#### REPORT

TO

NIAGARA MOHAWK POWER CORPORATION Syracuse, New York

FOR

PHASE II SITE INVESTIGATION
OLD ERIE CANAL SITE

Site ID#'s: 633017, 622006

ONEIDA AND HERKIMER COUNTIES

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## SECTION 1

#### EXECUTIVE SUMMARY

A Phase II investigation was conducted to determine the nature and extent of contamination at the property known as the Old Erie Canal (NYSDEC Site Numbers 633017 and 622006). The site, which is located in both Oneida and Herkimer Counties is owned by Niagara Mohawk Power Corporation. The site received a variety of wastewaters from industrial facilities that discharged to a storm sewer which in turn discharged to the western end of the canal.

The Phase II Investigation included geophysical surveys, installation of ground-water monitoring wells, sampling and analysis of soil, ground water, surface water, and sediment, and calculation of a Hazard Ranking System (HRS) score. The results of the study indicate that the major contamination is in the sediment (metals) and to a lesser extent, in the surface water discharging to and from the canal (organics). Ground water adjacent to the canal contained low levels of contamination, but was free from organic contamination downgradient from the site.

Determination of the HRS score indicated that the major potential hazard presented by the Old Erie Canal site was from the ground water migration route. The final migration score was 24.66. However, the score appears to be unrealistically high based on the ground-water flow in the area.

#### SECTION 2

#### INTRODUCTION

#### 2.01 Site Location and History

The Old Eric Canal site is located in an area that begins just east of Turner Street in the City of Utica, Oneida County, and extends approximately 4,200 feet in an easterly direction into the Town of Frankfort, Herkimer County, New York (Figure 1). The site is approximately 50 feet wide.

The abandoned canal section has been used as a wastewater disposal site since before 1950 by upgradient manufacturing facilities including electroplaters and arms and munitions factories. These facilities discharged directly to the canal through a 30 inch storm sewer. Several feet of thick, oily sludge have accumulated in the canal bed.

The canal berm was breached during high water in February 1983, and sediment and sludge were washed from the canal bed onto neighboring properties. The breach was repaired during April 1983, but leakage has been reported since then.

Sampling of canal sediments by Niagara Mohawk (NM) and New York State Department of Conservation (NYSDEC) in 1984 has shown various levels of organic compounds and metals, while sampling of canal water (NYSDEC, 1984) has shown no detectable levels of organic or inorganic contaminants. Sampling of two residential wells (Department of Health, 1983) approximately 500 feet from the site has shown no detectable levels of organic contaminants.

## 2.02 Purpose of Site Investigation

The Oneida and Herkimer County portions of the site are currently designated by the NYSDEC as inactive hazardous waste disposal sites #633017 and #622006, respectively. A Phase I investigation of the site was completed in

September, 1984 by Ecological Analysts, Inc. It was subsequently determined by the NYSDEC that a Phase II investigation should be initiated at the site.

The purpose of the Phase II investigation was to further characterize and determine the significance of the hazardous nature of the site. Specifically, the presence and extent of contamination in the site surface water, sediment and subsurface media was to be determined through various survey and monitoring programs. Subsequently, a final Hazard Ranking System (HRS) score would be calculated.

Calocerinos & Spina, Consulting Engineers (C&S), was authorized by Niagara Mohawk Power Corporation on September 10, 1985, as documented by Purchase Order No. 46812, to proceed with a Phase II investigation on the NM property known as the Old Erie Canal.

#### SECTION 3

#### SCOPE OF WORK

The methods of investigation included the following specific tasks, as outlined in accordance with the New York State Department of Environmental Conservation (NYSDEC) Generic Work Plan for Phase II Investigations.

## 3.01 Geophysical Surveys

Geophysical surveys were performed to characterize the site's subsurface stratigraphy, delineate locations of buried metals, and ascertain the presence of contaminant plumes or leakage from the canal. Terrain conductivity profiling was accomplished using a Geonics EM-34 terrain conductivity meter to take measurements along three traverse lines parallel to the canal. Six locations were chosen for resistivity soundings. At each location, soundings were taken at 5-foot depth intervals from 5 to 30 feet in order to characterize the underlying geologic strata.

## 3.02 Test Borings

North Star Drilling Company of Cortland, New York, drilled four test borings at the locations shown on Figure 2. All drilling was completed under the supervision of a qualified C&S geologist. Locations and project depths of the borings were determined based on geophysical survey results and a knowledge of the occurrence of ground water in the area. One boring was located upgradient and three were located downgradient, relative to the canal. The final depth of each boring was adjusted in the field to account for actual subsurface conditions. Subsurface sediment samples were obtained utilizing a split-spoon sampler, at standard 5 feet intervals until the water table was penetrated. Continuous split-spoon samples were collected from the depth of occurrence of the water table to refusal at the bedrock horizon, or in the

dense basal till zone overlying bedrock. All split spoon samples collected were classified by the C&S geologist.

Three selected split-spoon samples were analyzed for 24 metals, cyanide, and the 130 organics on the NYSDEC Hazardcus Substance List (HSL). Each peak equal to or greater than 10 percent of the nearest calibrating standard was identified and quantified as a part of the analytical protocol. In addition, three separate split-spoon samples, representative of subsurface lithologies were submitted for grain-size distribution, Atterberg Limits, and moisture content tests. The results of these tests are included in Appendix A. Subsequent to the sample collection, the test boring was reamed to 6-1/4 inches diameter utilizing hollow stem augers. All drill cuttings were placed in a 55 gallon drum which was sealed and secured within the fence at the NM Substation at the west end of the site. Descriptions of the lithology penetrated during the drilling of each test boring and well completion information are given in Appendix B.

## 3.03 Ground-Water Monitoring Well Installation and Sampling

## A. Monitoring Well Construction

As each boring was completed, it was converted to a ground-water monitoring well to enable long-term sampling of ground water at that location. Based on the characteristics of the subsurface geology and the observed occurrence of ground water in the test borings, specifications for the construction of ground-water monitoring wells were determined. The most likely zone for potential contamination in the subsurface is the unconsolidated unit overlying basal till. Therefore, the wells were screened from the occurrence of the water table to the top or just below the top of the relatively low permeability layer. Ground-water monitoring well construction details are presented in Appendix B. The

well screens and riser pipes were steam cleaned and protected from contamination prior to installation in the test borings. Each monitor well had the following characteristics, as illustrated in Appendix B.

- The portion of each borehole below the bottom of the well was filled with bentonite or basal till cuttings to permit construction at the desired total depth.
- Wells were constructed with 2 inch diameter stainless steel screens and riser pipes.
- 3. A washed, graded sand was packed in the annulus between the well screen and borehole to at least one foot above the top of the screens.
- 4. A bentonite seal was placed in the annulus above the sand pack.
- 5. A Portland Cement/Bentonite grout was used to fill the remaining annulus to land surface.
- 6. A 4-inch diameter protective steel casing with a lockable cap was inserted over the riser pipe and grouted into place.

After construction, each monitoring well was developed and permeability tests were performed according to the method of Bouwer and Rice (1976). Well development consisted of bailing out the equivalent of ten well volumes of water in order to remove any potential contamination from the drilling process. In addition, water level elevations were recorded before and after development. Plots of the change in water level versus time were recorded at the monitor wells and calculations of the hydraulic conductivity in the vicinity of each monitor well are given in Appendix C. Decontamination of the drilling rig and accessories was performed by steam-cleaning after the completion of each well to prevent any possible cross-contamination between drill sites.

## B. Ground-Water Sampling

One ground-water sample was collected from each of the four wells according to the following procedure:

- 1. The water level was recorded.
- Three well volumes of ground water were removed and the water level was allowed to recover.
- A dedicated stainless steel bailer was inserted into the well and filled with ground water.
- 4. The water in the bailer was emptied into a new, clean sample container.
- 5. The bailer and rope were left inside the well for future use.
- 6. A chain-of-custody report was generated for the sample.
- 7. The sample was preserved in accordance with USEPA protocol.
- 8. The samples were iced and transported to the C&S Environmental Laboratory along with the chain-of-custody document.

## D. Analyses of Ground-Water Samples:

- 1. Analysis by the C&S Environmental Laboratory The C&S Environmental Laboratory analyzed a portion of the samples for the following 25 parameters by the referenced analytical methods:
  - (1) Aluminum (USEPA 202.1)
  - (2) Antimony (USEPA 204.1)
  - (3) Arsenic (USEPA 206.3)
  - (4) Barium (USEPA 208.1)
  - (5) Beryllium (USEPA 210.1)
  - (6) Cadmium (USEPA 213.1)
  - (7) Calcium (USEPA 215.1)
  - (8) Chromium (Total) (USEPA 218.1)

- (9) Cobalt (USEPA 219.1)
- (10) Copper (USEPA 220.1)
- (11) Iron (USEPA 236.1)
- (1?) Lead (USEPA 239.1)
- (13) Magnesium (USEPA 242.1)
- (14) Manganese (USEPA 243.1)
- (15) Mercury (USEPA 245.1)
- (16) Nickel (USEPA 249.1)
- (17) Potassium (USEPA 258.1)
- (18) Selenium (USEPA 270.2)
- (19) Silver (USEPA 272.I)
- (20) Sodium (USEPA 273.1)
- (21) Thallium (USEPA 279.1)
- (22) Tin (USEPA 282.1)
- (23) Vanadium (USEPA 286.1)
- (24) Zinc (USEPA 289.1)
- (25) Cyanide (Total) (USEPA 335.3)

## GC/MS Analysis of Ground-Water - CompuChem Labs

Separate portions of each of the four ground-water samples were preserved and sent to CompuChem Labs by air freight for GC/MS according to NYSDEC Superfund and Contract Lab Protocol.

The scan included analysis for the 130 organic pollutants contained on the NYSDEC Hazardous Substance List and included identification and quantification of all peaks 10 percent or greater than the nearest calibrating standard.

A chain-of-custody sheet accompanied each sample to the CompuChem Labs and was returned with the analytical results.

## 3.04 Other Sampling and Analyses

## A. Sediment Sampling and Analyses

## 1. Initial Sediment Sampling

Immediately after initiation of work on the project, portions of samples from three locations at the western end of the canal were composited into one sample. The resulting composite sample was packaged and sent to CompuChem Labs for a GC/MS scan of the 130 organics on the NYSDEC HSL. The GC/MS scan also identified and quantified all peaks 10 percent or greater than the nearest calibrating standard.

## Intensive Sediment Sampling

A total of 12 sediment samples were collected from sites ECS-1 to ECS-12 as shown on Figure 3. These 12 samples were preserved and analyzed at the C&S Environmental Laboratory for 24 metals, cyanides and percent solids. Based on the results of the initial sediment sampling, all 12 samples were analyzed for PAH's, PCB's and screened for total organic volatile chemicals (Section D - Contract Lab Protocol). Following the screening, the three samples with the highest total volatiles were analyzed for the complete volatile scan. This work was performed by GC/MS at CompuChem Labs.

Each of the 12 samples were also visually logged and analyzed using the HNU photoionization detector. During this work, C&S personnel logged the sediment thickness at the sampling points which were along the centerline of the canal. The sampling points were marked with flagged stakes for future reference.

#### B. Surface Water Samples

Surface water samples were collected at five locations including four sites in the Canal bed and one site at an opening in a storm sewer draining to the abandoned canal. The locations are shown on Figure 3.

The surface water samples were preserved and transported to the C&S Environmental Laboratory for analysis of 24 metals and cyanide. A separately packaged portion of each sample was shipped by air freight to the CompuChem Labs for a GC/MS scan of the pollutants on the NYSDEC HSL. The scan of the water samples also included the identification and quantification of all peaks 10 percent or greater of the nearest calibrating standard.

## C. Air Monitoring

An HNU photoionization detector was utilized on the site on the following occasions:

- Initially at one upwind and one downwind site to determine the presence of vapors carrying beyond the site.
- 2. During sediment and soil boring sampling to characterize the general levels of contaminants in the samples.

Once the initial air readings were taken, the Health and Safety Plan was updated to include information on the specific site, data on the site-specific protection requirements, and a map showing the route to the nearest hospital.

## 3.05 Implementation of QA/QC Protocols

A copy of the C&S QA/QC document, as it pertains to sampling and analysis, is included as Appendix D of this report. The procedures in the plan are those commonly utilized by C&S sampling and laboratory personnel.

Sampling procedures of particular applicability to this project included:

- Dedicated bailers were used for each monitor well and were left in the well for future sampling.
- The samples were collected in new, glass containers with Teflonlined caps and preserved in accordance with USEPA protocols.
- 3. Samples for the volatile scan were collected in glass vials with Teflon septums and with no air space in the vial.
- 4. All samples were iced immediately after collection and kept refrigerated until analysis.
- 5. A chain-of-custody sheet accompanied each sample to the laboratory and was attached to the laboratory results.

Analytical QA/QC procedures applicable to this project included:

 As required by the NYSDEC QA/QC protocol document, matrix spikes and matrix duplicate spikes were analyzed for each set of samples analyzed for organics.

## 3.06 Calculation of Final HRS Score

In accordance with the NYSDEC Generic Work Plan, a final HRS score was prepared, complete with the documentation on standard NYSDEC/USEPA forms. A narrative summary was included in the format required.

#### SECTION 4

#### SITE ASSESSMENT

## 4.01 Results of Geophysical Surveys and Test Borings

### A. Terrain Conductivity Survey

Terrain conductivity profiling was initiated on September 17, 1985 in the area adjacent to the north border of the canal along State Route 5S. The area is hydraulically downgradient of the canal. The profiling was accomplished utilizing a Geonics EM-34-3 terrain conductivity meter along three parallel 4,200 feet-long traverses. The traverses were located along the drainage ditch on the north side of the canal, along the centerline of Route 5S, and along the northern shoulder of Route 5S (Figure 2). Traverses were not conducted south of the canal because no contaminant plumes were expected to emanate from the upgradient side of the canal. Spacing between data points was ten meters. The surveys were performed to determine if there are occurrences of leachate breakthrough from the canal to the surrounding subsurface, approximate depths to the shallow water table, and/or changes in the physical properties of the shallow subsurface geology. Results of the surveys were intended to be used to modify, if necessary, the location of monitor well installations.

Profile plots of the data collected are presented as Figure 4. In general, the apparent conductivities were relatively low, ranging from a recorded loss of 12 millimhos/meter along Traverse 1 to the recorded high value of 34 millimhos/meter along Traverse 3. The higher conductivity values appear to be related more to cultural interference than to changes in subsurface soil conductivity. During the survey, field personnel observed culverts extending under Route 55 which appeared to drain the

drainage ditch along the south side of Route 5S. Culverts observed during the survey are shown on Figure 2 and their relationship to elevated conductivity values are shown on Figure 4. Other peaks shown on Figure 4 may also result from culverts or other man-made linear features which oriented normal to the traverses. There is no indication of a contaminant plume, which would be characterized by a broad region on each traverse of elevated conductivity values. The two correlative peaks along Traverses 1 and 3 (Figure 4) appear to result from buried pipelines or other man-made linear features.

## B. Resistivity Survey

Six locations were chosen for resistivity soundings in the area of the abandoned Erie Canal where the discharge of waste water occurred via the 30 inch storm sewer (Figure 2). At each location, soundings were taken at 5-feet depth intervals to a total depth of 30 feet below land surface. The resistivity survey was initiated and completed on September 18, 1985.

Resistivity values from the soundings were relatively low. Recorded resistivity values were plotted as a function of depth and are presented as Figure 5. The low values probably resulted from saturated, subsurface soils. No abrupt changes in the resistivity values were observed. The lowest values centered around a culvert which drains surface water runoff from the drainage ditch south of Route 5S. The culvert appears to carry runoff in a northerly direction beneath Route 5S and probably discharges into a drainage ditch north of Route 5S. The drainage pipe may be leaking, resulting in ground-water mounding and corresponding low resistivity values. Because of the shallow depth of the culvert, it's impact on ground-water flow is probably insignificant. Using cumulative

methods, calculated bedrock depths ranged from 19 to 22 feet below the generalized ground level shown on Figure 5. However, the apparent bedrock (or hardpacked till) interface has not been elevation corrected, therefore, the 3 feet deviation may not actually exist.

Interpretation of the geophysical data leads to the conclusion that there is no high-conductivity ground-water plume emanating from the canal. However, the presence or absence of low-conductivity organic contamination could not be determined without ground-water sampling and analysis.

#### C. Test Borings

In general, fill material was penetrated in all test borings, other than the test boring for MW-2, to a depth averaging 6.5 feet below land surface. The land surface in the vicinity of MW-2 was cut and levelled during the construction of Route 5S. Underlying the fill, and from land surface at MW-2, interbedded unconsolidated glaciofluvial and glaciolacustrine deposits were penetrated to a depth averaging 14 feet below land surface. Stiff basal till overlying black shale bedrock of the Utica Shale Formation occurred underlying the unconsolidated sediments (Figure 6).

## 4.02 Physiography, Drainage and Topography

A small portion of the study area lies within Oneida County boundaries. However, the vast majority of the site lies in Herkimer County.

Herkimer County includes parts of three major physiographic provinces. The Adirondack Mountains Province is located in the north part, the Mohawk Lowlands Province occurs along the Mohawk River, and the dissected Allegheny Plateau Province is situated in the extreme southern section of the county.

Drainage in the county is dominated by the Mohawk River. A small area in the southwestern part of the county drains into the Susquehanna River system. The Mohawk River is the only major stream in the area flowing west to east.

The landscape in Herkimer County is geologically young, an effect of glaciation occurring as recently as 10,000 years before present. There are few large tributaries present in the county. Numerous short tributaries and gullies have extended themselves by headward erosion and developed dendritic drainage patterns. A general lack of flood plain development is evident. Stream meanders exist, but they are closely confined meanders in valleys incised below the upland surface. Interstream tracts are extensive and poorly drained. Drainageways have not had enough time to cut back into uplands and drain these swamps and marshes.

The lowest elevation in the county is 300 feet in the Mohawk Valley along the Mohawk River on the Herkimer-Montgomery County line. The highest elevation is 1,873 feet in the extreme southwestern part of the county. In general, the lowest elevations are in the Mohawk lowland. Elevation increases away from the lowland and toward the Adirondack Mountains to the north, and the Allegheny plateau to the south. Elevation also increases slightly from east to west.

## 4.03 Site Hydrogeology

## A. Regional Geology

Geologic formations spanning from Precambrian times of more than 600 million years ago to the Recent Quaternary Period crop out in the Herkimer County area. The wide assortment of material is a result of several conditions. The Mohawk River bisects the area and has exposed a variety of rocks in forming its present channel. Also, Herkimer County

is situated so that the northern edge of the county borders on the Adirondack Mountains and its abundance of crystalline rocks, and the extreme southern part of the county is on the edge of the Catskill Mountains where sedimentary shale, siltstone, and sandstone occur. A further complicating factor is that the northern part of the county was uplifted during the formation of the Adirondacks, as evidenced by the numerous faults in the area that have their downthrown side away from the Adirondack Mountains. This uplift accelerated erosion, so that, in general, older rocks are exposed north of the Mohawk River.

The region has been further modified by glaciers that repeatedly overran the area during relatively recent times. Many of the soils in the area formed in glacial till that contains much material from exposed formations. The Mohawk River and East and West Canada Creeks acted as proglacial streams when the ice sheets lay to the north of the Mohawk River. During these periods the major streams were choked with coarsetextured sand, gravel and cobblestones from the glacial melt water. When the Mohawk River was blocked by ice to the east, these stream valleys were flooded, and lacustrine (lake) sediment was laid down over outwash and over glacial till and bedrock in a few areas.

## B. Site Specific Geology

The study area occurs in the Mohawk Lowlands Physiographic Province along the Mohawk River. As documented by test borings, the area is underlain, in descending order, by cut or fill, interbedded glaciofluvial and glaciolacustrine sediments, glacial lodgement or basal till with a high black shale content, and bedrock of the Utica Shale Formation (Figure 6). The Utica Shale Formation is of Middle Ordovician time and

is composed dominantly of fissile, black shale. The formation strikes northwest- southeast and dips at a low angle to the south-southwest.

#### C. Surface Water Flow

All surface water in the vicinity of the study area eventually drains to the Mohawk River. Man-made changes have modified natural drainage in the area during construction of roadways, plant sites, and the abandoned Erie Canal. Although surface water is generally pooled in the abandoned canal, there is a small component of eastward flow. Eventually, this water finds its way to the Mohawk River via artificial conduits in the area of the site and subsequently in natural channels away from the site. Streams discharging into the canal are generally intermittent, flowing after precipitation events.

#### D. Ground-Water Flow

In the study area, most ground water occurs and flows in unconsolidated sediments overlying low permeability basal till. The greatest likelihood for potential migration of contaminants is, therefore, through the unconsolidated sediments. Specifications for the construction of the monitoring wells were designed to permit collection of ground water occurring in this zone. The wells were screened in the interval from water table to basal till.

Although localized variations in the direction of ground-water flow may exist, the dominant direction of ground-water flow is northward through the site to the Mohawk River (Figure 2). Ground-water levels recorded in the monitoring wells document the general direction of flow. Surveyed monitoring well elevations (top and base of wells) and water levels measured and recorded at the wells are listed on Table 1.

The hydraulic conductivity of the sediments ranged from  $6 \times 10^{-5}$  cm/sec in the vicinity of MW-3 to  $2 \times 10^{-4}$  cm/sec in the vicinity of MW-4. The hydraulic conductivity of the soils in the area of MW-1 and MW-2 was equivalent and similar in magnitude to the soils at MW-3. The relatively higher hydraulic conductivity exhibited at MW-4 is due to the occurrence of the thick sand fill interval in that area (Appendix B). MW-4 was screened partially in the sandy fill interval. Therefore, the higher hydraulic conductivity exhibited in the vicinity of MW-4 is not characteristic of the natural hydraulic conductivity in the study area. MW-1, MW-2 and MW-3 were screened dominantly in naturally occurring unconsolidated sediments above basal till. The average hydraulic conductivity of the naturally occurring sediments in the vicinity of MW-1, MW-2, and MW-3 is  $8 \times 10^{-5}$  cm/sec.

In an attempt to quantify the potential extent of contaminant migration from the source area, the seepage velocity of the unconsolidated sediment was calculated. Based on an average hydraulic conductivity of the naturally occurring unconsolidated sediments of 8 x  $10^{-5}$  cm/sec, a hydraulic gradient of 5 x  $10^{-3}$  between MW-4 and MW-2 and an effective porosity of 20 percent, the seepage velocity was calculated as 8 x  $10^{-8}$  ft/sec or less than 3 ft/year.

A conservative estimate of 20 percent for the effective porosity was used to estimate a maximum value for seepage velocity. Assuming that industrial wastes have been deposited in the canal for 40 years, the potential maximum distance of contaminant migration towards the Mohawk River is on the order of 100 feet. It should be emphasized that this is an order-of-magnitude estimate. Many variables relating to contaminant

transport were not considered within the scope of this study. Therefore, the error associated with such an estimate may be considerable.

The abandoned canal is in direct hydraulic communication with ground water in the study area. Ground water flows into and through the canal. During periods of low flow, ground water serves to recharge the canal and maintain base flow. During periods of high surface water run-on into the canal, the canal serves to recharge ground water.

## 4.04 Assessment of Site Contamination

## A. Soil Sample Analysis

Tables 2A and 2B present a summary of analytical data on split-spoon samples obtained from three of the borings for the ground-water monitoring wells (MWSS-1, MWSS-2, MWSS-3). The sample from MWSS-1 contained low levels of several Polynuclear Aromatic Hydrocarbons. This well is considerably east of the other three wells. Sample MWSS-2, which is approximately 225 feet north of the canal showed no organic contamination, while the sample from boring number 3 (MWSS-3) contained low levels of benzene and xylenes, along with bis(2-ethylhexyl)phthalate. The metals data from the split spoon samples did not indicate any significantly high values. Appendix E contains complete data sheets for the soil samples.

## B. Ground-Water Analyses

Results of the analysis of ground-water samples from the four monitoring wells is provided in Tables 3A and 3B (See Appendix F for data sheets). Only five total organic parameters were detected, and three of these were only found in monitoring well number 1. As mentioned above, this well is farther east than the other three wells and this may account for the difference in ground-water quality. No organic chemical

contamination was found in monitoring well 2, which is the downgradient well that is off-site. The sample from monitoring well 3 contained only acetone. However, based on a variety of considerations (e.g. lack of significant acetone levels in other samples, presence of acetone in numerous blanks, use of acetone in sampling and drilling equipment clean-up), we feel that the acetone is not actually present in the ground water, but was instead picked up during drilling, sampling or analysis. Monitoring well number four contained low levels of acetone and chloroform.

Metals data (Table 3B) did not provide any indication of significant ground water contamination. Sixty percent of the parameters were not detected in any of the wells and only manganese values exceeded the States limits for Class GA ground-water quality. However, given that the manganese levels in the sediment (see below) were considerably lower than the levels of other metals, it is suspected that the source of the manganese is other than canal itself.

## C. Canal Water Quality

A total of 5 water samples were taken from the Erie Canal site (The data is presented in Tables 4A and 4B) (Data Sheets are provided in Appendix G). Sample SW-4 was from a storm sewer that discharges into the west end of the canal, while sample SW-3B is the discharge from the canal. Samples SW-1, SW-2 and SW-3 were obtained at locations along the length of the canal. Sample point locations are shown on Figure 3.

Discharge to the canal through the storm sewer contained detectable levels of 5 volatile organics: trans-1,2-dichloroethylene, chloroform, 1,1,1-trichloroethane, trichloroethylene and tetrachloroethylene. The

discharge from the canal contained detectable levels of three of these compounds, all at levels below the influent levels. The canal discharge also contained three additional contaminants: methylene chloride, methyl cyclohexane and 2,4-dinitrophenol. Sample SW-1, which is closest to the storm sewer discharge to the canal, contained the same five contaminants. The two other canal samples produced results which are somewhat unusual. SW-2 contained two contaminants not found in any other samples from the site: 4,4'-DDT and tetradecanoic acid. SW-3, however, showed no detectable organic contamination.

The metals data was similar in nature to that for the ground-water samples. No significant levels of any metal were noted.

#### D. Sediment Analyses

Initially a composite sediment sample was submitted for analysis according to the Contract Laboratories Protocol. This analysis was conducted to establish indicator parameters for future analytical work for a more extensive sediment sampling program. The results of the composite sample testing (see Table 5) showed that the sediment was contaminants mainly contaminated with PAH's. Minor bis(2-ethylhexyl)phthalate, methylene chloride, Arochlor 1254 and Based on these findings, the analysis of the 12 sediment toluene. samples from the length of the canal was conducted as described in Subsection 3.04(A) (See Figure 3). The results are presented in Tables 6A, 6B, and 6C.

The volatile analysis was conducted on samples ECS-2, ECS-3 and ECS-12. The major contaminant found was toluene. Sample ECS-12, which was from the eastern end of the canal showed relatively low levels of volatile organics.

Arochlor 1254 was found in all but one sediment sample, ranging in values from 190 to 9,500 ug/kg. Among the PAH's, phenanthrene and anthracene were most prevalent. Bis-(2-ethylhexyl)phthalate was detected in several samples, in concentration ranging from 1,000 to 210,000 ug/kg.

As would be expected, metals in the sediment were considerably higher than either the adjacent soil or ground and surface water. Of particular note are levels of lead (maximum of 21,600 mg/kg at ECS-7), chromium (11,300 at ECS-5), copper (20,400 at ECS-5) and cyanide (259 at ECS-2).

No sediment was noted as being present in the storm sewer discharging to the canal. This apparently was the result of the periodically high flows in the sewer.

Analytical data reports for sediment samples are included in the separate volumes of laboratory data.

#### SECTION 5

#### FINAL APPLICATION OF HAZARD RANKING SYSTEM

#### 5.01 Narrative Summary

The Erie Canal site is a 4,200 long section of the abandoned Erie Canal located near Utica, New York, and is in both Oneida and Herkimer Counties. Figure 1 shows the exact location on a U.S.G.S. quadrangle. The site is owned by Niagara Mohawk Power Corporation and at the western end of the canal, NiMo operated a small electrical substation (currently out of service).

The canal has received wastewaters from nearby industrial facilities and flow from a storm sewer into the canal currently is contaminated with low levels of several common solvents. Samples taken in 1985 indicate the presence of organics in the surface water within and discharging from the canal. This discharge eventually reaches the Mohawk River. The sediment in the canal is highly contaminated with a variety of metals. The quantity of sediment is estimated at 15,500 cubic yards based on an average depth of 2 feet. Ground water at the edge of the canal area showed low levels of organic contamination, but a monitoring well somewhat downgradient from the site was free of any detectable organic contamination. While there are several nearby houses that utilize ground water for their water supply, the lack of any contamination in the ground water at the downgradient well does not indicate that there is a significant risk to these residents.

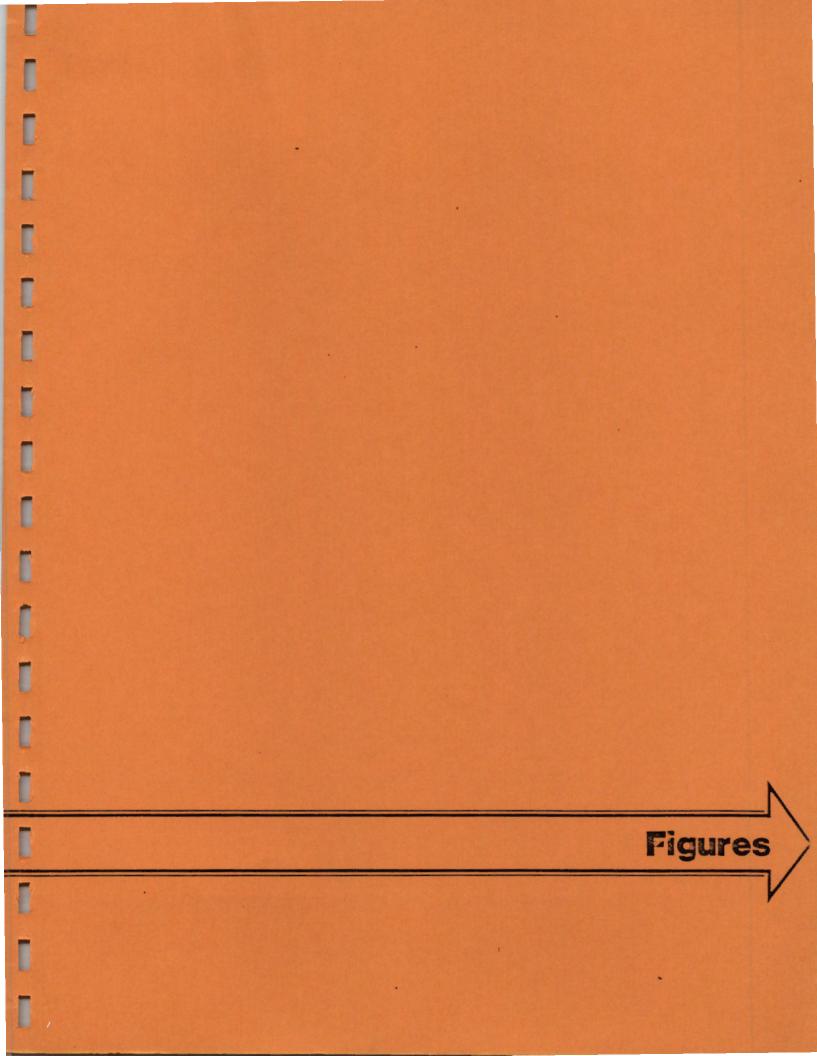
## 5.02 HRS Score

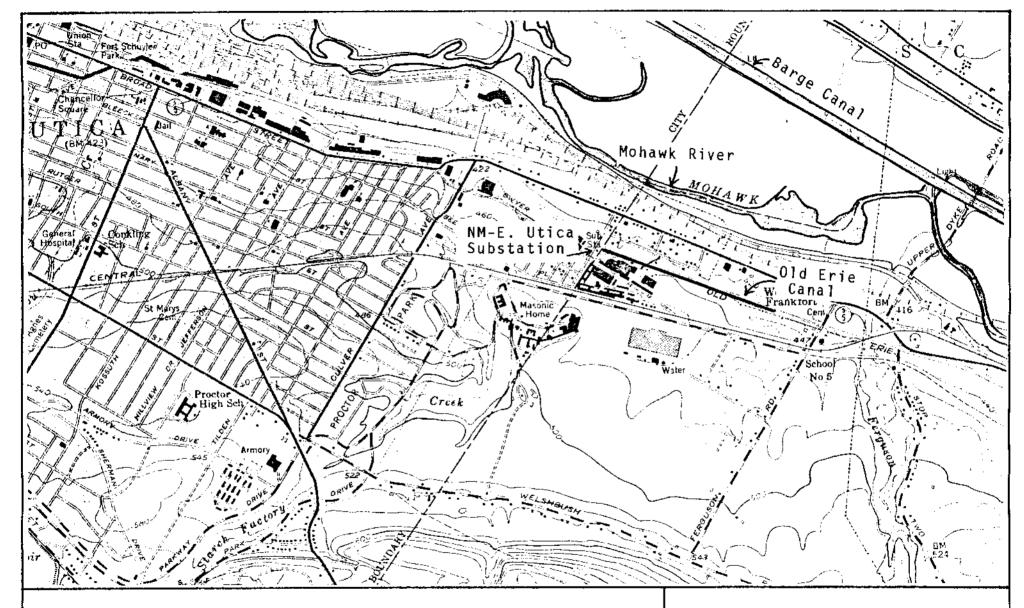
The final HRS score for the site was 24.66. The component scores were 40.68 for the ground water route, 12.87 for the surface water route and zero for the air route. The HRS worksheets and Documentation Records are included in Appendix H. The score is considerably lower than that reported in the

Phase I report (Sm = 40.75). The difference is a result of a change in the factor for "Distance to Nearest Well/Population Served". The population served portion of the factor was changed from "1000-3000" to "101-1000" based on the existence of a hydraulic boundary. The Mohawk River acts a line sink to which shallow ground water discharges. Because there is no flow across this hydraulic boundary, wells beyond the River are not affected by the site.

