-8872.

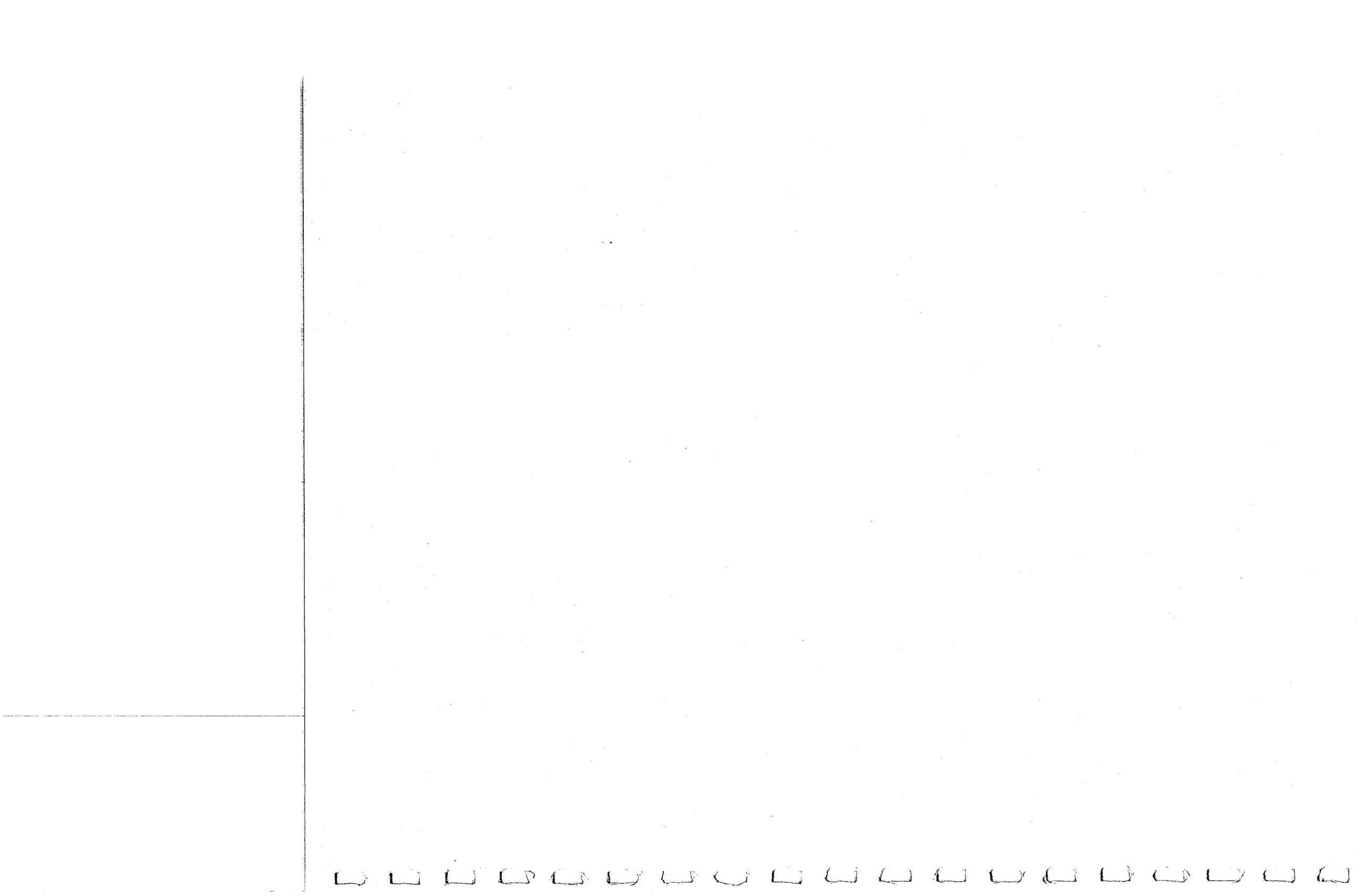
APPROXIMATE SCALE
800 0 800 FEET

REFERENCE NO. 17


CORPORATE LIMITS
ZONE B
RM 1
U.S. ROUTE 9
Hudson Valley State Hospital
ZONE B
ZONE C
ZONE B
RM 2
CONRAIL
Marist College
St Francis Hospital
FAIRVIEW
RM 12
RAILROAD CROSSING
MID-HUDSON BRIDGE

HAZARDOUS CHEMICALS DESK REFERENCE

N. Irving Sax / Richard J. Lewis, Sr.



SYNS: BENZHYDRAMINE HYDROCHLORIDE * 2-(BENZHYDRYLOXY)-n,n-DIMETHYLETHYLAMINEHYDROCHLORIDE * DIMETHYLAMINE BENZHYDRYL ESTER HYDROCHLORIDE * BETA-DIMETHYLAMINOETHYL BENZHYDRYL ETHER HYDROCHLORIDE * DIPHENYLHYDRAMINE HYDROCHLORIDE * 2-DIPHENYLMETHOXY-N,N-DIMETHYLETHYLAMINE HYDROCHLORIDE * ALPHA-HYDROXYDIPHENYLMETHANE-BETA-DIMETHYLAMINOETHYL ETHER HYDROCHLORIDE * NCI-C56075

THR: Poison by ingestion, subcutaneous, intravenous, and intraperitoneal routes. A suspected carcinogen. See also esters, ethers. When heated to decomposition, it emits very toxic fumes of NO_x and HCl.

BENTONITE **HR: 3**
CAS: 1302-78-9 NIOSH: CT 9450000

PROP: A clay containing appreciable amounts of the clay mineral montmorillonite; light yellow or green, cream, pink, gray to black, plastic, insol in water and common organic solvents.

SYNS: ALBAGEL PREMIUM USP 4444 * MAG-BOND * MONTMORILLONITE * PANTHER CREEK BENTIONITE * SOUTHERN BENTONITE

THR: Poison by intravenous route. A general purpose food additive.

BENZ(e)ACEPHENANTHRYLENE HR: 3
CAS: 205-99-2 NIOSH: CU 1400000
mf: $C_{20}H_{12}$ mw: 252.32

PROP: mp: 168°.

SYNS: 3,4-BENZ(E)ACEPHENANTHRYLENE * 2,3-BENZFLUORANTHENE * 3,4-BENZFLUORANTHENE * BENZO(B)FLUORANTHENE * 2,3-BENZOFLUORANTHENE

THR: An experimental carcinogen. Mutagenic data. When heated to decomposition, it emits acrid smoke and irritating fumes.

BENZACINE HYDROCHLORIDE HR: 3
CAS: 71-79-4 NIOSH: DD 3150000
mf: $C_{18}H_{21}O_3ClH$ mw: 403.28

SYNS: DIMETHYLAMINOETHYLDIPHENYLHYDROXYACETATEHYDROCHLORIDE * DIMETHYL-N-ETHYL BENZILATE, HYDROCHLORIDE * BETA-DIMETHYLAMINOETHYL BENZILATE HYDROCHLORIDE * 2-(DIMETHYLAMINO)ETHYL BENZILATE HYDROCHLORIDE * DIMETHYLAMINOETHYL BENZYLATE HYDROCHLORIDE

THR: Poison by ingestion, intravenous, and intraperitoneal routes. When heated to decomposition it emits toxic fumes of HCl.

BENZ(c)ACRIDINE
CAS: 225-51-4 NIOSH: CU 2975000
mf: $C_{17}H_{11}N$ mw: 229.29

PROP: mp: 108°.

SYNS: 12-AZABENZ(A)ANTHRACENE * 3,4-BENZACRIDINE * 7,8-BENZACRIDINE (FRENCH) * 3,4-BENZOACRIDINE * ALPHA-CHRYSIDINE * ALPHA-NAPHTHACRIDINE

THR: An experimental carcinogen. Mutagenic data. When heated to decomposition, it emits toxic fumes of NO_x.

BENZ(c)ACRIDINE-7-CARBOXALDEHYDE HR: 3
CAS: 3301-75-5 NIOSH: CU 3100000
mf: $C_{18}H_{11}NO$ mw: 257.30

SYNS: 3,4-BENZACRIDINE-9-ALDEHYDE * 7-FORMYLBENZ(C)ACRIDINE * 7-FORMYLBENZO(C)ACRIDINE

THR: An experimental carcinogen. When heated to decomposition, it emits toxic fumes of NO_x.

BENZALDEHYDE HR: 3
CAS: 100-52-7 NIOSH: CU 4?75000
DOT: 1989
mf: C_7H_6O mw: 106.13

PROP: Refractive liquid. mp: −26°, bp: 179°, flash p: 148°F, d: 1.050 @ 15°/4 °, autoign temp: 377°F, vap press: 1 mm @ 26.2°, vap d: 3.65.

SYNS: ALMOND ARTIFICIAL ESSENTIAL OIL * ARTIFICIAL ALMOND OIL * BENZENECARBONAL * BENZOIC ALDEHYDE * NCI-C56133

DOT Classification: Combustible Liquid, Label: None

THR: Poison by ingestion and intraperitoneal routes. An allergen. Acts as a feeble local anesthetic. See also aldehydes. Local contact may cause contact dermatitis. Causes central nervous system depression in small doses and convulsions in larger doses. A skin irritant. Mutagenic data. Moderate fire hazard when exposed to heat or flame. To fight fire, use water (may be used as a blanket), alcohol, foam, dry chemical. Incompatible with oxidizers such as peroxy-



stion, intravenous, and in-
When heated to decomposi-
es of HCl.

NIOSH: CU 2975000
229.29

ANTHRACENE * 3,4-
BENZACRIDINE (FRENCH)
* ALPHA-CHRYSIDINE
IDINE

carcinogen. Mutagenic
decomposition, it emits

-CARBOXALDE-
HR: 3
NIOSH: CU 3100000
257.30

E-9-ALDEHYDE
CRIDINE * 7-FORMYL-

l carcinogen. When
ion, it emits toxic fumes

HR: 3
NIOSH: CU 4375000

13

id. mp: −26°, bp: 179°,
@ 15°/4 °, autoign
1 mm @ 26.2°, vap

AL ESSENTIAL OIL
* BENZENECAR-
YDE * NCI-C56133

ombustible Liquid,

and intraperitoneal
ts as a feeble local an-
s. Local contact may
auses central nervous
nall doses and convul-
kin irritant. Mutagenic
d when exposed to
re, use water (may
ohol, foam, dry chemi-
idizers such as peroxy-

formic acid. For further information, see Vol. 1, No. 8 of *DPIM Report*.

BENZALDEHYDE GREEN
HR: 3
CAS: 633-03-4 NIOSH: BP 6825000
mf: $C_{27}H_{33}N_2 \cdot HO_4S$ mw: 482.69

PROP: Bright green cryst.

SYNS: ANILINE GREEN * C.I. 42040 * C.I. BASIC GREEN 1, SULFATE (1:1)

THR: Poison by ingestion, intraperitoneal, and intravenous routes. A skin irritant. See also sulfates. When heated to decomposition, it emits very toxic fumes of NO_x and SO_x.

BENZALIN
HR: 3
CAS: 146-22-5 NIOSH: DF 2450000
mf: $C_{15}H_{11}N_3O_3$ mw: 281.29

SYNS: 1,3-DIHYDRO-7-NITRO-5-PHENYL-2H-1,4-BENZODIAZEPIN-2-ONE * EPIBENZALIN * NITRAZEPAM * 7-NITRO-5-PHENYL-2,3-DIHYDRO-1H-1,4-BENZODIAZEPIN-2-ONE

THR: Poison by intraperitoneal and intravenous routes. Moderately toxic by ingestion. Mutagenic data. When heated to decomposition it emits toxic fumes of NO_x.

BENZ(a)ANTHRACENE
HR: 3
CAS: 56-55-3 NIOSH: CV 9275000
mf: $C_{18}H_{12}$ mw: 228.30

PROP: Colorless leaflets or plates; bp: 400°, mp: 160°.

SYNS: BENZANTHRACENE * 1,2-BENZ(A)ANTHRACENE * 1,2-BENZANTHRENE * BENZOANTHRACENE * 1,2-BENZOANTHRACENE * BA * 1,2-BENZANTHRACENE * 1,2-BENZANTHRAZEN (GERMAN) * BENZANTHRENE * BENZO(A)ANTHRACENE * BENZO(A)PHENANTHRENE * BENZO(B)PHENANTHRENE * 2,3-BENZOPHENANTHRENE * 2,3-BENZPHENANTHRENE * NAPHTHANTHRACENE * TETRAPHENE

THR: An experimental carcinogen. Mutagenic data. It is found in oils, waxes, smoke, food, drugs. When heated to decomposition, it emits acrid smoke and irritating fumes.

BENZ(a)ANTHRACENE-1,2-DIHYDRODIOL
HR: 3
CAS: 60967-88-6 NIOSH: CW 1780000
mf: $C_{18}H_{14}O_2$ mw: 262.32

SYNS: BA-1,2-DIHYDRODIOL * TRANS-1,2-DIHYDROXY-1,2-DIHYDROBENZ(A)ANTHRACENE

THR: An experimental carcinogen. Mutagenic data. When heated to decomposition, it emits acrid smoke and irritating fumes.

BENZ(a)ANTHRACENE-3,4-DIHYDRODIOL
HR: 3
CAS: 60967-89-7 NIOSH: CW 1783000
mf: $C_{18}H_{14}O_2$ mw: 262.32

SYNS: TRANS-3,4-DIHYDRO-3,4-DIHYDROXYBENZO(A)ANTHRACENE * TRANS-3,4-DIHYDROXY-3,4-DIHYDROBENZ(A)ANTHRACENE

THR: An experimental carcinogen. Mutagenic data. When heated to decomposition, it emits acrid smoke and irritating fumes.

BENZ(a)ANTHRACENE-5,6-DIHYDRODIOL
HR: 3
CAS: 3719-37-7 NIOSH: CW 1786000
mf: $C_{18}H_{14}O_2$ mw: 262.32

SYNS: BA-5,6-DIHYDRODIOL * TRANS-5,6-DIHYDROXY-5,6-DIHYDROBENZ(A)ANTHRACENE

THR: An experimental carcinogen. Mutagenic data. When heated to decomposition, it emits acrid smoke and irritating fumes.

trans-BENZ(a)ANTHRACENE-8,9-DIHYDRODIOL
HR: 3
CAS: 34501-24-1 NIOSH: CW 1790000
mf: $C_{18}H_{14}O_2$ mw: 262.32

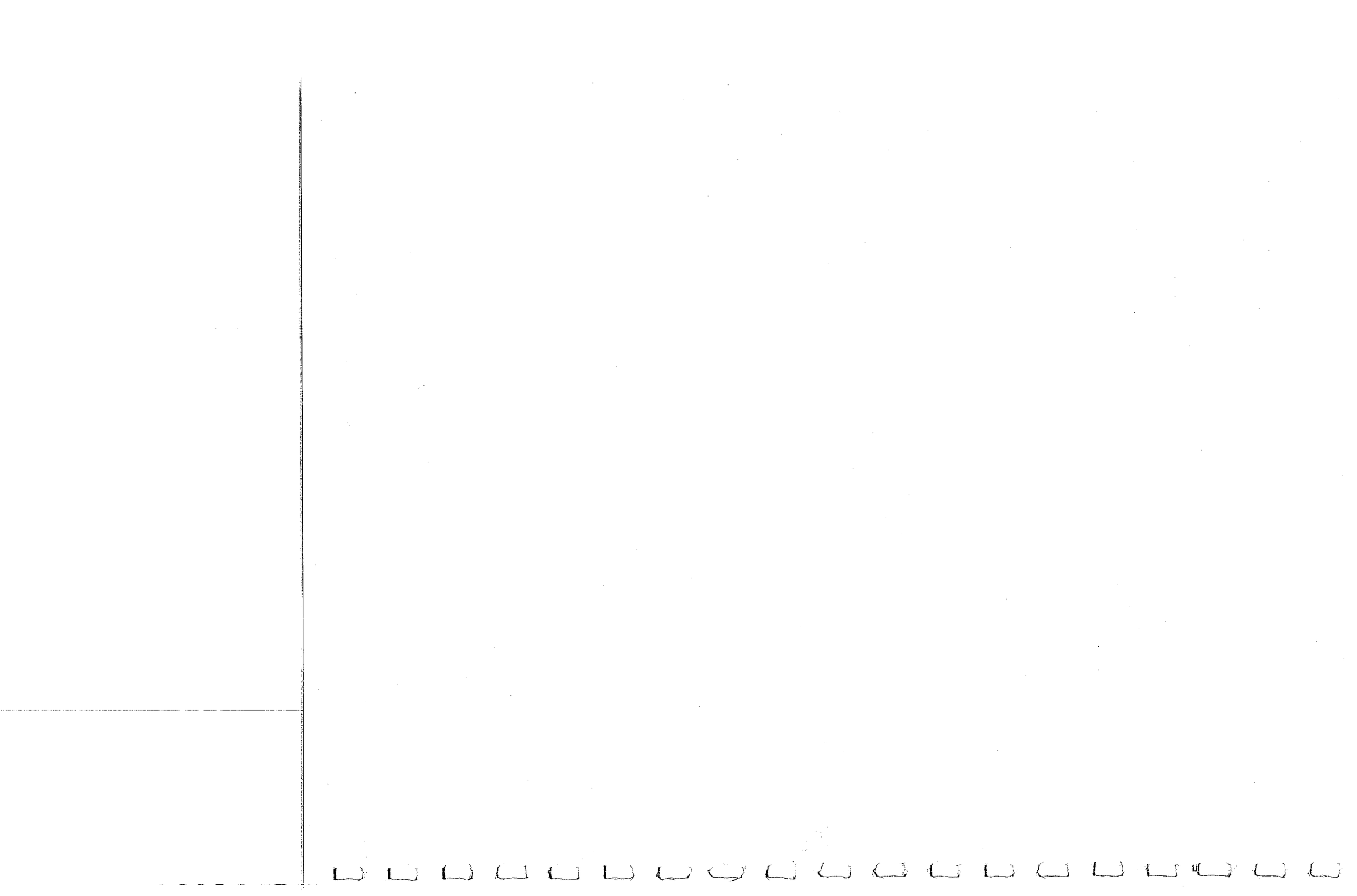
SYNS: BA-8,9-DIHYDRODIOL * TRANS-8,9-DIHYDROXY-8,9-DIHYDROBENZ(A)ANTHRACENE

THR: An experimental carcinogen. Mutagenic data. When heated to decomposition, it emits acrid smoke and irritating fumes.