The score is unrealistically high, however, when consideration is given to the number of wells within the 3 mile radius that could potentially be affected by the site. The vast majority of the wells are upgradient of the site. Roughly half of these upgradient wells are located at elevations that are more than 500 feet higher than the water table at the site. The other half of these upgradient wells are at elevations of more than 120 feet above the site water table. In addition, the regional ground-water flow is in the direction of the Mohawk River. Adjusting the HRS score to not include these wells would result in a total score of 16.27.

The EPA Form 2070-13 "Potential Hazardous Waste Site, Site Inspection Form" was updated and is included in Appendix H.

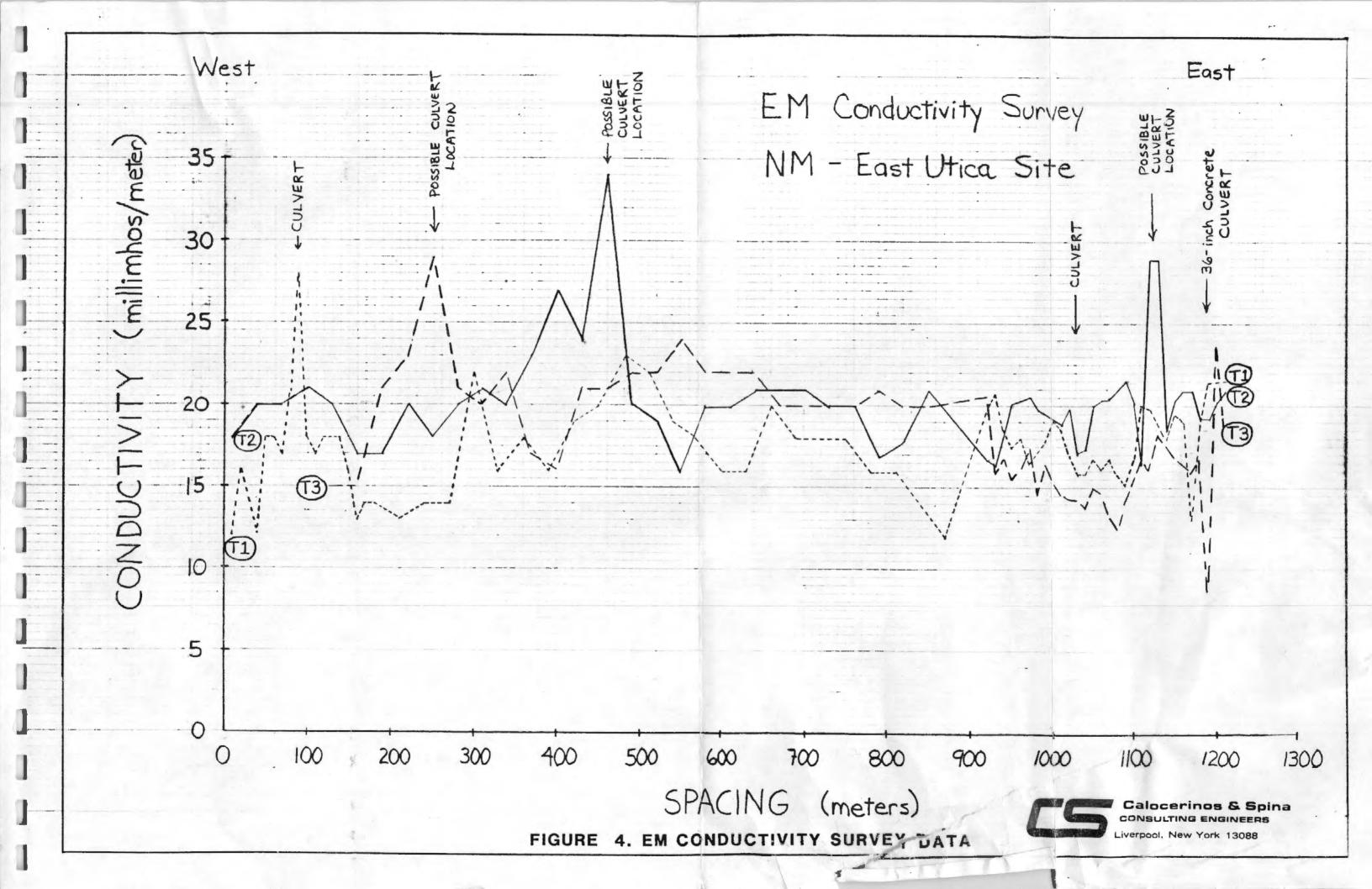


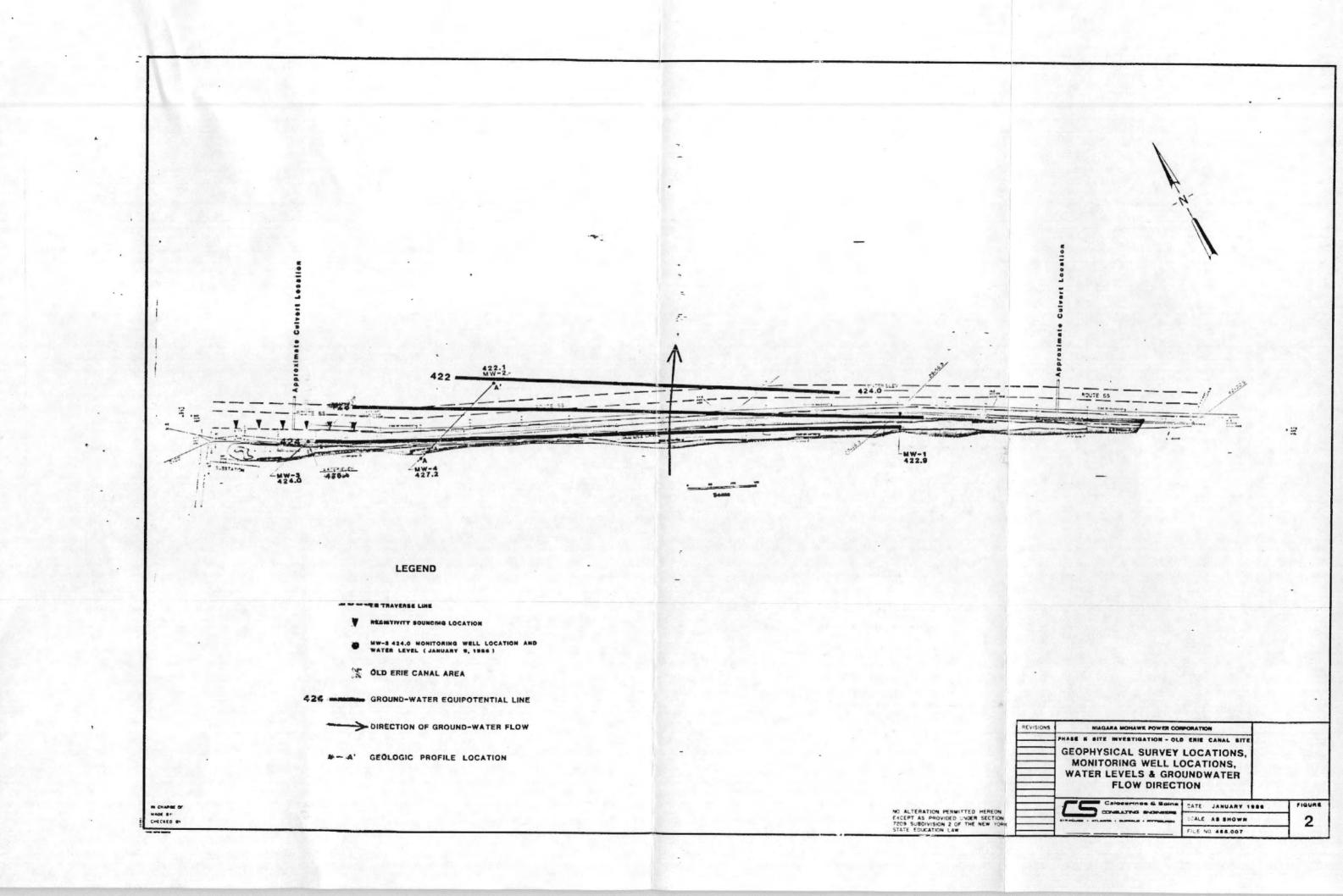


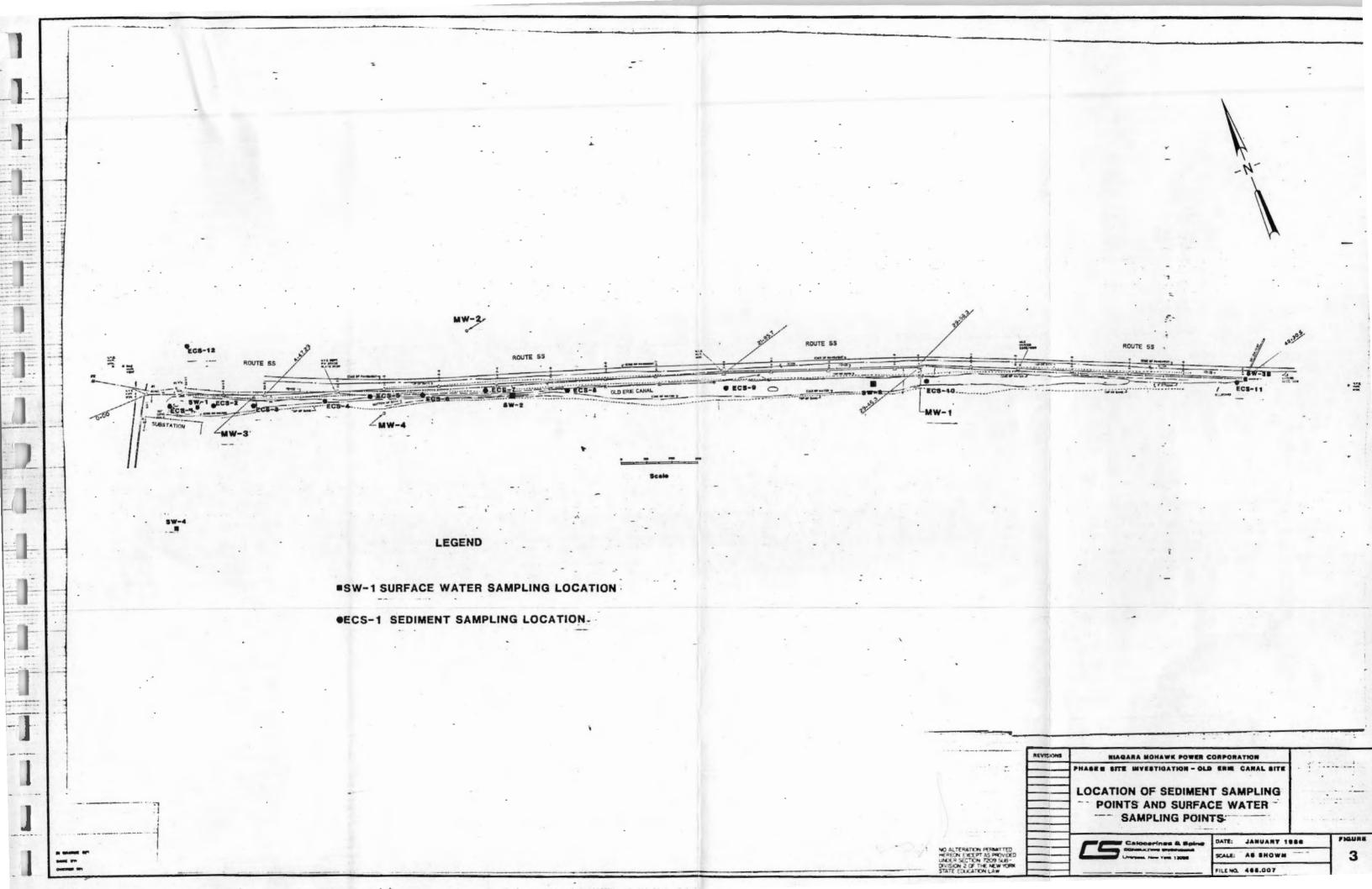
## FIGURE 1

Reference: U.S.G.S. Utica East Quadrangle









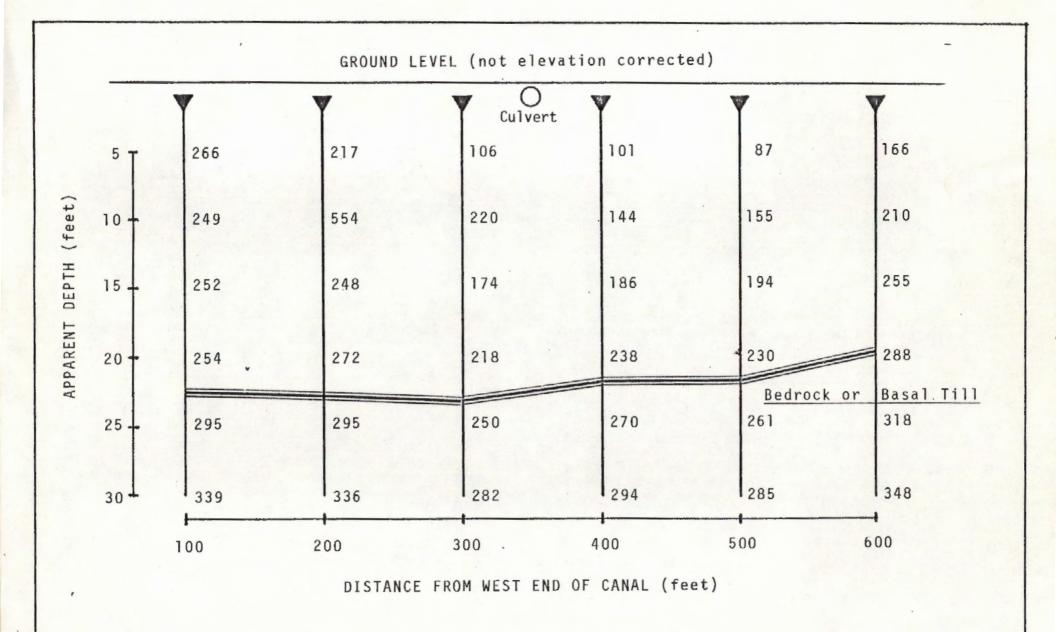
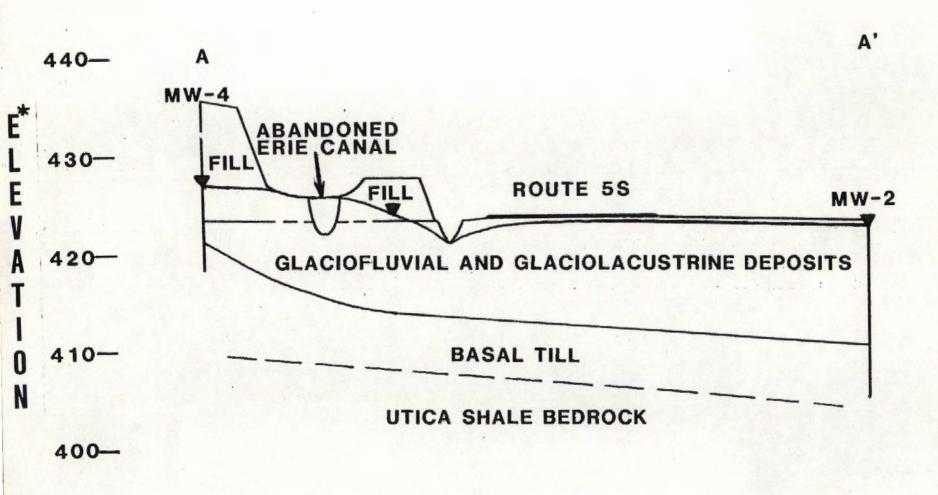


FIGURE 5: Profile of resistivity soundings (ohm-feet)







1 inch =150 feet

\*RELATIVE TO FEET ABOVE MEAN SEA LEVEL

FIGURE 6. HYDROGEOLOGIC PROFILE A-A'



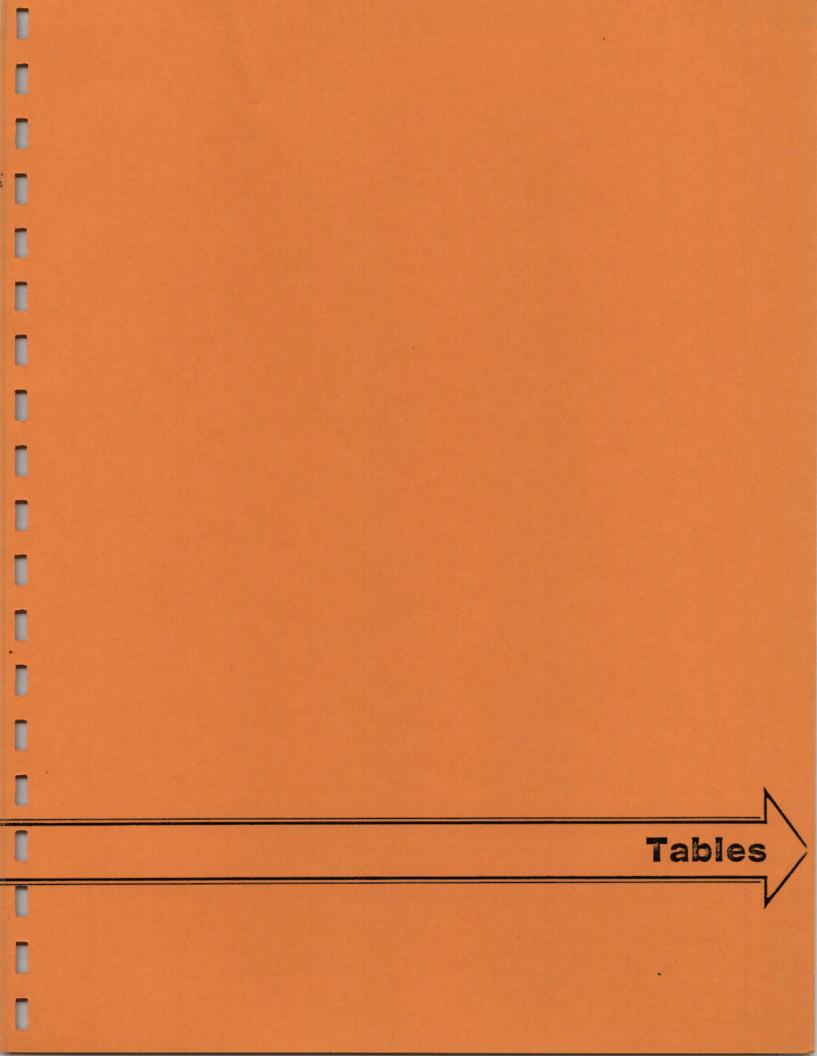


TABLE 1

SURVEYED MONITORING WELL ELEVATIONS

AND WATER LEVELS\*

	TOP OF WELL	BASE OF WELL	WATER LEVEL**	
MW-1	429.4	427.7	422.9	_
MW-2	424.5	422.7	422.1	
MW-3	429.7	427.9	424.0	
MW-4	437.2	435.7	427.2	

<sup>\*</sup> Elevations Are In Feet Above Mean Sea Level.

<sup>\*\*</sup> Water Levels Based On Measurements Recorded On January 9, 1986.

# TABLE 2A

# ERIE CANAL

# SPLIT-SPOON SAMPLE RESULTS (ug/kg)

	MWSS-	-1	MWSS	-2	MWSS-3
Acetone	6.	1 J8	7.7	J8	
Fluoranthene	48	J			
Pyrene	61	J			
Benzo(a)anthracene	79	J			
Benzo(b)fluoranthene	79	J			
Benzo(k)fluoranthene	96	J			
Methylene Chloride			98	В	700 B
Ethyl Benzene					2.0 J
Total Xylenes					12
bis(2-ethylhexyl)phthal	ate				240 J
2-Methylcyclopentanol	370	JB			270 JB
Unknown	410	J			

J = Estimated Value

B = Compound Found in Blank

TABLE 28 ERIE CANAL  $\frac{\text{SPLIT-SPOON SAMPLE RESULTS}}{(\text{ug/kg})}$ 

	MWSS-1	MWSS-2	MWSS-3	
Aluminum	11700	13100	9340	
Antimony	LT 6	1.7	1.8	
Arsenic	13	16	16	
Barium	62	41	55	
Beryllium	LT 0.5	LT 0.5	LT 0.5	
Cadmium	0.16	0.12	0.18	
Calcium	1670	47000	24400	
Chromium	13	16	13	
Cobalt	9.6	9.3	3.5	
Copper	20	30	28	
Iron	28500	27300	23300	
Lead	4.3	5.8	5.9	
Magnesium	3870	18600	7220	
Manganese	489	681	512	
Mercury	0.11	0.18	0.22	
Nickel	18	23	20	
Potassium	820	2080	1100	
Selenium	LT 0.5	LT 0.5	LT 0.5	
Silver	2.1	1.2	LT 1	
Sodium	298	651	527	
Thallium	LT 1	LT 1	LT 1	
711Q 1 1 1 QM	10		1/	

5.2

26

67

LT 1

18

22

55

LT 1

Tin

Zinc

Vanadium

Cyanide

LT 1

78 LT 1

22

TABLE 3A

SUMMARY OF ORGANIC PARAMETERS DETECTED

IN GROUND WATER SAMPLES

# CONCENTRATION (ug/1)

PARAMETER	MW-1	MW-2	MW-3	MW-4
Methylene Chloride	1.0 J	LT 5.0	LT 25	LT 5.0
Acetone	11	LT 10	1,100	6.3 J
Chloroform	1.2 J	LT 5.0	LT 25	1.3 J
Pentachlorophenol	4.6 J	LT 100	LT 100	LT 100
Bis(2-ethylhexyl)phthalate	6.8 J	LT 20	LT 20	LT 20

J = Compound is present but below analytical detection limit; value shown
is an estimated value

# TABLE 3B ERIE CANAL GROUND WATER - METALS DATA (mg/1)

		MW-1		MW-2		MW-3		MW-4
Aluminum	LT	0.2	LT	0.2	LT	0.2	LT	0.2
Antimony	LT	0.060	LT	0.060	LT	0.060	LT	0.060
Arsenic	LT	0.010	LT	0.010	LT	0.010	LT	0.010
Barium		0.4		0.5		0.5		0.5
Beryllium	LT	0.005	LT	0.005	LT	0.005	LT	0.005
Cadmium	LT	0.005	LT	0.005	LT	0.005	LT	0.005
Calcium		70	1	20		70		80
Chromium	LT	0.010	LT	0.010		0.010	LT	0.010
Cobalt	LT	0.050	LT	0.050	LT	0.050	LT	0.050
Copper	LT	0.02	LT	0.02	LT	0.02	LT	0.02
Iron		0.06		0.07		0.07		0.10
Lead	LŤ	0.005	ŁT	0.005	LT	0.005	LT	0.005
Magnesium		14		29		16		16
Manganese		1.1		0.4		2.0		6.4
Mercury	ŁT	0.0005	LT	0.0005	LT	0.0005 .	ĹŤ	0.0005
Nickel	LT	0.02	LT	0.02		0.05		0.02
Potassium		1.8		1.8		3.2		7.1
Selenium	ĹΤ	0.005	LT	0.005	LT	0.005	LT	0.005
Silver	LT	0.010	LT	0.010	LT	0.010	LT	0.010
Sodium		15		20		17		38
Thallium	LT	0.010	LT	0.010	LT	0.010	LT	0.010
Tin	LT	0.040	LT	0.040	LŤ	0.040	LT	0.040
Vanadium	LT	0.050	LT	0.050	LT	0.050	LT	0.050
Zinc		0.04		0.06		0.04		0.07
Cyanide	LT	0.004	LT	0.004	LT	0.004	LT	0.004

TABLE 4A ERIE CANAL

# SURFACE WATER - ORGANICS (ug/1)

	SW-1	SW-2	SW-3	SW-3B	SW-4
t-1,2-Dichloroethylene	56	6.2		8.7	30
Chloroform	2.8 J				<b>4.</b> 8 J
1,1,1-Trichloroethane	13			2.8 J	3.6 J
Trichloroethylene	70	8.5		19	25
Tetrachloroethylene	3.8 J				7.8
4,4'-DDT		0.11			
Methylene Chloride				4.9 J	
Tetradecanoic Acid		30 J			
2,4-Dinitrophenol				26 J	
Methylcyclohexane				18 J	

J = Compound is present but below analytical detection limit; value shown is an estimated value.

B = Also found in blank.

# TABLE 4B ERIE CANAL

# SURFACE WATER - METALS (mg/l)

	SW-1	SW-2	SW-3	SW-38	SW-4
Aluminum	0.3	0.4	0.7	0.3	0.3
Antimony	LT 0.060				
Arsenic	LT 0.010				
Barium	LT 0.2				
Beryllium	LT 0.005	LT 0.005	LT 0.005	LT 0.006	LT 0.005
Cadmium	LT 0.005				
Calcium	LT 10	46	51	76	<b>4</b> 7
Chromium	0.011	0.044	0.050	0.021	LT 0.010
Cobalt	LT 0.050				
Copper	0.05	0.11	0.11	0.06	0.02
Iron	0.69	0.93	1.1	0.95	0.68
Lead	0.017	0.033	0.024	0.014	0.026
Magnesium	10	9	10	14	9
Manganese	0.14	0.11	0.14	0.12	0.16
Mercury	LT 0.0005	ET 0.0005	LT 0.0005	LT 0.0005	LT 0.0005
Nickel	LT 0.02	LT 0.02	LT 0.04	LT 0.03	LT 0.02
Potassium	2.8	2.6	2.5	3.5	2.7
Selenium	LT 0.005				
Silver	LT 0.010				
Sodium	29	25	19 .	14	24
Thallium	LT 0.010				
Tin	LT 0.040				
Vanadium	LT 0.05C	LT 0.050	LT 0.050	LT 0.050	LT 0.050
Zinc	0.03	0.02	0.18	0.03	0.05
Cyanide	LT 0.004	LT 0.004	LT 0.004	LT 0.006	LT 0.004

TABLE 5

ORGANIC PARAMETERS PRESENT IN COMPOSITE SEDIMENT SAMPLE

PARAMETER	CONCENTRATION (ug/kg)
Pyrene	170,000
Fluoranthene	170,000
Phenanthrene	140,000
Benzo(b)fluoranthene	110,000
Benzo(k)fluoranthene	110,000
Benzo(a)anthracene	87,000
Chrysene	87,000
Benzo(a)pyrene	70,000
Anthracene	48,000
Benzo(e)pyreme	46,000
bis(2-Ethylhexyl)phthalate	44,000
Methylene chloride	41,000*
Indeno (1,2,3-cd)pyrene	28,000
4H-Cyclopenta(def)phenanthrene	16,000
Aroclor 1254	1,000
Toluene	780**

 $<sup>\</sup>mbox{\scriptsize \star}$  Methylene Chloride was found in the Reagent Blank at levels significantly below the sample.

<sup>\*\*</sup> Toluene also found in the Reagent Blank at levels comparable to the sample.

TABLE 6A

ERIE CANAL SEDIMENT SAMPLES

RESULTS IN ug/kg DRY WEIGHT

	ECS-2	ECS-3	ECS-12
1,1-Dichloroethane	9.4 J	ND	ND
t-1,2-Dichloroethylene	2.6 J	ND	ND
1,1,1-Trichloroethane	ND	22	ND
Toluene	50	5.2 J	ND
Ethylbenzene	180	33	15
Xylenes	1,000	200	76
Trimethyl pentene	140 J	ND	17 J
Tricyclodecane	24 J	ND	ND
Trimethylcyclohexane	140 J	ND	ND
Dimethylethyl phenol	22 J	NO	ND
Dimethylhexene	ND	9 J	ND
Octahydro-methylpentalene	ND	170 J	ND
Ethylmethyl cyclohexane	ND	24 J	ND
Hexane	ND	ND	8 J

J = Compound is present but below analytical detection limit; value shown is an estimated value.

TABLE 6B
ERIE CANAL - SEDIMENT SAMPLES
RESULTS IN ug/kg DRY WEIGHT

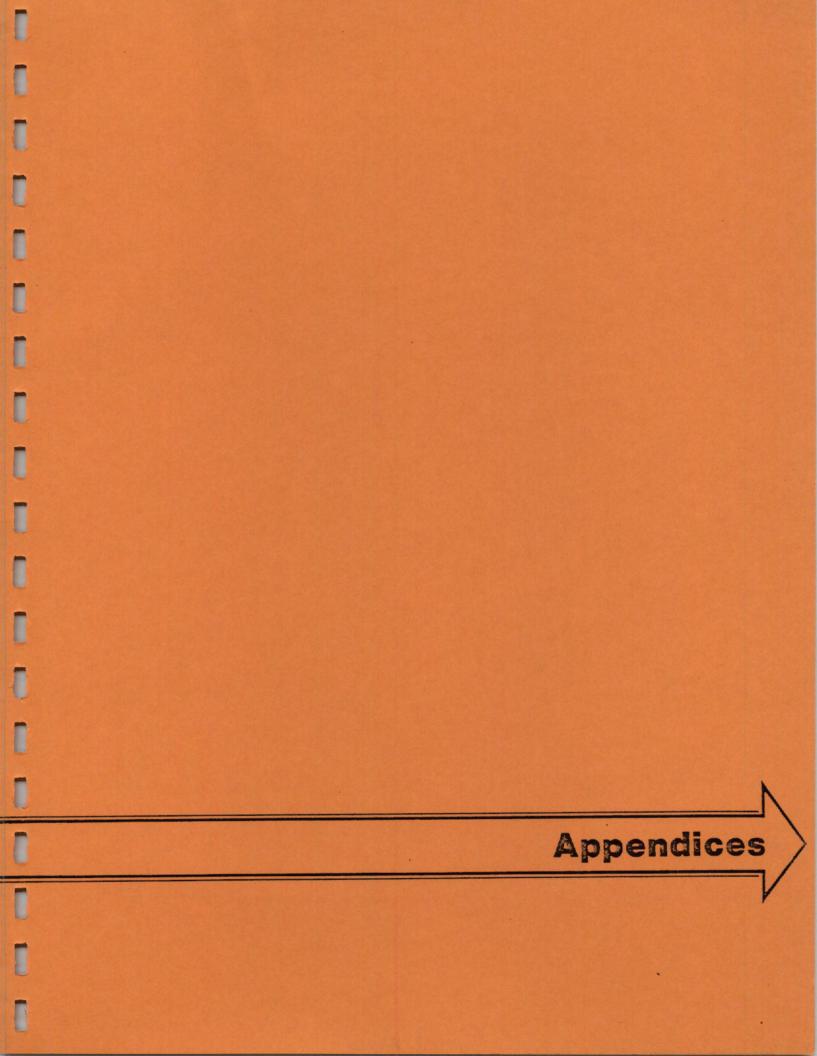
	ECS 1	ECS 2	ECS 3	ECS 4	ECS 5	ECS 6	ECS 7	ECS 8	ECS 9	ECS 10	ECS 11	ECS 12
Arochlor 1254	510	1400	0008	190	BDL	2200	4100	1700	9500	4500	1100	2800
Naphthalene	BDL	400	BDL	BDŁ	8DL	8DL						
Phenanthrene **	4B00	8DL	B10	BDŁ	BDL	500	BDL	2000	440	1200	BDL	BDL
Anthracene**	BDL	BDL	810	BDL	8DL	500	8DL	2000	BDL	BDL	BD∟	BDL
Fluoranthene	4000	170D	BDL	1700	BDL	1500	4200	BDL	₿DL	640	BDL	BDL
Pyrene	3200	1700	BDL	BOL	BDL	BDL	2100	BDL	370	490	BDŁ	BDL
Benzo(a)anthracene	BOL	BDL	BDL	8DL	BDL	690	1700	BDL	BDL	360	BDL	BDL
Chrysene	BDL	BDL	BDL	BDL	BDL	800	3600	BDL	BOL	640	BDL	BDL
Bis(2-ethylhexyl)-												
phthalate	BDL	27000	BDL	21000	57000	3700	23000	11000	1000	1700	BDL	210000
Benzo(b)fluoranthrene**	BDL	BDL	BDL	BDL	BDL	1500	2700	BOL	57D	380	BDL	BDL
Benzo(k)fluoranthene**	BDL	BDL	BDL	8DL	BDL	1500	2700	8DL	570	380	BDL	BDL
Benzo(a)pyrene	BDL	BDL	BOL	BDL	BDL	580	BDL	BDL	BDL	BDL	₿DŁ	BDL
Detection Limit	1700	1700	330	1700	340D	330	1700	330	330	340	330	16000
(limit 60 mg/kg)TOX	BDL	BDL	BDL									

<sup>\*\* =</sup> Indistinguishable isomers

TABLE 6C
ERIE CANAL - SEDIMENT SAMPLES
RESULTS IN mg/kg DRY WEIGHT

		ECS 1	ECS 2	ECS 3	ECS 4	ECS 5	ECS 6	ECS 7	ECS 8	ECS 9	ECS 10	ECS 11	ECS 12
Aluminum	ρ	7 <b>B</b> 40	13600	8200	9310	9610	6650	5240	3740	16200	13200	9190	7600
Antimony	RF	3.6	1.4	1.6	6 ⊎	6.7	2.6	2.0	1.9	6 ป	4.0	6 U	1.2
Arsenic	F	B.4	6.1	10	6.8	11	11	11	6.4	37	13	8.7	7.1
Barium	RР	225	222	390	121	207	231	197	67	299	217	76	99
8eryllium	Р	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 ư	0.5 U	0.້5 ນ
Cadmium	F	23	5.3	51	51	3.2	132	43	4.0	6.3	23	2.4	11
Calcium	P	18800	26200	19000	37460	60600	5 <b>840</b>	9100	4770	40800	17000	42400	39700
Chromium	P	780	1 <del>9</del> 50	1280	584	11300	6700	3040	2780	4530	9230	339	2600
Cobalt	Р	31	176	22	5 U	22	171	47	38	25	44	19	60
Copper	P	1680	5660	1520	2580	20400	12900	5390	7820	6660	13700	735	2920
Iron	P	36100	25200	43600	2080	30300	16300	21600	23700	49700	37100	29400	28500
Lead	P	849	1760	1070	650	2240	16300	21600	822	1680	1820	150	1030
Magnesium	P	4950	6330	4850	3880	5440	2330	2250	1410	7320	6440	14600	10800
Manganese	R P	1110	486	1280	317	501	310	311	271	912	540	899	1370
Mercury	R*	4.3	6.0	5.3	1.5	1.7	4.0	7.6	3.9	9.3	9.1	0.90	2.8
Nickel	P	179	341	175	254	309	524	575	<b>2</b> 26	188	403	99	153
Potassium	<u>P</u> .	519	686	479	571	<b>69</b> 8	512	418	306	1450	1570	1280	775
Selenium	F*	1.6	3	1.2	2.6	1.7	3.2	6.8	1.9	3.9	E,8	0.75	1.5
Silver	R P	19	24	17	9.5	15	88	20	11	3	8.1	1 U	7.7
Sodium	P	250	363	295	539	299	342	184	229	493	685	173	294
<u>Thallium</u>	R F	0.35	0.68	1.0	0.95	1.1	0.95	0.54	0.27	0.72	0.95	0.53	294
Tin	F*	139	616	656	490	936	240	398	759	352	700	22	730
Vanadium	P	38	46	35	29	70	34	20	32	68	85	28	43
Zinc	R P*	1490	761	3170	206	454	<b>3</b> 87	1330	206	1560	737	145	223
Cyanide	R	11	259	7.6	6.5	13	11	4.5	1 U	7.8	1 ป	1 U	1 U

Not detected at the specified limit.
 Duplicate analysis not within control limits.
 Spike recovery not within control limits.
 Furnace method was used.
 ICP/Flame AA method was used.



# APPENDIX A

RESULTS OF GRAIN SIZE DISTRIBUTION, ATTERBURG LIMITS,
AND MOISTURE CONTENT TESTS

# PARTICLE SIZE DISTRIBUTION CURVE -U.S. STD. SIEVES-HYDROMETER ANALYSIS~ OPENINGS, INCHES MESH PER INCH-WEIGH. Æ 8 8 RETAINED FINER PER( 60.0 20.0 0.05 0.02 0.01 0,005 0.002 mm 100 1.0 200 10 2.0 A 100 20 PARTICLE DIAMETER, D

MEDIUM SAND

#### SAMPLE INFORMATION:

COARSE GRAVEL

Unified Soil Clossification

ASTM: D 2487-84

Boring Number Sample Number Depth (ft.) Natural Water Content (%)

MW-3 S-2 4.0-6.0 10.5

COARSE SAND

**FINE GRAVEL** 

NORTH STAR DRILLING CO.

F.O. lox 67- Carriand, K.Y. 19645
Tricphysia 627-716-624

PARTICLE SIZE ANALYSIS

ERIE CANAL NIAGARA MOHAWK

SILT OR CLAY

DR.BY. A CK'D.

FINE SAND

DATE: 12/85

PROJ. NO. NSD-8542

☑ Insufficient Sample Size per ASTM D 422

## PARTICLE SIZE DISTRIBUTION CURVE -U.S. STD. SIEVES--HYDROMETER ANALYSIS-MESH PER INCH--OPENINGS, INCHES WEIGHT Æ 띮 0.02 0.01 0.005 0.002 mm 0.05 60.0 20.0 10.0 0.2 100 20 10 2.0 JL 1000 500 200 50 PARTICLE DIAMETER, D Unified Soil

**MEDIUM SAND** 

FINE SAND

SAMPLE	INFORMATION:	

**COARSE GRAVEL** 

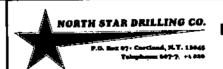
Classification

ASTM\* D 2487-84

Boring	Sample Number	Depth	Natural Water Content (%)	_	Plastic _Limit_	<del>-</del>	
MW-3	S-6	12.0-14.0	22.9	39	26	13	

COARSE SAND

**FINE GRAVEL** 



PARTICLE SIZE ANALYSIS

ERIE CANAL NIAGARA MOHAWK

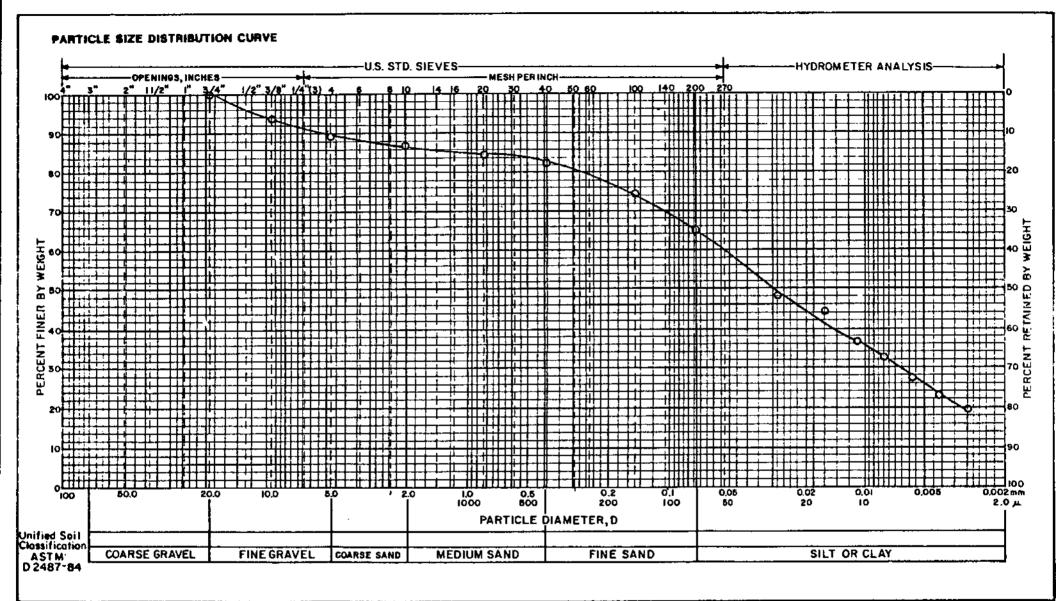
SILT OR CLAY

M Insufficient Sample Size per ASTM D 422

DALBY: - CK'D.

DATE: 12/85

PROJ. NO. NSD-8542



SAMPLE	INFORMATION:
SAMILE	HIT ORMATION.

	-	-	Natural Water Content (%)	_		
MW-3	5-7	14.0-16.0	29.2	32	20	11

NORTH STAR DELLLING CO.

F.O. She by Cartland, N.Y. 19449
Telephone by 195 6449

PARTICLE SIZE ANALYSIS

ERIE CANAL NIAGARA MOHAWK

☑ Insufficient Sample Size per ASTM D 422

DR. BY: X CK'D.

DATE: 12/85

PROJ. NO. NSD-8542

# APPENDIX B

BORING LOGS AND MONITORING WELL
CONSTRUCTION DETAILS

		NS-1 3-3	SILTY, MICACEOUS,	SANDY, ABUNDANT F	ETOUS .	T M UT	Protective Stee	45/7		
	-3		.,							
	4					FMA	-Portland/Bea	Honite Grow	t	
	-5	A	AV been welled	AN GOLLAN TO DICKY	E. 1. 1. 10. 10.	-MA	-Z" DIAM STA	ANLES STEE	LAISER	
200	-6	X 5-2 7-6 B	RAWN, SILTY, SAND	SH BROWN TO DUSKY YOY, VF GRAINED (FILL)	, MOIST	- 44	- 38" BENTONITE			
	-7   K			CS, ORIGINAL LANDSURFAL			10   1			
	-8 -9		BAY . AS AGOVE . WE			下 图=第	- SAND PACK			
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	-17	MW-1 8 - 20 CI	LAY, SILT, SAND, GA	WEL, (TILL), DAKE GRI	ev,	FIII				
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-3 -4 -5 -6 -7 -8 -9 -10	MW-Z 3-4 CLAY, BROWN, YF SAND AND SILT, WET  S-2 4-5 CLAY, BROWN, SILTY, SAND CONTENT INC. W/DEPTH  MW-Z 4-4 SILT, BROWN, FTO CRSE SAND, AND MINOR CLAY  S-3 5-6 CLAY, GRAY, SILTY AND YF SAND, SATURATED  MW-Z 1-1 CLAY, BROWN, SILTY, YF SAND, IRON STAINING  S-4 3-4 CLAY, GRAY, SILTY, AND MINOR Y.F SAND  MW-Z 2-2 CLAY, BROWN, SILTY AND VESAND; I INCH CRSE BROWN SAND	
-12 -13 -14 -15 -16 -17 -18	S-5 3-5 LENS @ 10.2 'je10.5' CLAY, GRAY, SILTY (T. 12.5')  MW-1 7-10  CLAY, REDDIN-GRAY (TILL) AND SA BLACK SHALE  S-6 10-10 FRAG MENTS (1" DIAMETER  MW-2 6-6 CLAY, GRAY-BROWN (TILL), CRSE SAND, SILT, AND  S-7 11-20 SR TO SA BLACK SHALE FRAGMENTS < 1" DIAMETER  MW-2 13-16  TILL, AS ABOVE  CUTTINGS	
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11.	-1	MW-3 S-1	SILT, BROWN, SAND AND GRAVEL , ROUNDED	PROTECTIVE STEEL C	STEEL PISER
II.	-2 -3	1 3 1	Siet, Brown, Shirt And driver   Rowner	PATLAND CEMENT/BEN	TONITE GROUT
116	-4	MW-3	SAND, BROWN, CRSE AND GRAVEL FILL, COBBLES,	3/8" DIAMETER BENTON	ine
	-5	S-2	WET AT APP. 4	SAND PACK	
	-7	MW-3 S-3	CLAY, BROWN . SILT , SAND , AND GRAVEL	2"DIAM STAINLESS	
	<del>-8</del>	MW-3	CLAY, BROWN, SILT, GRAVEL, AND BLACK SHALE	STEEL SCREENS	
	-10	54	ROCK FRAGMENTS, SUBROUNDED		
M.	-11 -12	3-5	CLAY, REDDISH-GRAY, SILT AND GRAVEL, BLACK SHALE ROCK FRAGMENTS, ANGULAR		
4	-13	XMW-3	CLAY, GRAY-BROWN, SILTY, ORGANIC BLACK		
	-14	S-6	AND IRON STAINED MOTTLES, STIFF CLAY, REDDISH-GRAY, SILT AND MINOR SAND,		
	-15 -16	5-7	GRAVEL, BLACK SHALE ROCK FRAGMENTS (TILL)		
	-17	5-8	SHALE, DK-GRAY, WEATHERED FRAGMENTS, ABR	quity was	
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-1	S-1 12-18 SILT, ORGANIC AND IRON-STAINED ZONES	PRETENTIVE SIELL CASING	
-2	S-11/2-78 SILT, UNGANIC HIND IKON-STAINED ZUNES	BENTON ITE GROUT	
-3			
-4		2"DIAM STAINLESS	11
F6	MW-410-8 FILL, GRAY - BLACK, SAND, CINDERS, IRON-STAINED		
-7	S-2 3-1 SAND, BROWN, CRSE, MOIST, IRON-STAINED		
-8		- 3/8" BENTONITE PELLETS SEAL	
-9		PELLETS SEAL	
-10	WET @ APP. 10'BLS		
<u>- 11</u>	MW-4 2-3 WET SAND, RELOVERY VY POOR, DRILLED HARDER @ 12'	SAND PACK	
12	S-3 4-4 NATURAL SURFACE @ 12'		
-13 -14	MN-4 7-10 SAND, GRAY-BROWN, SILTY TO 14.3'.	2 "DIAM. STAINLESS STEEL SCREENS	11
<del>-</del> i5	S-4 18-25 TILL, REDDISH - GRAY AND BLACK SHALE FRAGMENTS	SIECH STREET	
-16	MW-4 10-22 TILL, AS ABOVE, FRAGMENTS SA (SANDY, SILTY	Cuttings	
-17	S-5 50-40 CLAY		
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APPENDIX C

CALCULATION OF HYDRAULIC CONDUCTIVITIES

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APPENDIX D

QA/QC DOCUMENT

# SAMPLING PROTOCOL QA/QC

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#### SAMPLING PROTOCOL QA/QC

#### 1.01 Introduction

The observance of proper sampling protocol assures that samples collected are representative of their original environment and their integrity is maintained from the time of sampling through the time of analysis. This assurance is gained through the use of: (1) appropriate sampling methods; (2) clean, calibrated equipment; (3) containers, preservatives and holding times conforming to accepted standards; (4) proper work documentation; and (5) statistical precision and accuracy through the use of blank samples, duplicate samples and, in the laboratory, spike samples.

Since predetermined procedures cannot be applied to all sampling environments; it is the purpose of this manual to define basic sampling methods which apply to most situations, and to present a general overview of the QA/QC considerations necessary to the development of any monitoring program. This sampling protocol has been written to conform with EPA and DEC guidance and standards wherever they were available.

#### 2.00 Ground-Water Monitoring Procedures

#### 2.01 Introduction

In order to assess the impact of the disposal of waste materials to the land on ground-water quality, the behavior of pollutants in the subsurface and the processes governing this behavior must be evaluated. The fundamental objective of monitoring land disposal sites is to serve as a check on potential leachate contamination. The subsurface environment, however, is an extremely complex system subject to extensive physical, chemical and biological changes within small vertical and horizontal distances. Samples from a monitoring well represent a small part of an aquifer horizontally and

in many cases, vertically. Special precautions must be taken to ensure that the sample taken from a given well is representative of the ground water at that location and that the sample is neither altered nor contaminated by the sampling and handling procedure.

The following subsections detail the basic procedures followed by Calocerinos & Spina field crews in monitoring ground water at disposal facilities. These procedures are based on United States Environmental Protection Agency manuals and other ground-water monitoring manuals.

#### 2.02 Representative Sample Collection

During any ground-water sampling program, it must be understood that the composition of the water within the well casing and in close proximity to the well is probably not representative of the overall ground-water quality at that sampling site. This is due to the possible presence of drilling contaminants near the well and because important environmental conditions such as oxidation-reduction potential may differ drastically near the well from the conditions in the surrounding water-bearing materials. In addition, stagnation as well as stratification of water can take place within the well.

To safeguard against collecting non-representative water in a sample, it is highly desirable that a well be pumped or bailed until the well is thoroughly flushed of standing water and contains fresh water from the aquifer. The recommended length of time required to pump or bail prior to sampling is dependent on many factors including the characteristics of the well, the hydrogeological nature of the aquifer, the type of sampling equipment being used, and the parameters of interest.

The generally accepted procedure is to bail between four and ten well volumes prior to sampling. In those situations where the well is bailed to

dryness, the amount bailed prior to sampling will be less. Note also that non-representative samples can result from excessive pre-pumping of the monitoring well. Stratification of the leachate concentrations in the ground-water formation may occur, and excessive bailing can dilute or increase the contaminant concentrations from what is representative of the sampling point of interest.

Determination of the quantity of water in one well volume is calculated from the following formula:

 $V = 5.875 I^2 (D-W)$ 

WHERE V = one well volume (gallons)

I = inside diameter of well casing (feet)

D = well depth (feet)

W = Depth to water from top of casing (feet)

For a 2-inch ID well, 6 feet of water is approximately one gallon. In most cases, monitoring of temperature and pH during bailing will be indicative of an adequate volume. When these two parameters stabilize, it is probable that little or no water from casing storage is being bailed.

#### 2.03 Water Level Elevations

Valuable hydrogeological data can be obtained from the periodic monitoring of water level elevations in the ground-water monitoring system at a facility. This information is necessary for the determination of the flow and direction of ground water and to monitor seasonal changes in the ground-water elevation in the area. Frequency of these measurements should be determined by the Project Engineer and Hydrogeologist, but at a minimum, they are taken at each sampling occurrence.

Water level measurements are made using an electronic water level indicator. Depths are measured from the top of the well casing to the water

surface. These measurements are converted to elevations (above mean sea level) using a survey elevation of the well. Measurements are accurate to  $\pm 0.1$  feet.

#### 2.04 Soil Pore Water Sampling

Since few soils or sediments are chemically inert, movement of leachate through the unsaturated zone frequently will result in chemical changes to the leachate. Samples of soil pore water in the unsaturated zone are collected using vacuum pressure lysimeters. The lysimeters work by creating a vacuum within the sampling vessel; pore water moves toward the sampler and enters the lysimeter through a porous cup. Pressure is then placed on the lysimeter and the sample is forced to the surface.

It should be noted that there are a number of inherent limitations involved with the use of vacuum pressure lysimeters. These include the uncertainty of the degree to which the collected sample represents the surrounding pore water, the disruption of normal drainage patterns caused by suction induced sampling, clogging, and the potential sample contamination from materials used in the lysimeter.

## 2.05 Collection of Ground-Water Samples

Calocerinos & Spina utilizes a variety of sampling equipment to bail wells and obtain samples. Selection of the type of equipment used is based on depth of well, recovery rate, accessibility, parameters of interest and cost. The following sections describe the equipment and techniques normally used:

## a) Bailers

Use of bailers is one of the oldest and simplest methods of sampling ground-water wells. Calocerinos & Spina normally utilizes PVC bailers with a PVC check valve on the bottom, but Teflon or stainless steel bailers are also used for certain projects. These bailers are 1.66" OD

and will fit in a 2 inch well. The low cost of these bailers allows them to be dedicated to individual wells as a means of minimizing cross contamination. In addition, there is no need for external power.

Bailing and sampling technique is dictated by the recovery rate of well, but for most situations, the bailer is lowered to the bottom of the well and retrieved. In the case of wells that have historically had high recovery rates, the first well volume is retrieved from the top of the water column. This insures that the water within the well is fresh and representative of the aquifer of concern. Sampling of ground water for volatile organics is performed with a Teflon Bailer.

#### b) Air Lift Sampler

The air lift system uses air pressure that is fed down the well and forces water up and out of the well. The airlift system utilized by Calocerinos & Spina is comprised of threaded PVC pipe sections that are connected together as the screened section is lowered into the well. When the sampler is in place it is capped off with a top section of PVC which allows for the introduction of pressurized air or gas. This forces a check valve closed and the well water up out of the sampler.

The air lift sampler, which can be used as either a portable or permanently installed system, is not suitable for pH sensitive parameters such as metals. Gas stripping of volatile organics may occur, and if air or oxygen is used, oxidation may be a problem. For this reason, this system is normally used only for bailing.

## c) Bladder Pumps

Bladder pumps (also referred to as gas squeeze pumps) consist of a flexible tube enclosed in a rigid plastic or stainless steel housing. Water enters the housing through a screen and check valve at the bottom

of the pump. Air pressure inflates the bladder and forces the water to the surface (Note: In a similar design, the water enters the bladder and the air pressure introduced into the housing compresses the bladder and forces water to the surface). Upon release of the pressure, an upper check valve prevents water from flowing back into the pump. An automated control system regulates gas flow rates and pressurization cycles to produce a nearly continuous flow.

The bladder pump has several advantages including a wide range of pumping rates, no contact between air and well water and the unit is fairly portable. In addition, once the unit is set up and in operation, constant operation attendance is not needed during bailing operations.

Because of the time involved in disassembly, cleaning and reassembly, Calocerinos & Spina recommends that, where used, bladder pumps should be permanently installed.

### d. Handpump

Calocerinos & Spina utilizes a hand operated pump that pumps over 2.5 gallons per minute. The hand pump fits inside a 2-inch well and can sample down to 50 feet or further with extensions. The high flow volume provides for rapid bailing of wells with a high well volume.

## e) Suction Lift Pumps

While not normally used for monitoring well sampling, Calocerinos & Spina maintains both automatic and manual suction lift pumps. These pumps (both peristaltic and vacuum) are relatively portable, but sampling is limited to ground water that is within 20 feet of the surface. Use of these pumps may result in degassing and loss of volatile compounds.

Calocerinos & Spina's use of these pumps is generally restricted to monitoring installations such as seepage galleries that are not feasibly sampled by the above described techniques.

#### 3.00 Surface Water Monitoring Procedures

#### 3.01 Considerations in Determining Representative Sample Locations

The collection of surface water samples is performed for the purpose of assessing the general water quality of a particular body of water and/or to measure the impact of point or non-point source discharges on that body. To properly meet the objective of the sampling, consideration must be given to mixing zones, stratification areas, stream hydraulics, flow status (high flow vs. low flow), and any other conditions which influence the character of the water being sampled.

When monitoring the general water quality of a body of surface water, a determination must be made as to the homogeneity of the water. This can be accomplished by either researching historical data on the water body and surrounding land use patterns, by preliminary random sampling, or by in-situ measurement (usually by probe) of certain water quality parameters (such as pH, temperature, dissolved oxygen or specific conductance) prior to sampling.

If the water is known to be homogeneous, a representative sample can be collected at any reasonable location. If the homogeneity of the water cannot be determined, or if it is known to be heterogeneous, the monitoring program must be structured to take into account all sources of variability. At Calocerinos & Spina, this is usually accomplished by theoretically dividing the water body into approximately equal sized sections and taking a representative sample from each section. These samples can be analyzed separately, or composited into one or more representative samples. Stratification of the water column is accounted for by taking samples at more than one depth. These samples can be also be composited if desired.

In addition to the above considerations, samples collected to assess the impact of a particular discharge on a body of water must be defined in terms

of the discharge conditions which they represent. Initially, the discharge location(s) must be pin-pointed so that representative samples can be collected both upstream and downstream of the site. The extent of the mixing zone should be defined so that well-mixed or unmixed samples can be collected, depending on the objectives of the study. Turbulence or aeration at the discharge point is an important consideration when sampling for volatile compounds because these mechanisms may cause the compounds to dissipate. For a worst case analysis of the impact of a particular discharge, samples should be collected when the receiving water is at low flow; this is usually during the summer months.

#### 3.02 Methods and Equipment for Monitoring Surface Water

Calocerinos & Spina monitors water quality both in-situ, using an integrated probe system, and by collection of water samples for laboratory analysis.

In-situ measurements of water quality are performed using a Hydrolab Digital 4041 probe unit. The Hydrolab consists of an underwater sonde unit where the probes are located, a circulator motor to mix the water by the sonde, connector cable to transmit the signals, and an indicator unit where the signals are processed for digital conversion and immediate read-out. The Hydrolab is capable of reading conductivity, pH, dissolved oxygen (D.O.) and temperature. Temperature is measured by a high accuracy thermister, pH using a pH-sensitive glass electrode, D.O. by the Clark polarographic cell, and conductivity using the four electrode technique.

Sample collection by Calocerinos & Spina can be performed by either collecting the water in the sample jar itself, or by using a VanDorn water sampler and transferring the water to the sample jar(s). In either method,

care is taken not to aerate the sample if volatile compounds or oxygen related parameters (such as D.O.) are to be measured.

### 4.00 Sediment Sampling

Sampling of sediments along river or lake beds is performed by Calocerinos & Spina using either an Eckman dredge, or a Wildco-Ballchek core sampler. The dredge is best suited for soft, sandy, vegetation-free bottoms. It is used to collect grab samples of the top layer of sediment. Penetration of the river bottom to collect deeper layers of sediment is accomplished with the core sampler. The core sampler used by Calocerinos & Spina collects a sample 2 inches in diameter and 30 inches long.

### 5.00 Soil Sampling

Soil samples for geotechnical purposes are collected in accordance with ASTM method D-1586, "Standard Method for Penetration Test and Split-Barrel Sampling of Soils". The actual sampling is conducted by a drilling subcontractor with supervision by Calocerinos & Spina personnel. A copy of the method is included in Appendix A of this report.

Calocerinos & Spina also collects shallow soil samples for chemical analysis using an Oakfield Soil Probe Tube. A soil core one-inch in diameter and 15 inches long can be collected with the soil probe. Surface materials are collected using a trowel or similar tool.

### 6.00 Sample Integrity

# 6.01 Equipment Cleaning and Calibration

Contamination of samples is precluded by proper cleaning of sampling equipment and containers prior to their use in the field, or by the utilization of dedicated equipment. The actual cleaning process is dictated by the analytical procedures designated for the sample, but usually includes the following steps:

- detergent washing
- 2. rinse with tap water
- 3. rinse with a dilute hydrochloric acid solution
- 4. one or more rinses with distilled deionized water
- 5. rinse with acetone or hexane
- 6. rinse with organic-free water

Steps 5 and 6 are generally performed only when samples are to be analyzed for organic compounds.

The cleaning is performed at Calocerinos & Spina prior to going out in the field. When discrete samples are to be collected at multiple locations, additional cleaning, between samples, is performed on-site to prevent carry-over of contaminants. Also, in the case of surface water sampling, the sample jars are usually rinsed in the field with sample water prior to filling. During sampling, equipment is not allowed to come in contact with the ground, other equipment, or potential sources of contamination.

The use of dedicated equipment is optimal for projects where a long-term monitoring program is in place, or where protection from contamination is not adequate through the use of normal cleaning procedures. Calocerinos & Spina frequently uses dedicated equipment for extended ground-water monitoring programs. In this application, well bailers and pumps are used on only one well and are stored in the well between samplings.

Calibration of field instruments is an essential part of quality control in sampling. All necessary instrumentation is calibrated at Calocerinos & Spina prior to going out in the field.

## 6.02 Containers, Preservatives and Holding Times

Sample integrity is preserved through the use of proper sample containers, addition of the correct preservatives to the samples and meeting

designated holding times (the time from sample collection to sample analysis). Containers, preservatives and holding times used by Calocerinos & Spina are taken from 40 CFR Part 136 and are shown in Table 1. Note that preservation techniques, other than cooling to 4°C, are not generally applicable to solid samples.

### 6.03 Field Blanks, Duplicates and Split Samples

The use of field blanks, duplicate samples and split samples provide quality assurance in the areas of precision and accuracy.

The use of field blanks provides a method for determining whether or not the sampling and preservation introduces contamination. A sample of organic free or deionized water is handled by the same procedures as the sample. After laboratory analysis, any pollutant concentration in the blank is subtracted from the pollutant concentration of the sample to give the actual sample concentration.

Duplicate samples and split samples (where a single sample is split between two separate laboratories) provide a check on the precision of the sampling process. If the results of the two analyses are different, the discrepancies in results should be evaluated statistically to determine their significance. Duplicate samples are collected by Calocerinos & Spina at a rate of approximately 5% of the total number of samples.

#### 7.00 Work Documentation

An important part of quality control is proper documentation of all aspects of the sampling program. This includes careful labeling of the sample containers, the use of field logs to record pertinent data on-site during sampling events, and the use of chain-of-custody sheets which accompany the sample from collection through analysis. Calocerinos & Spina uses pre-gummed labels with spaces to record client name, sample location, sample description,

date and time of sampling, sampler's name, pH, temperature, grab or composite. filtered or not, preservatives added, and lab Tog number. The chain-of-custody sheet used by Calocerinos & Spina includes all information on the label, and in addition: sample type, sampling method, number and type of containers, name, date and time of delivering and receiving the sample at the laboratory, and the date, method and person performing each Custody sheets used specifically for well-monitoring include analysis. information on the type of well, size of well, well depth, depth to water, number of volumes pumped, total volume and pH, temperature, color and appearance of the sample. Standard documents used by Calocerinos & Spina are included in Appendix B of this report.

### 8.00 Laboratory QA/QC

Calocerinos & Spina Environmental Laboratory follows analytical quality control procedures as documented in their "Quality Control Program Manual". A copy of this manual is available upon request.

A PPENDIX A ASTRONO D-1586



# Standard Method for PENETRATION TEST AND SPLIT-BARREL SAMPLING OF SOILS<sup>1</sup>

This standard is issued under the fixed designation D 1586; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (e) indicates an editorial change since the last revision or reapproval.

This method has been approved for use by agencies of the Department of Defense and for listing in the DoD Index of Specifications and Standards.

#### 1. Scope

1.1 This method describes a procedure for using a split-barrel sampler to obtain representative samples of soil for identification purposes and other laboratory tests, and to obtain a measure of the resistance of the soil to penetration of the sampler.

### 2. Apparatus

- 2.1 Drilling Equipment—Any drilling equipment shall be acceptable that provides a reasonably clean hold before insertion of the sampler to ensure that the penetration test is performed on undisturbed soil, and that will permit the driving of the sampler to obtain the sample and penetration record in accordance with the procedure described in Section 3. To avoid "whips" under the blows of the hammer. it is recommended that the drill rod have a stiffness equal to or greater than the A-rod. An "A" rod is a hollow drill rod or "steel" having an outside diameter of 15% in. (41.2 mm) and an inside diameter of 11/8 in. (28.5 mm), through which the rotary motion of drilling is transferred from the drilling motor to the outting bit. A stiffer drill rod is suggested for holes deeper than 50 ft (15 m). The hole shall be limited in diameter to between 21/4 and 6 in. (57.2 and 152 mm).<sup>2</sup>
- 2.2 Split-Barrel Sampler—The sampler shall be constructed with the dimensions indicated in Fig. 1. The drive shoe shall be of hardened steel and shall be replaced or repaired when it becomes dented or distorted. The coupling head shall have four ½-in. (12.7-

mm) (minimum diameter) vent ports and shall contain a ball check valve. If sizes other than the 2-in. (50.8-mm) sampler are permitted, the size shall be conspicuously noted on all penetration records.

- 2.3 Drive Weight Assembly—The assembly shall consist of a 140-lb (63.5-kg) weight, a driving head, and a guide permitting a free fall of 30 in. (0.76 m). Special precautions shall be taken to ensure that the energy of the falling weight is not reduced by friction between the drive weight and the guides.
- 2.4 Accessory Equipment—Labels, data sheets, sample jars, paraffin, and other necessary supplies should accompany the sampling equipment.

#### 3. Procedure

- 3.1 Clear out the hole to sampling elevation using equipment that will ensure that the material to be sampled is not disturbed by the operation. In saturated sands and silts withdraw the drill bit slowly to prevent loosening of the soil around the hole. Maintain the water level in the hole at or above ground water level.
- 3.2 In no case shall a bottom-discharge bit be permitted. (Side-discharge bits are permissible.) The process of jetting through an opentube sampler and then sampling when the

Current edition approved Oct. 20, 1967. Originally issued 1958. Replaces D 1586 - 64 T.

<sup>&</sup>lt;sup>1</sup> This method is under the jurisdiction of ASTM Committee D-18 on Soil and Rock.

<sup>&</sup>lt;sup>2</sup> Hvorslev, M. J., Surface Exploration and Sampling of Soils for Civil Engineering Purposes, The Engineering Foundation, 345 East 47th St., New York, N. Y. 10017.

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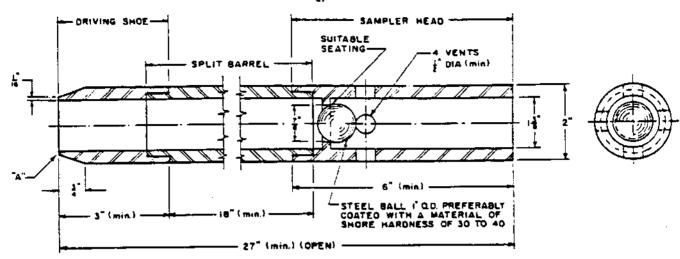
desired depth is reached shall not be permitted. Where casing is used, it may not be driven below sampling elevation. Record any loss of circulation or excess pressure in drilling fluid during advancing of holes.

- 3.3 With the sampler resting on the bottom of the hole, drive the sampler with blows from the 140-lb (63.5-kg) hammer falling 30 in. (0.76 m) until either 18 in. (0.45 m) have been penetrated or 100 blows have been applied.
- 3.4 Repeat this operation at intervals not longer than 5 ft (1.5 m) in homogeneous strata and at every change of strata.
- 3.5 Record the number of blows required to effect each 6 in. (0.15 m) of penetration or fractions thereof. The first 6 in. (0.15 m) is considered to be a seating drive. The number of blows required for the second and third 6 in. (0.15 m) of penetration added is termed the penetration resistance, N. If the sampler is driven less than 18 in. (0.45 m), the penetration resistance is that for the last 1 ft (0.30 m) of penetrated (if less than 1 ft (0.30 m) is penetrated, the logs shall state the number of blows and the fraction of 1 ft (0.30 m) penetrated).
- 3.6 Bring the sampler to the surface and open. Describe carefully typical samples of soils recovered as to composition, structure, consistency, color, and condition; then put into jars without ramming. Seal them with wax or

hermetically seal to prevent evaporation of the soil moisture. Affix labels to the jar or make notations on the covers (or both) bearing job designation, boring number, sample number, depth penetration record, and length of recovery. Protect samples against extreme temperature changes.

### 4. Report

- 4.1 Data obtained in borings shall be recorded in the field and shall include the following:
  - 4.1.1 Name and location of job,
  - 4.1.2 Date of boring-start, finish,
- 4.1.3 Boring number and coordinate, if available,
  - 4.1.4 Surface elevation, if available,
  - 4.1.5 Sample number and depth,
- 4.1.6 Method of advancing sampler, penetration and recovery lengths,
  - 4.1.7 Type and size of sampler,
  - 4.1.8 Description of soil,
  - 4.1.9 Thickness of layer,
- 4.1.10 Depth to water surface; to loss of water; to artesian head; time at which reading was made,
  - 4.1.11 Type and make of machine.
  - 4.1.12 Size of casing, depth of cased hole,
  - 4.1.13 Number of blows per 6 in. (0.15 m),
  - 4.1.14 Names of crewmen, and
  - 4.1.15 Weather; remarks.



NOTE I-Split barrel may be 1 1/2 in. inside diameter provided it contains a liner of 16-gage wail thickness.

NOTE 2—Core retainers in the driving shoe to prevent loss of sample are permitted.

NOTE 3-The corners at A may be slightly rounded.

#### Metric Equivalents

in.	mm	in.	ពាពា
% (16 gage)	1.5	2	50.8
1/2 1/2	12.7	3	76.2
<b>½</b>	19.0	6	152.4
<b>%</b>	22.2	18	457.2
îx	34.9	27	685.8
11/2	38.1		

FIG. 1 Standard Split Barrel Sampler Assembly.

The American Society for Testing and Materials takes-no position respecting the validity of any patent rights asserted in connection with any item mentioned in this standard. Users of this standard are expressly advised that determination of the validity of any such patent rights, and the risk of infringement of such rights, are entirely their own responsibility.