BENZ(a)ANTHRACENE-10,11-DIHYDRODIOL
HR: 3
CAS: 60967-90-0 NIOSH: CW 1795000
mf: $C_{18}H_{14}O_2$ mw: 262.32

SYNS: BA-10,11-DIHYDRODIOL * TRANS-10,11-DIHYDROXY-10,11-DIHYDROBENZ(A)ANTHRACENE

THR: An experimental carcinogen. When heated to decomposition, it emits acrid smoke and irritating fumes.



THR: Moderately toxic by ingestion and intraperitoneal routes. See also ketones. Slight fire hazard when heated. Incompatible with oxidizers. When heated to decomposition, it emits acrid and irritating fumes. For further information, see Vol. 2, No. 1 of *DPIM Report*.

BENZO(a)PYRENE

CAS: 50-32-8 **HR: 3**
mf: $C_{20}H_{12}$ mw: 252.32 NIOSH: DJ 3675000

PROP: Yellow crystals insol in water, sol in benzene, toluene, xylene; mp: 179°, bp: 312° @ 10 mm.

SYNS: BENZO(D,E,F)CHRYSENE * 3,4-BENZOPIRENE (ITALIAN) * 3,4-BENZOPYRENE * 6,7-BENZOPYRENE * 3,4-BENZPYREN (GERMAN) * BENZ(A)PYRENE * 3,4-BENZ(A)PYRENE * 3,4-BENZYPYRENE

THR: A poison via subcutaneous route. An experimental carcinogen. A common air contaminant of water, food, and smoke. Mutagenic data. When heated to decomposition, it emits acrid smoke. For further information, see Vol. 5, No. 1 of *DPIM Report*.

BENZO(e)PYRENE

CAS: 192-97-2 **HR: 3**
mf: $C_{20}H_{12}$ mw: 252.32 NIOSH: DJ 4200000

SYNS: 1,2-BENZOPYRENE * 1,2-BENZPYRENE * 4,5-BENZOPYRENE

THR: An experimental carcinogen. Mutagenic data. When heated to decomposition, it emits acrid smoke and irritating fumes.

BENZO(a)PYRENE-6-CARBOXYALDEHYDE

CAS: 13312-42-0 **HR: 3**
mf: $C_{21}H_{12}O$ mw: 280.33 NIOSH: DJ 4910000

SYNS: 3,4-BENZPYRENE-5-ALDEHYDE * 6-FORMYLBENZO(A)PYRENE

THR: An experimental carcinogen. When heated to decomposition, it emits irritating fumes.

anti-BENZO(a)PYRENE-7,8-DIHYDRODIOL-9,10-OXIDE

HR: 3
mf: $C_{20}H_{14}O_3$ mw: 302.34 NIOSH: DJ 5050000

SYNS: ANTI-BP-7,8-DIHYDRODIOL-9,10-OXIDE * BENZO(A)PYRENE-7,8-DIHYDRODIOL-9,10-EXPOXIDE (ANTI) * BP-7,8-DIHYDRODIOL-9,10-EPOXIDE(ANTI)

THR: An experimental carcinogen. Mutagenic data. When heated to decomposition, it emits acrid smoke and irritating fumes.

BENZO(a)PYRENE-6-METHANOL

CAS: 21247-98-3 **HR: 3**
mf: $C_{21}H_{14}O$ mw: 282.35 NIOSH: DJ 6410000

SYN: 6-HYDROXYMETHYLBENZO(A)PYRENE

THR: An experimental carcinogen. Mutagenic data. When heated to decomposition, it emits irritating fumes.

BENZO(a)PYRENE-4,5-OXIDE

CAS: 37574-47-3 **HR: 3**
mf: $C_{20}H_{12}O$ mw: 268.32 NIOSH: DJ 7900000

SYNS: BENZO(A)PYRENE-4,5-EPOXIDE * BP-4,5-EPOXIDE

THR: An experimental carcinogen. Mutagenic data. When heated to decomposition, it emits acrid and irritating fumes.

BENZO(a)PYRENE-7,8-OXIDE

CAS: 36504-65-1 **HR: 3**
mf: $C_{20}H_{12}O$ mw: 268.32 NIOSH: DJ 7920000

SYNS: BENZO(A)PYRENE-7,8-EPOXIDE * 6-BETA,7-ALPHA-DIHYDROBENZO(10,11)-CHRYSENO(1,2-B)OXIRENE

THR: An experimental carcinogen. Mutagenic data. When heated to decomposition, it emits irritating fumes.

BENZO(a)PYRENE-9,10-OXIDE

CAS: 36504-66-2 **HR: 3**
mf: $C_{20}H_{12}O$ mw: 268.32 NIOSH: DJ 7929000

SYN: BP-9,10-OXIDE

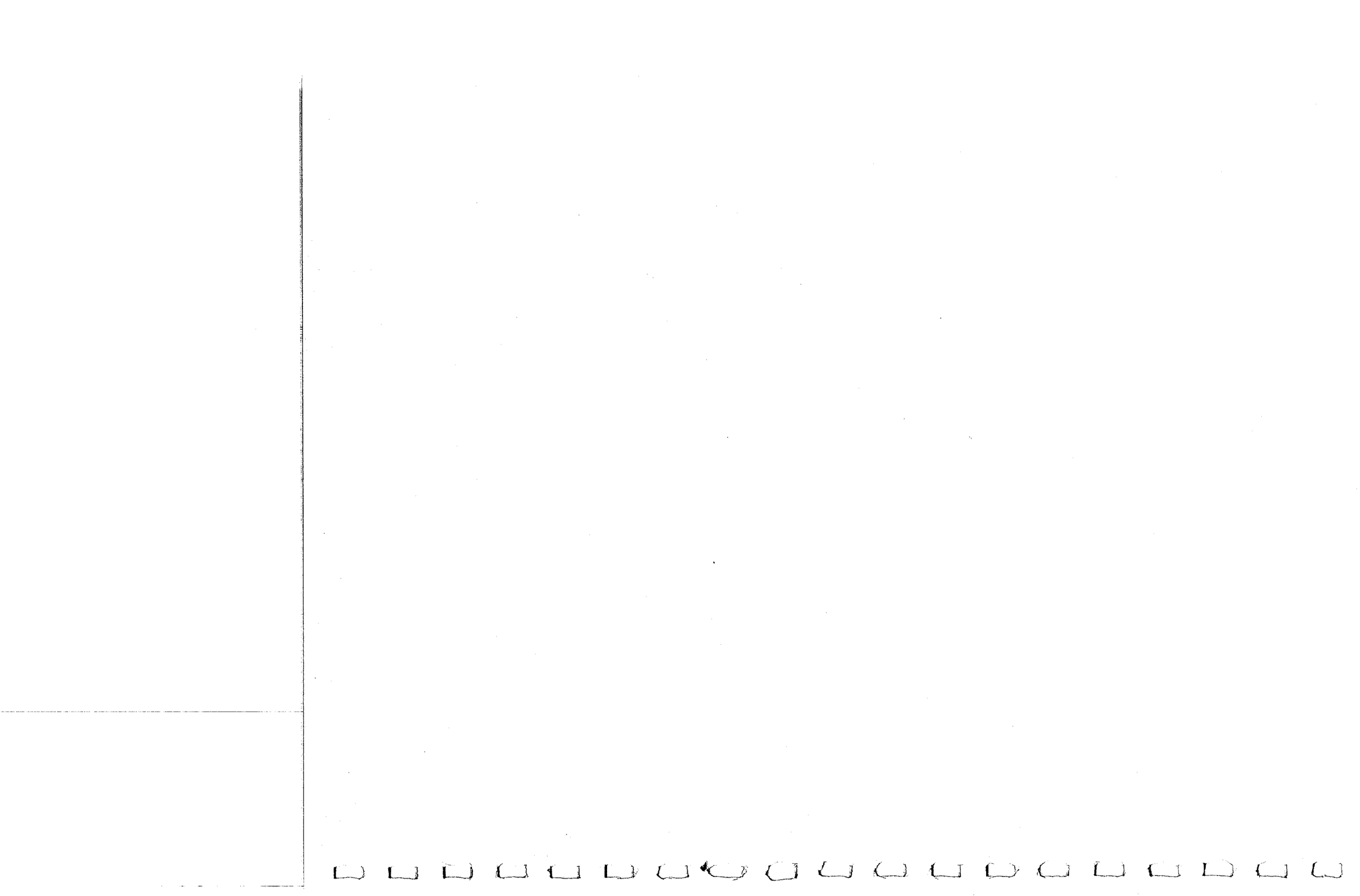
THR: An experimental carcinogen. Mutagenic data. When heated to decomposition, it emits acrid smoke and irritating fumes.

BENZO(a)PYRENE-11,12-OXIDE

CAS: 60448-19-3 **HR: 3**
mf: $C_{20}H_{12}O$ mw: 268.32 NIOSH: DJ 7940000

SYN: BP-11,12-OXIDE

THR: An experimental carcinogen. Mutagenic data. When heated to decomposition, it emits acrid smoke and irritating fumes.



react with water or steam to produce toxic and corrosive fumes; can react vigorously with oxidizing materials. To fight fire, use water, foam, CO_2, dry chemical. Incompatible with bleaching powder.

Treatment of local lesions is mainly by cleanliness and emollients, similar to that of burns. Oils protect the skin only slightly. Immediately after exposure, the poison may be partly removed by scrubbing the victim with kerosene, but penetration is so rapid that this treatment is not successful if delayed for 15 to 30 minutes.

BIS(2-CHLOROETHYL)SULFONE HR: 3

CAS: 471-03-4 NIOSH: WR 3325000
mf: $C_4H_8Cl_2O_2S$ mw: 191.08

SYNS: BIS(BETA-CHLOROETHYL)SULFONE * MUSTARD GAS SULFONE * MUSTARD SULFONE * YPERITE SULFONE

THR: A poison via intravenous and subcutaneous routes. Moderately toxic via inhalation. See also sulfonates. When heated to decomposition, it emits very toxic fumes of Cl^- and SO_x.

BIS(2-CHLOROISOPROPYL) ETHER HR: 3

CAS: 108-60-1 NIOSH: KN 1750000
DOT: 2490
mf: $C_6H_{12}Cl_2O$ mw: 171.08

PROP: Colorless liquid. bp: 187.8°, fp: −20°, flash p: 185°F (OC), d: 1.11 @ 25°/25°, vap d: 6.0, vap press: 0.10 mm @ 20°.

SYNS: BIS(2-CHLORO-1-METHYLETHYL) ETHER * (2-CHLORO-1-METHYLETHYL) ETHER * DICHLORODIISOPROPYL ETHER * 2,2′-DICHLOROISOPROPYL ETHER * NCI-C50044

DOT Classification: Label: Corrosive

THR: Poison by ingestion; moderately toxic by skin absorption and inhalation. See also ethers. Moderate fire hazard when exposed to heat, flame, or powerful oxidizers. See ethers for explosion hazard. Dangerous; when heated to decomposition, emits highly toxic fumes of chlorides. To fight fire, use water to blanket fire; foam, CO_2, dry chemical. Incompatible with oxidizing materials. For further information, see Vol. 6, No. 3 of *DPIM Report*.

BIS-1,2-(CHLOROMETHOXY)-ETHANE HR: 3

CAS: 13483-18-6 NIOSH: KH 5450000
mf: $C_4H_8Cl_2O_2$ mw: 159.02

PROP: Viscous liquid; bp: 99°-100° @ 22 mm, d: 1.2879 @ 14°/15°.

SYN: ETHYLENE GLYCOL BIS(CHLOROMETHYL)-ETHER

THR: An experimental neoplastigen and carcinogen. See also ethers. When heated to decomposition, it emits toxic fumes of Cl^-. For further information see Vol. 1, No. 5 of *DPIM Report*.

1,4-BIS(CHLOROMETHOXYMETHYL)-BENZENE HR: 3

CAS: 56894-91-8 NIOSH: CY 8420000
mf: $C_{10}H_{12}Cl_2O_2$ mw: 235.12

SYN: BIS-1,4-(CHLOROMETHOXY)-P-XYLENE

THR: An experimental carcinogen, neoplastigen, and tumorigen. When heated to decomposition, it emits toxic fumes of Cl^-.

BIS(CHLOROMETHYL) ETHER HR: 3

CAS: 542-88-1 NIOSH: KN 1575000
mf: $C_2H_4Cl_2O$ mw: 114.96

PROP: Volatile liquid; bp: 105°, d: 1.315 @ 20°, vap d: 4.0. flash p: <19°.

SYNS: CHLORO(CHLOROMETHOXY)METHANE * DICHLORDIMETHYLAETHER (GERMAN) * SYM-DICHLORO-DIMETHYL ETHER * DIMETHYL-1,1′-DICHLOROETHER * OXYBIS-(CHLOROMETHANE)

ACGIH TLV: TWA 0.001 ppm

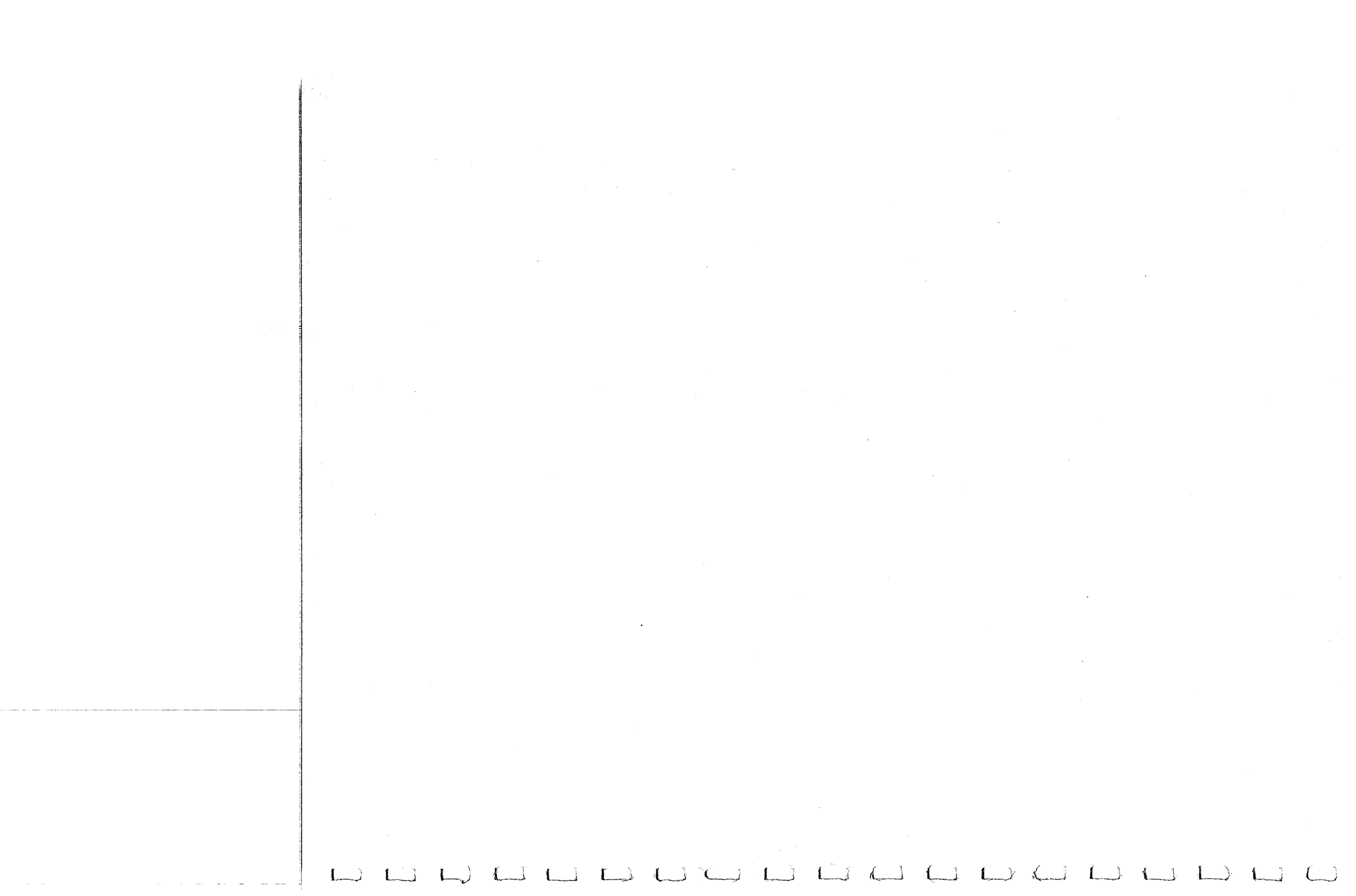
THR: Poison by inhalation, ingestion, and skin absorption. See also ethers. An experimental and human carcinogen, neoplastigen, and tumorigen. Mutagenic data. When heated to decomposition, it emits very toxic fumes of Cl^-. For further information, see Vol. 6, No. 3 of *DPIM Report*.