This standard is subject to revision at any time by the responsible technical committee and must be reviewed every five years and if not revised, either reapproved or withdrawn. Your comments are invited either for revision of this standard or for additional standards and should be addressed to ASTM Headquarters. Your comments will receive careful consideration at a meeting of the responsible technical committee, which you may attend. If you feel that your comments have not received a fair hearing you should make your views known to the ASTM Committee on Standards, 1916 Race St., Philadelphia, Pa. 19103.

APPENDIX B
CHAIN OF CUSTODY FORMS



# SAMPLE CHARACTERIZATION & CHAIN OF CUSTODY SHEET

•	LAB SAMPLE LOG No.	
ļ	SOURCE	<u> </u>
	CLIENT	JOB No
	SAMPLE I.DLOCATION	DESCRIPTION
L		
ا ،	SAMPLING	
ŀ		SAMPLING METHOD
	CONTAINERS: NoTYPE	
	COMPOSITE: DATE SETTIME	BY
	DATE PICKED-UPTIME	BY
	GRAB: DATETIME	BY
1	NOTES:	
1		
4		
ł	PRESERVATION	
4	DATE	
1	FILTERED: YES NO TIME	RY
_	PRESERVED: YES NO TIME	
1		□ NaOH □ H <sub>3</sub> PO <sub>4</sub> + CuSO <sub>4</sub> □ Zn(C <sub>2</sub> H <sub>3</sub> O <sub>2</sub> ) <sub>2</sub>
	<del>-</del> ·	R
ı	NOTES:	
	NOTES.	
7		
ı		
1	CUSTODY CAS LABORATORY	CUSTODY LABORATORY SUBCONTRACTOR
ł	DELIVERED BY	NAME OF LAB
┨	DATETIME	
I	RECEIVED BY	DELIVERED 8Y
	DATETIME	TIMETIME
ı		RECEIVED BY
		DATETIME
	FIELD NOTES	
-		
J		
-[		



<u>,-</u>	LAB SAMPLE LOG NO		JOB	NO		
ļ	SOURCE		. **			
-	CLIENT		WELL	NO		
	LOCATION		WELL	TYPE/SIZE	<u> </u>	<del></del>
7	EVACUATION				· · · · · · · · · · · · · · · · · · ·	
ŀ	DATE	ITEM	- 1	START	FINISH	
	WELL DEPTH	TIME	<del> </del>	31711	1 1111011	-
	DEPTH TO WATER	pH		<del></del>		┥
	WELL VOLUME	TEMP.		<del></del>		1
	METHOD	DEPTH				1
: "	NO. OF VOLUMES	COLOR				7
ı	TOTAL VOLUME	APPEAR.				1
ᅱ	NO. OF VOLUMES  TOTAL VOLUME  WIL CLERK VOLUME  #### QUET 2 *Q.10 3 *Q.57 4** .50  1-1/2*-Q.10 2-1/2*-Q.24 3-1/2*-Q.50 6**1.46					
	SAMPLING					
	DATE	рН		<u> </u>		
	TIME	TEMP				_
٦	METHOD	COLOR				_
-	CONTAINER	APPEAR.			·	_
-	SAMPLED BY	Eh				
ا ہے ا	PRESERVATION				<del></del>	
ł						
~	DATE					
	FILTERED: YESNO TIME					_
~	PRESERVED: YES NO TIME					_
Į	PRESERVATIVE: H2SO4 HNO3 NGOH	•				
~	COOLED TO 4 C COTNER					
l					<del></del>	
-[	CUSTODY					
	SAMPLER'S SIGNATURE	<u> </u>				
-	TRANSFERRED TO: #1					
	RECEIVED BY					
-	#2					
	RECEIVED BY	DAT	E	TI	ME	
-	•				•	
ļ	STANDARD FORM LAB-002-1					

ETHOD OF R	EADING						
		ME (START)				•	
		-		•			
EATHER CUR	IDITIONS	<del></del>	" <u>"</u>		<u> </u>		<del></del>
WELL NO.	DEPTH TO WATER	REF. ELEV.	ELEV.	WELL NO.	DEPTH TO WATER	REF. ELEV.	ELEV
	****						
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# WAPPENDIX E

SOIL (SPLIT SPOON) ANALYTICAL DATA SHEETS

aboratory Name: CompuChem Lab Sample ID No: GRD71922C03 Sample matrix: solid ta Release ...thorized By:

Organics Analysis Data Sheet (Page 1)

Case: QC Report No:

C&S

PLATINUM Contract No:

Date Sample

Volatile Compounds

Received:

12-19-85

Concentration:

Date extracted/prepared: 12-30-85/12-27-85 orig

Date analyzed:

12-31-85

Conc/Dil Factor:

1.27

pH: 7.9

Percent soisture:

227 Percent moisture (decasted):

	CAS				CAS			
_	Number		ug/}	i g	Number		ug/kg	1
	74-87-3	Chioromethane	13.	Ü	78-87-5	1,2-Dichloropropane	6.3	
	74-83-9	Brosomethane	13.	U	10061-02-6	trans-1,3-Dichloropropene	6.3	
_	75-01-4	Vinyl Chloride	13.	Ш	79-01-6	Trichloroethene	6.3	U
	75-00-3	Chloroethane	13.	Ü	124-48-1	Dibromochloromethane	6.3	IJ
	75-09-2	Methylene Chloride	29,	В	79-00-5	1,1,2-Trichlorgethane	6.3	U
_	67-64-1	Acetone	5.1	J.	B 71-43-2	Benzene	6.3	U
,	75-15-0	Carbon Disulfide	6.3	Ü	10061-01-5	cis-1,3-Dichloropropene	6.3	U
	75-35-4	1,1-Dichloroethene	6.3	U	110-75-8	2-Chloroethyl Vinyl Ether	<b>13.</b>	U
	75-35-3	1,1-Dichloroethane	6.3	¥	75-25-2	Brosofors	ė.3	U
	156-50-5	trans-1,2-Bichloroethene	- 6.3	U	591-78-6	2-Kex anone	13.	IJ
	67-66-3	Chiorofors	6.3	U	108-10-1	4-Methyl-2-pentanone	13.	U
	107-06-2	1,2-Bichloroethane	6.3	IJ	127-18-4	Tetrachloroethene	6.3	IJ
	78-93-3	2-Butanone	13.	Ü	108-88-3	Toluene	6.3	U
	71-55-6	1,1,1-Trichloroethane	6.3	U	108-90-7	Chlorobenzene	6.3	Ü
	56-23-5	Carbon Tetrachloride	6.3	Ü	100-41-4	Ethyl Benzene	6.3	U
_	10B-05-4	Vinyl Acetate	13.	U	100-42-5	Styrene	6.3	U
,	75-27-4	Brosodichloromethane	6.3	Ц		Total Xylenes	6.3	U
	79-34-5	1,1,2,2-Tetrachloroethane	6.3			·		
_	· · - · -	- , - , - , <del>-</del>			QUALIFIERS			

r reporting results to EPA, the following results qualifiers are used. Additional flags or footnotes explaining results are encouraged. However, the definition of each flag sust be explicit.

- If the result is a value greater than or equal to the detection limit, report the value.
- Indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U (e.g. 10U) based on necessary concentration/ dilution actions. (This is not necessarily the instrument detection limit.) The footnote should read: U-Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample.
- Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicates the presence of a compound that meets the identification criteria but the result is

- less than the specified detection limit but greater than zero. (e.g. 103)
- C. This flag applies to pesticide parameters where the identification has been confirmed by 60/MS. Single component pesticides 3/= 10 ng/ul in the final extract should be confirmed by GC/MS.
- B. This flag is used when the analyte is found in the blank as well as a sample. It indicates possible/ probable blank contamination and warns the data user to take appropriate action.

Other Other specific flags and footnotes may be required to properly define the results. If used, they must be fully described and such description attached to the data summary report.

boratory Name: CompuChem

Organics Analysis Data Sheet (Page 2)

Semivolatile Compounds

Concentration:

Date extracted/prepared: 01-14-86/12-27-85 orig

Date analyzed: 01-15-86 Conc/Dil Factor: 43.70

		5011272	. ,					
	CAS	•			CAS			
-	Number		ug/	kg	Number		ug/kç	-
	62-75-9	M-Nitrosodimethy)amine	440	ľ	99-09-2	3-Nitroaniline	2200	IJ
	108-95-2	Phenoi	440	U	B3-32-9	Acenaphthene	440	IJ
	62-53-3	Aniline *	440	U	51-28-5	2,4-Dinitrophenol	2200	Ü
_	111-44-4	bis(2-Chloroethyl) ether	440	ľ	100-02-7	4-Nitrophenol	2200	U
	9 <b>5-</b> 57-8	2-Chlorophenol	440	U	132-64-9	Dibenzofuran	440	U
	541-73-1	1,3-Dichlorobenzene	440	IJ	121-14-2	2,4-Dinitrotoluene	440	U
_	106-46-7	1,4-Dichlorobenzese	440	Ü	606-20-2	2,6-Dinitrotoluene	440	U
	100-51-6	Benzyl Alcahol	440	U	84-66-2	Diethylphthalate	440	Ü
	95-50-1	1,2-Dichlorobenzene	440	U	7005-72 <b>-</b> 3	4-Chlorophenyl Phenyl ether	440	U U
_	95-48-7	2-Methylphenol	440	Ü	B6-73-7	Fluorene	440	U
Ţ	19638-32-9	bis(2-Chloroiscpropyl) ether	440	U	100-01-6	4-Nitroaniline	2200	_
	106-44-5	4-Methylphenol	440	U	534-52-1	4,6-Dinitro-2-aethylphenol	2200	U
_	621-64-7	N-Nitroso-Dipropylasine	440	Ü	89-20-9	W-nitrosodiphenylamine (1)	440	U
	67-72-1	Hexachloroethane	440	ŭ	101-55-3	4-Bromophenyl Phenyl ether	440	Ü
	98-95-3	Nitrobenzene	440	Ü	118-74-1	Hexachlorobenzene	440	U
	78-59-1	Isophorone	440	Ü	87-86-5	Pentachlorophenol	2200	U
-	88-75 <b>-</b> 5	2-Nitrophenol	440	ij	85-01-8	Phenanthrene	440	Ü
	105-67-9	2,4-Disethylphenol	440	U	120-12-7	Anthracene	440	U
	<b>65-85-0</b>	Benzoic Acid	220 <b>0</b>	U,	84-74-2	Di-n-butylphthalate	440	U
_	111-91-1	bis(2-Chloroethoxy) methane	440	U	206-44-0	Fluoranthene	48.	3
	120-83-2	2,4-Dichlarophenol	440	u	92-87-5	Benzidine .	2200	Ü
	120-82-1	1,2,4-Trichlorobenzene	440	U	129-00-0	Pyrene	61.	J,
_	91-20-3	Naphthalene	440	U	85-48-7	Butyl Benzyl Phthalate	440	U
_	106-47-8	4-Chioroaniline	440	U	91-94-1	3,3'-Dichlorobenzidine	B70	IJ
	87-68-3	Rexachiorobutadiene	440	Ü	5 <del>6-55-</del> 3	Benzo(a)anthracene	79.	J
	59-50-7	4-Chloro-3-eethylphenol	440	ij	117-81-7	bis(2-ethylhemyl)phthalate	440	Ū
-	91-57-6	2-Methylnaphthalene	440	IJ	218-01-9	Chrysene	440	U
	77-47-4	Hexachlorocyclopentadiene	440	U	117-84-0	Di-n-octyl Phthalate	440 لل	U
	BB-06-2	• •	440	IJ	205 <del>-99</del> -2	Benzo(b) fluoranthene	795 ++0-	
_	95-95-4	2,4,5-Trichlorophenol	2200	U	207-08-9	Benzo(k)fluoranthene	965 ***	4
	91-58-7	2-Chloronaphthalene	440	Ū	50-32-B	Benzo(a) pyrene	440	U
	88-74-4	2-Nitroaniline	2200	U	193-39-5	Indeno(1,2,3-cd)pyrene	440	IJ
	131-11-3	Dimethyl Phthalate	440	Ū	53-70-3	Dibenz (a,h) anthracene	440	Ü
-	208-96-8	Acenaphthylene	440	Ū	191-24-2	Benzo(g,h,i)perylene	440	U
	700-10-0	urenshurn) rene	,,,	•	<del>-</del> -	(1) Cannot be separated from	diphenylamine	
						<del>-</del>	• •	

# Organics Analysis Data Sheet (Page 3)

#### Pesticide/PCBs

Concentration: [Low] Date Extracted/Prepared:	Medium (Gircle One)
Data Analyzed: Conc/Dil Factor:	_12/31/85
CAS	ug/l or [u

CAS Number	ug/1	or [u (Circle	
319-84-6   Alpha - BHC	1	íO.	Ü I
319-85-7   Beta ~ BHC	1	19.	Uį
319-86-8   Delta - BHC	í	<b>10</b> .	Ui
1 58-89-9     Gamma - BHC(Lindane)	) i	10.	Ul
1 76-44-8   Heptachlor	l l	10.	U
309-00-2   Aldrin	1	10.	
1024-57-3   Heptachlor Epoxide		10.	U I
959-98-8   Endosulfan I	!	10.	U
60-57-1   Dieldrin	!	21.	O i
1 72-55-9 1 4-4' - DDE	1	2i.	U
1 72-20-8   Endrin	1	2i.	UI
33213-65-9   Endosulfan II	l.	21.	U
1 72-54-8 1 4-4' - DDD	!	21.	UI
1 7421-93-4   Endrin Aldehyde	}	21.	U
1031-07-8   Endosulfan Sulfate	ļ	21.	U
1 50-29-3 1 4-4' - DDT	!	21.	ÜÌ
1 72-43-5   Methoxychlor	j	100	U
53494-70-5   Endrin Ketone	!	2 <b>i</b> .	UI
57-74-9   Chlordane		100	U i
8001-35-2   Toxaphene	F	210	U )
1 12674-11-2   Aroclor - 1016	1	100	U
1 11104-28-2   Aroclor - 1221	!	100	UI
11141-16-5   Aroclor - 1232	!	100	Ui
53469-21-9   Aroclor - 1242	!	100	U I
12672-29-6   Aroclor - 1248	l .	100	l U
11097-69-1   Aroclor - 1254	)	210	UÌ
11096-82-5   Aroclor - 1260	- f	210	ا لن 

```
V(i) = Volume of extract injected (ul)

V(s) = Volume of water extracted (ml)

W(s) = Weight of sample extracted (g)

V(t) = Volume of total extract (ul)
```

V(s) or W(s) = 30.02 - V(t) = 2000.00 - V(i) = 1.0 - 1.0

Form i

4/exandria, Virginia 22313 703/857-3490

MWSS-1

# Organics Analysis Data Sheet (Page 4)

# **Tentatively Identified Compounds**

CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Constitution (eg/liorleg/kg)
1	, NO VOA COMPOUNDS POUND			
2				
3				
4				
5				
6				<u> </u>
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30				<u> </u>

SAMPLE NUMBER MW 55-1
COMPUCHEM FILE GR071922C15

# ORGANICS ANALYSIS DATA SHEET (PAGE 4) TENTATIVELY IDENTIFIED COMPOUNDS

108-21-4  ACETIC ACID, 1-METHYLETHYL ESTER  625-86-9  25144-05-2  CYCLOPENTANOL, 2.4-DINETHYL-, CIS-  1123-72-5  1121-66-8  2-CYCLOPENTANONE, 2-NETHYL-  2-CYCLOPENTANONE, 2-NETHYL-  1121-66-8  ACETIC ACID, 1-METHYLETHYL ESTER  5EMI3 328 25000. JB  5EMI3 356 316 JB  5EMI3 363 370. JB  5EMI3 363 370. JB  1121-66-8	3 -
1128-72-5 1121-66-0 2-PENTANOL, 2-METHYL- 1121-66-0 2-PENTANOL, 2-METHYL- 2-PENTANOL, 2-PENTANOL, 2-METHYL- 2-PENTANOL, 2-PENTANOL, 2-METHYL- 2-PENTANOL, 2-PENTANOL, 2-METHYL- 2-PENTANOL, 2-METHYL- 2-PENTANOL, 2-METHYL-	3 -
CYCLOPENTANOL, 2-METHYL-, CIS-  1128-72-5  1121-16-0  1121-56-0  CYCLOPENTANONE, 2-METHYL-  CYCLOPENTANONE, 2-METHYL-  UNIXOUM  SEMIS 744  410. J	
1121-66-6 2-2021-0-2021-1-2021	
334-48-5 DECANOIC ACID UNKNOWN SEMIS 937 680. J	
17400-66-1 2(1H)-NAPHTHALENONE, 4A,5,6,7,8,8A-HEXAHYDRO-7.ALPHA SEMI3 972 1000. J	
61233-56-5 IH-PYRROLE-2-CARBOXAMIDE, 5-LL75-AMINO-3,4-DIHYDRO-2 SEMI3 1087 450. J	
17408-66-1 2(1H)-NAPHTHALENONE, 4A.5(6.7.8.8A-HEXAHYDRO-7.ALPHA SEMI3 1103 500. J	
53907-79-2 8-THIABICYCLOIS, 1.010CTANE SEMI3 1107 460. J	
22872-43-1 BENZENE, 2-BUTYL-1,3,4-TRIFLUORO- SEMI3 1114 690. J	
61141-59-1 CYCLOOCTENE, 3-(2-PROPENTL) 2100. J	
27554-26-3  1.2-BENZENEDICARBOXYLIC ACID, QIISOOCTYL ESTER  SEMI3 1145 480. J	
40.00 SPECTROSCOPIST	
DATE 415-51	

FORM1, PART B

SAMPLE NUMBER MH 55-1
COMPUCHEM FILE GR071922C15

# ORGANICS ANALYSIS DATA SHEET (PAGE 4) TENTATIVELY IDENTIFIED COMPOUNDS

Cas Number	COMPOUND NAME	FRACTION	SCAN NUMBER	ESTIMATED CONC.
69950-61-4 N 55762-65-3	CYCLOHEXANOL, 3-ETHENYL-3-METHYL-2-(1-METHYLETHENYL)	SEMI3	167	440/ J
55262-68-3	1,1'13',1''-TERCYCLOPENTANE, 2'-DODECYL-	. SEMI3	1192	286. J-
13151-77-4	UNDECARE 2-CYCLOHEXYL-, 2-CYCLOHEXYL-	. SEMI3	1205	830. J
<del>74585-87-3</del>	27579-TETRADECATRIENE, 3,12-DIETHYL-	. SEMI3	1212	839. J
-50803-80-0	SPIROTS.61DODECANE-1.7-DIONE	. SEMI3	1250	380. J
55481-65-5	PENTALENE, OCTAHYDRO-1-(2-OCTYLDECYL)-	SEM13	1259	500. J
36237-73-7	8.12-TETRADECADIENOIC ACID, 5-ETHENYL-3.5.9.13-TETRA	. SEMI3	1271	45 <b>4.</b> J
61142-37-0	CYCLOHEXANE; (1,2-DIMETHYLBUTYL)-	. SEMI3	1292	53 <b>6</b> . J
554 <del>01-65-5</del>	PENTALENE, OCTAHYDRO-1-(2-OCTYLDECYL)	. SEMI3	1305	51 <b>e</b> . J
43.700 40.		SPECTR	OSCOPIST	1R
			DATE	1-18-81

FORM!, PORT R

atal Protection Agency, CLP Sample Masagement Office fox 818, Alexandria, VA 22313 703/557-2490

\_uboratory Mame: CompuChem Lab Sample ID No: 6R071923003 / solid -pole matrix: ta Release Authorized By:

Organics Analysis Data Sheet

0 4 5 (Page 1) Case: QC Report No:

PLATIMUM Contract No:

Date Sample

Received: 12-19-85

Volatile Compounds Concentration:

Date extracted/prepared: 12-30-85/12-27-85 orig

12-31-85 Date analyzed:

Conc/Dil Factor: 1.22 pH: 7.7

Percent moisture: 187 Percent moisture (decanted):

_	CAS				CAS			
	Number		ug/k	g	Number		ug/kg	
	74-87-3	Chloromethane	12.	Ü	78-B7-5	1,2-Dichloropropane	6.1	_
-	74-83-9	8romomethane	12.	U	10061-02-6	trans-1,3-Dichloropropene	• • • • • • • • • • • • • • • • • • • •	U
•	75-01-4	Vinyl Chloride	12.	U	79-01-6	Trichlorpethene		IJ
	75-00-3	Chloroethane	12.	U	124-48-1	Dibromochioromethane	6.1	U
	75-09-2	Methylene Chloride	98.	В	- 79-00-5	1,1,2-Trichloroethane	6.1	U
_	67-64-1	Acetone	7.7	J	B -71-43-2	Benz en e	6.1	U
	75-15-0	Carbon Disulfide	6.1	U	10061-01-5	cis-1,3-Dichloropropene	6.1	U
	75-35-4	1,1-Dichloroethene	6.1	U	110-75-8	2-Chloroethyl Vinyl Ether	12.	U
-	75-35-3	1,1-Dichloroethane	. 6.1	ij	75-25-2	Brosofors	6.1	U
	156-60-5	trans-1,2-Dichloroetheme	6.1	U	591-78-6	2-Hexanone	12.	ប
	67-66-3	Chloroform	6.1	U	108-10-1	4-Methyl-2-pentanone	12.	U
_	107-06-2	1,2-Dichloroethane	6.1	U	127-18-4	Tetrachioroethene	6.1	U
	7B-93-3	2-Butanone	12.	U	108-88-3	Taluene	6.1	U
	71-55-6	1,1,1-Trichloroethane	6.1	IJ	108-90-7	Chlorobenzene	6.1	U
	56-23-5	Carbon Tetrachloride	6.1	U	100-41-4	Ethyl Benzene	6.1	Ü
	108-05-4	Vinyl Acetate	12.	u	100-42-5	Styrene	6.1	U
	75-27-4	Broadichlorosethane	6.1	IJ		Total Xyleses	6.1	U
	79-34-5	1,1,2,2-Tetrachloroethane	6.1			,		
	11 44 9	siring and mountain applies			QUALIFIERS			

or reporting results to EPA, the following results qualifiers are used. Additional flags or footnotes explaining results are encouraged. However, the definition of each flag must be explicit.

- If the result is a value greater than or equal to the detection limit, report the value.
  - Indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U (e.g. 10U) based on necessary concentration/ dilution actions. (This is not necessarily the instrument detection limit.) The footnote should read: U-Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample.
  - Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicates the presence of a compound that meets the identification criteria but the result is

- less than the specified detection limit but greater than zero. (e.g. 103)
- This flag applies to pesticide parameters where the identification has been confirmed by 60/MS. Single component pesticides >/= 10 ng/ul in the final extract should be confirmed by 60/MS.
- This flag is used when the analyte is found in the blank as well as a sample. It indicates possible/ probable blank contamination and warms the data user to take appropriate action.

Other Other specific flags and footnotes may be required to properly define the results. If used, they must be fully described and such description attached to the data suamary report.

- poratory Name: CompuChem

Organics Analysis Data Sheet

(Page 2)

Semivolatile Compounds

Concentration:

Date extracted/prepared: 01-14-86/12-27-B5 orig

Date analyzed:

01-15-86

41 30 Conc/Dil Factors

_	CAS	Conc/Dil	l Factor:		41.30 CAS			
	ина Number		ug/i	i n	Number		ug/ki	0
	62-75 <del>-</del> 9	M-Mitrosodimethylamine	410	~•, U	99-09-2	3-Nitroaniline	2100	Ĺ
_	108-95-2	Phenol	410	u	83-32-9	Acenaphthene	410	U
V	62-53-3	Aniline	410	Ū	51-28-5	2,4-Dinitrophenol	2100	U
	111-44-4	bis(2-Chloroethyl) ether	410	Ū	100-02-7	4-Nitrophenol	2100	IJ
	95-57-8	2-Chiprophenol	410	Ū	132-64-9	Dibenzofuran	410	U
	541-73-1	1,3-Dichlorobenzene	410	U	121-14-2	2,4-Dinitrotoluene	410	ŭ
	106-46-7	1,4-Dichlorobenzene	410	U	606-20-2	2,6-Dinitrotoluene	410	U
	100-51-6	Benzyl Alcohol	410	บ	84-66-2	Diethylpbthalate	410	U
		1,2-Dichiorobenzene	410	Ü	7005-72-3	4-Chlorophenyl Phenyl ether	410	Ü
	95-48-7	2-Methylphenol	410	U	86-73-7	Fluorene	410	ľ
	39438-32-9	bis(2-Chloroisopropyl) ether	410	U	100-01-6	4-Mitroaniline	2100	ß
_		4-Kethylphenol	410	U	534-52-1	4,6-Dinitro-2-methylphenol	2100	U
	621-64-7	M-Nitroso-Dipropylamine	410	U	86-30-6	N-nitrosodiphenylamine (1)	410	IJ
	67-72-1	Rexachloroethane	410	U	101-55-3	4-Bromophenyl Phenyl ether	410	ij
	98-95-3	Nitrobenzene	410	ľ	118-74-1	Hexach Lorobenzene	410	U
	78-59-1	Isophorone	410	U	87-86-5	Pentachlorophenol	2100	ij
	88-75-5	2-Nitrophenal	410	U	85-01-8	Phenanthrene	410	U
	105-67-9	2.4-Dimethylphenol	410	U	120-12-7	Anthracene	410	U
-	65-85-0	Benzoic Acid	2100	IJ	84-74-2	Di-n-butylphthalate	410	U
	111-91-1	bis(2-Chloroethoxy) methane	410	IJ	206-44-0	Fluoranthene	410	Ц
	120-83-2	2,4-Dichlarophenal	410	U	92 <del>-8</del> 7-5	Benzidine	2100	U
_		1,2,4-Trichlorobenzene	410	U	129-00-0	Pyrene	410	Ü
	91-20-3	Naphthal ene	410	U	65-66-7	Butyl Benzyl Phthalate	410	U
	106-47-B	4-Chloroaniline	410	U	91-94-1	3,3'-Dichlorobenzidine	820	U
_	67-68-3	Hexachiorobutadiene	410	U	56-55-3	Benzo(a) anthracene	410	ľ
_	59-50-7	4-Chloro-3-methylphenol	410	U	117-81-7	bis(2-ethylhexyl)phthalate	410	U
	91-57-6	2-Methylnaphthalene	410	U	216-01-9	Chrysene	410	U
	77-47-4	Hexachlorocyclopentadiene	410	U	117-84-0	Di-n-octyl Phthalate	416	U
•	8B-06-2	2,4.6-Trichlorophenol	410	U	205-99-2	Benzo(b)fluoranthene	410	Ú
	95-95-4	2,4,5-Trichlorophenol	2100	U	207-08-9	Benzo(k)fluoranthene	410	U
	91-58-7	2-Chloronaphthalene	410	Ü	50-32-8	Benzo(a)pyrene	410	U
_		2-Nitroaniline	2100	U	193-39-5	Indeng(1,2,3-cd)pyrene	410	Ü
	131-11-3	Disethyl Phthalate	410	U	53-70-3	Dibenz(a,h)anthracese	410	U
	208-96-8	Acenaphthylene	410	ŭ	191-24-2	Benzo(g,h,i)perylene	410	ü
	740 10 0	the standard profession and the	•	_				

(1) Cannot be separated from diphenylamine

## Organics Analysis Data Sheet (Page 3)

### Pesticide/PCBs

Concentration: [Low] Medium (Circ Date Extracted/Prepared: 12/27/85  Data Analyzed: 12/31/85  Conc/Dil Factor: 4.88	le One)
.CAS ug/l Number	or [ug/Kg] (Circle One)
319-84-6	9.8 U I 1 9.8 U I 1 9.8 U I 1 9.8 U I I 1 9.8 U I I 1 1 20. U I I 1 20. U I I 20. U I 20.
V(i) = Volume of extract injected V(s) = Volume of water extracted W(s) = Weight of sample extracted V(t) = Volume of total extract (u	(ml) (g)

Form 1

\_\_\_\_\_or W(s) \_ 30.01\_ V(τ) \_ 2000.00\_ V(i) \_ i.0\_

# Organics Analysis Data Sheet (Page 4)

# **Tentatively Identified Compounds**

CAS Number	Compound Name	Fraction	RT or Scan Number	Estime (ad Concentration (ug/l or ug/kg)
1	NO VOA COMPOUNDS FOUND			
2				
3				
4				
5				
6				
7				
8	1			
9			;4	
11				
12				
13				
14				
15		(J)		
6				
17				
18	<u> </u>		<u> </u>	
19				
	<u> </u>			
21				
22				<del></del>
23				
24	1			
25 26				
26 27				
28			•	
29	L Company of the comp			
30				

SAMPLE NUMBER MW55-2 COMPUCHEM FILE GR071923C15

# ORGANICS ANALYSIS DATA SHEET (PAGE 4) TENTATIVELY IDENTIFIED COMPOUNDS

is number	COMPOUND NAME	FRACTION	SCAN NUMBER	ESTIMATED (	9885
108-21-4	ACETIC ACID. 1-METHYLETHYL ESTER	SEM13	298	390.	JB
625-06-9	2-PENTANOL, 2,4-DIMETHYL-	SEM13	321	14000.	13
771-58-4	BLEYCLOTA-1.01HEPTAN-2-ONE	SEN13	745	410.	J
300 4	9.00	SPECTR	OSCOPIST DATE	IR 1-15-81	

aboratory Name: CompuChem tab Sample ID No: 6H071933918 Sample matrix: solid sta Release muthorized By:

Organics Analysis Data Sheet (Page 1)

Cases **QC** Report No:

Contract No: PLATIMUM

Date Samole

Received:

12-19-85

C&S

Volatile Compounds

Concentration: Date extracted/prepared: 12-19-85

Date analyzed: Conc/Dil Factor:

12-28-85 1.20

pH: 7.9

Percent maisture:

202 Percent poisture (decasted):

_	CAS	•			CAS	•		
.—	Number		ug/!	kg	Number	•	ng/kg	ı
	74-87-3	Chipromethane	12.	Ū	78-87-5	1,2-Dichloropropane	6.0	
	74-83-9	Brososethane	12.	U	10061-02-6	trans-1,3-Dichloropropene	6.0	U
-	75-01-4	Vinyl Chloride	12.	IJ	79-01-6	Trichloroethene	6.0	IJ
	75-00-3	Chloroethane	12.	Ų.	124-48-1	Dibromochloromethane	6.0	Ü
	75-09-2	Methylene Chloride	700	B	<b>த</b> 79−00-5	1,1,2-Trichloroethane	6.0	U
,	67-64-1	Acetone	12.	U	71-43-2	Benzene	6.0	U
	75-15-0	Carbon Disulfide	6.0	Ü	10061-01-5	cis+1,3-Dichloropropene	6.0	U
	75-35-4	1,1-Dichloroethene	6.0	U	110-75-B	2-Chloroethyl Vinyl Ether	12.	U
_	75-35-3	1,1-Dichloroethane	. 6.0	U	75-25-2	Brosofore	6.0	U
	156-60-5	trans-1,2-Dichloroethene	6.0	U	591-78-6	2-Hexanone		IJ
	67-66-3	Chioroform	6.0	U	108-10-1	4-Metbyl-2-pentanone	12.	บ
	107-06-7	1.2-Dichloroethane	6.0	Ų	127-16-4	Tetrachloroethene	6.0	U
-	78-93-3	2-Butanone	12.	IJ	108-88-3	Toluene	6.0	
	71-55-6	1,1,1-Trichloroethane		Ü	108-90-7	Chlorobenzene	6.0	
	56-23-5	Carbon Tetrachloride	6.0		100-41-4	Ethyl Benzene	2.0	
-	108-05-4	Vinyl Acetate	12.	U	100-42-5	Styrene	6.0	
	75-27-4	Brosodichlorosethane		U		Total Xylenes	12.	
	79-34-5	1,1,2,2-Tetrachloroethane	6.0	_				
_		, , ,			QUALIFIERS			

or reporting results to EPA, the following results qualifiers are used. Additional flags or footnotes explaining results are encouraged. However, the definition of each flag must be explicit.

- ALUE If the result is a value greater than or equal to the detection limit, report the value.
- Indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the B (e.g. 10B) based on necessary concentration/ dilution actions. (This is not necessarily the instrument detection limit.) The footnote should read: U-Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample.
  - Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicates the presence of a compound that meets the identification criteria but the result is

- less than the specified detection limit but greater than zero. (e.g. 10J)
- This flag applies to pesticide parameters where the identification has been confirmed by SC/MS. Single component pesticides >/= 10 ng/ul in the final extract should be confirmed by 6C/MS.
- This flag is used when the analyte is found in the blank as well as a sample. It indicates possible/ probable blank contamination and warms the data user to take appropriate action.

Other Other specific flags and footnotes may be required to properly define the results. If used, they oust be fully described and such description attached to the data summary report.

-boratory Name: CompuChem

Organics Analysis Data Sheet (Page 2)

Semivolatile Compounds

Concentration:

ìou

Date extracted/prepared: 01-14-86/12-27-85 orig

Date analyzed:

01-15-86

Conc/Bil Factor:

42.30 CAS

	CAS	•			CAS				
ign.	Hunber		ug/	kg	Musber			ug/ki	•
	62-75-9	M-Mitrosodimethylamine	420	U	99-09-2	3-Nitroaniline		2100	U
	108-95-2	Phenol .	420	U	B3-32-9	Acenaphthene		420	Ü
-	62-53-3	Aniline	420	U	51 <b>-28-5</b>	2,4-Dinitrophenol		2100	U
e"	111-44-4	bis(2-Chloroethyl) ether	420	U	100-02-7	4-Ritrophenol		2100	U
	95-57-8	2-Chlorophenol	420	U	132-64-9	Dibenzofuram		420	t
	541-73-1	1,3-Dichlorobenzeme	420	ช	121-14-2	2,4-Dinitrotoluene		420	g
_	106-46-7	1,4-Bichlorobenzene	420	IJ	60 <b>6</b> -20-2	2,6-Dinitrotoluene		420	Ü
	100-51-6	Benzyl Alcohol	420	U	84-66-2	Diethylphthalate		420	U
	95-50-1	1,2-Dichlarobenzene	420	IJ	7005-72-3	4-Chlorophenyl Phenyl ether		420	Ü
-	95-48-7	2-Methylphenol	420	U	86-73-7	Fluorene		420	U
;	19638-32-9	bis(2-Chloroisopropyl) ether	420	U	100-01-6	4-Mitroaniline		2100	U
	106-44-5	4-Methylphenol	420	ŧ	534-52-1	4,6-Dinitro-2-methylphenol		2100	U
-	621-64-7	R-Mitroso-Dipropylamine	420	IJ	86-30-6	M-nitrosodiphenylamine (1)	*	420	ម
	67-72-1	Hexachloroethane	420	U	101-55-3	4-Bromophenyl Phenyl ether		420	Ü
	98-95-3	Nitrobenzene	420	ij	11B-74-1	Hexach] or obenzene		420	U
	78-59-1	Isophorone	420	U	87-86-5	Pentachlorophenol		2100	Ü
-	88-75-5	2-Kitrophenol	420	IJ	65-01-8	Phenanthrene		420	U
	105-67-9	2,4-Dimethylphenol	420	U	120-12-7	Anthracene		420	U
	65-85-0	Benzoic Acid	2100	U	B4-74-2	Di-n-butylp:alate		420	U
_	111-91-1	bis(2-Chloroethoxy) sethane	420	Ü	206-44-0	Fluoranthene		420	U
	120-83-2	2,4-Dichlorophenoi	420	U	92-87-5	Benzidine		2100	U
	120-62-1	1,2,4-Trichlorobenzene	420	U	129-00-0	Pyrene		420	Ü
_	91-20-3	Maphthalene	420	U	85-68 <b>-</b> 7	Butyl Benzyl Phthalate	O	420	Ü
	106-47-8	4-Chloroaniline	420	U	91-94-1	3,3'-Dicklorobenzidine		840	U
	B7-68-3	Hexachlor obutadiene	420	U	<b>56-55-</b> 3	Benzo (a) anthracene		420	IJ
	59-50-7	4-Chloro-3-methylphenol	420	U	117-81-7	bis(2-ethylhexyl)phthalate		240	1.
-	91-57-6	2-Methylmaphthalene	420	Ü	218-01-9	Chrysene		420	U
	77-47-4	Hexachlorocyclopentadiene	420	U	117-84-0	Di-n-octyl Phthalate		420	U
	88-06-2	2,4,6-Trichlorophenol	420	L	205-99-2	Benzo(b)fluoranthene		420	Ü
_	95-95-4	, ,	2100	8	207-08-9	Benzo(k)fluoranthene		420	U
	91-58-7	, .	420	ū	50-32-B	Benzo(a)pyrene		420	U
	91-36-7 88-74-4	•	2100	Ü	193-39-5	Indena (1,2,3-cd) pyrene		420	U
_	131-11-3		420	Ü	53-70-3	Dibenz(a,h)anthracene		420	U
<del></del>	208-94-B	Acemaphthylene	420	ŭ	191-24-2	Benzoig,h,ilperylene		420	u
	708-40-8	MCEUTAUCUATENE	720	J	1/1 2/ 2	(1) Cannot be separated from	diphen	vlamine	
						to. Semiles to refer that the	F	•	

# Organics Analysis Data Sheet (Page 3)

#### Pesticide/PCBs

Concentration: [Low] Medium (Circle One)
Date Extracted/Prepared: 12/31/85
Data Analyzed: 12/31/85
Conc/Dil Factor: 9.99

CAS vg/l or [v]
Number (Circle

CA	45			υg/l	or Lui		
N	ımber		·		(Circle	une.	)
1	319-84-6	1	Alpha - BHC	1	20.	U	ŀ
i	319-85-7	ł	Beta - BHC	Į	29.	ប	l
i			Delta - BHC	1	20.	U	Ì
ì	58-89-9	į	Gamma - BHC(Lindane)	<b>)</b>	20.	IJ	i
Ī	76-44 <del>-</del> 8	1	Heptachlor	1	20.	U	Ì
1	309-00-2	1	Aldrin	ì	20.		
ŀ	1024-57-3	ŀ	Heptachlor Epoxide	ì	20.		
Ĭ	959-98-8	Ŧ	Endosulfan I	l,	20.		
ì	60-57-1	ı	Dieldrin	i	40.		
l	72-55-9	ŀ	4-4' - DDE	1	45.		
	72-20-8			į	40.		
			Endosulfan II	I	40.		
E	72-54-8			1	40.		
į	7421-93-4		Enarin Aldehyde	1	40.		
•	1031-07-8		Endosulfan Sulfate	1	40.	U	
j	50-29-3		4-4' - DDT	1	40.	U	
ł			Methoxychlor	,	200	U	
i	53494-70-5		Endrin Ketone	i	40.		
ì	57-74-9	ı	Chlordane	į	200	U	
i	8001-35-2		•	i	400	Ų	•
1			Arocior - 1016	1	200	U	
į			Aroclor - 1221	ì	200	IJ	
i			Aroclor - 1232	j	200	Ü	İ
ŧ			Aroclor - 1242	1	500	U	•
İ			Aroclor - 1248	I	200	_	ļ
i			Aroclor - 1254	1	400		ł
ì	11096-82-5	1	Aroclor - i260	į	400	Ù	ŧ

```
V(i) = Volume of extract injected (vl)
V(s) = Volume of water extracted (ml)
W(s) = Weight of sample extracted (g)
V(t) = Volume of total extract (vl)
```

V(s) \_\_\_\_\_\_\_or W(s) \_ 30.00\_ V(t) \_ 2000.00\_ V(i) \_ i 0\_

Form 1

# Organics Analysis Data Sheet (Page 4)

# Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/I or ug/kg)
1	NO VOA COMPOUNDS FOUND			
2				
3				
4				
5				
7.				
8			·	
9	<u> </u>			
10				
11		<del>-    </del>		<del></del>
12				
14				:
15				
16				
17				
18				
19				
20	· · · · · · · · · · · · · · · · · · ·			<del></del>
21				
23				
24				
25				
26				
27				
28				
<b>3</b> 0				<u> </u>

SAMPLE NUMBER MHSS-3 COMPUCHEM FILE GR071933C15

DATE 1-15-36

# ORGANICS ANALYSIS DATA SHEET (PAGE 4) TENTATIVELY IDENTIFIED COMPOUNDS

CAS NUMBE	R COMPOUND NAME	FRACTION	SCAN NUMBER	ESTIMATED (	<b>788</b> 3	
108-21-4	ACETIC ACID, 1-METHYLETHYL ESTER	. SEMI3	300	540.	JA	
625-06-9	2-PENTANOL, 2,4-DIMETHYL-	. SEMI3	323	20000.	38	
25144-04-1	CYCLOPENTANOL, 2-METHYL-, TRANS-	. SEMI3	358	220.	JB	
1120-72-5	CYCLOPENTANONE, 2-METHYL-	. SEMI3	365	270.	J	
5771-58-4	BYCYCLOCATIONEPTAN 2 ONE	SEM13	746	150.	J	
2.300	40 <b>.</b> 00	SPECTR	OSCOPIST	IR.		

FORML, PART R

THESUM TON BURNAS ARE MARBORN YROTARD TOARTHOD ARE BURNAS

SOBREBA-E400 - E18: 8-221-5400 Brot Box 812 - Veekbudelb' Av 58313 - Doe Dviet inign68

SB-LE-El : BLAG	E.18 (%)	abile=	: Inapha9	(i)	45 tag	eko ₩
12 9F 3 × C	<b>Ģ</b> ⊃u t Z	#3	0500 d	* 8.47	<u>. 5487</u> .	: ₹
us q s	Sau£bsasV	೯ತ	001 <del>* Q =</del>	* 0028S	apal .	111
07 <b>3</b>	* 81 niT	55	UZ. S. 9. A	* OZ	ragged .	0 i
<b>6</b> F	muți1i∈dī	51.	n <del>a</del>	9.P	154940	ő
neca 🚜	Sedium [298]	0.€	ा न	દા	mailmor40	18
Q <b>e</b> 10	1. <b>%</b> 400[18	161	ucos 9	* o िगा		<u>.</u>
R F CE	antus;=3	31	8310 <mark>13</mark>	A [41.0]	<b>មក ខេត្ត</b> ្	1 P 🕳
1103 J 6	88 muissett?	12:	<b>⊕</b> ∂	<u> </u>	Perviltan.	3
ur 9	N;∈k⊕1 /8	91	υοs <u>9</u>	Sa	Bartun	ir T
93:0 M	N•O Kanbasy	51	का च	हा		Ξ
N3 1 d ∋ 6	h eastagnaM	7 <del>5</del> 1	<u>ા</u> ક	· · · . · · · · · · · · · · · · · · · ·	TAUCSTEEV	ਨ
:005 d ∋ QU	82 wolfer	1 <b>2</b> 1	ा०३ ते च	00111	—ឃុកស្រងការុម្	i 🕳
	≥) DBX MEICH1 E	स्ट क्रूड	Hib) THRIE	१ ३ चव विश्वर है क	o I∖gu	
<del></del>	E:	อฮการ	_XXX_:-	1105	ABTAW XIAT	Har H
STAG SYLWY-GB	BH-MUL BEGGIE	:	MUIJEM	TOM: TXX	WOITARTWEDN	ict 💂
	AND MEASURES	IEIED	WEN16 IDEN1			
.on	780939 DD			NO: 71936	GI BAMAR B	
-				_	+87 24 W	ng.
1 ~ ∃ <b>5</b> 7 7	CVEE NO: CH		23190TA9	новыш маноия	かい マンスロー このは	
	TBBH8 ATAG	FISIE	ANA DIMABAC	NI		_
			0643-1	E18: 8-22	96 <b>5</b> 3-1550	- 14≟

Footnotes: For reporting nesults to EPA, standard result qualifiers are used incorporations. Additional flags or footnotes explaining se defined on Cover Page. Moditional of such flags are estimated or such flags and such the such the flags of such flags.

COMMENTS: This country was used for sent aluli. see ICP.

THE WANAGE THE SALL

U S EFA CONTRACT LABORATORY PROGRAM Sample management office P U. 807 850 - Alrxandria, VA 81313

703/557-3490 FTS: 8-557-2490

EPA SAMPLE NO SUBSTRA

EGA ZATEV (toxone)

### INORGANIC ANALYSIS DATA SHEET

•			
LAB NAME COMPUCHEM LABOR	PATORIES	CASS NO: CAL&SF-1	
50U NO784		•	•
LAE SAMPLE ID NO: 71937		go refort no:	
	MENTS IDENTIFIED	AND MEASURED	
CONCENTRATION: LOW:XX	XMEDIUM:	PH-NOT REQUIRED-UNIT	S DATE:
MATRIK UHTERK SOI	L:_XXX_, SUUDS	S:OTHER:	
		e) DRY WEIGHT FACTOR _	1.22
_ 1 Aluminum13100	<u>P</u> <sup>#</sup> 20∪ 13.	Magnesium 18600	<u>ρ</u> <b>*</b> 5068
2 Antimony [1.7]	F 64	Manganese 681	<u>ρ</u> 1 58
- 3. Arearic 16 5			
s 850200 41	<u>ρ</u> 200 16.	Nickel 09 23	P 49
5. Beryllium	<u>P</u> (5D) 17.	Potassium 2080*	P =00U
6. Cadmium [6·12] R	<u>F</u> 0.5U 18.	Selenium R	<u>f ( \$0</u>
3. deleson 47000*	<u>P</u> 500U 19.	Silver 1.2 R	<u>ਵ</u> ਾਰ
8. Chrimium 16	<u>ρ</u> 1υ ag.	Section 651	<u> P</u> 500
f. Cobelt 9.3	ρ <u>ευ</u> 21	Thallium R	F (13)
10. Copper 30 * R	<u> 20</u> 2 50 22.	Tin 5,2 *	F÷;
11. Iron 27300 T	<u>ρ *</u> 100 23.	Vanadium Z6	<u> و</u> ن
12. Lead 5.8 *	P_0.50 24.	Zinc bit	<u> 20</u>
Gyanide	Percent solids	(%) 819 DATE: 13	2-27-85
results are end	Dover Page, Addit	ional flags on footmote ions of such flags must	s explaining
COMMENTS As recoult	is due to MEA	· See Pages 9210 of	As 10w del
	LAF	MANAGER DE Stunde	

U.S. EFA CONTRACT LABORATORY PROGRAM EPA SAMPLE NO: MUSS-3 SAMPLE MANAGEMENT OFFICE P.O. BOX 818 - ALEXANDRIA, VA SEBIE SYS DATE TYPOXES 703/557-3490 FTS: 8-557-2490

#### INCREANIC ANALYSIS DATA SHEET

LAS NAME: COMPUCHEM LABOR	PATORIES	CASE NO: CALESP-1
50W NO784		- -
LAE SAMPLE ID NO: 71938		QC REPORT NO. A
ELË!	MENTS IDENTIF	TED AND MEASURED
CONCENTRATION: LOW:XX	< MEDIUM:_	FH-NOT REQUIRED-UNITS DATE:
MOTRIN WATER: SOI:	_ <u>_</u> */X\$	LUDGE:OTHER:
		e one) DRY WEIGHT FACTOR: 1.23
		13 Magnesium <u>9220 P*</u> 5000
2. Antimony [ 18 [10	<u>5] Բ</u> მს	14. Manganese 512 P 1.50
<b>-</b> 3 Ad≝emic <u>16</u>	<u> </u>	15. Mencury <u>O⋅22* Cv</u> 0.1U
4 885128 <u>55</u>	P app	16 Nickel 20 P 40
5. Seryllium	LL ©	17. Fotassium 1100 7 9 5000
. 6 Sadmium <u>Lo-18]</u>	<u>}</u> 0.50	18. Selenium R P 0.50
7. Calcium 24400*	<u>P</u> 5000'	19. Silver RP (10)
s. Chromium 13	<u> </u>	20. Sodium 527 P 500 500
		2: Thallium RF (1)
13. Copsei <u>28 *</u>	<u> Άρ</u> ε.50	28. Tin 14 * F 40
11. Iron 23300 <sup>3</sup>	<u>ρ*</u> 100	23. Vanadium <u>22</u> <u>P</u> 50
12. Lead 5.9 *	<u>1</u> 0.50	24. Zinc <u>98 RP</u> 20
Cyanide		lide (%) 81.2 DATE: 12-27-85
as defined on 0	Cover Page. A couraged. Def	PA, standard result ovalifiers are used dditional flags or footnotes explaining initions of such flags must be explicit, however.
COMMENTS:	<del></del>	
		LAB MANAGER Its Studle

APPENDIX F

GROUND-WATER ANALYTICAL DATA SHEETS

Jan 14 1986

# Environmental LABORATORY

Division of Calocerinos & Spina Consulting Engineers • 1020 Seventh North Street, Liverpool, NY 13088

NIAGARA MOHAWK - EAST UTICA FTo:

CALOCERINOS & SPINA

LIVERPOOL, NY 13088

Attention: THOMAS BARBA

Date:

**SAMPLE #7616** 

PAGE 1 DF 2

LABORATORY ANALYSIS REPORT

RESULTS INITS

SAMPLE SUMMARY

: NIAGARA MOHAWK - EAST UTICA CLIENT

DOCOMETED

DATE RECEIVED : 11/14/85

JGB # : 465.007.00

DATE COLLECTED : 11/13/85

LOCATION : MW1

TIME COLLECTED : 1400

PRICE CODE : STANDARD

METHOD : GRAB

KESOCIS	Q1411G
(0.004	mg/l
(0.2	mg/1
(0.060	mg/l
(0.010	mg/l
0.4	mg/l
(0.005	mg/l
(0,005	mg/l
70.	#g/l
(0.010	mg/l
(0.050	mg/l
(0.02	mg/1
0.06	mg/1
(0.005	mg/l
14.	mg/1
1.1	mg/1
	(0.004 (0.2 (0.060 (0.010 0.4 (0.005 (0.005 70. (0.010 (0.050 (0.02 0.06 (0.005



Division of Calocerinos & Spina Consulting Engineers • 1020 Seventh North Street, Liverpool, NY 13088

SAMPLE #7616

PAGE 2 OF 8

LABORATORY ANALYSIS REPORT

PARAMETER	•	RESULTS	UNITS
MERCURY-SOL		⟨0.0005	mg/l
NICKEL-SOL		(0.02	mg/l
POTASSIUM-SOL		1.8	mg/l
SELENIUM-SOL		(0.005	mg/l
SILVER-SOL		(0.010	mg/l
SODIUM-SOL		15.	mg/l
THALLIUM-SOL		(0.010	mg/l
TIN-SOL		(0.040	mg/l
VANAD IUM-SOL		(0.050	mg/l
71NC-501		0-04	ma/1

in current EPA, ASTM and/or Standard Methods unless otherwise specified JAN 14 1988

Date: Jan 14 1986

# Environmental LABORATORY

Division of Calocerinos & Spina Consulting Engineers • 1020 Seventh North Street, Liverpool, NY 13088

To: NIAGARA MOHAWK - EAST UTICA

CALOCERINOS & SPINA LIVERPOOL, NY 13088

Attention: THOMAS BARBA

\*\*\*\*\*\*\*\*\*\*\*

SAMPLE #7617

PAGE 1 OF 2

LABORATORY ANALYSIS REPORT

\*\*\*\*\*\*\*\*\*

SAMPLE SUMMARY

CLIENT : NIAGARA MOHAWK - EAST UTICA DATE RECEIVED : 11/14/85

JOB # : 465.007.00 DATE COLLECTED : 11/13/85

LOCATION : MH2 TIME COLLECTED : 1030

PRICE CODE : STANDARD : GRAB

PARAMETER	RESULTS	UNITS
CYANIDE-T-SOL	(0.004	mg/l
ALUMINUM-SOL	(0.2	mg/l
ANTIMONY-SOL	(0.060	mg/l
ARSENIC-SOL	(0.010	mg/1.
BARIUM-SOL	0.5	mg/l
BERYLLIUM-SOL	(0.005	mg/1
CADMIUM~50L	(0.005	mg/l
CALCIUM-SOL	120.	mg/1
CHROMIUM-T-SOL	⟨0.010	mg/l
COBALT-SOL	(0.050	mg/l
COPPER-SOL	(0.02	mg/l
IRON-SOL	0.07	mg/1
LEAD-SOL	(0.005	mg/l
MAGNESIUM-SOL	29.	mg/l
MANGANESE-SOL	0.4	mg/1



Division of Calocerinos & Spina Consulting Engineers • 1020 Seventh North Street, Liverpool, NY 13088

PAGE 2 OF 2

#### LABORATORY ANALYSIS REPORT

PARAMETER	•	RESULTS	UNITS
MERCURY-SOL		(0.0005	mg/l
NICKEL-SOL		(0.02	mg/l
POTASSIUM-SOL		1.8	<b>mg/1</b>
SELENIUM-SOL		(0.005	mg/1
SILVER-SOL		(0.010	mg/l
SODIUM-SOL		20.	mg/l
THALLIUM-SOL		(0.010	mg/1
TIN-SOL		(0.040	mg/l
VANADIUM-SOL		(0.050	mg/l
ZINC-SOL		0.06	mo/1

All analyses were conducted in accordance with operating conditions as set forth in current EPA, ASTM and/or Standard Methods upless otherwise specified.

APPROVED BY:

DATE: JAN 1 4 1986

# \_ Environmental \_\_\_\_LABORATORY

Division of Calocerinos & Spina Consulting Engineers • 1020 Seventh North Street, Liverpool, NY 13088

TO: NIAGARA MOHAWK - EAST UTICA

CALOCERINOS & SPINA

LIVERPOOL, NY 13088

=9ttention: THOMAS BARBA

\*\*\*\*\*\*\*\*\*\*\*\*

SAMPLE #7618

PAGE 1 OF 2

Date: Jan 14 1986

LABORATORY ANALYSIS REPORT

SAMPLE SUMMARY

RESULTS

CLIENT : NIAGARA MOHAWK - EAST UTICA

PARAMETER

DATE RECEIVED : 11/14/85

\_\_ JDB # : 465.007.00

DATE COLLECTED : 11/13/85

LOCATION : MW3

TIME COLLECTED: 1730

PRICE CODE : STANDARD

METHOD

UNITS .

: GRAB

, , , , , , , , , , , , , , , , , , , ,			
CYANIDE-T-SOL	⟨0。004	mg/1	
ALUMINUM-SOL	(0.2	mg/l	
ANTIMONY-SOL	(O.060	mg/1	
ARSENIC-SOL	(0.010	mg/1	
BARIUM-SOL	0.5	_ mg/l	
BERYLLIUM-SOL	(0.005	mg/1	
CADMIUM-SOL	(0.005	mg/l	
CALCIUM-SOL	70.	<b>mg/l</b>	
CHROMIUM-T-SOL	0.010	mg/l	
COBALT-SOL	(0.050	mg/l	
COPPER-SOL	(0.02	mg/l	
IRON-SOL	0.07	mg/1	
LEAD-SOL	(0.005	mg/l	
MAGNESIUM-SOL	16.	mg/1	
MANGANESE-SOL	2.0	mg/l	



Division of Calocerinos & Spina Consulting Engineers • 1020 Seventh North Street, Liverpool, NY 13088

**SAMPLE #7618** 

PAGE 2 OF 2

#### LABORATORY ANALYSIS REPORT

PARAMETER	RESULTS	UNITS
MERCURY-SQL	(0.0005	mg/l
NICKEL-SOL	0.05	mg/l
POTASSIUM-SOL	3.2	mg/l
SELENIUM-SOL	(0.005	mg / 1
SILVER-SOL	(0.010	mg/l
SODIUM-SOL	17.	mg/l
THALLIUM-SOL	(0.010	mg/l
TIN-SOL	(0.040	mg/l
VANADIUM-SOL	(0.050	mg/l
ZINC-SOL	0.04	ma/1

All analyses were conducted in accordance with operating conditions as set forth in current EPA, ASTM and/or Standard Methods unless otherwise specified.

Jan 14 1986

# Environmental LABORATORY Division of Calocerinas & Spina Consulting File

Division of Calocerinos & Spina Consulting Engineers • 1020 Seventh North Street, Liverpool, NY 13088

To: NIAGARA MOHAWK - EAST UTICA

CALOCERINOS & SPINA LIVERPOOL, NY 13088

Attention: THOMAS BARBA

\*\*\*\*\*\*\*\*\*\*

SAMPLE #7619

PAGE 1 DF 2

Date:

LABORATORY ANALYSIS REPORT

SAMPLE SUMMARY

CLIENT : NIAGARA MOHAWK - EAST UTICA DATE RECEIVED : 11/14/85

JOB # : 465.007.00 DATE COLLECTED : 11/13/85

LOCATION : MW4 TIME COLLECTED : 1350

PRICE CODE : STANDARD METHOD : GRAB

PARAMETER	RESULTS	UNITS
CYANIDE-T-SOL ALUMINUM-SOL ANTIMONY-SOL ARSENIC-SOL BARIUM-SOL	(0.004 (0.2 (0.060 (0.010	mg/l mg/l mg/l mg/l
BERYLLIUM-SOL CADMIUM-SOL CALCIUM-SOL CHROMIUM-T-SOL COBALT-SOL	(0.005 (0.005 80. (0.010 (0.050	mg/l mg/l mg/l mg/l
COPPER-SOL IRON-SOL LEAD-SOL MAGNESIUM-SOL MANGANESE-SOL	(0.02 0.10 (0.005 16. 6.4	mg/l mg/l mg/l mg/l mg/l



Division of Calocerinos & Spina Consulting Engineers • 1020 Seventh North Street, Liverpool, NY 13088

**SAMPLE #7619** 

#### LABORATORY ANALYSIS REPORT

PARAMETER	RESULTS	UNITS
MERCURY-SOL	(0.0005	mg/1
NICKEL-SOL	0.0Š	<b>mg/</b> 1
POTASSIUM-SOL	7.1	mg/l
SELENIUM-SOL	(0.005	etg/1
SILVER-SOL	(0.010	mg/1
SODIUM-SOL	38.	mg/l
THALLIUM-SOL	(0.010	mg/1
TIN-SOL	(0.040	ang/l
VANADIUM-SOL	(0.050	mg/l
ZINC-SOL	0.07	<b> g</b> / 1

All analyses were conducted in accordance with operating conditions as set forth in current EPA, ASTM and/or Standard Methods unless otherwise specified.

APPROVED BY

Laboratory Name: Compubhem 🟴 Lab Sappie ID No: CNO67971A11 Sample matrix: liquid Data Release \_\_ Authorized By:

Grownics Analysis Data Sheet

(Page 1)

Case: 0 & 5 QC Report No:

Contract No: PLATINUM

Date Sample

Volatile Compounds

Received:

11-15-85

Concentration: Date extracted/prepared: 11-21-85 Date analyzed: 11-21-85

Conc/Bil Factor:

1.00

pH: N/A

Percent moisture:

N/A Percent moisture (decanted):

,			CAS			
er	us/1		Number		ua/1	
7-3 Chiorocethane	10.	Ü	76-87-5	1.2-Dichloropropane	-	ij
-9 Broadesthane	10.	U	10061-02-6	· •		
4 Vinyi Chloride	10.	U	79-01-6	·		
-3 Chloroethame	10.	Ü	124-48-1			
-2 Methylene Chloride	1.0	j	79-00-5			
+1 Acetone	1:.		71-43-2	Benzene		
i-O Carbon Disulfide	5.0	U		cis-1.3-Dichloropropene		
-4 1,1-Dichioroethene	5.0	U				Ū
i-3 1.1-Dichloroethane		U		Brosofore		
-5 trans-1,2-Dichloroethene				2-Hexanone		ű
-3 Chiorofore						Ü
-2 1.2-Gichlorpethame				•		
-3 2-Butanong		Ū				
-6 1.1.1-Trichloroethane		Ы				
-5 Carbon Tetrachloride						
-4 Vinyi Acatate		Ū		•		
-4 Bromodichloromethane		ü		•		
					<b>4.</b> 9	•
			QUALIFIERS			
	Chioromethane Chioromethane Chioromethane Chioromethane Chioromethane Chioromethane Carbon Disulfide Carbon Tetrachloromethane Carbon Tetrachloride Vinyl Acetate Carbon Disulfide Carbon Disulfi	ug/1				

For reporting results to EPA, the following results qualifiers are used. Additional flags or footnotes explaining results are encouraged. However, the definition of each flao must be explicit.

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

- Indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U (e.g. 100) based on necessary concentration/ dilution actions. (This is not necessarily the instrument detection limit.) The footnote should read: U-Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample.
- Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicates the presence of a compound that meets the identification criteria but 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. Single component pesticides >/= 10 mg/ul in the final extract ... should be confirmed by 60/MS.
- 8 This flag is used when the analyte is found in the blank as well as a sample. It indicates possible? probable blank contamination and warms the data user to take appropriate action.

Other Other specific flags and footnotes may be required to properly define the results. If used, they sust be fully described and such description attached to the data sugmary report.

Laboratory Name: Computher

Organics Analysis Data Sheet

(Fage 2)

Semivolatrie Compounds

Concentration: low
Date extracted/prepared: 11-18-85
Date analyzed: 11-21-85
Conc/Dil Factor: 2.00

EAS				CAS			
Nueber		ug/l	_	Number		ug/l	
62-75-9	N-Nitrosodimethylamine	20.	เร็	99-09-2	3-Nitroaniline	100	Ü
108-95-2	Phenol	20.	В	B3-32-9	Acenaphthene	20.	Ц
å2-53 <b>-</b> 3	Aniline	20.	Ü	<b>5</b> 1-28-5	2,4-Dinitrophenol	100	IJ
111-44-4	bis(2-Chloroethyl) ether	20.	U	100-02-7	4-Mitrophenol	100	IJ
95-57-8	2-Chiorophenol	20.	IJ	132-64-9	Dibenzofuran	<b>2</b> Ğ.	ij
541-73-1	1.3-Dichlorobenzene	20.	ü	121-14-2	2,4-Dinitrotoluene	20.	ů.
106-46-7	1.4-Bichlorobeszene	26.	U	606-20-2	2.6-Dinitrotoluene	20.	u
100-51-6	Penzyl Alcohol	20.	ij	84-66-2	Diethylphthalate	20.	j
95-50-1	1.2-Dichlorobenzene	20.	ΰ	7005-72-3	4-Chiaraphenyi fhenyi ether	20.	ij
95-48-7	2-Methylphenol	20.	IJ	86-73-7	Fluorene	20.	ij
39638-32-9	bis(2-Chloroisopropyl) ether	<b>2</b> 0.	ΰ	100-01-6	4-Nitroaniline	100	U
10a-44-5	4-Methylphenol	20.	U	534-52-1	4.6-Dinitro-2-methylphenol	100	ij
621-64-7	N-Nitroso-Dipropylamine	20.	U	86-30-6	N-mitrosodiohenylamine (1)	26.	ü
67-72-1	Hexachloroethane	20.	IJ	101-55-3	4-Browophenyl Phenyl ether	70.	ij
98-95-3	Nitrobenzene	26.	ü	118-74-1	Kexachlorobenzene	20.	12
78-59-1	Isophorone	26.	Ü	87-86-5	Pentachiorophenol	A, p	ó
88-75-5	2-Nitrophenol	20.	Ü	85-01-8	Phenanthrene	20.	Ü
105-67-9	2.4-Dimethylphenal	20.	IJ	120-12 <b>-7</b>	Anthracene	29,	!_
<b>65-8</b> 5-0	Benzoic Acid	100	Ü	84-74-2	Di-n-butyiphthalate	20.	ı,
111-71-1	bis:2-Chloroethoxy: methane	20.	ij	206-44-0	Fluoranthena	20.	3
120-83-2	2.4-Dichlorognenal	20.	Ü	92-87-5	Benzidine	100	Ų.
120-82-1	1.2.4-Trichlarabensene	· 20.	ü	129-00-0	fyrene :	20.	ů,
91-20-3	Naphthalene	20.	Ü	85-66-7	Butvi Benzyl Phthalate	20.	Ü
106-47-8	4-Uniorpaniline	20.	Ü	91-94-1	3,3'-Dichlorobenzidine	40.	d
87-68-3	Hexachiorobutaciene	26.	ü	55- <b>55</b> -3	Benzo(a) anthracene	20.	. ř
59-50-7	4-Chioro-3-methylphenal	20.	Ü	117-81-7	bis(2-ethylhexyl)phthalate	6.8	·
91-57-5	2-Methylnaphthalene	20.	U	218-01-9	Chrysene	20.	U
77-47-4	Hexachlorocyclopentadiene	26.	ü	117-84-0	-Di-n-octvi Phthalate	Ž0,	ü
88-06-2	2.4.5-Trichlorophensi	20.	Ù	205-99-2	Benzo(b)fluoranthene	20.	Ü
95-95-4	2,4,5-Trichlorophenol	100	Ü	207-08-9	Benzo(k)fluoranthene	20.	U
91-58-7	2-Chioronaonthalene	20.	ü	50-32-8	Benzo(a)pyrene	20.	Ü
88-74-4	Z-Nitroaniline	100	IJ	193-39-5	· •	20.	ü
131-11-3	Dimethyl Phthalate	20.	ü	53-70-3	Dibenz(a,h)anthracene	20.	IJ
208-94-8	Acenaphthylene	20.	B	191-24-2	Benzo(g,h,i)perylene	20.	li

(1) Cannot be separated from diphenylamine

ŀ	Sample Number	Ì
ì	7616-MU1	ĺ

#### Organics Analysis Data Sheet (Page 3)

#### Pesticide/PCBs

Concentration: [Low] Medium (Circle Date Extracted/Prepared: 11/21/85 Data Analyzed: 11/21/85 1.00	le One>
CAS [ug/1 Number	] or ug/Kg (Circle One)
319-84-6	.05 U   .05 U   .05 U   .05 U   .05 U   .05 U   .05 U   .05 U   .10 U
V(s) = Volume of water extracted ( W(s) = Weight of sample extracted V(t) = Volume of total extract (ul	(g)

Form 1

V(s) \_ 1000.00\_ or W(s) \_\_\_\_\_ V(t) \_10000.00\_ V(i) \_ 1.0\_

Sample Number 7616 - MW

#### Organics Analysis Data Sheet (Page 4)

CAS Number	Compound Name	Fraction	RT or Scan Estimated Concentration (ug/for ug/kg
1	NO VOA COMPOUNDS FOUND		
2			
3			
4			
5			
6		-	
7 8			
9			
10			
11			
2			
3			
4			
5		<b></b>	
6		<del> </del>	
7			
8			
20			
21			
22			
23			
24			
25			
26	1		
27			
28	1		
29			
30	<u></u>		<u> </u>

Lwm-JJJF

\* P. D. Box 818. Assandra Agency. \*\* CLP Semple Management Office. \*\* P. D. Box 818. Assandra Virginia 22313 703 /557-2490

# Organics Analysis Data Sheet (A egg4)

Rimber Concentration (ug 'l or ug 'kg)	noitoes	Smeal brucqmoD	Mumber CAS
		NO SY COMPOUNDS FOUND	
			3.
			9
	<del> </del>		6
			13
			*
			96
			-21
			6L
	<del>                                     </del>		30
	<del>                                     </del>	·	cs.
			52
			98
			.7s
	<del>  -</del>		55

Ţ/bn

1909PN

240

			<b>-</b>
		Percent moisture (decanted):	_
		Percent moisture: N/A	
	A\N :Hq	Conc/Dil Factor: 1.00	
		Ge-IZ-II > :pazktene ade0	<b>-</b>
		G8-12-11 :benaqenq\beloatra esad	
		Concentration: 10w	
11-12-92	Bate Sample Beceived:	sbnuogad) sitisiav	Data Release Authorized By:
	בסטבגשבר אפי		biupii :xints algass
	ec keport ko:		- Lab Sample iD No: CNO67959011
5 4 3	:aseg	(1 aps3)	reconstant weder company
		feed stay stayion 2010 5010	
		02/221-2440	CICSS AV , simbnexelA , 818 xod .C.9
		AATIJA SURESŠEURU REJERE	

լ/ճո

				f	0.2	sasdionoidzenitaT-5,2,1,1	2-42-81
ħ	9.8	zenelyi istol		Π	2.0	Brosodichlorosethane	75-27-4
Ω	0.3	90917432	G-Z+-001	Ü	.01	Vinyl Acetate	Y-90-801
ņ	2'0	Ethyl Benzebe	100-41-4	Π	მ"\$	ebinoidaeatel nadaea	29-52-92
ß	9.5	Shior obenzese	1-06-801	Ω	5.0	ansdisonoidilT-1,1,1	9-22-11
Ü	0 <b>.</b> 6	an <b>a</b> uio}	108-88-3	Ð	10.	anonajuä−S	2-26-81
R	9.5	Setrachior or thene	121-18-4	Ω	0.5	ensitao moidichi€.1	2-90-201
Ð	'01	anonatnaq-S-iydiaM-A	1-01-801	Π	9°S	@rofora	2-99-29
U	.01	эпопе хэй-2	5-87-195	Π	0.3	enenijeonoία⊃id-î,l-amanj	3-08-421
, B	2.0	# 10 to a 0 18	75-25-2	Ð	2*0	i,l-Dichioroethame	72-22-2
В	'0ï	2-Chiaraethyi Vinyi Ether	110-12-8	n	2.0	anadianosticati.i	4-53-37
П	0.8	cis-1,3-Dichlaraprapene	2-10-19001	D.	0.2	Serbon Disulfide	0-51-51
ŋ	0,3	ensine	17-42-5	ſì	.01	sacione	1-49-19
Ü	9"3	anedisoroidzinī-2,1,1	14-00-2	B	9°9	Methylene Chloride	7-60-87
Ü	9.8	915tromochloromethane	1-84-421	Ω	.01	Chioroethane	12-00-2
n	C *S	Trichloroethene	à-10-FT	Ţļ.	.01	Vinyl Chioride	12-01-4
ſì	5.5	anaqonqoroidi⊡č,i-anetj	7-20-19001	Ŋ	.01	Broacethane	4-52-4
3	ତ 'ହୁ	3,Σ-Dichiaraprapaπε	5-76-87	9	101	Chiorosethane	5-78-77

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encouraged. However, the definition of each flag must be explicit. For reporting results to EFA, the following results qualifiers are used. Additional flags or footnotes explaining results are

DATA REPORTING BUALIFIERS

than zero. (e.g. 101)	detection limit, report the value.
less than the specified detection limit but greater	WALUE If the result is a value greater than or equal to the

- should be confirmed by GC/AS. component pesticides \\ \ 10 mi in/ph OI =\\ 20 epicides tranogeco identification has been continued by BC/NS. Single This flag applies to pesticide parameters where the
- to take appropriate action. probable blank contamination and warns the date user blank as well as a sample. It indicates possible: end no bound at stylens and name beau at pail and?
- data summaty report. fully described and such description attached to the properly define the results. If used, they must be Other Other specific flags and footnotes may be required to
- dilution actions. (This is not necessarily the instrument Anoitentneonocynesesson no based (UOI .p.a) U ant Report the minisum detection limit for the sample with Indicates compound was analyzed for but not detected.