1,1-BIS(4-CHLOROPHENYL)-2,2-DICHLOROETHANE HR: 3

CAS: 72-54-8 NIOSH: KI 0700000
mf: $C_{14}H_{10}Cl_4$ mw: 320.04

PROP: Crystalline solid; mp: 110°, vap d: 11.

SYNS: 1,1-BIS(P-CHLOROPHENYL)-2,2-DICHLOROETHANE * 2,2-BIS(P-CHLOROPHENYL)-1,1-DICHLOROETHANE * 2,2-BIS(4-CHLOROPHENYL)-1,1-DICHLOROETHANE * p,p′-DDD * 1,1-DICHLOOR-2,2-BIS(4-CHLOOR FENYL)-ETHAAN (DUTCH) * 1,1-DICHLOR-2,2-BIS(4-



CHLOR-PHENYL)-AETHAN (GERMAN) * 1,1-DICHLORO-2,2-BIS(P-CHLOROPHENYL)ETHANE * 1,1-DICHLORO-2,2-BIS(4-CHLOROPHENYL)-ETHANE (FRENCH) * 1,1-DICHLORO-2,2-BIS-(PARACHLOROPHENYL)ETHANE * 1,1-DICHLORO-2,2-DI(4-CHLOROPHENYL)ETHANE * P,P′-DICHLORODIPHENYLDICHLOROETHANE * 1,1-DICLORO-2,2-BIS(4-CLORO-FENIL)-ETANO (ITALIAN) * ENT 4,225 * NCI-C00475 * TETRACHLORODIPHENYLETHANE

THR: Poison by ingestion. Experimental tumorigen, neoplastigen, carcinogen. Mutagenic data. Moderate skin toxicity. See also DDT. When heated to decomposition, it emits toxic fumes of Cl^-. For further information, see Vol. 5, No. 3 of *DPIM Report*.

2,2-BIS(p-CHLOROPHENYL)-1,1-DICHLOROETHYLENE

HR: 3

CAS: 72-55-9 NIOSH: KV 9450000
mf: $C_{14}H_8Cl_4$ mw: 318.02

SYNS: 1,1-DICHLORO-2,2-BIS(P-CHLOROPHENYL)ETHYLENE * P,P′-DICHLORODIPHENYL DICHLOROETHYLENE * 1,1′-DICHLORO-ETHENYLIDENE)BIS(4-CHLOROBENZENE) * NCI-C00555

THR: An experimental carcinogen and neoplastigen. Moderately toxic by ingestion. Mutagenic data. When heated to decomposition, it emits very toxic fumes of Cl^-.

1,1-BIS(p-CHLOROPHENYL)-2,2,2-TRICHLOROETHANOL

HR: 3

CAS: 115-32-2 NIOSH: DC 8400000
mf: $C_{14}H_9Cl_5O$ mw: 370.48

PROP: Material used in cancer bioassay was 40-60% pure

SYNS: 1,1-BIS(4-CHLOROPHENYL)-2,2,2-TRICHLOROETHANOL * 4-CHLORO-ALPHA-(4-CHLOROPHENYL)-ALPHA-(TRICHLOROMETHYL)BENZENEMETHANOL * DI-(P-CHLOROPHENYL)TRICHLOROMETHYLCARBINOL * 4,4′-DICHLORO-ALPHA-(TRICHLOROMETHYL)BENZHYDROL * ENT 23,648 * KELTHANETHANOL * NCI-C00486 * 2,2,2-TRICHLOOR-1,1-BIS(4-CHLOOR FENYL)-ETHANOL (DUTCH) * 2,2,2-TRICHLOR-1,1-BIS(4-CHLOR-PHENYL)-AETHANOL (GERMAN) * 2,2,2-TRICHLORO-1,1-BIS(4-CHLOROPHENYL)-ETHANOL (FRENCH) * 2,2,2-TRICHLORO-1,1-BIS(4-CLORO-FENIL)-ETANOLO (ITALIAN) * 2,2,2-TRICHLORO-1,1-DI-(4-CHLOROPHENYL)ETHANOL

THR: Acute poison by ingestion and skin absorption. An experimental carcinogen. Moderate acute toxicity via intraperitoneal route. When heated to decomposition, it emits toxic fumes of Cl^-.

BIS(2-CHLOROVINYL)CHLORO ARSINE

HR: 3

CAS: 40334-69-8 NIOSH: CG 8350000
mf: $C_4H_4AsCl_3$ mw: 233.35

SYN: LEWISITE II

THR: A dermal and subcutaneous poison. See also arsenic compounds. When heated to decomposition, it emits very toxic fumes of As and Cl^-.

BIS(beta-CYANOETHYL)AMINE

HR: 3

CAS: 111-94-4 NIOSH: UG 2975000
mf: $C_6H_9N_3$ mw: 123.18

PROP: Liquid; mp: −5.5°, bp: 173° @ 10 mm, d: 1.0165 @ 30°, vap d: 3.3.

SYNS: BIS-(2-CYANOETHYL)AMINE * N,N-BIS(2-CYANOETHYL)AMINE * DI-(2-CYANOETHYL)AMINE * IMINO-BETA,BETA′-DIPROPIONITRILE * BETA,BETA-IMINODIPROPIONITRILE * BETA,BETA′-IMINODIPROPIONITRILE * 3,3′-IMINODIPROPIONITRILE * USAF A-8564

THR: A poison via intraperitoneal route. Moderately toxic by ingestion and skin absorption. An eye irritant. See also nitriles and amines. When heated to decomposition, it emits toxic fumes of NO_x.

cis-BIS(CYCLOPENTYLAMMINE)-PLATINUM(II)

HR: 3

CAS: 38780-36-8 NIOSH: TP 2210000
mf: $C_{10}H_{22}Cl_2N_2Pt$ mw: 436.33

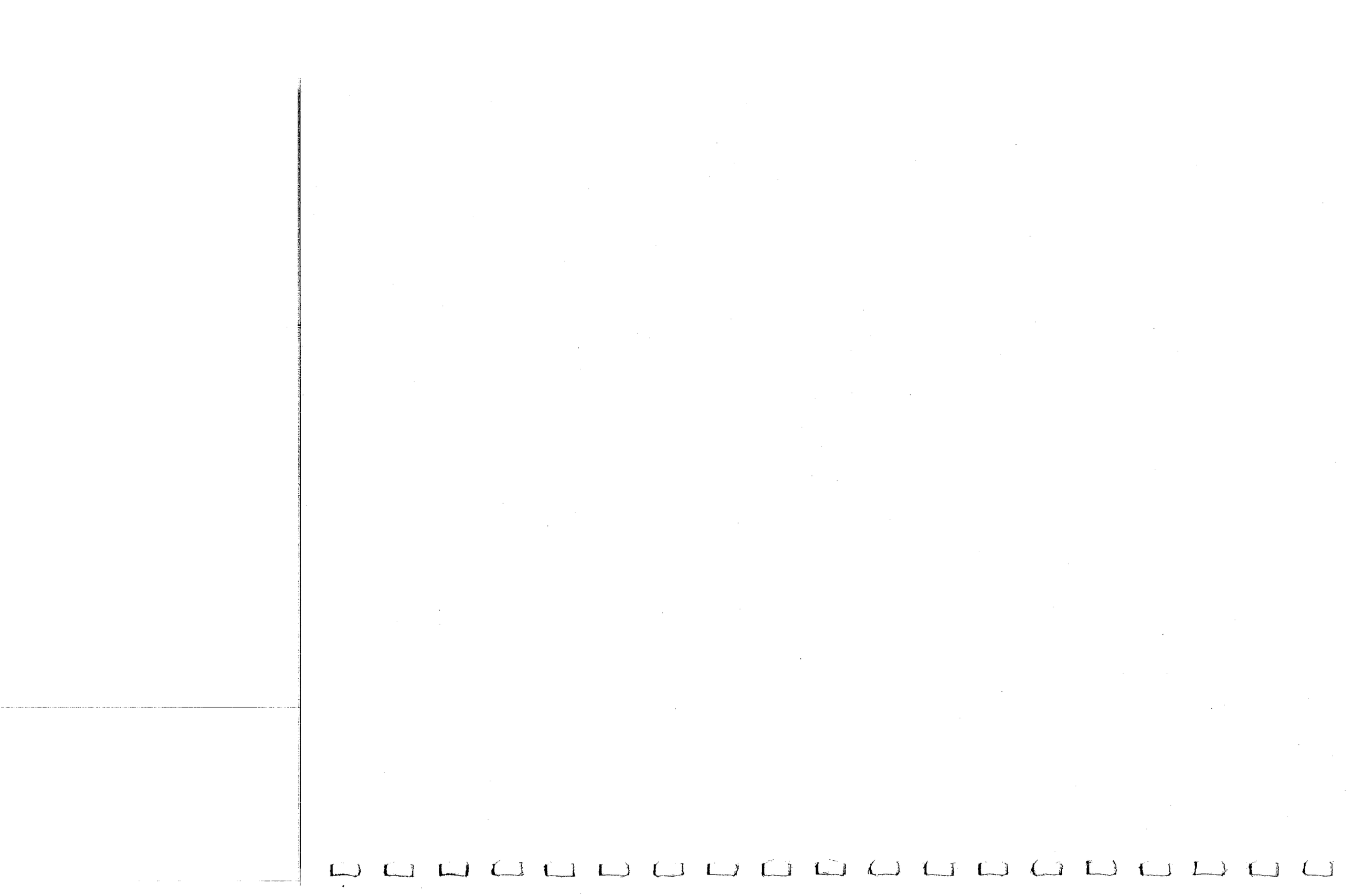
SYNS: CIS-DICHLOROBIS(CYCLOPENTYLAMMINE)-PLATINUM(II) * CIS-DICYCLOPENTYLAMMINE-DICHLOROPLATINUM (II)

THR: An experimental carcinogen. Mutagenic data. See also platinum compounds. When heated to decomposition, it emits very toxic fumes of Cl^- and NO_x.

BIS(DECANOYLOXY)DI-n-BUTYLSTANNANE

HR: 3

CAS: 3465-75-6 NIOSH: WH 6715310
mf: $C_{28}H_{56}O_4Sn$ mw: 575.53



No. 1 of *DPIM Re-*

HR: 3
NIOSH: HA 5360000
94.61

metabolite of *asper-*

intraperitoneal, and
ated to decomposi-
of NO_x.

HR: 3
OSH: DE 1590000
-5-BIS(beta-
IDAZOLYL-)BUTTER-
AN) * gamma-
LOROAETHYL) AMINO-
ERHYDROCHLORID-

ratogen, and carcino-
intraperitoneal routes.
ition it emits very
x.

HR: 3
OSH: RP 5945000
$H_{13}N$ mw: 378.33

CYCLOHEXYLAMMO-
ROETHYL)AMINO)-
INE CYCLOHEXYL-
-CHLOROETHYL)-
HORODIAMIDATE,
* NCI-C04922
RODIAMIDIC ACID,
'-3-HYDROXYLPRO-

ogen, carcinogen,
ted to decomposition
iO_x, PO_x and Cl^-.

D

D&C RED NO. 5
HR: 3
CAS: 3761-53-3 NIOSH: QJ 6825000
mf: $C_{18}H_{14}N_2O_7S_2 \cdot 2Na$ mw: 480.44

SYNS: C.I. ACID RED 26 * C.I. FOOD RED 5 * 3-HYDROXY-4-(2,4-XYLYLAZO)-2,7-NAPHTHALENEDISULFONIC ACID, DISODIUM SALT * 4-((2,4-DIMETHYLPHENYL)AZO)-3-HYDROXY-2,7-NAPHTHALENEDISULFONIC ACID, DISODIUM SALT * DISODIUM (2,4-DIMETHYLPHENYLAZO)-2-HYDROXYNAPHTHALENE-3,6-DISULFONATE * DISODIUM (2,4-DIMETHYLPHENYLAZO)-2-HYDROXYNAPHTHALENE-3,6-DISULPHONATE * DISODIUM SALT OF 1-(2,4-XYLYLAZO)-2-NAPHTHOL-3,6-DISULFONIC ACID * DISODIUM SALT OF 1-(2,4-XYLYLAZO)-2-NAPHTHOL-3,6-DISULPHONIC ACID * 1-XYLYLAZO-2-NAPHTHOL-3,6-DISULFONIC ACID, DISODIUM SALT * 1-(2,4-XYLYLAZO)-2-NAPHTHOL-3,6-DISULPHONIC ACID, DISODIUM SALT

THR: An experimental carcinogen and tumorigen. Moderately toxic by intraperitoneal route. When heated to decomposition it emits very toxic NO_x and SO_x.

DACARBAZINE
HR: 3
CAS: 4342-03-4 NIOSH: NI 3950000
mf: $C_6H_{10}N_6O$ mw: 182.22

SYNS: 4-(3,3-DIMETHYL-1-TRIAZENO)IMIDAZOLE-5-CARBOXAMIDE * 4-(5)-(3,3-DIMETHYL-1-TRIAZENO)IMIDAZOLE-5(4)-CARBOXAMIDE * 5-(3,3-DIMETHYL-1-TRIAZENO)IMIDAZOLE-4-CARBOXAMIDE * NCI-C04717 * NSC-45388

THR: An experimental carcinogen. Moderately toxic. Human blood and gastrointestinal system effects by intravenous route. When heated to decomposition it emits toxic fumes of NO_x.

DALMANE
HR: 3
CAS: 1172-18-5 NIOSH: DF 0875000
mf: $C_{21}H_{23}ClFN_3O \cdot 2ClH$ mw: 460.84

SYNS: 7-CHLORO-1-(2-(DIETHYLAMINO)ETHYL)-5-(O-FLUOROPHENYL)-2H-1,4-BENZODIAZEPIN-2-ONE * DALMADORM HYDROCHLORIDE * FLURAZEPAM HYDROCHLORIDE

THR: Poison by intravenous and intraperitoneal routes. Moderately toxic by ingestion and other routes. Habituating and possibly addictive. When heated to decomposition it emits very toxic fumes of HCl, F^-, NO_x, and Cl^-.

DANIFOS
HR: 3
CAS: 7173-84-4 NIOSH: TE 8400000
mf: $C_{11}H_{16}ClO_3PS_2$ mw: 326.81

SYNS: S-((P-CHLOROPHENYLTHIO)METHYL) O,O-DIETHYL PHOSPHORODITHIOATE * O,O-DIETHYL-S-P-CHLOROPHENYL THIOMETHYLPHOSPHOROTHIOATE

THR: Poison by ingestion and skin contact. When heated to decomposition it emits very toxic fumes of Cl^-, PO_x and SO_x.

DAUNOMYCIN
HR: 3
PROP: Isolated from cultures of a *Streptomyces*.

CAS: 20830-81-3 NIOSH: HB 7875000
mf: $C_{27}H_{29}NO_{10}$ mw: 527.57

PROP: Thin red needles. mp: 190° (decomp).

SYNS: DAUNORUBICIN * LEUKAEMOMYCIN C * NCI-C04693 * NSC-82151 * STREPTOMYCES PEUCETIUS

THR: Poison by ingestion, subcutaneous, intravenous, and intraperitoneal routes. An experimental carcinogen and teratogen. Mutagenic data. When heated to decomposition it emits toxic fumes of NO_x. For further information, see Vol. 1, No. 3 of *DPIM Report*.

DCDD
HR: 3
CAS: 33857-26-0 NIOSH: HP 3100000
mf: $C_{12}H_6Cl_2O_2$ mw: 253.08

PROP: Colorless cryst; mp: 210°.

SYNS: 2,7-DICHLORODIBENZO-p-DIOXIN * 2,7-DICHLORODIBENZODIOXIN * NCI-C03667

THR: An experimental carcinogen and teratogen. An eye irritant. When heated to decomposition it emits toxic fumes of Cl^-.

DDT
HR: 3
CAS: 50-29-3 NIOSH: KJ 3325000
DOT: 2761
mf: $C_{14}H_9Cl_5$ mw: 354.48

PROP: Colorless crystals or white to slightly off-white powder. Odorless or with slight aromatic odor. Mp: 108.5°-109°.

SYNS: alpha,alpha-BIS(P-CHLOROPHENYL)-beta,beta,beta-TRICHLORETHANE * 2,2-BIS(p-CHLOROPHENYL)-1,1,1-TRICHLOROETHANE * CHLOROPHENOTHANE * p,p'-DDT * p,p'-DICHLORODIPHENYLTRICHLOROETHANE * 4,4'-DICHLORODIPHENYLTRICHLOROETHANE * DIPHENYLTRICHLOROETHANE * ENT 1,506 * NCI-C00464 * 1,1,1-TRICHLOOR-2,2-BIS(4-CHLOOR FENYL)-ETHAAN (DUTCH) * 1,1,1-TRICHLOR-2,2-BIS(4-CHLOR-PHENYL)-AETHAN (GERMAN) * 1,1,1-TRICHLORO-2,2-DI(4-CHLOROPHENYL)-ETHANE * 1,1,1-TRICLORO-2,2-BIS(4-CLORO-FENIL)-ETANO (ITALIAN)

OSHA PEL: TWA 1 mg/m^3 (skin)
ACGIH TLV: TWA: 1 mg/m^3
DFG MAK: 1 mg/m^3
DOT Classification: ORM-A

THR: Poison by ingestion, skin contact, subcutaneous, intravenous, and intraperitoneal routes. Central nervous system effects. An experimental carcinogen, teratogen, and mutagen. See also chlorinated hydrocarbons. DDT and certain of its degradation products, particularly DDE, are stored in fat. This storage effect leads to a concentration of DDT at higher levels of the food chain. A single oral dose of 20g in man produced highly dangerous long term effects, but was not fatal. Common solution formulations of DDT are much more dangerous. Less is known about chronic doses. A common air contaminant. DDT stored in the fat is at least largely inactive since a greater total dose may be stored in an experimental animal than is sufficient as a lethal dose for that same animal if given at one time. A study based on 75 human cases reported an average of 5.3 ppm of DDT stored in the fat. A higher content of DDT and its derivatives (up to 434 ppm of DDE and 648 ppm of DDT) was found in workers who had very extensive exposure. Without exception, the samples were taken from persons who were either asymptomatic or suffering from some disease completely unrelated to DDT. Careful hospital examination of workers, who had been very extensively exposed and who had volunteered for examination revealed no abnormality which could be attributed to DDT. Much higher levels than have been found in man have been observed in the fat of experimental animals which were apparently asymptomatic. DDT stored in the fat is eliminated only very gradually when further dosage is discontinued. After a single dose, the secretion of DDT in the milk and its excretion in the urine reach their height within a day or two and continue at a lower level thereafter. Dangerous acute dose in man: A dose of 20 g has proved highly dangerous though not fatal to man. This dose was taken by 5 persons who vomited an unknown portion of the material and even so recovered only incompletely after 5 weeks. Smaller doses produced less important symptoms with relatively rapid recovery. Experimental ingestion of 1.5 g resulted in great discomfort and moderate neurological changes including paraesthesia, tremor, moderate ataxia, exaggeration of part of the reflexes, headache, and fatigue. Vomiting followed only after 11 hours. Recovery was complete on the following day. The fatal dose of DDT for man is not known. Judging from the literature, no one has ever been killed by DDT in the absence of other insecticides and/or a variety of toxic solvents. However, these common solvent formulations are highly fatal when taken in small doses, partly because of the toxicity of the solvent, and perhaps because of the increased absorbability of the DDT; several fatal cases in man have been reported. Acute oral toxicity for man = 250 mg/kg. Acute oral LD_{50} (rat) = 113 mg/kg (technical grade). Federal fruit and vegetable tolerance = 7 ppm. Dangerous chronic dose in man: Even less is known of the hazard of chronic DDT poisoning. It is known that certain experimental animals fed diets containing one part of DDT per million store the compound in their fat. The storage of DDT in man has been mentioned above. The exact significance of these findings is not known and their further investigation is of the greatest importance. Human volunteers have ingested up to 35 mg/day for 21 months with no noticed ill effects. For further information see Vol. 5, No. 1 of *DPIM Report*.

DECABORANE(14)

HR: 3

CAS: 17702-41-9 NIOSH: HD 1400000
DOT: 1868
mf: $B_{10}H_{14}$ mw: 122.24

PROP: Colorless needles. Mp: 99.7°, d: 0.94. (solid), d: 0.78 (liquid @ 100°), vap press: 19 mm @ 100°.

SYNS: DECABORANE (DOT) * BORON HYDRIDE

OSHA PEL: TWA 300 ug/m^3 (skin)
ACGIH TLV: TWA: 0.05 ppm; STEL 0.15 ppm

PROP: 2,4,5,2′,4′,5′-hexabromobiphenyl is the predominant isomer

SYNS: 2,4,5,2′,4′,5′-HEXABROMOBIPHENYL * POLYBROMINATED BIPHENYL

THR: An experimental neoplastigen. When heated to decomposition it emits very toxic fumes of Br^-.

FLUANISONE HYDROCHLORIDE

HR: 3

CAS: 17160-71-3 NIOSH: EU 3675000
mf: $C_{21}H_{25}FN_2O_2 \cdot ClH$ mw: 392.94

SYNS: 4′-FLUORO-4-(4-(O-METHOXYPHENYL)-1-PIPERAZINYL)BUTYROPHENONE,HYDROCHLORIDE * ANTI-PICA * HALOANISONE COMPOSITUM

THR: A poison by subcutaneous, intraperitoneal, and intravenous routes. When heated to decomposition it emits very toxic HCl, NO_x and F^-.

FLUOMINE DUST

HR: 3

CAS: 62207-76-5 NIOSH: GG 0575000
mf: $C_{16}H_{12}CoF_2N_2O_2$ mw: 361.23

SYNS: N,N′-ETHYLENEBIS(3-FLUOROSALICYLIDENEIMINATO) COBALT (II) * N,N′-ETHYLENE BIS(3-FLUORO SALICYLIDENEIMINATO)COBALT (II)

THR: A poison by ingestion and inhalation. See also cobalt compounds. When heated to decomposition it emits very toxic fumes of F^- and NO_x.

FLUORACIZINE

HR: 3

CAS: 30223-48-4 NIOSH: SO 4700000
mf: $C_{20}H_{21}F_3N_2OS$ mw: 394.49

SYN: 10-DIETHYLAMINOPROPIONYL-3-TRIFLUOROMETHYL PHENOTHIAZINE HYDROCHLORIDE

THR: An experimental teratogen. When heated to decomposition it emits very toxic SO_x, NO_x and F^-.

FLUORANTHENE

HR: 3

CAS: 206-44-0 NIOSH: LL 4025000
mf: $C_{16}H_{10}$ mw: 202.26

PROP: A polycyclic hydrocarbon. Colorless solid, mp: 120°, bp: 367°, vap press: 0.01 mm @ 20°.

SYNS: BENZO(JK)FLUORENE * IDRYL * 1,2-(1,8-NAPHTHYLENE)BENZENE

THR: A poison by intravenous route. Moderately toxic by ingestion and skin contact. An experimental tumorigen. Mutagenic data. Combustible when exposed to heat or flame. When heated to decomposition it emits acrid smoke and fumes.

FLUOREN-2-AMINE

HR: 3

CAS: 153-78-6 NIOSH: LL 5075000
mf: $C_{13}H_{11}N$ mw: 181.25

SYNS: AMINOFLUOREN (GERMAN) * 2-AMINOFLUORENE * 2-FLUORENAMINE * 2-FLUORENEAMINE

THR: An experimental carcinogen and neoplastigen. Mutagenic data. When heated to decomposition it emits toxic fumes of NO_x.

N-FLUOREN-2-YL ACETAMIDE

HR: 3

CAS: 53-96-3 NIOSH: AB 9450000
mf: $C_{15}H_{13}NO$ mw: 223.29

SYNS: 2-ACETAMIDOFLUORENE * N-ACETYL-2-AMINOFLUORENE

THR: Mutagenic data. An experimental brain carcinogen, neoplastigen, and teratogen. Moderately toxic by ingestion. When heated to decomposition it emits toxic fumes of NO_x. For further information see Vol. 5, No. 5 of *DPIM Report*.

N-FLUOREN-2-YL BENZO HYDROXAMIC ACID

HR: 3

CAS: 3671-71-4 NIOSH: DG 0350000
mf: $C_{20}H_{15}NO_2$ mw: 301.36

SYN: N-HYDROXY-N-2-FLUORENYLBENZAMIDE

THR: An experimental carcinogen. When heated to decomposition it emits toxic fumes such as NO_x.

N-FLUOREN-2-YL-2,2,2-TRIFLUORO ACETAMIDE

HR: 3

CAS: 363-17-7 NIOSH: AC 1050000
mf: $C_{15}H_{10}F_3NO$ mw: 277.26

SYNS: N-(2-FLUORENYL)-2,2,2-TRIFLUOROACETAMIDE * 2-TRIFLUOROACETYLAMINOFLUORENE * 2,2,2-TRIFLUORO-N-(FLUOREN-2-YL) ACETAMIDE

THR: An experimental carcinogen. See also fluorides. When heated to decomposition it emits very toxic F^- and NO_x.

N

NABAM

HR: 3

CAS: 142-59-6 NIOSH: FA 6825000
mf: $C_4H_6N_2S_4 \cdot 2Na$ mw: 256.34

PROP: Crystals, sol in water.

SYNS: DI-NATRIUM-AETHYLENBISDITHIOCARBAMAT (GERMAN) * DINATRIUM-(N,N′-AETHYLEN-BIS(DITHIOCARBAMAT)) (GERMAN) * DINATRIUM-(N,N′-ETHYLEEN-BIS(DITHIOCARBAMAAT)) (DUTCH) * DISODIUM ETHYLENEBIS(DITHIOCARBAMATE) * N,N′-ETHYLENE BIS(DITHIOCARBAMATE DE SODIUM) (FRENCH) * ETHYLENEBIS(DITHIOCARBAMATE), DISODIUM SALT * ETHYLENEBIS(DITHIOCARBAMIC ACID) DISODIUM SALT * N,N′-ETILENBIS(DITIOCARBAMMATO) DI SODIO (ITALIAN) * DISODIUM ETHYLENE-1,2-BISDITHIOCARBAMATE * NABAME (FRENCH) * PARZATE

THR: Poison by ingestion. Moderately toxic by intraperitoneal route. See also carbamates. When heated to decomposition it emits very toxic fumes of Na_2O, NO_x and SO_x.

NAPHAZOLINE

HR: 3

CAS: 835-31-4 NIOSH: NJ 4200000
mf: $C_{14}H_{14}N_2$ mw: 210.27

SYNS: ALPHA-NAPHTHYLMETHYL IMIDAZOLINE * 2-(ALPHA-NAPHTHYLMETHYL)-IMIDAZOLINE * 2-(1-NAPHTHYLMETHYL)-2-IMIDAZOLINE

THR: Poison by subcutaneous and intravenous routes. When heated to decomposition it emits toxic fumes of NO_x.

NAPHTHA, COAL TAR

HR: 2

CAS: 8030-30-6 NIOSH: QI 9450000

PROP: Dark straw-colored to colorless liquid. Sol in benzene, toluene, xylene, etc.; bp: 149°-216°, flash p: 107°F (CC), d: 0.862-0.892, autoign temp: 531°F.

SYNS: BENZIN * 160 DEGREE BENZOL * COAL TAR NAPHTHA DISTILLATE * LIGHT LIGROIN * NAFTA (POLISH) * NAPHTHA * NAPHTHA, PETROLEUM * PETROLEUM BENZIN * PETROLEUM NAPHTHA

OSHA PEL: TWA 100 ppm

THR: Moderately toxic by inhalation. Can cause unconsciousness which may go to coma, stentorious breathing, and bluish tint to the skin. Recovery follows removal from exposure. In mild form, intoxication resembles drunkenness. On a chronic basis, no true poisoning; sometimes headache, lack of appetite, dizziness, sleeplessness, indigestion, and nausea. A common air contaminant. See also mineral oils. Flammable when exposed to heat or flame; can react with oxidizing materials. Keep containers tightly closed. Slight explosion hazard. To fight fire, use foam, CO_2, dry chemical.

NAPHTHALENE

HR: 3

CAS: 91-20-3 NIOSH: QJ 0525000
DOT: 1334/2304
mf: $C_{10}H_8$ mw: 128.18

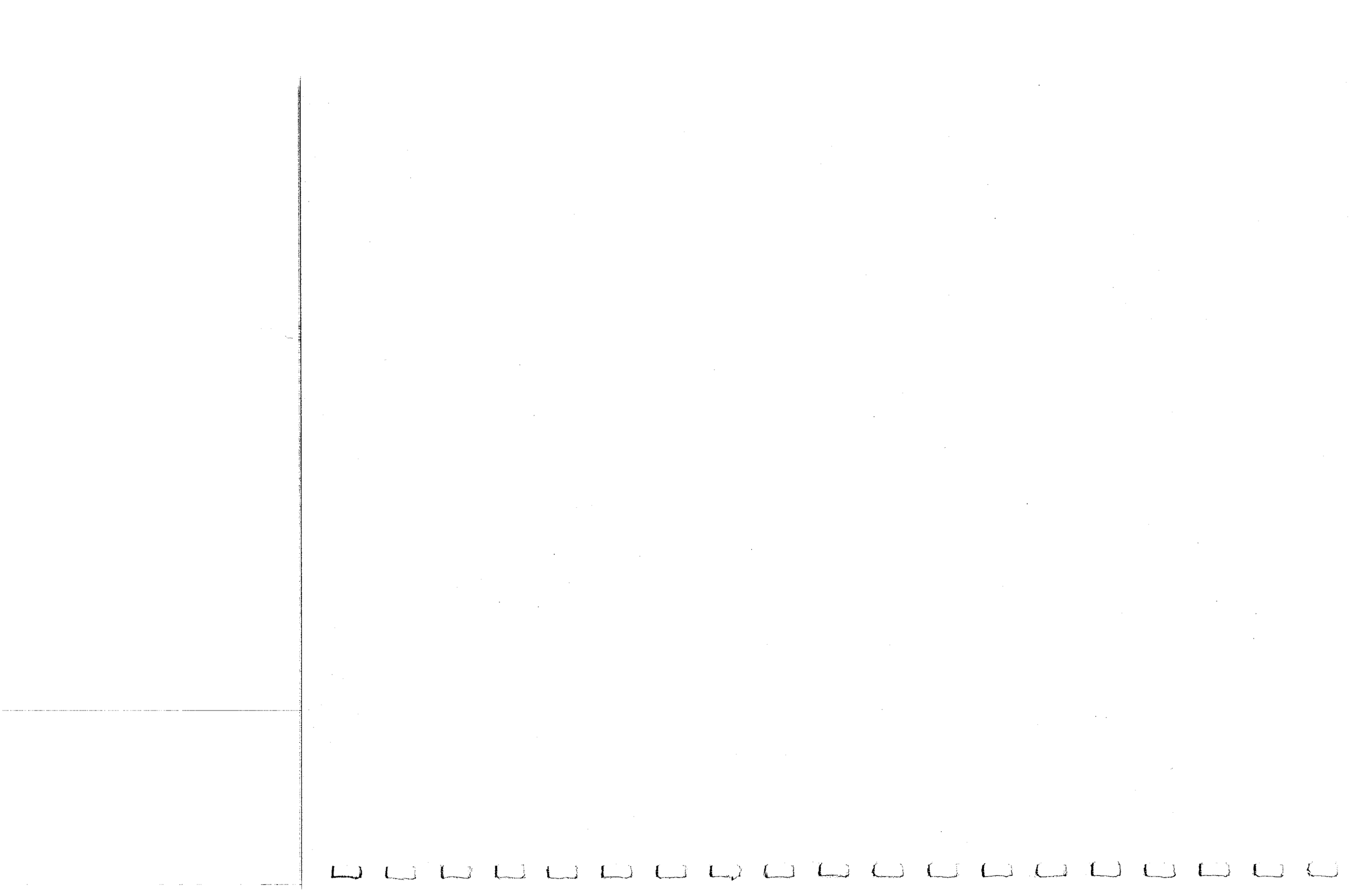
PROP: Aromatic odor, white, crystalline, volatile flakes; mp: 80.1°, bp: 217.9°, flash p: 174°F (OC), d: 1.162, lel = 0.9%, uel = 5.9%, vap press: 1 mm @ 52.6°, vap d: 4.42; autoign temp: 1053°F (567°C); sol in alc, benzene. Insol in water; very sol in ether, CCl_4, CS_2 hydronaphthalenes, in fixed and volatile oils.

SYNS: CAMPHOR TAR * MOTH BALLS * MOTH FLAKES * NAFTALEN (POLISH) * NAPHTHALINE * NAPHTHENE * NCI-C52904 * TAR CAMPHOR * WHITE TAR

OSHA PEL: TWA 10 ppm
ACGIH TLV: TWA 10 ppm; STEL 15 ppm
DFG MAK: 10 ppm (50 mg/m^3)
DOT Classification: ORM-A (IMO Flammable Solid); Label: None

THR: Poison by ingestion, intravenous, and intraperitoneal routes. An eye and skin irritant. Can cause nausea, headache, diaphoresis, hematuria, fever, anemia, liver damage, vomiting, convulsions, and coma. Poisoning may occur by ingestion of large doses, inhalation, or skin absorption. Flammable when exposed to heat or flame; reacts with oxidizing materials. Reacts violently with CrO_3. Moderate explosion hazard in the form of dust, when exposed to heat or flame. To fight fire, use water, CO_2, dry chemical. Incompatible with dinitrogen pentaoxide. For further information see Vol. 5, No. 4 of *DPIM Report*.