.eigmee edf mot fimit noticeled denieffs muminim

was analyzed for but not detected. The number is the detection limit.) The footnote should read: U-Compound

at flueer off the treation criteria but the result is Jent boundeds a to especate the presence of a compound that componed where a lif response is assumed on when the mass when estimating a concentration for tentatively identified Indicates an estimated value. This flag is used either Laboratory Name: CompuChem

Organics Analysis Data Sheet

(Page 2)

Semivolatile Compounds

Concentration: low
Date extracted/orepared: 11-18-85
Date analyzed: 11-21-85
Conc/Dil Factor: 2.00

CAS				CAS			
Number		49/1		Number		ug/l	
62-75-9	N-Nitrosodimethylamine	20.	ı.	99-09-2	3-Nitroaniline	100	U
108-95-2	Phenal	20.	ŭ	B3-32-9	Acenaphthene	20.	U
62-53-3	Aniline	20.	Ü	51-28-5	2,4-Dinitrophenol	100	Ų
111-44-4	bis(2-Chloroethyl) ether	20.	Ū	100-02-7	4-Nitrophenol	100	IJ
95-57-8	2-Chiorophenoi	20.	L	132-64-9		20.	IJ
541-73-1	1.3-Sichlorobenzene	20.	Ü	121-14-2	2,4-Dinitrotoluene	20.	Ü
106-45-7	1.4-Dichlarobenzene	20.	Ū	606-20-2	Z.6-Dinitrotoluene	20.	ü
100-51-6	Benzyl Alcohol	20.	U	84-66-2	Diethylphthalate	20.	Lj
95-50-1	1.2-Bichlorobenzene	20.	U	7005-72-3		20.	Ū
95-48-7	2-Methylphenol	20.	U	86-73-7		20.	Ų
9638-32-9	bis(2-Chloroisopropyl) ether	20.	ü	100-01-6		106	13
106-44-5	4-Methylphenol	20.	IJ	534-52-1		100	ij
621-64-7	N-Mitroso-Dipropylamine	20.	ü	86-30-6	*	20.	J
47-72-1	Hexachloroethane	20.	نا	101-55-3	4-Brosophenyl Phenyl ether	20.	ij
98-95-3	Nitrobenzene	20.	U	118-74-1	Hexachlorobenzene	20,	Ü
78-59-1	Isophorone	20.	ij	87-86-5	Pentachlorophenol	100	U
86-75-5	2-Nitrophensi	20.	ü	65-01-8	Phenanthrene	20.	ü
105-67-9	2,4-Dimethylphenol	20.	U	120-12-7	Anthracese	20.	Ŀ
65-85-9	Benzoic Acid	100	ü	64-74-2	Di-n-butyiphthalate	20.	- Li
111-91-1	bis(2-Chloroethoxy) methane	20.	ij	206-44-0	Fluoranthene	20.	ü
120-83-2	2.4-Dichlorophenal	20.	U	92-87-5	Benzidine	100	Ü
120-82-1	1.2.4-Trichlorobenzene	20.	ij	129-00-0		20.	U
91-20-3	Naphthalene	20.	Ü	85-48-7		20.	Ü
105-47-8	4-Chloroaniline	20.	Ü	91-94-1		40.	ü
87-68-3	Hexachlorobutadiene	20.	U	56-55-3		20.	U
59-50-7	4-Chloro-3-methylphenol	20.	U	117-81-7	bis(2-ethylhexyl)phthalate	20.	ij
91-57-6	2-Methylnaohthalene	20.	U	218-01-9	Chrysene	20.	ü
77-47-4	Hexachlorocyclopentadiene	20.	Ü	117-84-0	Di-n-octyl Phthalate	20,	ij
88-06-2	2,4,6-Trichlorophenol	- 26.	U	205-99-2	Benzo(b)fluoranthene	2û.	زا
95-95-4	2,4,5-Trichlorophenol	100	U	207-08-9	Benzo(k)fluoranthene	20.	ü
91-56-7	2-Chioronaphthalene	20.	U	50-32-8	Benzo (a) pyrene	20.	U
88-74-4	2-Nitroaniline	100	li	193-39-5	Indeno(1,2,3-cd)pyrene	20.	Ü
131-11-3	Dimethyl Phthalate	20.	U	53-70-3	Dibenz(a,h)anthracene	20.	ij
208-96-8	Acenaphthylene	20.	U	191-24-2	Benzo(g,h,i)perylene	20.	U

(1) Cannot be separated from diphenylamine

Sample Number	1
7617-MW2	ı

#### Organics Analysis Data Sheet (Page 3)

#### Pesticide/PCBs

	AS umber		[ug/l ] or (Circle	
	72-54-8 7421-93-4 1031-07-8 50-29-3 72-43-5 53494-70-5 57-74-9 8001-35-2 12674-11-2 11104-28-2 11141-16-5 53469-21-9 12672-29-6 11097-69-1	Endrin   Endosulfan II   4-4' - DDD   Endrin Aldehyde   Endosulfan Sulfate   4-4' - DDT   Methoxychlor   Endrin Ketone   Chlordane   Toxaphene   Aroclor - 1016   Aroclor - 1221   Aroclor - 1232.   Aroclor - 1242   Aroclor - 1248   Aroclor - 1254	e)   .	05 05 05 00 00 00 00 00 00 00 00 00 00 0
<u>.</u>	V(i) = V(s) = W(s) =	Volume of extract in Volume of water extr Weight of sample ext Volume of total extr	acted (ml) racted (g)	0 U I

Form 1

Sample Number 7617-mw2

#### Organics Analysis Data Sheet (Page 4)

CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/I or ug/kg)
1	NO VOA COMPOUNDS FOUND			
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# Organics Analysis Data Sheet (A age4)

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than zero. (e.g. 100)			detection limit, report the walue.					
jsen	o tud timi	less than the specified detection I		9ų:	quai to t	If the result is a value greater than or eq	30797	
		fish aust be explicit.	dasa to noi	11141	i the def	encouraged, Momever,		
916	adiueen pa					eporting results to EFA, the following results	10 10	
			SK3171JAND	DNI	TA REPORT	90		
				អ -	"SZ	enediaootoidashjeT-2.2.1,1 2-42-97		
Ð	72.	Totai Xyienes		Π	<b>.</b> 25.	anedisabinitionabila A-12-27	,	
Π	,25.	Styrene	100-45-2	Π	20*	ajadanA ivaiV A-30-90	ıţ.	
Ð	.25.	Efyki Benzene	<b>\$-1\$-00</b> ]	Ü	'57	ebinoidosmiel nodra3 - 2-22-68	i	
Ü	<b>.</b> 25.	Chlorobenzene	7-09-801	Я	.25.	71-55-6 1,1,1-Trichioroeiname		
9	<b>.</b> 25.	Toluene	108-98-2	ľ.	20"	anonatud−S S-S9-BV		
П	<b>*</b> 52*	Setrachloroethene	¥-91-2ZI	n	•SZ	onedjeoroficilors.1 ≤-50-70		
Ω	,úč	enonasineq-∑-ivrisH-+	1-01-801	П	197	#mp10m01/10 [-99-[8		
fi	26'	anonexeH-S	261-18-9	U	`52*	anadiao⊼oid⊃i0-∑,¦-ans⊤j č-0à-àč		
Ü	<b>"</b> \$2"	Srosoform,	75-25-2	n	52.	amedisoroiñoiú-1,1 €-35-37		
П	'0 <b>;</b>	Z-Chloroethyl Vinyl Ether	8-57-011	Ŭ	.52	F-35-37		
n	122	cis-1,3-0ichloropropene	S-10-19001	0	°SZ	95-15-57 Gerbon Distilled		
Π	.25.	auazuag	11-42-5		1100	anojack i-£è-√ò	I	
Ľ	.25.	1.1.2-Trichioroethane	5-00-64	Ü	<b>.</b> 25.	75-70-27 Methylene Chloride		
Ŋ	72.	Dibrosochlarosethane	1-84-421	Ω	20"	75-00-3 Ehloroethane		
n	<b>.</b> 25.	Trichioroethene	9-10-64	Ŋ	20*	75-01-4 Vinyl Chloride		
ŗ.	`22°	trans-1,5-Dichlaropropene	9-20-19001	П	.02	ensdjs#o#o18		
Ü	152	ansqonqonoId⊃iQ-S.I	18-81-2	Ω	20.	74-87-5 Chloromethane		
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- should be confirmed by BC/MS. component pesticides \\ = 10 ng\ullet in the final extract identification has been confirmed by BC/KS. Single This flag applies to pesticide parameters where the
- to take appropriate action. probable bits editation and warns the data user blank as well as a sample. It indicates possible? This fish is used when the ansivte is found in the
- data summany report. fully described and such description attached to the promerly define the results. If used, they must be Other Other specific flags and footnotes eas be required to

- .elgese off not fimit noitselve addeniatis muminim was analyzed for but not detected. The number is the detection limit.) The footnote should read: U-Compound dilution actions. (This is not necessarily the instrument the U (e.g. 100) based on necessary concentration/ Report the minimum delection limit for the sample with Indicates compound was analyzed for but not detected.
- ei fiuzen and bud sinstinon criteria but the result is dend onwoomed a to ednessive and selections also landced company where a lil response is assumed or when the mass beilijnabi yleviisinaf not noijeninapnos e gniiseitse medw Indicates an estimated value. This flag is used either

		1 .						
Ū	107	ēraso(i,h,i)ņeryiene	7-12-161	n	70*	ana i yi t	Acenash	8-96-802
n	50.	Dibenz (a,h) anthracene	22-10-2	U	.0Z	atsisate i		121-11-2
Ŋ	102	Indeno(1,2,5-cd)pyrene	182-28-2	П	001	eailina	Z-Nitro	4-41-68
0	501	Benza (a) pyrene	20-25-8	Ü	.0Z	ene isdádapsoc	2-Chior	7-83-19
Ü	*0Z	Benzo(k) fluoranthene	5-80-102	ก	001	richioropheni	1-6,4,5	4-54-54
Ŋ	·0Z	anadinanuit (d) osnað	202-66-5	Π	.0Z	ionengano inti in	1-9****	2-90-88
n	*0Z	Di-n-octyl Phthalate	0-18-111	Ŋ	07	orocycl opentadí ene	Hexachi	4-14-11
Ŋ	<b>.</b> 02	Ehrysene	8-10-812	Я	707	sas is da ja s	Z-464PA	9-19-16
9	50"	bisishtyi)ida(ivxadiyda=5)sid	7-18-711	ĥ	30"	íonańątyńijee-Z-o	4-Chlor	2-95-49
Ü	.02	Benzo (a) anthracene	29-22-3	П	.0Z	or obutadi ene	Hexachi	2-89-18
Π	.0h	5,3'-Dichlorobenzidine	1-46-15	n	.02	antinac	4-C#] ou	8-74-301
Ŋ	<b>10Z</b>	Butyl Benzyl Phthalate	Z-89-58	Ŋ	50*	j sue	sdådge <b>N</b>	61-50-2
Π	.02	Pyrene -	156-00-0	Λ	<b>"</b> 02	richlerobenzene	1-2,4-1	1-28-021
n	001	BenzibiznaB	5-18-26	n	.02	hiorophenoi	⊒:G-#°Z	150-82-5
П	10Z	Fluorenthene	509-44-0	Π	*07	enediem (vxodiene	D12{5-C	1-14-111
· n	50.	atelanthqlylphthate	84-14-5	Ü	100	bioA.	Benzoic	<b>72-82-</b> 0
Я	<b>.</b> 92	Anthracene	150-15-1	fl	192	ionańgivija	m tű-≜,∑	6-29-901
n	*07	Phenathrene	8-10-98	ā	*0Z	เอกจก์สุ	and in-S	5-94-89
Π	100	Pentachiorophenoi	S-98-18	R	*0Z	900	Tangosi	1-8-23-1
Π	797	- Hexachiorobenzene	1-1/-811	Ŋ	*0Z	arene	Nitrope	88-62-2
Ω	102	4-8roaophenyl Phenyl ether	101-22-2	Ω	<b>•</b> 0Z	enskijeono	Hexachi	1-21-19
Ü	*0Z	(1) anikalynahqibozotlin-M	9-02-98	Ð	.0 <u>2</u>	ani≜aivqongi0-os	N-Nitro	7-46-156
Π	001	ionadqivdjam-Σ-oπjiniU-à,‡	224-25-1	n	*9 <b>Z</b>	jousuoj	Ydj9H-A	<u> 5-77-901</u>
ņ	901	anilinsotiiM-∔	9-10-001	n	192	hioroisaoropyi) ether	ე-გ) եւզ	28928-25-8
R	50.	Fluorene	1-21-98	រ	<b>'</b> 0Z	ionenol	Z-48thy	1-81-36
Ü	<b>50</b> *	4-Chloraphenyi Phenyi ether	1002-15-2	a	<b>1</b> 0Z	. snaznada to id	3.14-S.1	32-20-1
n	.02	Diethylphthalate	. Z-99-¥8	Π	•62	iodasiA	ivanaë	4-12-001
Ω	19Z	eneulotortini0-0,∑	7-07-909	Ω	<b>19</b> Z	hlarobenzene	org=þ*f	£-9\$-901
Ð	*0Z ·	2.4-Dinitrotoluene	151-14-5	R	707	hiorobenzene	2.1°-5.1	247-12-1
Π	.02	neautoanedid	125-94-3	Π	.0Z	ionadgo	Z-Chior	8-72-39
Л	760	ianadgo 14 i k− k	1-20-001	n	<b>*0Z</b>	bloroethyl) ether	J-5) e i d	<b>†-†</b> †-[]]
5	001	íonariqontinig-4,Σ	2-82-19	n	.0Z		Aniline	95-22-2
n	.02	anadždąsnaci	82-25-4	D	.02		Phenol	108-62-5
Ŋ	100	9nifinsorJiM-€	84-04-5	_ <b>∍</b> n	.0Z	enies lydjes iboz	ans in-M	6-27-29
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Droanics Analysis Data Sheet

(1) Cannot be separated from diphanylagine

_		_
1	Sample Number	į
1	7618-MW3	Ì

#### Organics Analysis Data Sheet (Page 3)

#### Pesticide/PCBs

<b>-</b>		
	CAS Number	[ug/l ] or ug/Kg (Circle One)
_	319-84-6	
<del>, -</del>	76-44-8	1 .05 U I 1 .05 U I 1 U 20. 1
-	60-57-1	.10 U     .10 U     .10 U     .10 U
_	72-54-8	J .10 U     .10 U     .10 U     .10 U
	72-43-5	.1 .50 U I I .10 U I I .50 U I I 1.0 U I
_	12674-11-2   Aroclor - 1016   11104-28-2   Aroclor - 1221   11141-16-5   Aroclor - 1232   53469-21-9   Aroclor - 1242	.50 U     .50 U     .50 U
-	12672-29-6   Aroclor - 1248   11097-69-1   Aroclor - 1254   11896-82-5   Aroclor - 1260	! .50 U ! ! 1.0 U ! ! 1.0 U !
<b>p</b>	V(i) = Volume of extract inj V(s) = Volume of water extra U(s) = Weight of sample extr	cted (ml)
- V(s) _ 1000.00	V(t) = Volume of total extra  or W(s) V(t) _i0000	ct (ul)

Form 1

Sample Number 7618-MW3

#### Organics Analysis Data Sheet (Page 4)

CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Contentration (ug/l or ug/kg)
1	NO VOA COMPOUNDS FOUND			
2			<u> </u>	
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Sample Number 7618-MW3

#### Organics Analysis Data Sheet (Page 4)

CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug /l or ug /kg
1	NO SV COMPOUNDS FOUND			
2 3				
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**†8/**†

fully described and such description attached to the

Other specific flags and footnotes may be required to properly define the results. If used, they must be

blank as well as a sample. It indicates possible: probable blank contamination and warms the data user

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adj n	it baund 21 934;	Isns oht noom bosu zi psil zidi	8	. auj	nueber is	alyzed for but not detected. The	NS 26#
			p	արց <b>մե</b> ն	ŋ-Ŋ :pea⊿	ion limit.) The footnote should	tsefeb
		should be confirmed by BC/MS.	142°	anuşsı	cijk tps ii	on actions. (This is not necessa	taulib
toeunxa t	eul au cue tha	component pesticides >/= 10 mg	•			(e.g. 10U) based on necessary con	
		identification has been confirm				the minimum detection limit for	
			Э			Jud not besylana saw boucomon 295.	
241 03	adm systemster	This flag applies to pesticide	J	, o v	safab ton	tud and beevings and bounders and	raibal (t
						tanta ana a méal tatatt not	nnened Y
		than zero. (e.g. 103)				ion limit, report the value.	
793297	ion limit but as	less than the specified detect		the	r equal to	result is a value oreater than o	VALUE IF the
		lag must be explicit.	r'upea 10 upt	) (U(15	ver, the O	BUCONLAGEO: NOME	
<b>3.1</b>	sithsal buture:					results to EPA, the following res	potsinger teparting.
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			263131 (400	0 0		ensdisorpidatatel-2,2,1,1	5-45-44
	A18	saust witches		fi (		Bromedichlorosethane	
	0.3	Total Aylenes					
	0'S	Styrene	-	ß		Vinyl Acetate	\$-90-901
	0*9	Ethyl Benzene	4-14-001	U (		Darbon Tetrachlorine	G-52-9 <b>G</b>
	û.2	Chlorobenzene	L-06-801	Π 0		## 1.1.1-Trichloroethane	6-55-17
£,	0.2	9n9uioī	109-88-2	Ü	.01	970 <b>n</b> s/18 <sup>7</sup> -S	78-93-3
<b>?</b> }	0 <b>'</b> 5	Setrachi oroeihene	1-81-121	U C	· <b>'</b> \$	i,2-Dichioroethane	Z-30-701
U	.uţ	4-Methyl-2-pentanone	1-01-801	ξ ;	1	£hioroforæ	2-99-29
Ü	.01	2-Hex Anone	231-18-9	n o	·*Ç	enadisonoldoid-Z.l-anani	5-09-951
t;	0.2	andicao18	12-52-5	n (	2"	1.1-Dichloroethane	75-35-3
ſì	*01	2-Chioroethyl Vinyi Ether	8-57-011	n 0		1.1-Dichioroethers	<b>7-92-94</b>
ņ	0.2	cte-1,3-Dichloropropene	5-10-19001			Carbon Disulfide	0-21-31
	0'5	Penzene		7 2		Acetane	1-19-19
	0,2	ansitaono itaini-S, i.i		n c		Methylene Chloride	Z-60-SZ
	0.2	Dibrosochlarasethane	1-84-421		101	Chiaroethane	12-00-2
	0.3	Frichloresthene			*01	Vinyl Chloride	\$-10 <b>-</b> \$Z
	0.2	trans-1,3-Dichloropropene	9-20-19001		101	Programme of the control of the cont	
Ţì.	0.2	1,2-Dichloropropane	G-18-81		'01 	Sharinaethiane	74-87-3
	į / ĎN		19 dauf	17	המֿ		TE DIAM
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			Ų/N		:97#J2iD#	· · · · · ·	
		A\M :Hq	00.1		i Factor:		
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		8-21-11 tbsvisonR	spu	uoq <b>no</b> 3	<b>SilisioV</b>	NK	. Auchorized By:
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		Contract No: PLATINUM				biupil	Sample matrix:
		GC Report No:				No: CNOST970811	di siqued ded -
		5 <b>% )</b> :850)			; ašt4)	<b>ւ</b> թվշո <b>մք</b> օր (թ	sahi yadisaddau 🦼
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1 0704

seets the roentification criteria but the result is

.aicase aff not fimil noticefeb eldenisits auminim

sectral data indicates the presence of a compound that

Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified common where a lil response is essumed or when the mass

data sueeary report.

to take appropriate action.

Laboratory Name: Computher

Organics Analysis Data Sheet

(Page 2)

Semivolatile Compounds

Concentration: low
Date extracted/prepared: 11-18-85
Date analyzed: 11-21-85
Conc/Dil Factor: 2.00
CAS

	CAS				CAS			
	Nueser		ug/1	_	Number		ug/1	
	62-75-9	N-Nitrosodimethylamine	20.	ับั	<b>99-09-</b> 2	3-Nitroaniline	100	U
	108-75-2	Phenoi	20.	U	B3-32-9	Acenaphthene	20.	ម
	á2-53-3	Aniline	2û.	Ü	51-28-5	2,4-Dinitrophenol	100	Ü
	111-44-4	bis(2-Chloroethyl) ether	20.	Ü	100-02-7	4-Nitrophenol	100	U
•	95-57-8	2-Chiorophenal	20.	Ü	132-64-9	Dibenzofuran	20.	Ü
	541-73-1	1.3-Bichlorobenzene	20.	Ü	121-14-2	2,4-Binitrotaluene	26.	نا
	106-46-7	1.4-Dichlorobenzene	20.	u	606-20-2	•	20.	Ü
A.	100-51-6	Benzyl Alcohol	20.	ij	84-áá-2	Diethylphthalate	2û.	B
	95-50-i	1,2-Dichlorobenzene	20.	IJ	7005-72-3	4-Chlorophenvl Phenyl ether	20.	IJ
	95-48-7	2-Methylphenol	20.	U	86-73-7	Fluorene	20.	Ü
	39438-32-9	bis(2-Chloroisopropyl) ether	<b>2</b> 0.	ü	100-01-6	4-Nitroaniline	100	Ü
	106-44-5	4-Methylphenol	20.	Ü	534-52-1	4,6-Dinitro-2-methylchenol	100	U
	621-64-7	N-Nitroso-Biorosylamine	20.	Ü	86-30-6	N-nitrosodiphenylamine (1)	20.	Ü
	67-72-1	Hexachioroethane	20.	Ü	t01-55-3	4-Brocophenyl Phenyl ether	20.	ij
•	98-95-3	Kitrobenzene	20.	Ü	118-74-1	Hexachlorobenzene	20.	ម
	78-59-1	isophorone	20.	Ü	87-86-5	Pentachlorophenol	100	نا
	^\ 88-75-5	2-Nitrophenol	20.	U	85-01-8	Phenanthrene	20.	U
•	105-67-9	2.4-Disethylphenoi	20.	U	120-12-7	Anthracene	20.	Ü
	<b>65-</b> 85-0	Benzoic Acid	100	U	84-74-2	Gi-n-butylphthalate	20.	Ü
	111-91-1	bis(7-Chioroethoxy) methane	20.	Ų	206-44-0	Fluoranthene	20.	ü
	120-83-2	2.4-Dichlorophenol	2û.	ij.	92-87-5	Benzidine	100	ü
		1.2.4-Trichlurobenzene	20.	ij.	129-00-0	Pyrene	20.	فا
	91-20-3	Nachthalene	20.	Ü	85-66-7	Butyl Benzyi Phthalate	20.	Ü
	104-47-8	4-Chloroaniline	20.	ij	91-94-1	3,3'-Dichlorobenzidine	40.	ij
•	87-69-3	Hexachlorobutadiene	2ú.	Ü	<b>5</b> 6-55-3	Benzo (a) anthracene	20.	Ü
	59-50-7	4-Chloro-3-methylphenol	20.	Ü	117-81-7	bis(2-ethylhexyl)phthalate	20.	نیٰ
	91-57-6	2-Methylnaphthalene	20.	U	218-01-9		20.	Ü
	77-47-4	Rexachlorocyclopentadiene	20.	U	117-84-0	·Di-n-octyl Phthalate	20.	บ
	88-04-2	2,4,o-Trichlorophenol	20.	ij	205-99-2	Benzo(b)fluoranthene	20.	Ü
	95-95-4	2,4.5-Trichlorophenol	100	ij	207-08-9	Benzo(k)fluorantheme	20.	ü
	91-58-7	2-Chloronaphthalene	20.	Ū	50-32-8	Benza (a) pyrene	20.	ü
-	68-74-4	2-Nitroaniline	100	Ü	193-39-5	Indena(1,2,3-cd)pyrene	20.	Ü
	131-11-3	Osmethyl Phthalate	20.	U	53-70-3	Dibenz (a,h) anthracene	20.	U
	208-96-3	Acenaphthylene	20.	Ū	191-24-2	Benzo(g,h,i)perylene	20.	Ü
				-	<del>-</del>			

(1) Cannot be separated from diphenylamine

ŀ	Sample Number	ŀ
ì	7619-MW4	ŧ

#### Organics Analysis Data Sheet (Page 3)

#### Pesticide/PCBs

CAS Number					or ug/Kg ircle One
1024-   959-9   60-57   72-55   72-20   33213   72-54   7421-   1031-   50-29   72-43   57-74   8001-   12674   11141   11141   12672   11097	5-7 5-7 5-8 -9 -9 -9 -9 -9 -9 -9 -9 -1 -9 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1	Heptachli Aldrin Heptachli Endosulf Dieldrin H-4' - Di Endrin Endosulf H-4' - Di Endrin H-4' - Di Hendrin H-4' - Di Hethoxyci Hendrin Ko	tC BHC BHC(Lindane or Epoxide an I DE an II DD Idehyde an Sulfate DT nlor etone e - 1016 - 1221 - 1242 - 1248 - 1254		.05 U U U U U U U U U U U U U U U U U U U
V W	(s) = (s) =	Volume of a Volume of a Weight of Volume of	water extra sample extr	icted (ml 'acted (g	)

Form 1

V(s) = 1.000.

Sample Number 7619-mwy

#### Organics Analysis Data Sheet (Page 4)

CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/l gr ug/kg
1	NO YOA COMPOUNDS FOUND			
2				
3				
4				
5				
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9				
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13. <u> </u>				·
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5				<del></del>
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8				<u>-</u>
9		<del></del>	- <del></del>	
20	<u>·</u>			<del>- :-</del>
21		<del></del>		····
2				
3	<del></del>			
5			<del></del>	
6			<del></del>	
7,				
8		<del></del>	<del>_</del>	
9		<del>-    </del>		
10		<del>-   -  </del>		·

\*Enumerical Protection Agency. \*CLP Sample Management Office. P. D. Box 818. Alexandria. Virginia 22313-703/657-2490

Sample Number 7619-mwy

# Organics Analysis Data Sheet (Page 4)

CAS Number	Compound Name	Fraction	RT or \$can Number	Estimated Concentration (ug 'l or ug 'kg)
1	NO SV COMPOUNDS FOUND			
2				
4				
6				
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25				
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27 28				
29				

APPENDIX G

SURFACE WATER ANALYTICAL DATA SHEETS

Laboratory Name: CompuChes (Page 1) Case: CAS Lab Sample ID No: CND62816806 QC Paport No: Sample matrix: liquid Contract No: Data Release Date Sample ≠Authorized By: Volatile Compounds Received: 10-04-85 Concentration: Date extracted/prepared: 10-09-85 Date analyzed: 10-09-85 Conc/Dil Factor: 1.00 pH: N/A Percent moisture: N/A Percent moisture (decanted): CAS CAS Number ug/I Nusber un/1 74-37-3 Chioromethans 1G. U 78-87-5 5.0 ü 1,2-Dichloropropane 74-83-9 Brososethane 10. U 10061-02-6 trans-1,3-Dichloropropene 5.0 U 75-01-4 Vinyl Chloride 10. U 79-01-6 Trichloroethene 19. 75-00-3 Chloroethane 10. U 124-48-1 Dibromochloromethane 5.0 U 75-09-2 Methylene Chloride 4.9 J 79-00-5 1,1,2-Trichloroethane 5.0 U 67-64-1 Acetone 10. U 71-43-2 Beszese 5.0 U 75-15-0 5.0 U 10061-01-5 Carbon Disulfide cis-1,3-Dichloropropene 5.0 0 5.0 U 75-35-4 1,1-Dichlor bethene 110-75-8 2-Chloroethyl Vinyl Ether 10. U 75-35-3 1.1-Bichlorgethane 5.0 U 75-25-2 Brosofors 5.0 U 156-60-5 trans-1,2-Dichloroethene 8.7 591-78-6 2-Кехалопе 10. 11 67-66-3 Chiorofora 5.0 U 108-10-1 4-Methyl-2-pentanone 10. U 107-06-2 1.2-Dichloroethane 5.0 U 127-18-4 Tetrachloroethene 5.0 U 78-93-3 2-Butanore 10. U 108-88-3 Toluene 5.0 U 71-55-6 1.1.1-Trichloroethane 2.8 J 108-90-7 Chlorobenzene 5.0 U 56-23-5 Carbon Tetrachloride . 5.0 U 100-41-4 Ethyl Benzene 5.0 U 108-05-4 Vinvi Acetate 16. U 100-42-5 Styrene 5.0 U 75-27-4 Bromodichloromethane 5.0 U Total Tylenes 5.0 8 79-34-5 1.1.2.2-Tetrachloroethane 5.0 U DATA REPORTING QUALIFIERS

Organics Analysis Data Sheet

For reporting results to EPA, the following results qualifiers are used. Additional flags or footnotes explaining results are encouraged. However, the definition of each flag must be explicit.

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

- Indicates compound was analyzed for but not detected.

  Report the minimum detection limit for the sample with the U (e.g. 10U) based on necessary concentration/ dilution actions. (This is not necessarily the instrument detection limit.) The footnote should read: U-Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample.
- Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicates the presence of a compound that meets the identification criteria but the result is

less than the specified detection limit but greater than zero. (e.g. 103)

- C This flag applies to pesticide parameters where the identification has been confirmed by 60/MS. Single component pesticides >/= 10 mg/ul in the final extract should be confirmed by 60/MS.
- B This flag is used when the analyte is found in the blank as well as a sample. It indicates possible/ probable blank contamination and warns the data user to take appropriate action.

Other Other specific flags and footnotes may be required to properly define the results. If used, they must be fully described and such description attached to the data summary report.