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POLYCAPROLACTAM HR: 3

CAS: 25038-54-4 NIOSH: TQ 9800000

mf: $(C_6H_{11}NO)_n$

SYNS: POLY(EPSILON-AMINOCAPROIC ACID) * POLYCAPROAMIDE * POLY(EPSILON-CAPROAMIDE) * POLY(IMINOCARBONYLPENTAMETHYLENE) * POLY(EPSILON-CAPROLACTAM) * POLY(IMINO(1-OXO-1,6-HEXANEDIYL)) * 6-AMINOHEXANOIC ACID HOMOPOLYMER * HEXAHYDRO-2H-AZEPIN-2-ONE HOMOPOLYMER * CAPROLACTAM OLIGOMER * CAPROLACTAM POLYMER * EPSILON-CAPROLACTAM POLYMER * EPSILON-CAPROLACTAM POLY-MERE (GERMAN) * NYLON-6

THR: An experimental neoplastigen and carcinogen. Slightly toxic by inhalation. When heated to decomposition it emits toxic fumes of NO_x.

POLYCHLORINATED BIPHENYLS HR: 3

CAS: 1336-36-3 NIOSH: TQ 1350000

PROP: Bp: 340°-375°, flash p: 383°F (COC), d: 1.44 @ 30°. For toxicity information, see individual mixtures below. A series of technical mixtures consisting of many isomers and compounds that vary from mobile oily liquids to white crystalline solids and hard noncrystalline resins. Technical products vary in composition, in the degree of chlorination and possibly according to batch.

SYNS: AROCLOR * CHLOPHEN * CHLORINATED BIPHENYL * CHLORINATED DIPHENYL * CHLORINATED DIPHENYLENE * CHLOREXTOL * CHLORO BIPHENYL * CHLORO-1,1-BIPHENYL * CLOPHEN * KANECHLOR S * NOFLAMOL * PCBS * PHENOCHLOR * POLYCHLORINATED BIPHENYL * POLYCHLOROBIPHENYL * PYRALENE * PYRANOL * SANTOTHERM * THERMINOL FR-1

THR: Poison by ingestion, inhalation, and skin contact. A suspected human carcinogen. Like the chlorinated naphthalenes, the chlorinated diphenyls have two distinct actions on the body, namely, a skin effect and a toxic action on the liver. This hepato toxic action of the chlorinated diphenyls appears to be increased if there is exposure to carbon tetrachloride at the same time. The higher the chlorine content of the diphenyl compound, the more toxic is it liable to be. Oxides of chlorinated diphenyls are more toxic than the unoxidized materials. In persons who have suffered systemic intoxication, the usual signs and symptoms are nausea, vomiting, loss of weight, jaundice, edema and abdominal pain. Where the liver damage has been severe the patient may pass into coma and die. Combustible when exposed to heat or flame. When heated to decomposition they emit highly toxic fumes. For further information see PCB's, Vol. 3, No. 4 of *DPIM Report*.

POLYCHLORINATED BIPHENYL (AROCLOR 1221) HR: 3

CAS: 11104-28-2 NIOSH: TQ 1352000

SYNS: AROCHLOR 1221 * CHLORODIPHENYL (21% Cl)

THR: Suspected human carcinogen. Moderately toxic by ingestion and skin contact. When heated to decomposition it emits toxic fumes of Cl^-.

POLYCHLORINATED BIPHENYL (AROCLOR 1232) HR: 3

CAS: 11141-16-5 NIOSH: TQ 1354000

SYNS: AROCLOR 1232 * CHLORODIPHENYL (32% Cl)

THR: Suspected human carcinogen. Moderately toxic by skin contact. When heated to decomposition it emits toxic fumes of Cl^-.

POLYCHLORINATED BIPHENYL (AROCLOR 1242) HR: 3

CAS: 53469-21-9 NIOSH: TQ 1356000

SYNS: AROCHLOR 1242 * AROCLOR 1242 * CHLORIERTE BIPHENYLE, CHLORGEHALT 42% (GERMAN) * CHLORODIPHENYL (42% Cl) * CLORODIFENILI, CLORO 42% (ITALIAN) * DIPHENYLE CHLORE, 42% DE CHLORE (FRENCH) * GECHLOREERDEDIFENYL (DUTCH)

OSHA PEL: TWA 1 mg/m^3 (skin)

THR: Poison by subcutaneous route. Suspected human carcinogen. Human systemic irritant effects by inhalation. Moderately toxic by ingestion. When heated to decomposition it emits toxic fumes of Cl^-. For further information see Chlorinated Diphenyls, Vol. 1, No. 3 of *DPIM Report*.

POLYCHLORINATED BIPHENYL (AROCLOR 1248) HR: 3

CAS: 12672-29-6 NIOSH: TQ 1358000

SYNS: AROCLOR 1248 * CHLORODIPHENYL (48% cl)

THR: An experimental teratogen. A suspected human carcinogen. Moderately toxic by skin contact. When heated to decomposition it emits toxic fumes of Cl^-. For further information see Chlorinated Diphenyls, Vol. 1, No. 3 of *DPIM Report*.

POLYCHLORINATED BIPHENYL (AROCLOR 1254)

HR: 3

CAS: 11097-69-1 NIOSH: TQ 1360000

PROP: Composed of 11% tetra-, 49% penta-, 34% hexa- and 6% heptachlorobiphenyls.

SYNS: AROCHLOR 1254 * AROCLOR 1254 * CHLORIERTE BIPHENYLE, CHLORGEHALT 54% (GERMAN) * CHLORODIPHENYL (54% cl) * CLORODIFENILI, CLORO 54% (ITALIAN) * DIPHENYLE CHLORE, 54% DE CHLORE (FRENCH) * NCI-c02664

OSHA PEL: TWA 500 ug/m^3 (skin)

THR: Poison by intravenous route. An experimental neoplastigen and carcinogen. Moderateiy toxic by ingestion and intraperitoneal route. When heated to decomposition it emits toxic fumes of Cl^-. For further information see Chlorinated Diphenyls, Vol. 1, No. 3 of *DPIM Report*.

POLYCHLORINATED BIPHENYL (AROCLOR 1260)

HR: 3

CAS: 11096-82-5 NIOSH: TQ 1362000

PROP: Composed of 12% penta-, 38% hexa-, 41% hepta-, 8% octa- and 1% nonachlorobiphenyls.

SYNS: AROCHLOR 1260 * AROCLOR 1260 * CLOPHEN A60 * CHLORODIPHENYL (60% Cl) * PHENOCLOR DP6

THR: A suspected human carcinogen. An experimental carcinogen. Moderately toxic by ingestion and skin contact. When heated to decomposition it emits highly toxic Cl^-. For further information see Chlorinated Diphenyls, Vol. 1, No. 3 of *DPIM Report*.

POLYCHLORINATED BIPHENYL (AROCLOR 1262)

HR: 3

CAS: 37324-23-5 NIOSH: TQ 1364000

SYNS: AROCLOR 1262 * CHLORODIPHENYL (62% Cl)

THR: A suspected human carcinogen. Moderately toxic by skin contact. When heated to decomposition it emits toxic fumes of Cl^-. For further information see Chlorinated Diphenyls, Vol. 1, No. 3 of *DPIM Report*.

POLYCHLORINATED BIPHENYL (AROCLOR 1268)

HR: 3

CAS: 11100-14-4 NIOSH: TQ 1366000

SYNS: AROCLOR 1268 * CHLORODIPHENYL (68% Cl)

THR: A suspected human carcinogen. Moderately toxic by skin contact. When heated to decomposition it emits toxic fumes of Cl^-. For further information see Chlorinated Diphenyls, Vol. 1, No. 3 of *DPIM Report*.

POLYCHLORINATED BIPHENYL (KANECHLOR 300)

HR: 3

CAS: 37353-63-2 NIOSH: TQ 1372000

PROP: Average content: 60% trichlorobiphenyl, 23% tetrachlorobiphenyl, 17% dichlorobiphenyl, 1% pentachlorobiphenyl.

SYN: KANECHLOR 300

THR: A suspected human carcinogen. When heated to decomposition it emits toxic fumes of Cl^-. For further information see Chlorinated Diphenyls, Vol. 1, No. 3 of *DPIM Report*.

POLYCHLORINATED BIPHENYL (KANECHLOR 400)

HR: 3

CAS: 12737-87-0 NIOSH: TQ 1374000

PROP: Average content: 44% tetrachlorbiphenyl, 33% trichlorobiphenyl, 16% pentachlorobiphenyl, 5% hexachlorobiphenyl, 3% dichlorobiphenyl.

SYN: KANECHLOR 400

THR: A suspected human carcinogen. Human skin systemic effects by ingestion. An experimental neoplastigen. When heated to decomposition it emits toxic fumes of Cl^-. For further information see Chlorinated Diphenyls, Vol. 1, No. 3 of *DPIM Report*.

POLYCHLORINATED BIPHENYL (KANECHLOR 500)

HR: 3

CAS: 37317-41-2 NIOSH: TQ 1376000

PURAPURIDINE
HR: 3
CAS: 126-17-0 NIOSH: WF 1300000
mf: $C_{27}H_{43}NO_2$ mw: 413.71

SYNS: SOLASOD-5-EN-3-BETA-OL * SOLANCARPIDINE

THR: Poison by intraperitoneal route. Moderately toxic by ingestion. An experimental teratogen. When heated to decomposition it emits toxic fumes of NO_x.

PURINE-6-THIOL
HR: 3
CAS: 50-44-2 NIOSH: UO 9800000
mf: $C_5H_4N_4S$ mw: 152.19

SYNS: LEUKERAN * 6-MERCAPTOPURINE * 7-MERCAPTO-1,3,4,6-TETRAZAINDENE * NCI-C04886 * NSC 755 * 6-PURINETHIOL

THR: Poison by ingestion, intraperitoneal, subcutaneous, parenteral, intravenous, and other unspecified routes. Mutagenic data. An experimental teratogen and tumorigen. Human toxicity of an unspecified source. When heated to decomposition it emits very toxic fumes of SO_x and NO_x.

PYRAZINECARBOXAMIDE
HR: 3
CAS: 98-96-4 NIOSH: UQ 2275000
mf: $C_5H_5N_3O$ mw: 123.13

SYNS: 2-CARBAMYL PYRAZINE * NCI-C01785 * PYRAZINAMIDE * PYRAZINEAMIDE * PYRAZINE CARBOXYLAMIDE * PYRAZINOIC ACID AMIDE

THR: A carcinogen and an experimental tumorigen. Mutagenic data. Moderately toxic by intraperitoneal route. When heated to decomposition it emits toxic fumes of NO_x.

PYRENE
HR: 3
CAS: 129-00-0 NIOSH: UR 2450000
mf: $C_{16}H_{10}$ mw: 202.26

PROP: Colorless solid, solutions have a slight blue color, insol in water, fairly sol in organic solvents. (a condensed ring hydrocarbon), mp: 156°, d: 1.271 @ 23°, bp: 404°.

SYNS: BENZO(DEF)PHENANTHRENE * PYREN (GERMAN)

THR: An experimental carcinogen. Mutagenic data. A skin irritant. When heated to decomposition it emits acrid smoke and fumes.

PYRETHRIN I
HR: 3
CAS: 8003-34-7 NIOSH: UR 4200000
mf: $C_{21}H_{28}O_3$ mw: 328.4

PROP: Viscous liquid; bp: 170° @ 0.1 mm (decomp).

SYNS: CINERIN I OR II * JASMOLIN I OR II * PYRETHRIN I OR II * CHRYSANTHEMUM CINERAREAEFOLIUM * DALMATION INSECT FLOWERS * INSECT POWDER * PYRETHRUM (INSECTICIDE) * TRIESTE FLOWERS

OSHA PEL: TWA 5 mg/m^3
ACGIH TLV: TWA 5 mg/m^3
DFG MAK: 5 mg/m^3

THR: Poison by ingestion. An allergen. A highly insecticidal extract with low mammalian toxicity. It is rapidly detoxified in the gastrointestinal tract, but can cause gastrointestinal, respiratory, and central nervous system effects. A dose of 15 g has caused the death of a child. Chronic exposures can cause liver damage. See esters. Combustible when exposed to heat or flame. When heated to decomposition it emits acrid smoke and fumes.

PYRETHRIN II
HR: 2
CAS: 121-29-9 NIOSH: GZ 0700000
mf: $C_{22}H_{28}O_5$ mw: 372.50

PROP: Viscous liquid; bp: 200° @ 0.1 mm (decomp).

SYNS: ENT 7,543 * PYRETHROLONE CHRYSANTHEMUM DICARBOXLIC ACIDMETHYL ESTER ESTER * PYRETHROLONE ESTER OF CHRYSANTHEMUMDICARBOXYLIC ACID MONOMETHYL ESTER * PYRETRIN II

THR: Moderately toxic by ingestion and possibly other routes. See also pyrethrin I. An allergen. When heated to decomposition it emits acrid smoke and fumes.

PYRIDAPHENTHION
HR: 3
CAS: 119-12-0 NIOSH: TF 2275000
mf: $C_{14}H_{17}N_2O_4PS$ mw: 340.36

SYNS: O,O-DIETHYL O-(2,3-DIHYDRO-3-OXO-2-PHENYL-6-PYRIDAZINYL)PHOSPHOROTHIOATE * O,O-DIETHYLPHOSPHOROTHIOATE, O-ESTER WITH 6-HYDROXY-2-PHENYL-3(2H)-PYRIDAZINONE * O-(1,6)-DIHYDRO-6-OXO-1-PHENYLPYRIDAZIN-3-LY), O,O-DIETHYL PHOSPHOROTHIOATE * ENT 23,968

THR: Poison by intraperitoneal route. Moderately toxic by ingestion and skin contact. When heated to decomposition it emits very toxic fumes of SO_x, PO_x, and NO_x.

DOT Classification: Label: Corrosive

THR: A poison by subcutaneous route; an irritant to skin, eyes and mucous membranes and by inhalation. See also fluorides. Dangerous: when heated to decomposition it emits highly toxic and corrosive fumes of fluorides; will react with water or steam to produce toxic and corrosive fumes. When heated to decomposition it emits toxic fumes of F^-.

SILICON

CAS: 7440-21-3 NIOSH: WM 0400000
DOT: 1346
mf: Si mw: 28.09

PROP: Cubic, steel-gray crystals or dark brown powder. Mp: 1420°, bp: 2600°, d: 2.42 or 2.3 @ 20°, vap press: 1 mm @ 1724°. Almost insol in water; sol in molten alkali oxides.
DOT Classification: Flammable Solid

THR: Does not occur free in nature, but is found as silicon dioxide (silica), and as various silicates. See also silica and silicates. Flammable when exposed to flame or by chemical reaction with oxidizers. See also powdered metals. Violent reactions with alkali carbonates; oxidants; (Al + PbO); Ca; Cs_2C_2; Cl_2; CoF_2; F_2; IF_5; MnF_3; Rb_2C_2; FNO; AgF; NaK alloy. Dangerous; when heated, will react with water or steam to produce H_2; can react with oxidizing materials.

SILICON CARBIDE

HR: 1
CAS: 409-21-2 NIOSH: VW 0450000
mf: CSi mw: 40.10

PROP: Bluish-black, iridescent crystals. Mp: 2600°; bp: subl > 2000°; decomp @ 2210°; d: 3.17.

SYNS: CARBON SILICIDE * CARBORUNDUM * SILICON MONOCARBIDE

THR: A mild irritant by inhalation..

SILICON CHLORIDE

HR: 2
CAS: 10026-04-7 NIOSH: VW 0525000
DOT: 1818
mf: Cl_4Si mw: 169.89

PROP: Colorless, clear, mobile fuming liquid; suffocating odor. D: 1.52 @ 0°/4°; mp: −70°; bp: 59°. Misc with benzene, ether, chloroform, petroleum ether.

SYNS: CHLORID KREMICITY (CZECH) * SILICIO(TETRACLORURO DI) * SILICIUMTETRACHLORID (GERMAN) * SILICIUMTETRACHLORIDE (DUTCH) * SILICIUM(TETRACHLORURE DE) (FRENCH) * SILICON TETRACHLORIDE * TETRACHLOROSILANE * TETRACHLORURE DE SILICIUM (FRENCH)

DOT Classification: Label: Corrosive

THR: Moderately toxic by inhalation. Severe eye and skin irritant. Decomposed by water with much heat into silicic acid and HCl. Dangerous; when heated to decomposition it emits highly toxic fumes of HCl; will react with water or steam to produce heat and toxic and corrosive fumes. Incompatible with dimethyl sulfoxide; K; Na.

SILICONES

SYN: SILOXANES **HR: 1**

THR: Generally slight toxicity. Most of the silicones that have been studied should have low toxicity or none at all and little or no irritating effects. May be spontaneously flammable in air. There can be toxicity due to contamination of silicones by components of manufacture.

SILICON FLUORIDE

HR: 3
CAS: 7783-61-1 NIOSH: VW 2327000
DOT: 1859
mf: F_4Si mw: 104.09

PROP: Colorless gas, very pungent odor; mp: −77°; bp: −65° @ 181 mm; d: 4.67.
DOT Classification: Label: Nonflammable Gas

THR: No toxicity data. See also fluorides and hydrofluoric acid. Very irritating to skin, eyes, and mucous membranes. When heated to decomposition it emits toxic fumes of F^-.

SILK

HR: 3
NIOSH: VW 2700000

THR: An experimental carcinogen. In the form of dust it is an allergen and a nuisance dust. Flammable and a moderate explosion hazard. When heated to decomposition it emits acrid smoke and fumes.

SILVER

HR: 3
CAS: 7440-22-4 NIOSH: VW 3500000
af: Ag aw: 107.87

PROP: Soft, ductile, malleable, lustrous, white metal. Mp: 961.93°, bp: 2212°, d: 10.50 @ 20°.

SYNS: ARGENTUM * C.I. 77820 * SHELL SILVER * SILBER (GERMAN) * SILVER ATOM

OSHA PEL: TWA 10 ug/m^3
ACGIH TLV: TWA (metal) 0.1 mg/m^3, (soluble compounds as Ag) 0.01 mg/m^3
DFG MAK: 0.01 mg/m^3

THR: An experimental tumorigen. Human systemic skin effects. See also silver compounds. Flammable in the form of dust, when exposed to flame or by chemical reaction with C_2H_2; NH_3; bromoazide; ClF_3; ethylene imine; H_2O_2; oxalic acid; H_2SO_4; tartaric acid. See also powdered metals. For further information see Vol. 1, No. 1 of *DPIM Report*.

SILVER, COLLOIDAL HR: 3

CAS: 7440-22-4 NIOSH: VW 3675000
af: Ag aw: 107.87

SYNS: ARGENTIUM CREDE * COLLARGOL

OSHA PEL: TWA 10 ug/m^3

THR: Poison by ingestion and intravenous route. See also silver and silver compounds.

SILVER COMPOUNDS

The absorption of silver compounds into the circulation and the subsequent deposition of the reduced silver in various tissues of the body may result in the production of a generalized greyish pigmentation of the skin and mucous membranes; a condition known as argyria. The introduction of fine particles of silver through breaks in the skin produces a local pigmentation at the site of the injury. 1 mg/m^3 of silver dust causes skin effects. The condition develops slowly, usually after 2-25 years of exposure. Pigmentation is noticeable first in conjunctivae, and later in the mucous membranes of the mouth and gums and in the skin. There are no constitutional symptoms or physical disability. Persons exhibiting the condition, and who subsequently died from unrelated disease, showed, on autopsy, a deposition of silver in the blood vessel walls, kidneys, testes, pituitary, choroid plexus, and mucous membranes of the nose, maxillary antra, trachea and bronchi. Once deposited, there is no known method by which the silver can be eliminated; the pigmentation is permanent. These compounds may be irritating to the skin and mucous membranes. See also silver. For further information see Vol. 1, No. 1 of *DPIM Report*.

SILVER CYANIDE HR: 3

CAS: 506-64-9 NIOSH: VW 3850000
DOT: 1684
mf: CAgN mw: 133.89

PROP: White, odorless, tasteless powder which darkens upon exposure to light; mp: 320° (decomp); d: 3.95.

SYNS: CYANURE D'ARGENT (FRENCH) * KYANID STRIBRNY (CZECH)

DOT Classification: Poison B, Label: Poison

THR: A deadly poison by ingestion. A skin and eye irritant. See also silver compounds and cyanides. When heated to decomposition it emits very toxic fumes of CN^- and NO_x. Incompatible with phosphorus tricyanide, fluorine.

SILVER (II) FLUORIDE HR: 3

CAS: 7783-95-1 NIOSH: VW 4200000
mf: AgF_2 mw: 145.87

PROP: White when pure; usually a grey-black or brownish solid. D: 4.7; mp: 690°.

SYNS: ARGENT FLUORURE (FRENCH) * ARGENTIC FLUORIDE * SILVER DIFLUORIDE

THR: Poison by subcutaneous route. See also fluorides and silver compounds. Powerful oxidizing agent. When heated to decomposition it emits toxic fumes of F^-.

SILVER (I) NITRATE (1:1) HR: 3

CAS: 7761-88-8 NIOSH: VW 4725000
DOT: 1493
mf: $NO_3 \cdot Ag$ mw: 169.88

PROP: mp: 212°; bp: 444° (decomp); d: 4.352 @ 19°. Very sol in ammonia water; slightly sol in ether.

SYNS: LUNAR CAUSTIC * NITRATE D'ARGENT (FRENCH) * NITRIC ACID, SILVER(1+) SALT * SILBERNITRAT

OSHA PEL: TWA 10 ug(Ag)/m^3
DOT Classification: Label: Oxidizer

THR: Poison by ingestion, intravenous, subcutaneous, intraperitoneal, and other unknown routes. Mutagenic data. An experimental carcinogen. See also silver compounds and nitrates.

SYNS:
3-ACETOXYQUINUCLIDINE GLAUCOSTAT
3-QUINUCLIDINOL ACETATE

TOXICITY DATA: 3
scu-rat LD50:225 mg/kg
ivn-rat LD50:45 mg/kg
orl-mus LD50:165 mg/kg
scu-mus LD50:102 mg/kg
ivn-mus LD50:36 mg/kg

CODEN:
ARZNAD 18,320,68
ARZNAD 18,320,68
ARZNAD 18,320,68
ARZNAD 18,320,68
RPTOAN 35(2),55,72

THR: HIGH scu, ivn, orl.
Disaster Hazard: When heated to decomp it emits tox fumes of NO_x.

ACEFEN

CAS RN: 3685845 NIOSH #: AG 0440000
mf: $C_{12}H_{16}ClNO_3 \cdot ClH$; mw: 294.20

SYNS:
CENTROPHENOXINE HYDROCHLORIDE
DIMETHYLAMINOETHYL ESTER OF P-CHLOROPHENOXYACETIC ACID HYDROCHLORIDE
LUCIDRYL HYDROCHLORIDE
MECLOFENOXATE HYDROCHLORIDE

TOXICITY DATA: 3-2
orl-mus LD50:1750 mg/kg
ipr-mus LD50:845 mg/kg
ivn-mus LD50:350 mg/kg
ivn-rbt LDLo:150 mg/kg

CODEN:
CRSBAW 153,1914,59
CRSBAW 153,1914,59
CRSBAW 153,1914,59
CRSBAW 153,1914,59

THR: HIGH ivn. MOD orl, ipr.
Disaster Hazard: When heated to decomp it emits very toxic fumes of Cl^-, NO_x and HCl.

ACENAPHTHALENE

NIOSH #: AB 1255500
mf: $C_{10}H_6(CH_2)_2$; mw: 154.2

White, elongated crystals. mp: 95°, bp: 277.5°; d: 1.024 @ 99°/4°; vap. press.: 10 mm @ 131.2°; vap. d: 5.32. Insol in water, sl sol in hot alc, ether and chloroform.

SYN: 1,8-ETHYLENE NAPHTHALENE.

TOXICITY DATA:
mma-sat 490 umol/L/2H

CODEN:
CNREA8 39,4152,79

THR: MUT data. A skn and mu mem irr. May cause acute vomiting if swallowed in large quantities.
Fire Hazard: Slight.
Disaster Hazard: When heated to decomp it emits acrid smoke and irr fumes.

ACENAPHTHANTHRACENE

CAS RN: 5779793 NIOSH #: CU 1575000
mf: $C_{20}H_{14}$; mw: 254.34

SYNS:
BENZ(K)ACEPHENANTHRENE
4,5-DIHYDROBENZ(K)ACEPHENANTHRYLENE
3:4-DIMETHYLENE-1:2-BENZANTHRACENE

TOXICITY DATA: 3
skn-mus TDLo:960 mg/kg/40W-I:ETA

CODEN:
PRLBA4 129,439,40

THR: An exp ETA.
Disaster Hazard: When heated to decomp it emits acrid smoke and irr fumes.

5-ACENAPHTHENAMINE

CAS RN: 4657936 NIOSH #: AB 0900000
mf: $C_{12}H_{11}N$; mw: 169.24

Sol. in ethanol; colorless needles, mp: 108°.

SYNS:
5-AMINOACENAPHTHENE
1,2-DIHYDRO-5-ACENAPHTHYLENAMINE

TOXICITY DATA: 3
ivn-mus LD50:56 mg/kg

CODEN:
CSLNX* NX#01911

Carcinogenic Determination: Indefinite IARC** 16, 243,78
THR: HIGH ivn. An exper ± CARC.
Disaster Hazard: When heated to decomp it emits toxic fumes of NO_x.

ACENAPHTHYLENE

CAS RN: 208968 NIOSH #: AB 1254000
mf: $C_{12}H_8$; mw: 152.20

SYN: CYCLOPENTA(DE)NAPHTHALENE

TOXICITY DATA:
mma-sat 1 mmol/L/2H

CODEN:
CNREA8 39,4152,79

Reported in EPA TSCA Inventory, 1980.
THR: MUT data.
Disaster Hazard: When heated to decomp it emits acrid smoke and irr fumes.

ACEPROMAZINE MALEATE

CAS RN: 3598376 NIOSH #: OB 2450000
mf: $C_{19}H_{22}N_2OS \cdot C_4H_4O_4$; mw: 442.57

SYNS:
ACETYLPROMAZINE MALEATE (1:1)
MALEATE ACIDE DE L'ACETYL-3-DIMETHYLAMINO-3-PROPYL-10-PHENOTHIAZINE (FRENCH)

TOXICITY DATA: 3
orl-mus LDLo:270 mg/kg
scu-mus LD50:175 mg/kg
ivn-mus LD50:65 mg/kg

CODEN:
AIPTAK 113,53,57
AIPTAK 113,53,57
APTOA6 19,87,62

THR: HIGH tox in mice via oral, scu and ivn routes.
Disaster Hazard: When heated to decomp it emits highly tox fumes of NO_x and SO_x.

ACETAL

CAS RN: 105577 NIOSH #: AB 2800000
mf: $C_6H_{14}O_2$; mw: 118.20

Colorless, volatile liquid, agreeable odor, nutty after-taste. bp: 102.7°, flash p: −5°F (CC), lel = 1.65%, uel = 10.4%, d: 0.831; autoign. temp.: 446°F, vap. press: 10 mm @ 8.0°, vap. d: 4.08, mp: −100°. Sl sol in water, misc in alc and ether.

A mixture of 2 isomers, brown crystals, nearly insol in water, sol in most organic solvents. mp(α): 106°, mp(β): 212°, d: 1.745 @ 20°/20°.

SYNS:

ENT 23,979
ALPHA,BETA-1,2,3,4,7,7-HEXACHLOROBICYCLO(2.2.1)-2-HEPTENE-5,6-BISOXYMETHYLENE SULFITE
1,2,3,4,7,7-HEXACHLOROBICYCLO(2.2.1)HEPTEN-5,6-BIOXYMETHYLENESULFITE
HEXACHLOROHEXAHYDROMETHANO
2,4,3-BENZODIOXATHIEPIN-3-OXIDE
6,7,8,9,10,10-HEXACHLORO-1,5,5a,6,9,9a-HEXAHYDRO-6,9-METHANO-2,4 ,3-BENZODIOXATHIEPIN-3-OXIDE
1,4,5,6,7,7-HEXACHLORO-5-NORBORNENE-2,3-DIMETHANOL CYCLIC SULFITE
NCI-C00566

TOXICITY DATA: 3	CODEN:
ori-rat TDLo:45 mg/kg/(6-14D preg):TER	RPTOAN 42,150,78
ori-mus TDLo:330 mg/kg/78W-I:NEO	NTIS** PB223-159
scu-mus TDLo:2 mg/kg:ETA	NTIS** PB223-159
ori-rat LD50:18 mg/kg	ARSIM* 20,9,66
skn-rat LD50:74 mg/kg	WRPCA2 9,119,70
ipr-rat LD50:22 mg/kg	BECTA6 15,708,76
unk-rat LD50:40 mg/kg	30ZDA9 -,267,71
ori-mus LD50:75 mg/kg	GTPZAB 8(4),30,64
ipr-mus LD50:7 mg/kg	BECTA6 15,708,76
ori-cat LD50:2 mg/kg	85DPAN -,-,71/76
skn-rbt LD50:167 mg/kg	BECTA6 14,513,75
ori-ham LD50:118 mg/kg	JETOAS 7,159,74
ori-dck LD50:34 mg/kg	TXAPA9 22,556,72
ori-bwd LD50:35 mg/kg	TXAPA9 21,315,72

Aquatic Toxicity Rating: TLm96:under 1 ppm WQCHM* 3,-,74. *TLV:* Air: 0.1 mg/m3 (skin) DTLVS* 4,165,80. *Toxicology Review:* DTTIAF 80(20),485,73; RREVAH 56,107,75; 27ZTAP 3,142,69. NCI Carcinogenesis Bioassay Completed; Results Negative (NCITR* NCI-CG-TR-62,77).

THR: An exper TER, NEO, ETA. VERY, VERY HIGH orl. VERY HIGH via dermal routes. A CNS stimulant producing convulsions. A highly toxic organochlorine pesticide which does not accumulate significantly in human tissue. Absorption is normally slow but is increased by alcohols, oil, emulsifiers.

Disaster Hazard: Dangerous; see chlorides and S compounds.

BENZO(j)FLUORANTHENE

CAS RN: 205823 NIOSH #: DF 6300000
mf: $C_{20}H_{12}$; mw: 252.32

SYNS:

10,11-BENZFLUORANTHENE
7,8-BENZOFLUORANTHENE
DIBENZO(A,J,K)FLUORENE

TOXICITY DATA: 3	CODEN:
skn-mus TDLo:312 mg/kg/26W-I:ETA	CANCAR 12,1194,59

Carcinogenic Determination: Animal positive IARC** 3,92,73.

Toxicology Review: 85DHAX Pc,4,72. "NIOSH Manual of Analytical Methods" VOL 1 183.

THR: An exper ETA. An exper CARC.

Disaster Hazard: When heated to decomp it emits acrid smoke and irr fumes.

BENZO(k)FLUORANTHENE

CAS RN: 207089 NIOSH #: DF 6350000
mf: $C_{20}H_{12}$; mw: 252.32

SYN: 11,12-BENZO(K)FLUORANTHENE

TOXICITY DATA: 3	CODEN:
skn-mus TDLo:2820 mg/kg/47W-I:ETA	CANCAR 12,1194,59
scu-mus TDLo:72 mg/kg/9W-I:ETA	AICCA6 19,490,63

"NIOSH Manual of Analytical Methods" VOL 1 183,184.

THR: An exper ETA.

Disaster Hazard: When heated to decomp it emits acrid smoke and irr fumes.

BENZO(b)FLUORENE

CAS RN: 30777196 NIOSH #: DF 6383000
mf: $C_{17}H_{12}$; mw: 216.29

TOXICITY DATA:	CODEN:
mma-sat 25 umol/L/2H	CNREA8 39,4152,79

THR: MUT data.

Disaster Hazard: When heated to decomp it emits acrid smoke and irr fumes.

BENZOFURAN

CAS RN: 271896 NIOSH #: DF 6423800
mf: C_8H_6O; mw: 118.14

SYNS:

BENZO(B)FURAN
2,3-BENZOFURAN
BENZOFURFURAN
NCI-C56166
1-OXINDENE

Currently Tested by NTP for Carcinogenesis by Standard Bioassay Protocol as of December 1980. Reported in EPA TSCA Inventory, 1980.

THR: No data.

Disaster Hazard: When heated to decomp it emits acrid and irr smoke and fumes.

2-BENZOFURANCARBOXYLIC ACID

CAS RN: 496413 NIOSH #: DF 6490000
mf: $C_9H_6O_3$; mw: 162.15

SYN: COUMARILIC ACID

TOXICITY DATA: 3	CODEN:
ivn-mus LD50:320 mg/kg	CSLNX* NX#02495

Reported in EPA TSCA Inventory, 1980.

THR: HIGH ivn.

Disaster Hazard: When heated to decomp it emits acrid smoke and irr fumes.

2-BENZO-FURANCETONITRILE

CAS RN: 6149699 NIOSH #: DF 6550000

SYN: PYRIDO(3',2':5,6)CHRYSENE

TOXICITY DATA: 3 CODEN:
scu-mus TDLo:72 mg/kg/9W-I:ETA COREAF 252,1711,61

THR: An exper ETA.
Disaster Hazard: When heated to decomp it emits tox fumes such as NO_x.

BENZONITRILE

CAS RN: 100470 NIOSH #: DI 2450000
mf: C_7H_5N; mw: 103.13

Transparent, colorless oil, almond-like odor. d: 1.246 @ 20°/4°, bp: 191°, d: 1.0102 @ 15°/15°F (OC), mp: −12.8°.