Laboratory Name: CompuChem

Organics Analysis Data Sheet

(Page 2)

Semivolatile Compounds

Concentration: Date extracted/prepared: 10-04-85

Date analyzed: 10-08-85 Conc/Dil Factor: 2.00

		- COUCINI	PACEUTI		2.00			
	CAS				CAS			
_	Number		ug/	l	Number		ug/I	
	62-75-9	N-Nitrosodimethylamine	20.	U	99-09-2	3-Nitroaniline	100	ß
	108-95-2	Phenol	20.	U	83-32 <del>-</del> 9	Acenaphthene	20.	Ü
	62 <b>-</b> 53-3	Aniline	20.	U	51-28-5	2,4-Dinitrophenol	100	نا
_	111-44-4	bis(2-Chloroethy1) ether	20.	U	100-02-7	4-Nitrophenol	100	U
	95-57-8	2-Chlorophenol	20.	U	132-64-9	Dibenzofuran	20.	U
	541-73-1	1,3-Dichlorabenzene	20.	U	121-14-2	•	20.	U
•	106-46-7	1,4-Dichior abenzene	20.	Ų	404-20-2	2,6-Dinitrotolueme	20.	Ü
	100-51-6	Benzyl Alcohol	20.	IJ	84-66-2	Diethylphthalate	20.	IJ
	95-50-1	1,2-Dichlorobenzene	20.	ij	7005-72-3	4-Chlaraphenyl Phenyl ether	20.	U
_	95-48-7	2-Methylphenol	20.	U	86-73-7	Fluorene	20.	U
	39638-32-9	bis(2-Chloroisapropyl) ether	20.	U	100-01-6	4-Nitroaniline	100	U
	106-44-5	4-Methylphenol	20.	U	534-52-1	4,6-Dimitro-2-methylphenol	100	Ų
	621-64-7	N-Nitroso-Dipropylamine	20.	Ü	84-30-6	N-nitrosodiphenylamine (1)	20.	Ü
_	67-72-1	Hexachloroethane	20.	Ü	101-55-3	4-Bromophenyl Phenyl ether	20.	Ü
	98-95-3	Mitrobenzene	20.	U	118-74-1	Hexachlorobenzene	20.	IJ
	78-59-1	Isophorone	20.	U	87-86-5	Pentachlorophenol	100	U
	88-75-5	2-Hitrophenol	20.	U	85-01-8	Phenanthrene	20.	Ü
	105-67-9	2,4-Dimethylphenol	20.	U	120-12-7	Anthracene	20.	U
	65-85 <b>-</b> 0	Benzaic Acid	100	U	84-74-2	Di-n-butylphthalate	20.	ប
_	111-91-1	bis(2-Chloroethoxy) methane	20.	IJ	206-44-0	Fluoranthene	20.	U
	120-B3-2	2,4-Dichlorophenol	20.	U	<b>9</b> 2-87-5	Benzidine -	100	U
	120-82-1	1,2,4-Trichlorobenzene	20.	IJ	129-00-0	Pyrene	20.	U
	91-20-3	Maphthalene	20.	Ų	85-48-7	Butyl Benzyl Phthalate	20.	IJ
_	104-47-6	4-Chloroaniline	20.	IJ	91-94-1	3,3'-Dichlorobenzidine	40.	U
	87-68-3	Hexachlorobutadiene	20.	Ü	56-55-3	Benzo(a)anthracene	20.	Ü
	59-50-7	4-Chloro-3-methylphenol	20.	Ü	117-81-7	bis(2-ethylhexyl)phthalate	20.	U
<b>—</b> ,	91-57-6	2-Methylnaphthalene	20.	IJ	218-01-9	Chrysene	20.	U
	77-47-4	<b>Mexachlorocyclopentadiene</b>	20.	U	117-84-0	Di-n-octyl Phthalate	20.	Ü
	88-04-2	2,4,6-Trichlorophenol	20.	U	205-99-2	Benzo(b)fluoranthene	20.	U
_	95-95-4	2,4,5-Trichlorophenol	100	U	207-0B-9	Benzo(k)fluorantheme	20.	Ų
	91-58-7	2-Chloronaphthalene	20.	U	50-32-8	Banzo(a) pyrene	20.	U
	88-74-4	2-Nitroaniline	100	U	193-39-5	Indeno(1,2,3-cd)pyrene	20.	U
	131-11-3	Bisethyl Phthalate	20.	U	53-70-3	Dibenz (a,h) anthracene	20.	U
-	208-96-8	Acenaphthylene	20.	Ū	191-24-2	Benza(g,h,i)perylene	20.	U
		- · · [ [		-	<del>-</del>	##1 15 F1 #1 1		

(1) Cannot be separated from diphenylamine

ļ	Sample Number	1
t	SW-3B	İ

#### Organics Analysis Data Sheet (Page 3)

#### Pesticide/PCBs

319-84-6   319-85-7	Alpha - I	HC .	1	
519-85-7 l				. 05 U
	Beta - Bh Delta - B		,	.05 U .05 U
			.) !	.05 U
			, ,	. 05 U
			i	.05 U
		r Epoxide	i	.05 U
			ĺ	. 05 U
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		Σ	ŀ	.10 U
			1	. 10 U
		n II	1	.10 U
72-54-8	4-4' - DI	מס	1	.10 U
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			1	.50 U
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			i	1.0 U
7317477377157555111511	6-44-8   609-00-2   609-00-2   609-00-2   609-98-8   60-57-1   60-57-1   60-57-8   60-29-3   60-29-3   60-29-3   60-29-3   60-29-3   60-29-3   60-29-3   60-29-3   60-29-3   60-29-3   60-29-3   60-29-3   60-29-3   60-29-3   60-29-3   60-29-3   60-29-3   60-29-6   60-	6-44-8   Heptachle 609-00-2   Aldrin 624-57-3   Heptachle 59-98-8   Endosulfa 60-57-1   Dieldrin 62-55-9   4-4' - DI 62-55-9   Endrin 63213-65-9   Endrin 6321-93-4   Endrin 634-9-3   A-4' - DI 634-9-3   A-4' - DI 634-9-3   A-4' - DI 634-9-3   Aroclor 634-9-21-9   Aroclor	Heptachlor   Heptachlor	109-00-2

Form 1

V(s) \_ 1000

P. O. Box 818. Alexandria: Virginia 22313, 703/557-2490

Sample Number SW-3B

#### Organics Analysis Data Sheet (Page 4)

CAS Number	Compaund Name	Fraction	RT or Scan Number	Estimated Concentration (ug /1 or ug /kg
1	NO VOA COMPOUNDS FOUND			
3				
4.				
5				
7.				
8 9	-			
10				
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12 13				
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19 <u> </u>				
21				
22				
24				
25 <u> </u>				
26 27				
28				
29 30				

SAMPLE NUMBER SW3B

COMPUCHEM FILE GJ062816C15

# ORGANICS ANALYSIS DATA SHEET (PAGE 4) TENTATIVELY IDENTIFIED COMPOUNDS

	Cas Number	COMPOUND NAME	FRACTION	' SCAN NUMBER	ESTIMATED C	ckc;
0	108-87-2	CYCLOHERANE, METHYL-	SEMI1	213	18.	JB
Z	13189-13-4	TH-THIDAZOLE-4-CARBOXANIDE - N-PHENYL-	SEMI1	727	26.	J
	2.000 40.	90	SPECT		1. H	
				DHIE	10.8-85	

Laboratory Name: CompuChem
Lab Sample ID No: CN062066C12
Sample matrix: liquid
Data Release

Authorized By:

Organics Analysis Data Sheet

(Page 1)

Case: C & S

QC Report No:

101501-PLATINUM

Date Sample

Received:

09-26-85

Volatile Compounds Concentration: 1

Date extracted/prepared: 10-02-85
Date analyzed: 10-02-85

Conc/Dil Factor:

10-02-85 1.00

pH: N/A

Percent moisture:

N/A

Percent moisture (decanted):

	CAS				CAS			
	Number		ug/l		Number		ug/1	
	74-87-3	Chlorocethane	10.	U	78-87-5	1,2-Dichloropropane	5.0	U
	74-83-9	Bromomethane	10.	U	10061-02-6	trans-1,3-Dichloropropene	5.0	U
	75-01-4	Vinyl Chloride	10.	Ü	79-01-6	Trichloraethene	70.	
	75-00-3	Chloroethane	10.	U	124-48-1	Dibromochloromethane	5.0	U
	75-09-2	Methylene Chloride	5.0	U	79-00-5	1,1,2-Trichlorgethane	5.0	U
	67-64-1	Acetone	10.	U	71-43-2	Benzene	5.0	
_	75-1 <b>5</b> -0	Carbon Disulfide	5.0	U	10061-01-5	cis-1,3-Dichloropropene	5.0	
	75-35-4	1,1-Dichloroethene	5.0	U	110-75-8	2-Chloroethyl Vinyl Ether		U
	75-35-3	1,1-Dichloroethane	5.0	Ü	75-25-2	Brosofors	5.0	U
	156-60-5	trans-1,2-Dichloroethene	56.		591-78-6	2-Hexanone	10.	U
-	67-66-3	Chlorofore	2.8	1	108-10-1	4-Methyl-2-pentanone		U
	107-06-2	1,2-Dichloroethane	5.0	U	127-18-4	Tetrachloroethene	2.0	J
	78-93-3	2-Butanone	10.	U	108-88-3	Toluene	5.0	
-	71-55-6	1,1,1-Trichloroethame	13.		108-90-7	Chlorobenzene	5.0	
	<b>5</b> 6-23-5	Carbon Tetrachloride		U	100-41-4	Ethyl Benzene	5.0	
	108-05-4	Vinyl Acetate	10.	U	100-42-5	Styrene	5.0	
	75-27-4	Brosodicaloromethage	5.0	U		Total Tylenes	5.0	
	79-34-5	1,1,2,2-Tetrachloroethame	5.0					•
		• • •			AUA: 151638			

DATA REPORTING QUALIFIERS

For reporting results to EPA, the following results qualifiers are used. Additional flags or footnotes explaining results are encouraged. However, the definition of each flag must be explicit.

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

- Indicates compound was analyzed for but not detected.

  Report the minimum detection limit for the sample with the U (e.g. 10U) based on necessary concentration/ dilution actions. (This is not necessarily the instrument detection limit.) The footnote should read: U-Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample.
- Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicates the presence of a compound that meets the identification criteria but 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 6C/MS. Single component pesticides >/= 10 ng/ul in the final extract should be confirmed by 6C/MS. .
- B This flag is used when the analyte is found in the blank as well as a sample. It indicates possible/ probable blank contamination and warns the data user to take appropriate action.

Other Other specific flags and footnotes may be required to properly define the results. If used, they must be fully described and such description attached to the data summary report.

	au t <b>a</b> e į kua <i>t</i>	iqib mori batereçes ad fonnal (1)					
n	50*	Benzo(g,h,t,penytene	161-54-5	n	*0Z	Acenaphthylene	8-94-902
n	*02	Dibenz (a, h) anthracene	22-30-2	n	.02	Pisishid Phihaide	121-11-2
fì	•0Z	Indena(1,2,5-cd)pyrene	162-26-2	n	100	2-Mitroanifue	4-47-88
Ð	*êZ	geuzo (s) bxteue	20-25-8	ก	.02	2-Chioronaphthalene	41-28-1
n	<b>5</b> 0°	Senzo (k) fluoranthene	207-08-9	Ω	001	2.4,5-Trichlorophenol	42-62-4
Ü	*0Z	Sento (b) fluoranthese	2-66-502	n	102	Z,4,4-Trichlorophensi	7-90-99
n	<b>.</b> 02	Di-n-octyl Phthalate	0-#8-411	л П	20.	Hexachlorocyclosentadiene	\$-L\$-LL
Ü	*02	avaskuųj	518-01-6	n	'0Z	2-Kethyinsphthalene	9-15-14
D	50.	etaladityadityaniyda-S)aid	1-18-211	n	70.	4-Chloro-3-sethylphenol	1-09-45
Ŋ.	*02	Benzo (a) anthracene	2-53-99	Ð	.0Z	Hexachlorobutadiene	2-89-18
Ŋ	104	5,3'-Dichlarobenzidine	1-25-16	B	.02	antitueoroid2-A	3-44-901
Ŋ,	50°	Bucyl Benzyl Phthalate	1-99-58	n	.0Z	e e le da de la composition della composition de	2-02-16
N	.02	<b>S</b> Àkeue	0-00-521	n	20.	1,2,4-Itichlorobenzene	1-28-021
В	601	Penzidine ·	3-48-26	n	50.	Z,4-Dichlorophenol	Z-28-0ZI
ñ	50*	Fluoranthene	0-11-902	ภ	oz.	bis(2-Chloroethoxy) methane	1-16-111
n	*0Z	etalahingiyind-n-id	Z-\$/-\8	n	001	Benzoùc Actd	72-82-0
ľ	.02	ลักสวยานรักษ์	1-21-021	n	20.	2,4-Diaethyiphenol	6-19-SOI
8	*0Z	Phenathrene	8-10-58	17	.02	S-Ai trophenoi	S-S2-88 (
Ų	100	Pentachlorophenoi	9-78-78	U	201	Isophorone	1-62-84
n	<b>'</b> 0Z	Hexachlorobenzene	1-1/-811	ñ	.oz	eneznadomiń	48-62-2
n	roz	4-Bromophenyi Phenyi ether	101-22-2	ß	'0 <b>Z</b>	Hexachloroethane	1-21-19
Ü	50.	(1) autesiynahçibəzotifinə	9-02-08	n	.02	Briaslygorgid-oprifik-M	L-49-129
Π	001	ionadolydiaa-2-orfinid-0,4	1-25-755	n	20.	fenethylphenol	5-44-901
Ð	901	sailiasoviiV-A	9-10-001	n	.0Z	bisi2-Chloroisopropy) ether	24928-25-6
Ŋ	*0Z	Filuarene	2-22-98	ก	707	LonadqiydiəM-S	Z-8\$-96
Π	*9Z	-dhiorophenyi Fhenyi ether	1002-15-2	Ω	*0Z	enesnedo⊐oídoiú−S,i	42-20-1
ľ:	50.	ajelediyiphthaled	Z-99-¥8	B.	102	lenezii Alcohol	9-19-001
Ŋ	192	2.6-Binitrotaluene	7-07-909	ñ	-02	enaznadoroidoid-i.i	7-59-601
n	20.	2,4-Dimitrotoluene	2-11-121	8	70Z	1,3-Dichlorobenzene	1-51-105
Ω	.0Z	Dibenzofuran	6-49-221	Ŋ	*0Z	2-Chiorophenol	8-25-56
Π	100	iorenqonji¥-₽	L-Z0-001	ß	-9Z	bis(2-Chloroethyl) ether	111-44-4
Я	001	Z.4-Dinitrophenal	21-58-2	Ü	*0Z	anilinA	95-22-2
IJ	102	Acenaphthene	82-25-8	n	\$0.	Phenol	108-32-5
IJ	001	9ailiasailiae	2-60-65	Л	*02	M-Nitrosodimethylamine	65-12-6
	[/ốn		Nedavil	1	[/bn		39dauM
			S#O				543
			00.2		:70136	A LiG\and3	
			SB-6Z-60			Date analy	
			58-92-60	pareq			
			#DŢ			jentraomoj	
			ខ្វាប		D alital	ov ies2	
					(Page 2)	aadDuqaad :aa	isboratory Na
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					ı		Ĺ

Sample Number	i
C&S5940	i

#### Organics Analysis Data Sheet (Fage 3)

#### Pesticide/PCBs

•	CAS Number	[ug/l	) or ug/Kq (Circle One
	i 319-84-6   Alpha - BHC	 1	.05 U
	319-65-7   Beta - BHC	ŧ	. <b>0</b> 5 U
	319-86-8     Delta - BHC	ŀ	.05 0
	i 58-89-9 - i Gamma - BHC(Linoan	e) i	.05 U
•	i 76-4 <b>4-</b> 8 i Heptachlor .	i	.09 U
	1 309-00-2   Aldrin	ĺ	. 0.5 U
	1024-57-3   Heptachlor Epoxide	i	.05 0
	i 959-98-8   Endosvifan I	i	.05 U
	1 60-57-i i Dielarin		.10 U
	1 72-55-9 1 4-4' - DDE		.10 U
	1 72-20-8   Endrin	1	. <b>1</b> 0 U
	1 33213-65-9   Endosulfan II	1	.10 U
	1 72-54-B	1	
		•	. 1 0 U
	· · · - · - · - · - · - · · · - · · · · - · · · · · - ·		.10 U
			. 1.0 U
	1 50-29-3 i 4-4/ - DDT	!	10 U
	i 72-43-5   Methoxychion	į	.50 U
	1 53494-70-5   Endrin Ketone	i	.10 U
	57 74 9     Chlordane	ì	.50 U
	8001-35-2   Toxaphene	ı	1.Ū Ü
	1 12674 11 2 : Araclor - 1016	!	.50 U
	i 11104-28-2 i Aroclor - 1221	ļ	.50 U
	l 11141 16 5   Areclor - 1232	1	.Sõ U
	53469-21-9   Aroclor - 1242	i	.50 Մ
	1 12672 27 6   Amecler - 1248		.50 მ
	11097-69-1   Aroclor 1254	i	1.0 U
	11076 D2 5   Areclor - 1260	ì	1.û U

5940

### Organics Analysis Data Sheet (Page 4)

CAS Number	. Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/l or ug/kg)
1	NO VOA COMPOUNDS FOUND			
2		<del>- </del>		
3				
6				
6			<u> </u>	<u> </u>
7				
9	· · · · · · · · · · · · · · · · · · ·	+	<del> </del>	
10				
11				
12	<u> </u>			<del> </del>
13			<del> </del> -	<del> </del>
14 15				<del> </del>
16				
17				
18				
19		<del></del>		
20. <u></u> 21			<del> </del> -	
22				<del> </del>
23				
24				
25	<del> </del>			
26				<del> </del>
27. <u></u> 28. <u></u>		1		<del> </del>
29			W	
30			`	

\*\*Environmental Protection Agency, \*\*CLP Sample Management Office, P. O. Box 818, Alexandria Virginia 22313-703/657-2490

Sample Number

### Organics Analysis Data Sheet (Page 4)

CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/I or ug/kg)
1	NO SV COMPOUNDS FOUND			
2				
3		<del></del>		
4		<del></del>		
6				
7		-		
8				
s				
0				
1				
2				
3	-			<u></u>
4			· · · · · · · · · · · · · · · · · · ·	
5				
6		<del>  —</del>		
7				
8				
9				
.0				<u> </u>
. 1		<del></del>	_	
3		<del> </del>		
4				
26				
27				
2B				
30				

Laboratory Name: Computher Lab Sample ID No: CN062055012 Sample matrix: liquid Data Release

Authorized By:

Organics Analysis Data Sheet (Page 1)

Case:

**C&S** 

QC Report No: Contract No: 101501-PLATINUM

Date Sample

Received:

09-28-85

Volatile Compounds Concentration: Date extracted/prepared: 10-02-85 Date analyzed:

Conc/Dil Factor:

10-02-85 1.00

Percent soisture:

N/A

pH: N/A

Percent adisture (decanted):

	CAS				CAS			
	Number		ug/1		Number		<b>eg/1</b>	
<del>,                                     </del>	74-37-3	Chioromethane	10.	IJ	79-87-5	1,2-Dichloropropane	5.0	Ð
	74-83-9	Brosomethane	10.	· U	10081-02-6	trans-1,3-Dichioropropens	5.0	U
	75-01-4	Vinyl Chloride	10.	ü	79-01-5	Trichlorgethene	8.5	
-	75-00-3	Chloroethane	10.	Ü	124-48-1	Dibrosochloromethane	5.0	U
	75-09-2	Methylese Chioride	<b>5.</b> 0	ŭ	79-00-5	1.1,2-Trichloroethene	5.0	IJ
	67-64-1	Acetone	10.	ij	71-43-2	Benzene	5.0	
_	75-15-0	Carbon Disulfide	5.0	B	10061-01-5	cis-1,3-Dichloroprogene	5. ê	
-	75 <del>-</del> 35-4	1,1-Dichloroethese	5.0	Ü	110-75-3	2-Chloroethyl Vinvl Ether	<b>£</b> 0.	U
	75-35-1	1.1-Dichloroethane	5.0	Ü	75-25-2	Brogofora	5.0	Ü
	156-60-5	trans-1,2-Dichloroethene	6.2		591-78-6	2-Haxanone		U
	1 67-66-3	Chiorofore	5.0	Ù.	108-10-1	4-Methyl-2-pestanone		ü
	107-06-2	1,2-Dichloroethane	5.0	IJ	127-19-4	Tetrachloroethene	5.0	U
	78-93-3	2-Butanone	10.	Ü	108-88-3	Taluene	5.0	
-	71-55-5	1,1,1-Trichloroethane	5.0	Ü	108-90-7	Chlorobenzene		
	56-23-5	Carbon Tetrachionide	5.0	E	106-41-4	Ethyl Benzene	5.0	
	108-05-4	Vinyl Acetate	10.	IJ	100-42-5	Styrene	5.0	
-	75-27-4	Browodichloromethane	5.0	li		Total Tylenes	5.0	
	79-34-5	1,1,2,2-Tetrachioroethane	5.0				• • •	-
			DATA BEDGET		DUAL TETERS			

DATA REPORTING QUALIFIERS

For reporting results to EPA, the following results qualifiers are used. Additional flags or footnotes explaining results are encouraged. However, the definition of each flag must be explicit.

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

- Indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U (e.g. 100) based on necessary concentration/ dilution actions. (This is not necessarily the instrument detection limit.) The footnote should read: U-Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample.
- Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicates the presence of a compound that meets the identification criteria but the result is

- less than the specified detection limit but greater than zero. (e.g. 10J)
- This flag applies to pesticide parameters where the identification has been confirmed by 60/MS. Single component pesticides >/= 10 mg/ul in the final extract should be confirmed by GC/MS. -
- This flag is used when the analyte is found in the blank as well as a sample. It indicates possible/ probable blank contamination and warns the data user to take appropriate action.

Other Other specific flags and footnotes may be required to properly define the results. If used, they must be fully described and such description attached to the data suggary report.

Laboratory Name: CompuChem

Organics Analysis Data Sheet (Page 2)

Waye 17

Segivolatile Compounds

Concentration: 10\*
Date extracted/prepared: 09-24-85
Date analyzed: 09-29-85
Conc/Dil Factor: 2.00

		Lar	c/Dii Faciori		2.00	•		
	CAS				CAS			
	Kumber		ug/l		Number		ug/1	
	62-75-9	N-Nitrosodimethylamine	26.	U	99-09-2	3-Nitroaniline	100	¥
	108-95-2	Phencl	20.	ij	83-32-9		20.	U
	62-53-3	Aniline	20.	IJ	51-26-5	, ,	100	Ü
	111-44-4	bis(2-Chicroethyl) ether	20.	ij	100-02-7		100	ij
	95-57-3	2-Chiorophenol	20.	IJ	132-44-9		20.	IJ
	541-73-1	1,3-Dichlorobenzene	20.	Ų	121-14-2	•	20.	Ü
****	106-46-7	1.4-Dichlarabenzene	20.	Ü	606-20-2	•	20.	ij
	100-51-5	Benzyl Alcohol	2û.	ដ	84-66-2	Diethvlphthalate	-20.	U
	95-50-1	1.2-Dichiorobenzene	20.	ij	7005-72-3	4-Chlorophenyl Phenyl ether	29.	U
-	95-48-7	2-Methylphenol	20.	Ü	86-73-7	Fluorene	20.	Ŀ
	39638-32-9	<pre>bis(2-Chloroisopropyl) ether</pre>	· 2ú.	U	100-01-6	4-Nitroaniline	100	ü
	10a- <b>44-</b> 5	4-Methylphenoi	20.	Ü	534-52-1	4,6-Dinitro-2-methylphenol	100	ij
_	621-64-7	N-Nitroso-Dipropylamine	20.	ij	84-30-6	N-nitrosodiphenylasine (1)	20.	IJ
_	67-72-1	Hexachioroethane	<b>2</b> 0.	Ü	101-55-3	4-Bromophenyl Phenyl ether	25.	Ü
	98-95-3	Nitrobenzene	20.	Ü	118-74-1	Hexachlorobensene	20.	U
	78-59-1	Isaphorone	20.	ij.	87-86-5	Pentachlorophenol	100	Łi
	88-75-5	2-Nitrophenol	20.	U	<b>8</b> 5-01-8	Phenanthrene	20.	ij
	105-67-9	2,4-Disethvlphenol	20.	ij.	120-12-7	Anthracene	20.	IJ
	<b>65-85-</b> 0	Benzaic Acid	001	U	84-74-2	Di-n-butyiphthalate	20.	IJ
_	111-91-1	bis(Z-Chloroethoxy) methane	29.	Ų	206-44-9	Fluoranthene	20.	ij.
	120-83-2	2.4-Dichlorophenoi	20.	U	92-97-5	Benzidine -	100	Ü
	120-82-1	1,2,4-Trichlorobenzene	20.	Ü	129-00-0	Fyrene	20.	ü
_	71-20-3	Naohthalens	20.	ΰ	<b>8</b> 5-5 <del>8</del> -7	Butyl Benzyl Phthalate	20.	[j
	105-47-8	4-Chiorcaniline	20.	U	91-94-1		40.	Ц
	87-68-3	Hexachlorobutadiene	20.	U	56-55-3	Benzo (a) anthracene	20.	B
	<b>59-5</b> 0-7	4-Chloro-3-methylphenol	20.	U	117-61-7	bis(2-ethylhexyl)phthalate	20.	U
	91-57-6	2-Methylnaphthalene	2û.	U	218-01-9	, ,	20.	ü
	77-47-4	Hexachlorocyclosentadiene	20.	IJ	117-B4-0	Di-m-octvl Phthalate	20.	Ш
	88-06-2	2.4.6-Trichlorophenoi	20.	Ü	205-99-2	Benza(b)fluoranthene	20.	ij
	95-95-4	2,4,5-Trichlorophenol	100	Ü	207-08-9	Benzo(k)fluoranthene	20.	ij
	91-58-7	2-Chioronaphthalene	20.	Ų	50-32-8		20.	IJ
	88-74-4	2-Nitroaniline	100	Ū	193-39-5	• *	20.	Ū
_	131-11-3	Dimethyl Phthalate	20,	Ü	53-70-3	Dibenz (a,h) anthracene	2ŷ.	Ü
_	208-94-3	Acenaphthylene	20.	U	191-24-2	Benzo(q,h,i)perylena	20.	Ü
	-					-1 ( : 4		

(1) Cannot be separated from diphenylamine

Sample Number	- 1
C&S5941	į

## Organics Analysis Data Sheet (Page 3)

### Pesticide/PCBs

Concentration Date Extracte		(Circle (	
	l:10/ 5/8		
CAS Number			or ug/Kg ircle One)
959-98-8   60 57-1   72-55-9   72-20-8   33213-65-9   72 54 0   7421-93-4   1031 07 8   50-29-3   72 43 5   53494-70-5   57 74 9   0001-35-2   12674-11-2   11141-16-5   53469-21-9   12672-29-6	Heptachlor Epoxide Endosulfan I Dieldrin 4-4' - DDE Endrin Endosulfan II 4 4' - DDD Endrin Aldenyde Endosulfan Sulfate 4-4' - DDT Methoxychlor	 	.05 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8

```
V(i) = Volume of extract injected (ul)
V(s) = Volume of water extracted (ml)
W(s) = Weight of sample extracted (g)
```

V(t) = Vnlume of total extract (ul)

V(s) \_ 1000.00\_ or W(s) \_\_\_\_\_ V(t) \_10000.00\_ V(i) \_ 1.0\_ .

# Organics Analysis Data Sheet (Page 4)

# Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/f or ug/kg)
1	NO VOA COMPOUNDS FOUND			
2	<del> </del>			
4				
B				
6 7		+		<u> </u>
8				
9	·		<u> </u>	<u> </u>
10			<u> </u>	
12				
13				
14			<u> </u>	
15 16		<del>                                     </del>		
17		· .		
18				
19 20		+		
21				
22				<u> </u>
23				<del> </del>
24. <u> </u>				
26				
27	•			
28. <u></u> 29		1	- ·	
30				

18/1

fully described and such description attached to the

7 P.C. Box 818, Alexandria, AV 22313 705/557-2490 Environmental Protection Agency, CLP Sample Management Office

	organics Analysis Data Sheet	₹.•
343 :9353	(1 sgsq)	- Laboratory Kane: CoasuChee
soff drogen 39		Cab Saate ID No: CNO67067012
Contract No: 101501-PLATINUM		Samole matrix: liquid
alquas sied	1	- Data Release
ZB-9Z-60 :paxtalay	Polospile Compounds	Authorized By:
	Concentration: low Date extracted/prepared: 10-02-85	
	Date analyzed: 10-02-85	
· Alvithq		
and the second	Percent moisture:	
	Percent maisture (decanted):	-
**	Seo	CAS
Ţ/ān	Jaquny 1/6n	Миврег
U 0.2 5.0 U 5.0 U		74-57 Chloromethane
trans-1,3-Dichloropropene		anadisamomun8 %-28-∔\ 
Irichloroethene 5.0 U		-25-27 Chloride
i 6.3 seaffacachloraeachaid		
U 0.5 seaddoonoldolf.i.t.		95-07-5 Methylene Chloride
U 0.2 senzene		anojach  -6-76
i 0.2 sorbichisoracene 5.0 U		= 75-15-0 Carbon District
2-Chloroethyl Vinyl Ether 10. U		anadiacabidaid-l,i
· -	. Y-8Z-184 II V S I - Z-SZ-SZ N 0°S	enatisonoidoid-1,1 5-65-27 enedienid-2,1-ansut 5-08-631
i .01 io. io. io. io. io. io. io. io. io. io.		ansdagonotabilasty C-60-764
g 6°C avance occurrent		78-92 - 2-80 tanner
U C.C snepsmedanoid		emedieonoldiT-1,1,1 6-33-17
U 0,2 anazara (y413		Se-23-5 Carbon Tetrachioride
ZrÁksue 270 N		108-05-4 Vinyl Acetate
U C.2 Tylenes		- 75-27 From Sino Sino Sino Sino Sino Sino Sino Sino
,		79-34-5 1,1.2,2-Tetrachioroethane
	CATA REPORTING QUALIFIERS	
ane attuesm poinisiqxa aatontoot oo agalt tanoitib	ing results qualifiers are used. Ado	🖦 For reporting results to EPA, the follow
	l. Hawever, the definition of each fi	
	ज्युद्दे अर्थ (स्थापन अस्त संस्थुं है	
less than the specified detection limit but greater		WALUS If the result is a value greater and the value value.
than zero. (e.g. 101)	***	1781 3111 1 IAIS L ÎNTERF HATANAN
sati anama estatement abioitzan ob seligge pail eidī	for but not detected.	barylans saw bruodeoo sadabibni U
identification has been confirmed by 80/85. Single		ail neiteste ausinis stit trees
toentxe lent) of la/on 01 =\< sebioiteeq francqood		eessan no baead (901 g.s) U sit
should be confired by BC/MS.		dilution actions. (This is not
		efonton adf (.jimil noitostab 🗻
and no bound at stylens and madw bazu at pall aid?		edoese don dud not besylans eam
bienk as well as a sample. It indicates possible/		ail noiteata aidenistis auainia
nezu eteb edi enraw ona nolitanimatnom knaid eldadonq		_
to take appropriate action.	heddie besu zi gaff eif	T indicates an estimated value. T
	tor tentatively identified	moitentnaphop a poiteaitea nadw
Other specific flags and footnotes may be required to		t sandosan 1:1 & anakwa abnucomoo
properly define the results. If used, they eust be		sand and safecioni adab tandoade 🛝 🐣
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data suemary report.