SYNS:
BENZOIC ACID NITRILE PHENYL CYANIDE
CYANOBENZENE

TOXICITY DATA: 2-1 CODEN:

skn-rbt 500 mg/24H MOD	FCTXAV 17(Suppl.),695,79
orl-rat LDLo:720 mg/kg	AMRL** TR-74-78,74
ihl-rat LCLo:950 ppm/8H	AMRL** TR-74-78,74
skn-rat LD50:1200 mg/kg	AMRL** TR-74-78,74
orl-mus LD50:1400 mg/kg	AZMZA6 52(11),60,75
ihl-mus LC50:6000 mg/m3	AZMZA6 52(11),60,75
scu-mus LDLo:180 mg/kg	AIPTAK 12,447,04
scu-rbt LDLo:200 mg/kg	AIPTAK 5,161,1899
scu-frg LDLo:1700 mg/kg	AIPTAK 5,161,1899
ipr-mus LD50:400 mg/kg	FCTXAV 17(Suppl.),695,79
orl-cat LD50:800 mg/kg	FCTXAV 17(Suppl.),695,79
orl-rbt LD50:800 mg/kg	FCTXAV 17(Suppl.),695,79
ipr-rbt LD50:1250 mg/kg	FCTXAV 17(Suppl.),695,79
scu-pgn LDLo:500 mg/kg	FCTXAV 17(Suppl.),695,79

Reported in EPA TSCA Inventory, 1980. EPA TSCA 8(a) Preliminary Assessment Information Proposed Rule FERREAC 45,13646,80.
THR: MOD oral, inhal and skin. LOW inhal. See also nitriles. A skn irr.
Disaster Hazard: When heated to decomp it emits tox fumes such as CN^- and NO_x.
For further information see Vol. 1, No. 8 and Vol. 3, No. 4 of *DPIM Report.*

BENZO(rst)PENTAPHENE

CAS RN: 189559 NIOSH #: DI 5775000
mf: $C_{24}H_{14}$; mw: 302.38

Green-yellow needles. mp: 280°-282°.

SYNS:
DIBENZO(A,I)PYRENE 3,4:9,10-DIBENZOPYRENE
1,2,7,8-DIBENZOPYRENE

TOXICITY DATA: 3 CODEN:

otr-ham:kdy 80 ug/L	BJCAAJ 37,873,78
skn-mus TDLo:47 mg/kg/39W-I:ETA	CANCAR 12,1079,59
scu-mus TDLo:1000 ug/kg:ETA	PEXTAR 11,384,69
scu-ham TDLo:2 mg/kg:NEO	NATUAS 203,308,64
itr-ham TDLo:33 gm/kg/8W-I:ETA	ZKKOBW 82,175,74
scu-mus TD:72 mg/kg/9W-I:ETA	COREAF 246,1477,58
skn-mus TD:141 mg/kg/47W-I:ETA	IJMRAQ 53,638,65
scu-ham TD:16 mg/kg:ETA	PEXTAR 11,384,69
scu-mus TD:80 mg/kg:ETA	IJMRAQ 53,638,65
scu-mus TD:4 mg/kg:ETA	PAACA3 13,37,72

Carcinogenic Determination: Animal Positive IARC** 3,215,73. *Toxicology Review:* 85DHAX Pc,4,72.
THR: An exper ETA, NEO. MUT data.
Disaster Hazard: When heated to decomp it emits acrid smoke and irr fumes.

BENZO(rst)PENTAPHENE-5-CARBOXALDEHYDE

CAS RN: 63040539 NIOSH #: DI 5950000
mf: $C_{25}H_{14}O$; mw: 330.39

SYN: 5-FORMYL-3,4:9,10-DIBENZOPYRENE

TOXICITY DATA: 3 CODEN:
scu-mus TDLo:72 mg/kg/9W-I:ETA COREAF 252,1236,61

THR: An exper ETA.
Disaster Hazard: When heated to decomp it emits acrid smoke and irr fumes.

BENZO(ghi)PERYLENE

CAS RN: 191242 NIOSH #: DI 6200500
mf: $C_{22}H_{12}$; mw: 276.34

SYN: 1,12-BENZOPERYLENE

TOXICITY DATA: CODEN:
mma-sat 2 ug/plate/48H FCTXAV 17,141,79

"NIOSH Manual of Analytical Methods" VOL 1 183.
THR: MUT data.
Disaster Hazard: When heated to decomp it emits acrid smoke and irr fumes.

BENZO(a)PHENALENO(1,9-hi)ACRIDINE

CAS RN: 190078 NIOSH #: DI 6300000
mf: $C_{27}H_{15}N$; mw: 353.43

SYN: BENZO(C)PHENALENO(1,9-I,J)ACRIDINE

TOXICITY DATA: 3 CODEN:
scu-mus TDLo:72 mg/kg/9W-I:ETA BAFEAG 52,49,65

THR: An exper ETA.
Disaster Hazard: When heated to decomp it emits tox fumes such as NO_x.

BENZO(a)PHENALENO(1,9-i,j)ACRIDINE

CAS RN: 190034 NIOSH #: DI 6825000
mf: $C_{27}H_{15}N$; mw: 353.43

SYN: BENZO(H)PHENALENO(1,9-BC)ACRIDINE

TOXICITY DATA: 3 CODEN:
scu-mus TDLo:72 mg/kg/9W-I:ETA BAFEAG 52,49,65

THR: An exper ETA.
Disaster Hazard: When heated to decomp it emits tox fumes of NO_x.

BENZO(c)PHENANTHRENE

CAS RN: 195197 NIOSH #: DI 8225000
mf: $C_{18}H_{12}$; mw: 228.30

SYNS:
3,4-BENZOPHENANTHRENE 3,4-BENZPHENANTHRENE

INDENE TRIPROPYLAMINE

NIOSH #: NK 8925000

TOXICITY DATA: 2
eye-rbt 100 mg SEV
orl-rat LD50:540 mg/kg

CODEN:
IHFCAY 6,1,67
IHFCAY 6,6,67

THR: MOD orl. An eye irr.
Disaster Hazard: When heated to decomp it emits tox fumes of NO_x.

INDENO(1,2,3-cd)PYRENE

CAS RN: 193395 NIOSH #: NK 9300000
mf: $C_{22}H_{12}$; mw: 276.34

SYNS:
2,3-PHENYLENEPYRENE
2,3-O-PHENYLENEPYRENE

TOXICITY DATA: 3
mma-sat 3 ug/plate/48H
scu-mus TDLo:72 mg/kg/9W-I:CAR

CODEN:
FCTXAV 17,141,79
AICCA6 19,490,63

Carcinogenic Determination: Animal Positive IARC** 3,229,73. *Toxicology Review:* 85DHAX Pc,4,72. Reported in EPA TSCA Inventory, 1980. EPA TSCA 8(a) Preliminary Assessment Information Proposed Rule FERREAC 45,13646,80.
THR: An exper CARC. MUT data.
Disaster Hazard: When heated to decomp it emits acrid smoke and fumes.

1-(7-INDENYLOXY)-3-ISOPROPYLAMINOPROPAN-2-OL HYDROCHLORIDE, (±)-

CAS RN: 36576144 NIOSH #: UB 6650000
mf: $C_{15}H_{21}NO_2 \cdot ClH$; mw: 283.83

SYN: DL-YB2

TOXICITY DATA: 3
orl-mus LD50:232 mg/kg
ivn-mus LD50:26 mg/kg

CODEN:
AIPTAK 202,79,73
ARZNAD 27,1022,77

THR: HIGH orl, ivn.
Disaster Hazard: When heated to decomp it emits very tox fumes of NO_x and HCl.

INDERAL

CAS RN: 525666 NIOSH #: UB 7500000
mf: $C_{16}H_{21}NO_2$; mw: 259.38

SYNS:
ICI 45520
1-ISOPROPYLAMINO-3-(1-NAPHTHYLOXY)-2-PROPANOL
PROPANALOL

TOXICITY DATA: 3
scu-mus LD50:150 mg/kg
orl-hmn TDLo:2300 ug/kg/D:PSY
orl-wmn LDLo:120 mg/kg
orl-chd LDLo:800 ug/kg/12H
ivn-hmn LDLo:71 ug/kg
orl-mus LD50:320 mg/kg
ipr-mus LD50:120 mg/kg
ivn-mus LD50:23 mg/kg
ivn-rbt LD50:12 mg/kg

CODEN:
FATOAD 44,342,81
BMJOAE 1,1182,78
APTOA6 41,190,77
BMJOAE 2,254,78
LANCAO 1,165,67
DRFUD4 4,442,79
DRFUD4 4,442,79
DRFUD4 4,442,79
ARZNAD 27,1022,77

THR: In hmn an orl PSY; Hmn HIGH orl, ivn; HIGH orl, ipr, ivn.
Disaster Hazard: When heated to decomp it emits tox fumes of NO_x.

INDERAL HYDROCHLORIDE

CAS RN: 318989 NIOSH #: UB 7525000
mf: $C_{16}H_{21}NO_2 \cdot ClH$; mw: 295.84

SYNS:
ICI 45520
1-(ISOPROPYLAMINO)-3-(ALPHA-NAPHTHOXY)-2-PROPANOL HYDROCHLORIDE
1-ISOPROPYLAMINO-3-(1-NAPHTHOXY)-PROPAN-2-OL HYDROCHLORIDE
1-(ISOPROPYLAMINO)-3-(1-NAPHTHYLOXY)PROPAN-2-OL HYDROCHLORIDE
1-(ISOPROPYLAMINO)-3-(1-NAPTHYLOXY)-2-PROPANOL HYDROCHLORIDE
1-(1-NAPHTHYLOXY)-2-HYDROXY-3-ISOPROPYLAMINO-PROPANE HYDROCHLORIDE
PROPRANOLOL HYDROCHLORIDE

TOXICITY DATA: 3-2
orl-mus LD50:471 mg/kg
ipr-mus LD50:125 mg/kg
ivn-mus LD50:22 mg/kg

CODEN:
BJPCAL 25,577,65
AIPTAK 195,57,72
EJMCA5 9,563,74

THR: HIGH ipr, ivn. MOD orl.
Disaster Hazard: When heated to decomp it emits very tox fumes of NO_x and HCl.

INDICAN (POTASSIUM SALT)

CAS RN: 2642377 NIOSH #: NM 3200000
mf: $C_8H_6NO_4S \cdot K$; mw: 251.31

Light brown plates from aq. alc; decomp @ 179°-180° (sublimes); v sol in H_2O; Insol in cold alc.

SYNS:
INDOL-3-OL, HYDROGEN SULFATE (ESTER), POTASSIUM SALT
INDOL-3-OL, POTASSIUM SULFATE
INDOL-3-YL POTASSIUM SULFATE
INDOL-3-YL SULFATE, POTASSIUM SALT
POTASSIUM INDOL-3-YL SULFATE
URINARY INDICAN

TOXICITY DATA: 3
scu-mus TDLo:3500 mg/kg/26W-I:ETA

CODEN:
KLWOAZ 36,1056,58

THR: Exper ETA.
Disaster Hazard: When heated to decomp it emits very tox fumes of NO_x and SO_x.

INDIGO YELLOW

CAS RN: 520183 NIOSH #: LK 9275200
mf: $C_{15}H_{10}O_6$; mw: 286.25

SYNS:
PELARGIDENOLON
RHAMNOLUTEIN
RHAMNOLUTIN
3,4',5,7-TETRAHYDROXYFLAVONE
5,7,4'-TRIHYDROXYFLAVONOL

TOXICITY DATA:
mma-sat 166 nmol/plate
mnt-mus-ipr 200 mg/kg

CODEN:
MUREAV 54,297,78
MUREAV 89,69,81

THR: MUT data.
Disaster Hazard: When heated to decomp it emits acrid smoke and fumes.

TOXICITY DATA: 1
mma-sat 6 mmol/L/2H
orl-rat LDLo:5000 mg/kg

CODEN:
CNREA8 39,4152,79
28ZRAQ -,55,60

Reported in EPA TSCA Inventory, 1980. EPA TSCA 8(a) Preliminary Assessment Information Proposed Rule FERREAC 45,13646,80.
THR: MUT data. LOW orl. See also 2-methyl naphthalene.
Fire Hazard: Mod, via heat, flames, oxidizers.
To Fight Fire: Dry chemical, CO_2, water spray or mist, foam.
Disaster Hazard: When heated to decomp it emits acrid smoke and fumes.

2-METHYLNAPHTHALENE

CAS RN: 91576 NIOSH #: QJ 9635000
mf: $C_{11}H_{10}$; mw: 142.21

Solid, insol in water, sol in alc and ether. d: 1.0058 @ 20°/4°, bp: 241.1°, mp: 34.58°.

SYN: BETA-METHYLNAPHTHALENE

TOXICITY DATA: 1
orl-rat LDLo:5000 mg/kg

CODEN:
28ZRAQ -,55,60

Reported in EPA TSCA Inventory, 1980. EPA TSCA 8(a) Preliminary Assessment Information Proposed Rule FERREAC 45,13646,80
THR: LOW orl.
Disaster Hazard: When heated to decomp it emits acrid smoke and fumes.

2-METHYL-1,4-NAPHTHALENEDIOL

CAS RN: 481856 NIOSH #: QJ 5075000
mf: $C_{11}H_{10}O_2$; mw: 174.21

SYNS:
METHYLNAPHTHOHYDRO-QUINONE
2-METHYL-1,4-NAPHTHOHYDRO-QUINONE
2-METHYL-1,4-NAPHTHOQUINOL

TOXICITY DATA: 3
orl-mus LD50:30 mg/kg
ipr-mus LDLo:400 mg/kg

CODEN:
JPETAB 75,111,42
CRSBAW 143,585,49

THR: HIGH orl, ipr.
Disaster Hazard: When heated to decomp it emits acrid smoke and fumes.

2-METHYL-1,4-NAPHTHALENEDIOL DIBUTYRATE

CAS RN: 53370448 NIOSH #: QJ 5255000
mf: $C_{19}H_{22}O_4$; mw: 314.41

SYNS:
2-METHYL-1,4-NAPHTHOHYDRO-CHINON-DIBUTYRAT (GERMAN)
VITAMIN K4-DIBUTYRAT (GERMAN)

TOXICITY DATA: 2-1
orl-mus LD50:12 gm/kg
ipr-mus LD50:1 gm/kg

CODEN:
ARZNAD 17,1339,67
ARZNAD 17,1339,67

THR: MOD ipr; LOW orl.
Disaster Hazard: When heated to decomp it emits acrid smoke and fumes.

P-METHYL-N-(1-NAPHTHALENYLOXY) PHOSPHONAMIDOTHIOIC ACID-O-ETHYL ESTER

CAS RN: 63815532 NIOSH #: SZ 6260000
mf: $C_{13}H_{16}NO_2PS$; mw: 281.33

SYN: BAY 39197

TOXICITY DATA: 3
orl-rat LD50:250 mg/kg
orl-bwd LD50:18 mg/kg

CODEN:
TXAPA9 21,315,72
TXAPA9 21,315,72

THR: HIGH orl.
Disaster Hazard: When heated to decomp it emits very tox fumes of SO_x, PO_x and NO_x.

5-METHYLNAPHTHO(1,2,3,4-def)CHRYSENE

CAS RN: 2869092 NIOSH #: QL 0350000
mf: $C_{25}H_{16}$; mw: 316.41

SYN: 2'-METHYL-1,2:4,5-DIBENZOPYRENE

TOXICITY DATA: 3
scu-mus TDLo:72 mg/kg/9W-I:ETA

CODEN:
COREAF 259,3899,64

THR: An exper ETA.
Disaster Hazard: When heated to decomp it emits acrid smoke and fumes.

6-METHYLNAPHTHO(1,2,3,4-def)CHRYSENE

CAS RN: 2869105 NIOSH #: QL 0525000
mf: $C_{25}H_{16}$; mw: 316.41

SYN: 3'-METHYL-1,2:4,5-DIBENZOPYRENE

TOXICITY DATA: 3
scu-mus TDLo:72 mg/kg/9W-I:ETA

CODEN:
COREAF 259,3899,64

THR: An exper ETA.
Disaster Hazard: When heated to decomp it emits acrid smoke and fumes.

2-METHYL-1,4-NAPHTHOQUINONE

CAS RN: 58275 NIOSH #: QL 9100000
mf: $C_{11}H_8O_2$; mw: 172.19

SYNS:
KIPCA, OIL SOLUBLE
2-METHYL-1,4-NAPHTHOCHINON (GERMAN)
3-METHYL-1,4-NAPHTHOQUINONE
THYLOQUINONE
USAF EK-5185
VITAMIN K3

TOXICITY DATA: 3
mmo-sat 4 ug/plate
mmo-omi-6 ppm
mma-sat 30 nmol/plate
skn-mus TDLo:1860 mg/kg/27W-I:ETA
skn-mus TD:8400 mg/kg/21W-I:ETA
ipr-rat LD50:75 mg/kg
ivn-rat LD50:800 mg/kg

CODEN:
ABCHA 6,45,327,81
POASAD 34,114,53
BBRCA9 94,737,80
BJCAAI 7,482,53
CNREA8 19,413,59
TXAPA9 18,185,71
ARZNAD 18,678,68

REFERENCE NO. 18

0027-C
12-5111-63

NUS CORPORATION — TELECON NOTE

CONTROL NO:	DATE:	TIME:
02-8611-63 NY53II	5/17/88	0825

DISTRIBUTION: Hudson River Psychiatric Center

BETWEEN:	OF:	PHONE:
John Jankiewitz	Town of Lloyd water Dept.	(914)691-2400

AND: A. Culmone (NUS)

DISCUSSION:

Are there any public water supply intakes in the Hudson River? yes at mile 76.3 ≈ 1.8 miles from site

Size of population served? 1150 metered users

1150 x 3.8 = 4370

ACTION ITEMS:

NUS 067 REVISED 0581

REFERENCE NO. 19

NUS CORPORATION — TELECON NOTE

CONTROL NO:	DATE:	TIME:
02-5611-63 NY53 II	8/14/85	1010

DISTRIBUTION:

Hudson River Psych Center

BETWEEN:	OF:	PHONE:
Fred Andros	Town of Poughkeepsie H_2O Co.	(914) 462-6535

AND: A. Culmone (NUS)

DISCUSSION:

Asked about use of wells in the area and if specific wells are still in use or if these sites are now on public water.

All wells just south of HRPC and in Town are now on public water supply.

Asked about non-community wells list. Told me that these are in Hyde Park + should verify with them. He believes these are still in use.

Poughkeepsie use Hudson River intake.
HRPC uses community H_2O, their river intake closed.

ACTION ITEMS:

NUS 067 REVISED 0681

REFERENCE NO. 20

W25-2

NUS CORPORATION — TELECON NOTE

CONTROL NO:	DATE:	TIME:
02-8611-63 N4538	8/18/88	10:25

DISTRIBUTION: Hudson River Psych. Center

BETWEEN:	OF:	PHONE:
Bob O'Neill	Hyde Park H_2O Co.	(914) 229-2524

AND: A. Culmone (NUS)

DISCUSSION:

Regarding wells in use in Hyde Park within 3 miles of the site. Nine community wells list agrees with ref. material as does the general listing of private wells.

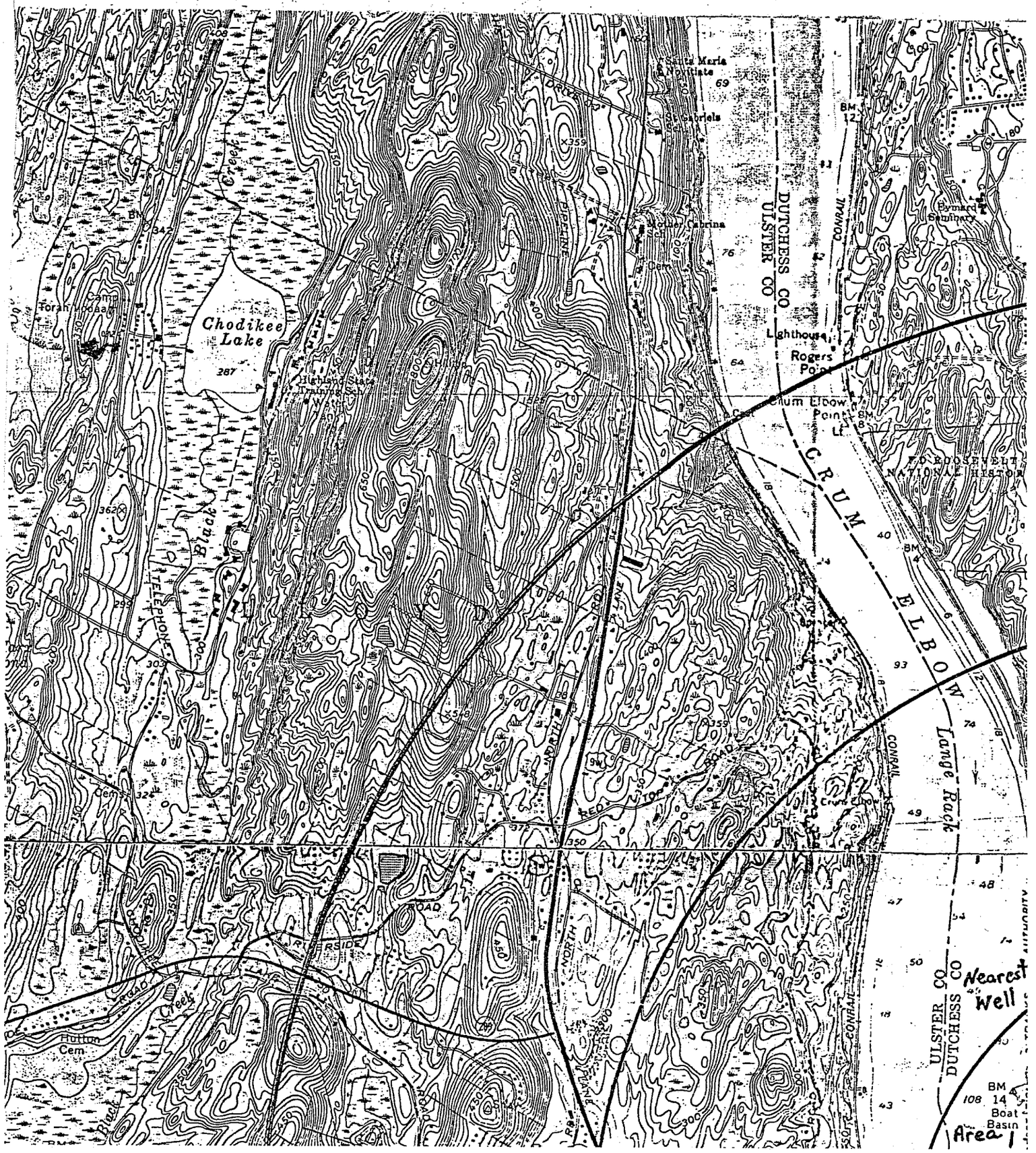
Community Wells

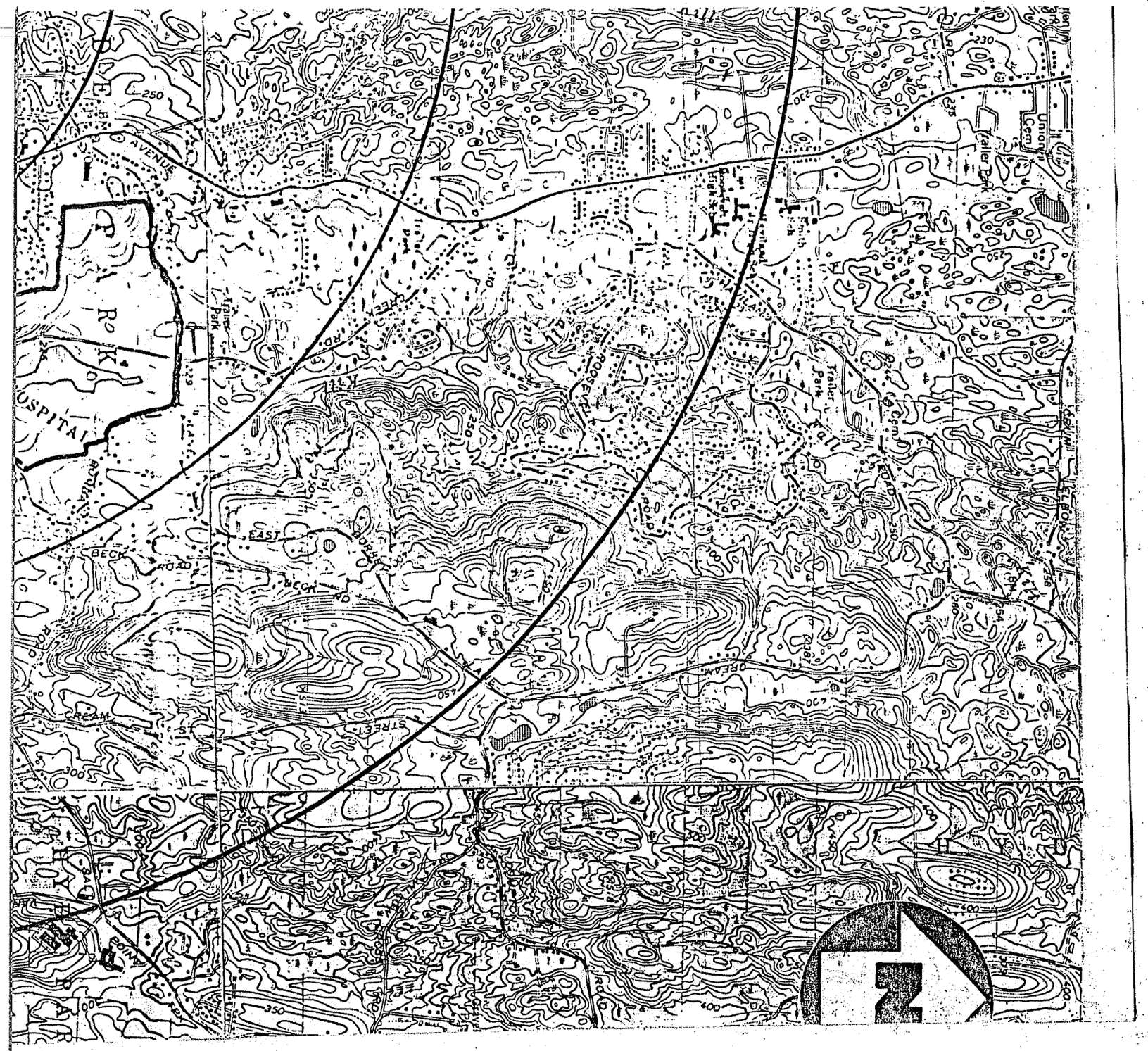
Dutch Garden Apts
Eleanor Roosevelt
Franton Villas
Green Meadow Trailer Ct
Hyde Park Terrace Apts
M + O
Valley Forge
Willow Tree
Woodfield

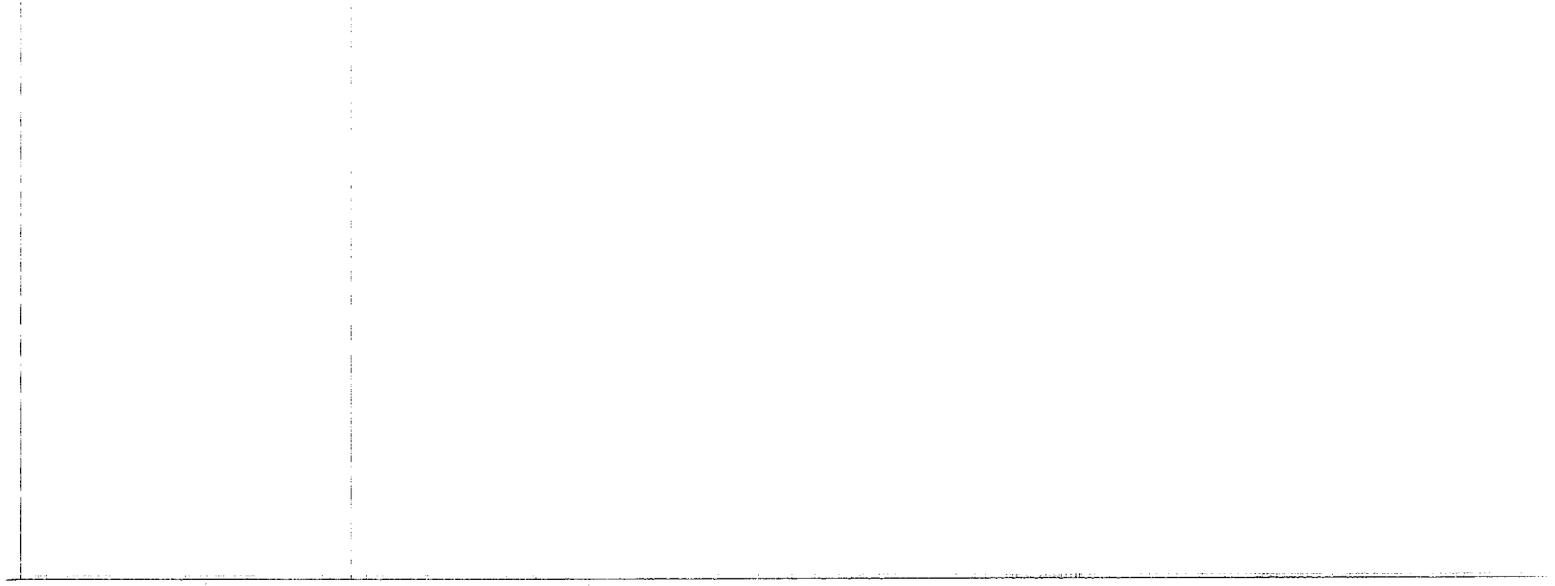
ACTION ITEMS:

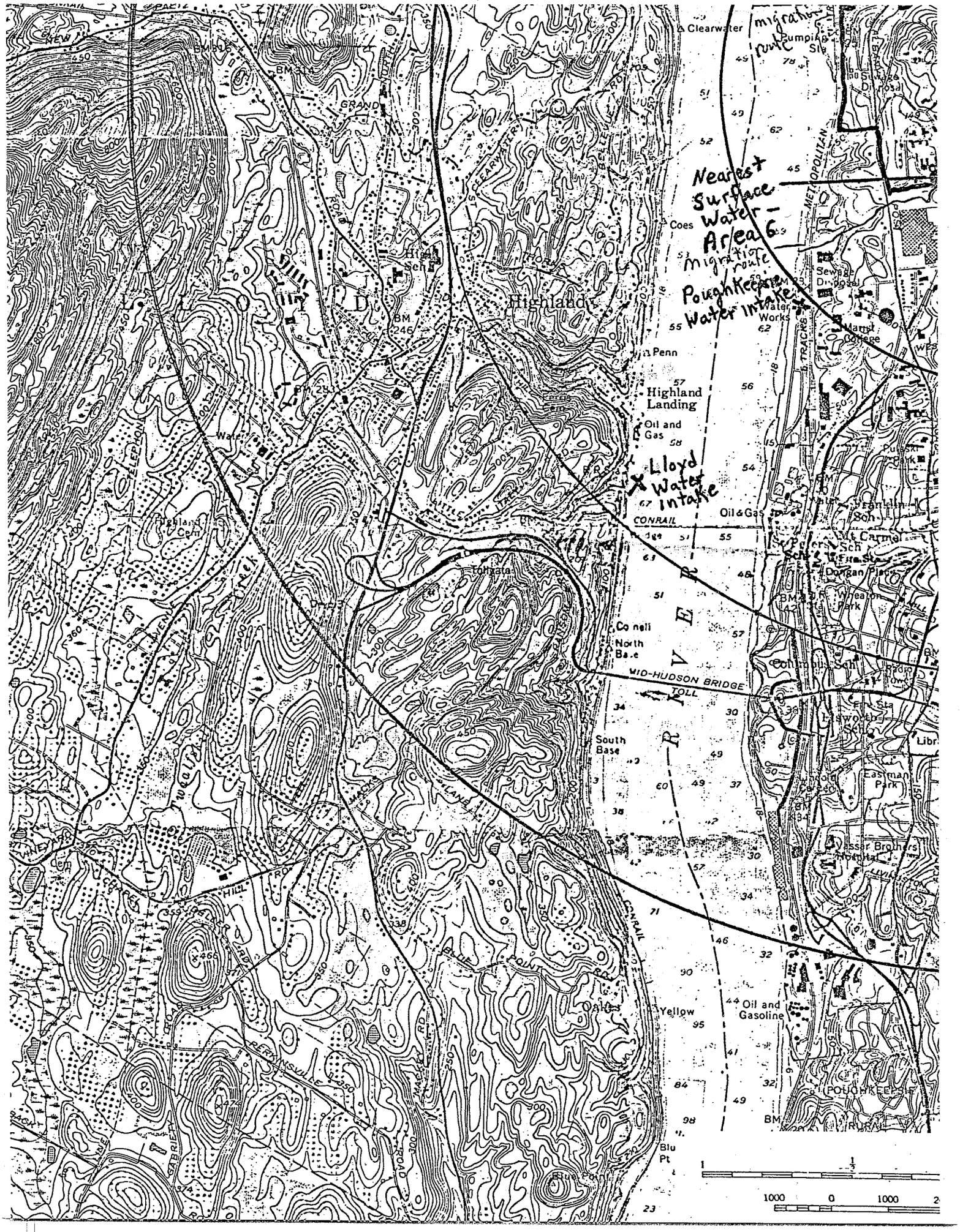
Assume private wells exist since no municipal H_2O supply in this area.

NUS 067 REVISED 0581


Chodikee Lake
Black
Creek
Hutton Cem
Torah Lodaas Camp
Highland State Training Sch
Water
Mother Cabrini Sch
Cem
St Gabriels
Santa Maria Novitiate
DUTCHESS CO
ULSTER CO
CONRAIL
Lighthouse
Rogers Point
Crum Elbow Point
CRUM ELBOW
Long Rock
Nearest Well
Boat Basin
Area
RIVERSIDE
ROAD
NORTH
RED
TELEPHONE
BM
Cem


AVENUE
Trailer Park
Trailer Park
Trailer Park
Union Cem
HOSPITAL
ROAD
EAST
BECK
ROAD
ROOSEVELT
ROAD
ROAD
ROAD
ROAD
CREEK
STREET
ROAD
ROAD
ROAD
ROAD




Clearwater
migration route
Pumping Sta
Nearest Surface Water - Area 6
migration route
Poughkeepsie Water Intake
Coes
Highland
Water Works
Marist College
Penn
Highland Landing
Oil and Gas
Lloyd Water Intake
CONRAIL
Oil & Gas
Franklin Sch
Mt Carmel
Dongan Place
Wheaton Park
Columbus Sch
MID-HUDSON BRIDGE
TOLL
Eastman Park
Lasdon Park
Conelli
North Base
South Base
Tohyata
Oakes
Yellow
Oil and Gasoline
Blu Pt
Blue Point
(POUGHKEEPSIE)
RURAL
1
1000
0
1000



NUS CORPORATION

TITLE:	THREE MILE VICINITY
SITE :	HUDSON RIVER PSYCHIATRI POUGHKEEPSIE, N.
DATE :	9/27/88
TDD :	02-8611-63
QUAD :	POUGHKEEPSIE, N.Y.
FIGURE NUMBER:	
SCALE:	1