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П	.oz Laeine	Benzolg,h,i)perylene (1) Cannot be separated from dipheny	7 67 7/7		107	ระรา (กร <i>ะส์</i> กหรรม	n n: n:3	
'n	702	Oibens (4, 4) Andreede	181-54-5	N		Acenaphieylene	508-59-8	أغمم
0	20.	Indencil,2,3-5-cd/pvrene	22-10-3	S.		ateismin Phinaiate	121-11-2	_
	.02 20.		162-26-2	Π	001	Z-Witrospiline	4-47-88	
IJ		Benzo (a) pyrene	20-25-8	U	.02	Z-Chioronaphthaiene	1-28-16	
U	20.	Send (k) (lucional)	5-80-402	U	100	Z.4.5-Trichlorophenol	1-26-36	
IJ	20.	Senzo(b) fluoranthene	2-66-502	N	20.	. γ. γ. 1-1 in language of the second	Z-90-89	
n	.0Z	Di-n-octyl Phthalate	0-18-711	ij.	.02	Hexachiorocyclopentadiene	<b>*</b> -1 <b>*</b> -11	
Ŋ	502	Chrysene	518-01-6	U	*0Z		7-25-16	_
Ü	207	adelehtaid(lykatiydaese	7-18-711	N	.02	ionadq[vy]sa-Z-ozid3-≯	1-09-69	
Ŋ	*0Z	Venzo (a) anthracene	29-22-2	П	.0Z	eneibajudomoidpaxeH	87-68-2	
U	104	3,5'-Dichlerabenzidine	1-64-16	N	.02	anilinsoncid-A	8-1 <b>4-</b> 901	
Ω	50.	ajaiahing lyana <b>g</b> iying	7-84-28	U	.02	enelsdidask	41-50-2	
а	<b>*</b> 0Z	ana 1y9	0-00-621	IJ	20.	enscradoroldainI-6.2.1	1-28-021	
IJ	100	Benzidine	2-18-24	N	20*	2,4-0;chionophenol	2-2 <b>8-</b> 021	
IJ	202	Fluoranthene	0-##-902	Ω	*0Z	an <b>e</b> djem (yxodjechold0-S)eid	1-16-111	-
Ľ:	707	95eladfiqilyind-a−iQ	2-41-48	n	100	Benzoic Acid	\$-58- <b>5</b> 9	
Π	20.	· ages add a A	1-21-031	U	107	ionadqiyijamiG-A.⊊	8-19-301	
Ð	50	Phenasthrene	8-10-SB	Ð	.02	Tenangon tik-S	2-52-88	_
<b>{</b> }	001	feasthior opidas feasi	9-78-78	Π	*9Z	enomadaesi	1-69-84	_
ħ	707	Hexachlorobenzene	1-14-811	Ð	*0Z	smaznadomi i i i	2-32-3	
£	50*	4-Bromophenyl Phenyl ether	101-22-2	Ð	*0Z	Hexachloroethane	1-24-49	
Ü	.02	<ul><li>(1) animaiynahqibcaomfin-N</li></ul>	9-02-98	Ü	<b>*</b> 0Z	enime lyopholid-beomit#-W	2-19-129	
Π	001	forengivAdae-2-ordiniO-6.A	1-25-12	n	.02	f-Methylphencl	5-88-901	
IJ	901	enilinaonii⊬-⊁	9-10-001	U	20.	hist2-Chioroisopropy) ether	28928-23-3	
D	*92	Fluorene	89-12-1	n	*07	Z-Methylphenol	1-31-96	-
n	102	4-Chlorophenyl Shenyi ether	1002-15-2	Я	*0Z	anaznadomoidosta-2,i	1-09-96	
П	. oz	stelkátátátátátátátátátátátátátátátátátátát	2-99-18	Γ	<b>"</b> 0Z	Benzyl Alcohol	9-12-001	
1)	20.	2,6-Dinitratoluene	2-02-909	ก	*0Z	eneşhedoroidoi∐-≇.i	7-54-601	:
n	*0Z	anaulojoijinid-#,≤	2-11-131	Ð	*0Z	1,5-Bichlorobenzene	1-24-199	_
Ŋ.	.02	Dibenzafuran	125-74-6	Ω	*0Z	Z-Chiaraphenoi	8-12-96	
ľ.	100	4-Nitrophenol	100-05-1	Λ	*0Z	bis(2-Chloroethyl) ether	b-bb-111	
Ŋ	100	Z,4-Dinitrophenai	5-82-15	ß	102	9n í Línð	95-22-2	
Π	70.	anadžńcene Ace	82-25-8	Π	<b>*</b> 0Z	forait	Z-94-801	
Ω	160	5-Nitroaniline	2-60-66	Λ	*0Z	A-Ni trosodi methy i amine	6-52-29	J
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Organics Analysis Data Sheet

-		
ŀ	Sample Number	ŧ
j	CAS 5942	į

# Organics Analysis Data Sheet (Page 3)

# Pesticide/PCBs

i 319-84-6   Alpha - BHC		
319-85-7		.05 .05 .05 .05 .05 .05 .05 .10 .10 .10 .10 .10 .10 .10 .10 .10 .10

----- virginia 44313 703/\$57-3410

5942

# Organics Analysis Data Sheet (Page 4)

# Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentratio (ug/l or ug/kg
1	NO VOA COMPOUNDS FOUND			
2	<del> </del>	<del>   </del> -		
3				
5				
6				
7				
8		<del></del>	<u> </u>	
9 10			<del> </del>	
11				
12				
13	<u> </u>		<u> </u>	
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21		<del>-  </del>	<u> </u>	<del> </del>
22 23		<del></del>	<u> </u>	
24				<b></b>
25				
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30			<del></del>	

P. O. Box 818. Alexandria Virginia 22313 703/657-2490

Sample Number

# Organics Analysis Data Sheet (Page 4)

# **Tentatively Identified Compounds**

CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/I or ug/kg
1	NO SV COMPOUNDS FOUND			·
2				
3				
4				
B		<del></del>		
6				
7				<del> </del>
8				
9				<del> </del>
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23	·			<u> </u>
4				
25				
6				ļ
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8			_	
29				<del> </del>
30				L

• ) - Laboratory Name: CompuChem Lab Sample ID No: CND62068A12 Sample matrix: liquid Data Release Authorized By:

Organics Analysis Data Sheet (Page 1)

Case: OC Report No: Contract No:

Date Samole

Volatile Compounds

Received: 09-24-85

CAS

Concentration: Date extracted/prepared: 10-02-85 Date analyzed: Conc/Dil Factor: 1.00

10-02-85

pH: N/A

Percent moisture:

N/A Percent moisture (decanted):

	CAS				CAS			
-	Number		ug/1		Muscer		ug/1	
	74-87-3	Chioromethane	10.	Ü	78-87-5	1,2-Dichloropropane		Ü
	74-83-9	Broggethane	10.	Ü	10061-02-6	trans-1,3-Dichloropropene	5.0	U
_	75-01-4	Vinyl Chloride	10.	ij	79-01-6	Trichloroethene	25.	
	75-00-3	Chloroethane	10.	Ü	124-48-1	Dibromochloromethane	5.0	Ü
	75-09-2	Methylene Chloride	5.0	ij	79-00-5	1,1,2-Trichloroethane	5.0	ij.
	67-64-1	Acetone	10.	U	71-43-2	Benzene	5.0	
<del></del>	75-15-0	Carbon Disulfide	<b>5.</b> 0	IJ	10061-01-5	cis-1,3-Dichloropropene		
	75-35-4	1,1-Dichloroethene	5.0	Ü	110-75-8	2-Chloroethyl Vinyl Ether	10.	ij
	75-35-3	1,1-Dichloroethane	5.0	IJ	75-25-2	Brosoform	5.0	Ü
_	156-60-5	trans-1,2-Dichloroethene	30.		591-78-6	2-Hexanone	10.	검
•••	67-66-3	Chloroform	4.8	J	108-10-1	4-Methyl-2-pentanone	10.	IJ
	197-04-2	1,2-Bichloroethane	5.0	Ü	127-18-4	Tetrachloroethene	7.8	
_	78-13-3	2-Butanone	10.	Ü	108-68-3	Toluene	5.0	Ù
	71-55-6	1,1,1-Trichlorgethane	3.6	J	108-90-7	Chlorobenzene	_	
	56-23-5	Carbon Tetrachloride	5.0	ij	100-41-4	Ethyl Benzene	5.0	
	108-05-4	Vinyl Acetate	10.	IJ	100-42-5	Styrene	5.0	Ü
•	75-27-4	Bromodichloromethane	5.0	U		Total Kylenes	5.0	Ü
	79-34-5	1,1,2,2-Tetrachloroethane	5.0	IJ		•	-	_

DATA REPORTING QUALIFIERS

- -For reporting results to EPA, the following results qualifiers are used. Additional flags or footnotes explaining results are encouraged. However, the definition of each flag sust be explicit.
- VALUE If the result is a value greater than or equal to the detection limit, report the value.
  - Indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U (e.g. 100) based on necessary concentration/ dilution actions. (This is not necessarily the instrument detection limit.) The footnote should read: U-Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample.
  - Indicates an estimated value. This flat is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the miss 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)
- This flag applies to pesticide parameters where the identification has been confirmed by 88/MS. Single component pesticides >/= 10 mg/ul in the final extract should be confirmed by 6C/MS.
- This flag is used when the analyte is found in the blank as well as a sample. It indicates possible! probable blank contamination and warms the data user to take appropriate action.

Other Other specific flags and footnotes may be required to properly define the results. If used, they must be fully described and such description attached to the data summary report.

Laboratory Name: CompuChem

Organics Analysis Data Sheet

(Page 2)

Semivolatile Compounds

Concentration: low
Date extracted/prepared: 09-26-85
Date analyzed: 09-29-85
Conc/Dil Factor: 2.00

	20%C) 017	ractur:		2.00	-		
CAS				CAS			
Number		ug/	1	Nucber		ua/l	
62-75-9	N-Mitrosodimethylamine	20.	U	99-09-2	3-Nitroaniline	100	Ü
108-95-2	Phenol	26.	Ü	83-32-9	Acenachthene	20.	Ľ
42-53-3		2 <b>0</b> .	Ü	51-28-5	2,4-Dinitrophenol	100	ئا
111-44-4		20.	IJ	100-02-7		100	IJ
95-57-8	:	2ú.	U	132-64-9		20.	Ŀ
541-73-1	F.	20.	ij	121-14-2	•	20.	ម
106-46-7	•	20.	U	404-20-2		2ú.	U
100-51-5	•	20.	نا	8 <b>4-6</b> 5-2		29.	ü
95-50-i		20.	Ü	7605-72-3	4-Chlorophenyl Fhenyl ether	26.	ij
95-48-7	2-Methylphenal	20.	Ų	86-73-7	Fluorene	20.	Ü
39638-32-9	bis(2-Chloroisopropyl) ether	20.	Į.	100-01-6	4-Nitroaniline	100	IJ
105-44-5	4-Xethylphenol	20.	U	534-52-1	4,6-Dimitro-2-methylphenol	100	U
621-64-7	N-Nitroso-Dipropylamine	20.	ü	86-30-6	N-nitrosodiohenylamina (1)	20.	Ü
47-72-1	Hexachloroethane	20.	U	191 <b>-55</b> -3	4-Brosophenyl Fhenyl ether	20.	ü
78-73-3	Ni trobenzene	20.	IJ	115-74-1	Hewachlorobenzene	20.	U
78-59-1	Isaphorone	20.	U	87-65-5	Pentachlorophenol	100	Ü
59-75-5	Z-Nitrophenal	20.	Ü	85-01-8	Phenanthrene	20.	ij
105-67-9	2.4-Dimethylphenol	20.	ü	120-12-7	Anthracene	20.	U
<b>65-85-</b> 0	Benzoic Acid	<b>10</b> 0	ij	84-74-2	Di-n-butylphthalate	20.	ij
111-91-1	bis(2-Chloroethoxy) methane	20.	Ü	206-44-0	Fluoranthene	20.	u
120-83-2	2,4-Dichlorophenal	20.	Ü	92-67-5	Benzidine -	100	U
120-82-1	1.2,4-Trichlorobenzene	20.	Ü	129-00-0	Pyrene	20.	Ü
91-20-3	Naphthalene	20.	ปั	85-68-7	Butyl Benzyl Phthalate	20.	ü
104-47-8	4-Chioroaniline	20.	Ü	91-94-1	3,3'-Dichlorobenzidine	40.	IJ
87-68-3	Hexachlorobutadiene	<b>2</b> 0.	U	56-55-3	Benzo(a)anthracene	20.	ü
59-50-7	4-Chloro-3-methylphenol	20.	ប	117-31-7	bis(2-ethylhexyl)phthalate	20.	Ü
91-57-4	2-Methylnaphthalene	20.	Ü	218-01-9	Chrysene	20.	Ü
77-47-4	Hexachlorocyclopentadiene	20.	U	117-84-0	Di-m-octyl Phthalate	20.	Į.
2-66-88	2.4.6-Trichlorophenol	20.	Ü	205-99-2	Benzo(b) fluoranthene	20.	U
95-95-4	2,4,5-Trichlorophenol	100	ü	207-08-9	Benzo(k)fluoranthese	20.	IJ
91-58-7	2-Chloroneohthalene	20.	Ü	50-32-8	Renzo(a) pyrene	20.	U
88-74-4	2-Nitroaniline	100	U	193-39-5		20.	ij
131-11-3	Dimethyl Phthalate	20.	U	53-76-3	Dibenzia,h)anthracene	20.	ü
208-94-8	Acenaphthylene	20.	Ų	191-24-2	Benzo(q,h,i)perylene	29.	Ü
	• •						

P. O. Box 818, Alexandria: Virginia 22313 703/557-2490

Sample Number 5942

# Crganics Analysis Data Sheet (Page 4)

# Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug /1 or ug /kg
1	NO SV COMPOUNDS FOUND			
2	<u> </u>			
3				
5				
6				
7				
B	<u> </u>			ļ
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17				<u></u>
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Bifuronmental Protection Agency. CLP Sample Management Office.
P. O. Box 818 - Alexandrie, Virginia 22313-703/657-3490

Sample Number 5943

# Organics Analysis Data Sheet (Page 4)

# **Tentatively Identified Compounds**

CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/l or ug/kg
1	NO VOA COMPOUNDS FOUND			
2				
3				
4				<del> </del>
6. <u> </u>		_		
6				<del></del>
7		<del>- </del>		
B				<del></del>
9		<del>- </del>		<del></del> -
10				
11				<del> </del>
12		<del></del>		
3	<del></del>			<del> </del>
14	•			
5			<del> </del>	
17		<del></del>		
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29			<i>'</i>	
30				

Į	Sample Number	ł
i	C&SS943	į

# Organics Analysis Data Sheet (Page 3)

# Pesticide/PCBs

t	Concentration: [Low] Medium Date Extracted/Prepared: 10/2/8 Data Analyzed: 10/2/8 Conc/Dil Factor: 1.0	
	CAS Number	Eug∕l ] or ug/Kg (Circle One)
	319-84-6	.05 U   .05 U   .05 U   .05 U   .05 U   .05 U   .10
V(s) 1000.0	V(i) = Volume of extract in V(s) = Volume of water extr W(s) = Weight of sample ext V(t) = Volume of total extr 0 or W(s) = V(t) _1000	acted (ml) racted (g) act (vl)

Jan 14 1986

# Environmental LABORATORY Division of Calocerings & Sping Consulting File Privilege of Calocerings & Sping Consulting File Privilege of Calocerings & Sping Consulting File Privilege of Calocerings & Sping Consulting File Privilege of Calocerings & Sping Consulting File Privilege of Calocerings & Sping Consulting File Privilege of Calocerings & Sping Consulting File Privilege of Calocerings & Sping Consulting File Privilege of Calocerings & Sping Consulting File Privilege of Calocerings & Sping Consulting File Privilege of Calocerings & Sping Consulting File Privilege of Calocerings & Sping Consulting File Privilege of Calocerings & Sping Consulting File Privilege of Calocerings & Sping Consulting File Privilege of Calocerings & Sping Consulting File Privilege of Calocerings & Sping Consulting File Privilege of Calocerings & Sping Consulting File Privilege of Calocerings & Sping Consulting File Privilege of Calocerings & Sping Consulting File Privilege of Calocering File Privilege of Calocer

Division of Calocerinos & Spina Consulting Engineers • 1020 Seventh North Street, Liverpool, NY 13088

To: NIAGARA MOHAWK - EAST UTICA

CALOCERINOS & SPINA

LIVERPOOL, NY 13088

Attention: THOMAS BARBA

\*\*\*\*\*\*\*\*\*\*\*\*

SAMPLE #5940

PAGE 1 OF 2

Date:

SAMPLE SUMMARY

CLIENT : NIAGARA MOHAWK + EAST UTICA DATE RECEIVED : 09/23/85

JDB # : 465.007.00 DATE COLLECTED : 09/23/85

LOCATION : SW - 1 TIME COLLECTED : 1030

PRICE CODE : STANDARD : GRAB

PARAMETER	RESULTS	UNIȚS
CYANIDE-T	(0.004	mg/l
ALUMINUM .	0.3	arg/1
ANTIMONY	(0.060	mg/l
ARSENIC	(0.010	mg/l
BARIUM	(0.2	mg/l
BERYLLIUM	(0.005	mg/l
CADMIUM	<0.005	mg/1
CALCIUM	<10.	mg/l
CHRDMIUM-T	0.011	mg/l
COBALT	(0.050	mg/l
COPPER	0.05	mg/l
IRON	0.69	mg/l
LEAD	0.017	mg/l
MAGNESIUM	10.	mg/l
MANGANESE	0.14	mg/l



Division of Calocerinos & Spina Consulting Engineers • 1020 Seventh North Street, Liverpool, NY 13088

SAMPLE #5940

PAGE 2 OF 2

### LABORATORY ANALYSIS REPORT

PARAMETER	RESULTS	UNITS
MERCURY	(0.0005	mg/l
NICKEL	(0.02	mg/1
POTASSIUM	2.8	mg/l
SELENIUM	(0.005	mg/1
SILVER	(0.010	mg/l
SODIUM	2 <del>9</del> .	mg/1
THALLIUM	(0.010	mg/l
TIN	(0.040	mg/I
VANADIUM	(0.050	mg/1
ZINC	0.03	mg/1

All analyses were conducted in accordance with operating conditions as set forth in current EPA, ASTM and/or Standard Methods unless otherwise specified.

PPROVED BY: YET JENE DATE: JAN 14

Jan 14 1986

Division of Calocerinos & Spina Consulting Engineers • 1020 Seventh North Street, Liverpool, NY 13088

To: NIAGARA MOHAWK - EAST UTICA

CALOCERINOS & SPINA

LIVERPOOL, NY 13088

Attention: THOMAS BARBA

ention: Indian bakba

**SAMPLE #5941** 

PAGE 1 OF 2

Date:

LABORATORY ANALYSIS REPORT

SAMPLE SUMMARY

CLIENT : NIAGARA MOHAWK - EAST UTICA

DATE RECEIVED : 09/23/85

JOB # : 465.007.00

DATE COLLECTED : 09/23/85

LOCATION : SW - 2

TIME COLLECTED : 1055

PRICE CODE : STANDARD

METHOD : GRAB

PARAMETER	RESULTS	UNITS
CYANIDE-T '	(0.004	mg/l
ALUMINUM	0.4	mg/l
ANTIMONY	(0.060	mg/l
ARSENIC	(0.0010	mg/1
BARIUM	<b>(0, 2</b>	mg/l
BERYLLIUM	(0.005	mg/1
CADMIUM	(0.005	mg/l
CALCIUM	46.	mg/1
CHROMIUM-T	0.044	mg/l
COBALT	(0.050	mg/1
COPPER	0.11	mg/l
IRON	0.93	mg/1
LEAD	0.033	mg/l
MAGNESIUM	9.	mg/l
MANGANESE	0.11	mg/l



Division of Calocerinos & Spina Consulting Engineers • 1020 Seventh North Street, Liverpool, NY 13088

SAMPLE #5941

PAGE 2 OF 2

#### LABORATORY ANALYSIS REPORT

	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	
RESULTS	UNITS	
⟨0,0005	mg/1	
(0.02	stg / 1	
2.6	mg/1	
(0.005	mg/l	
(0.010	mg/l	
2 <b>5.</b>	mg/l	
(0.010	mg/l	
(0.040	mg/l	
(0.050	mg/1	
0.02	mg/1	
	RESULTS  <0.0005 <0.02 2.6 <0.005 <0.010 25. <0.010 <0.040 <0.050	(0.005 mg/l (0.02 mg/l 2.6 mg/l (0.005 mg/l (0.010 mg/l 25. mg/l (0.010 mg/l (0.040 mg/l (0.050 mg/l

All analyses were conducted in accordance with operating conditions as set forth in current EPA, ASTM and/or Standard Methods unless/otherwise specified.

Date: Jan 14 1986

PAGE 1 OF 2

# Environmental LABORATORY

Division of Calocerinos & Spina Consulting Engineers • 1020 Seventh North Street, Liverpool, NY 13088

To: NIAGARA MOHAWK - EAST UTICA

CALOCERINOS & SPINA LIVERPOOL, NY 13088

Attention: THOMAS BARBA

SAMPLE #5942

LABORATORY ANALYSIS REPORT

\*\*\*\*\*\*\*\*\*\*\*\*\*

SAMPLE SUMMARY

CLIENT: NIAGARA MOHAWK - EAST UTICA DATE RECEIVED: 09/23/85

JOB # : 465.007.00 DATE COLLECTED : 09/23/85

LOCATION : SW - 3 TIME COLLECTED : 1230

PRICE CODE : STANDARD METHOD : GRAD

PARAMETER	RESULTS	UNITS
CYANIDE-T	(0.004	sig/1
ALUMINUM	0.7	mg/l
ANTIMONY	<b>(0.06</b> 0	mg/l
ARSENIC	(0.010	mg/l
BARIUM	(0.02	mg/1.
BERYLLIUM	(0.005	øg∕l
CADMIUM	(0.005	ag/l
CALCIUM	51.	mg/l
CHROMIUM-T	0.050	mg/l
COBALT	(0.050	mg/1
COPPER	0.11	mg/l
IRON	1.1	mg/l
LEAD	0.024	mg/l
MAGNESIUM	10.	mg/l
MANGANESE	0.14	mg/l

# Environmental LABORATORY Division of Calocarinas & Spina Consulting E

Division of Calocerinos & Spina Consulting Engineers • 1020 Seventh North Street, Liverpool, NY 13088

SAMPLE #5942

PAGE 2 OF 2

## LABORATORY ANALYSIS REPORT

PARAMETER	RESULTS	UNITS	
MERCURY	(0,0005	mg/l	
NICKEL	0.04	mg/1	
POTASSIUM	2.5	mg/l	
SELENIUM	(0.005	mg/l	
SILVER	(0.010	mg/l	
SODIUM	19.	mg/l	
THALLIUM	(0.010	mg/l	
TIN	(0.040	ភាឮ/1	
YANADIUM	(0.050	mg/l	
71NC	0-18	ma/1	

All analyses were conducted in accordance with operating conditions as set forth in current EPA, ASTM and/or Standard Methods unless otherwise specified.

APPROVED BY DATE: JAN 1 4 1988

Jan 14 1986

Division of Calocerinos & Spina Consulting Engineers • 1020 Seventh North Street, Liverpool, NY 13088

To: NIAGARA MOHANK - EAST UTICA

CALOCERINOS & SPINA LIVERPOOL, NY 13088

Attention: THOMAS BARBA

\*\*\*\*\*\*\*\*\*\*

SAMPLE #6240

PAGE 1 OF 2

Date:

LABORATORY ANALYSIS REPORT

\*\*\*\*\*\*\*\*\*\*\*\*\*

SAMPLE SUMMARY

CLIENT: NIAGARA MOHAWK - EAST UTICA DATE RECEIVED: 10/03/85

JDB # : 465.007.00 DATE COLLECTED : 10/03/85

LOCATION : SW - 3B TIME COLLECTED : 1230

PRICE CODE : STANDARD - METHOD : GRAB

PARAMETER	RESULTS	UNITS
CYANIDE-T	0.006	mg/I
ALUMINUM	0.3	mg/1
ANTIMONY	<0.060	mg/l
ARSENIC	<b>(0.</b> 010	ag/l
BARIUM	(0.2	mg/l
BERYLLIUM	0.006	mg / 1
CADMIUM	(0,005	mg/l
CALCIUM	76.	mg/l
CHROMIUM-T	0.021	mg/l
COBALT	<b>(0, 050</b>	mg/l
COPPER	0.06	mg/l
IRON	0.95	mg/l
LEAD	0.014	mg/1
MAGNESIUM	14.	mg/l
MANGANESE	0.12	mg/I



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SAMPLE #6240

PAGE 2 OF 2

### LABORATORY ANALYSIS REPORT

PARAMETER	RESULTS	UNITS
MERCURY	(0.0005	<b>ag/</b> 1
NICKEL	0.03	mig / 1
POTASSIUM	3.5	mg/l
SELENIUM	(0.005	<b>sg/</b> 1
SILVER	(0.010	mg/l
SODIUM	14.	ag/1
THALLIUM	(0.010	mg/1
TIN	<b>(0.040</b>	mg/l
VANADIUM	(0.050	mg/l
ZINC	0.03	mp/1

All analyses were conducted in accordance with operating conditions as set forth All analyses were conducted in accordance with Specified of therwise specified. All the 1980 of the specified of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of the 1980 of t

Jan 14 1986

# Environmental LABORATORY Switch of Calcading & Soline Consulting &

Division of Calocerinos & Spina Consulting Engineers • 1020 Seventh North Street, Liverpool, NY 13088

To: NIAGARA MOHAWK - EAST UTICA

CALOCERINOS & SPINA LIVERPOOL. NY 13088

Attention: THOMAS BARBA

\*\*\*\*\*\*\*\*\*\*\*

SAMPLE #5943

PAGE 1 OF 2

Date:

LABORATORY ANALYSIS REPORT

SAMPLE SUMMARY

CLIENT : NIAGARA MOHAWK - EAST UTICA DATE REC

DATE RECEIVED : 09/23/85

JOB # : 465.007.00 DATE COLLECTED : 09/23/85

LOCATION : SW - 4 TIME COLLECTED : 1300

PRICE CODE : STANDARD : GRAB

PARAMETER RESULTS UNITS (0.004 mq/1CYANIDE-T 0.3 mg/1ALUMINUM ANTIMONY (0.060 mg/1 (0.010 mg/1 ARSENIC BARIUM (0.2 mg/1 ⟨0.005 mg/l BERYLLIUM (0.005 CADMIUM mg/l 47. mq/1CALCIUM (0.010 mg/1CHROMIUM-T COBALT (0.050 mg/l 0.02 COPPER mg/10.68 mg/1I RON 0.026 mg/lLEAD MAGNESIUM 9. mg/l MANGANESE 0.16 mg/1

# **Environmental** LABORATORY Division of Calocerinos & Spina Consulting Engineers • 1020 Seventh North Street, Liverpool, NY 13088

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**SAMPLE #5943** 

PAGE 2 OF 2

#### LABORATORY ANALYSIS REPORT

PARAMETER	•	RESULTS	UNITS	
MERCURY		(0.0005	mg/l	
NICKEL		(0.02	mg/l	
POTASSIUM		2.7	mg/l	
SELENIUM		(0.005	mg/l	
SILVER		(0.010	mg/l	
SUDIUM		24.	mg/l	
THALL IUM		(0.010	mg/l	
TIN		<b>{Q.</b> 040	mg/l	
VANADIUM		(0.050	mg/l	
7 INC		0.05	mn/l	

All analyses were conducted in accordance with operating conditions as set forth in current EPA, ASTM and/or Standard Methods unless otherwise specified.

# APPENDIX H

HRS WORKSHEETS AND DOCUMENTATION RECORDS

Facility name: Niagara Mohawk
Location: Old Erie Canal, Frankfort, New York
EPA Region: II
Person(e) in charge of the facility:
Name of Reviewer: T.A. Barba, M.S. Cullen Date: July 31, 1986
General description of the facility:  (For example: landfill, surface impoundment, pile, container; types of hazardous substances; location of the
facility; contamination route of major concern; types of information needed for rating; agency action, etc.)
The site is an abandoned section of the Old Erie Canal which has been
used in the past for wastewater disposal by industries along its banks.
Contaminants are currently tied up in sediment in the canal. Testing
has shown that ground water in a monitoring well downgradient of the
site was not contaminated.
Scores: $S_M = 24.66$ ( $S_{gw} = 40.68$ $S_{gw} = 12.87$ $S_{gw} = 0.00$ )
SFE = 0.00
<b>5pc =</b> 0.00

HRS COVER SHEET

·	S	s <sup>2</sup>
Groundwater Route Score (Sgw)	40.68	1,654.86
Surface Water Route Score (S <sub>SW</sub> )	12.87	165.64
Air Route Score (Sa)	0.00	0.00
$s_{qw}^2 + s_{sw}^2 + s_a^2$		1,820.50
$\sqrt{s_{gw}^2 + s_{sw}^2 + s_a^2}$		42.67
$\sqrt{s_{gw}^2 + s_{sw}^2 + s_a^2} / 1.73 = s_M =$		24.66

Worksheet for computing  $s_{\mathbf{M}}$ 

Ground Water Route Work Sheet										
Rating Factor	Assigned Value (Circle One)	Multi- pller	Score	Max. Score	Ref. (Section)					
1 Observed Relaase	<ul><li>45</li></ul>	1	0	45	3.1					
If observed release is given a score of 45, proceed to line 4.  If observed release is given a score of 0, proceed to line 2.										
2 Route Characteristics Depth to Aquifer of Concern	0 1 2 3	2	6	6	3.2					
Net Precipitation Permeability of the	0 1 2 3 0 1 2 3	1	2 2	3						
Unsaturated Zone Physical State	0 1 2(3)	1	3	3	<u>.</u>					
	Total Route Characteristics Score		13	15						
3 Containment	0 1 2 3	1	3	3	3.3					
Waste Characteristics Toxicity/Persistence Hazardous Waste Quantity	0 3 8 9 12 15 18 0 1 2 3 4 5 8 7 8	1 1	18 . 5	1 <b>8</b> 8	3.4					
	Total Waste Characteristics Score		23	26						
5 Targets Ground Water Use Distance to Nearest Well/Population Served	0 1 2 3 0 4 6 8 10 12 16 18 20 24 30 32 35 40	3	6 20	9 40	3.5					
	Total Targets Score		26	49						
6 if line 1 is 45, multiply	y 1 x 4 x 5 2 x 3 x 4 x 5		23,32	257.330						
7 Divide line 6 by 57,330 and multiply by 100 Sgw = 40.68										

GROUND WATER ROUTE WORK SHEET

	Surface Water Route Work Sheet							
	Rating Factor	Assign (Circi	Multi- plier	Score	Max. Score	Ref. (Section)		
0	Observed Release	0	45	1	45	45	4.1	
	If observed release is give		·		•		,	
2	Route Characteristics Facility Slope and Intervention	ening 0 1 2	3 .	1	-	3	4.2	
	1-yr. 24-hr. Rainfall Distance to Nearest Surf	0 1 2 ace 0 1 2	3 3	. 1 2		3 6		
	Water Physical State	0 1 2	. 3	1		3		
		Total Poute Ch	aracteristics Score			15		
3	Containment	0 1 2	: 3	1		3	4.3	
4	Waste Characteristics Toxicity/Persistence Hazardous Waste Quantity	0 3 6	9 12 15 18 3 4 5 6 7	1 8 1	18 5	18 8	4.4	
-		Total Weste Ch	aracteristics Score		23	25		
<u></u>	Targets Surface Water Use Distance to a Sensitive Environment Population Served/Distar	0 1 0 1	2 3 2 3 6 8 10	3 2	6 2 0	9 6 40	4.5	
	to Water Intake Downstream	} 12 16 24 30	6 8 10 18 20 32 35 40			55		
<u>8</u>	If line 1 is 45, multiply If line 1 is 0, multiply		<u> </u>	····	8 8,280	64.350		
7	Divide lina 6 by 64,350	and multiply by	100	S 3W =	12.8	37		

SURFACE WATER ROUTE WORK SHEET

	Air Route Work Sheet									
	Rating Factor			igned \ Ircle O			Multi- plier	Score	Max. Score	Ref. (Section)
0	Observed Release		0		45		1	0	45	5.1
	Date and Location:			. <u> </u>						
	Sampiling Protocol:									
	If line 1 is 0, the	_			-					
2	Waste Characteristic Reactivity and Incompatibility	<b>:3</b>		2 3			1	•	3	5.2
	Toxicity Hazardous Waste Quantity		0 1	2 3 2 3	4 5	6 7	3 1		9 8	
				,		. <u> </u>				
			Total Waste	Charac	teristi	cs Score			20	
3	Targets Population Within 4-Mile Radius	·	} 0 9 } 21 24	12 15 27 30	18		1		30	5.3
	Distance to Sensith	v <del>e</del>		2 3			2		5	
	Land Use		0 1	2 3			1		3	
					•					
		•								
			Total	Target	s Scor	•			39	
4	Multiply 1 x 2	x 3				·			35,100	
5	Divide line 4 by	35.100 a	and multiply	by 100		•	Sa-	0		

AIR ROUTE WORK SHEET

Rating Factor Assigned Value Multi- (Circle One) plier					Score	Max. Score	Ref. (Section)				
1 Containment	1		_			3		1	. 0	3	7.1
Waste Characteristics Direct Evidence Ignitability Reactivity Incompatibility Hazardous Waste Quantity	0		2	3	4	5	678	1 1 1		3 3 3 8	7.2
	Total War	ste (	Cha	rac	teri	stic	Score			20	
Targets  Distance to Nearest  Population  Distance to Nearest  Building  Distance to Sensitive  Environment  Land Use	0	1	2 2 2	3 3 3		•		1 1 1 1		5 3 3	7.3
Population Within 2-Mile Radius Buildings Within 2-Mile Radius	0		2		4	5		1		5	
	To	tal 1	Targ	jets	Sc.	ore	•			24	
Multiply 1 x 2 x 3										1,440	
5 Divide line 4 by 1,440 au	nd multiply	v b v	, 10	<u> </u>				FE -	0.00		

FIRE AND EXPLOSION WORK SHEET

	Direct Contact Work Sheet											
	Rating Factor		ssiç (Cir						Multi- pil <b>er</b>	Score	Max. Score	Ref. (Section)
1	Observed Incident	0	)			4	15		1	0	45	8.1
	if line 1 is 45, proceed to 1, line 1 is 0, proceed to											
2	Accessibility	0	1	2	3				1		3	6.2
3	Containment	0	,	15					1		15	8.3
4	Waste Characteristics Toxicity	0	1	2	3				5		15	8.4
3	Targets Population Within a 1-Mile Radius	0	1	2	3	4	5		4		20	6.5
	Distance to a Critical Habitat	0	1	2	3				4		12	
									. ,			
<u> </u> 												
	•										•	
		-					•					
	•						-					
		Tota	J <sub>.</sub> Ti	ng:	ets	Sc	ore			·	32	
	6 If line 1 is 45, multiply 1 x 4 x 5 if line 1 is 0, multiply 2 x 3 x 4 x 5											
7	Divide line 6 by 21,600 a	nd multiply	Þу	10	0			S	oc <del>-</del>	0.00		

DIRECT CONTACT WORK SHEET

### OOCUMENTATION 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 NA	ME: <u>Niagara</u>	Mohawk
LOCATION:	Old Erie	e Canal

#### GROUND WATER ROUTE

#### OBSERVED RELEASE

Contaminants detected (5 maximum): No significant increase between upgradient (background) and downgradient wells (Ground-Water Monitoring C&S, 1985)

Rationale for attributing the contaminants to the facility:

Not Applicable

\* \* \*

### 2. ROUTE CHARACTERISTICS

## Depth to Aquifer of Concern

Name/description of aquifers(s) of concern:

Shallow ground water table

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

Approximately 2.5 feet (Test Borings; C&S, 1985)

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

Approximately 5 feet to canal bottom

(Field Log; C&S, 1985)

```
Net Precipitation
Mean annual or seasonal precipitation (list months for seasonal):
     38"
     (Climatic Atlas of the United States)
Mean annual lake or seasonal evaporation (list months for seasonal):
     26"
     (Climatic Atlas of the United States)
Net precipitation (subtract the above figures):
     12"
     (Climatic Atlas of the United States)
Permeability of Unsaturated Zone
Soil type in unsaturated zone:
     clay, silty, very fine sand, some fill
     (Boring Logs; C&S, 1985
Permeability associated with soil type:
     10^{-3} to 10^{-5} cm/sec
```

# Physical State

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

Liquid, sludge

(Boring Logs; C&S, 1985)

\* \* \*

### CONTAINMENT

### Containment

Method(s) of waste or leachate containment evaluated:

Surface impoundment with no liner

Method with highest score:

As above

### 4. WASTE CHARACTERISTICS

### Toxicity and Persistence

Compound(s) evaluated:

PCB's, PAH's, Heavy Metals (Chromium, Lead)

(Sediment Analyses; C&S, 1985)

Compound with highest score:

PCB1s

## Hazardous Waste Quantity

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

The hazardous substances are in the sediment in the canal. The estimated quantity of sediment is 15,500 cu. yd. The hazardous substances are 3.4% of the sediment (on a weight to weight/dry weight basis). This results in approximately 527 cu. yds. of hazardous substances

Basis of estimating and/or computing waste quantity:

Canal area is approximately 210,000 sq. ft.
Sediment depth averages 2 ft.
Sediment quantity is approximately 15,500 cubic yards.
Average sediment concentrations of organic and inorganic hazardous substances was approximately 34,000 mg/kg dry weight basis.

#### TARGETS

### Ground Water Use

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

Some private wells used for drinking water.

(New York State Department of Health - Utica Office)
(New York State Department of Environmental Conservation)

### Distance to Nearest Well

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

Residences on Taft Avenue, drawing from 25' deep well.

(New York State Department of Health, Memorandum of May 10, 1983)

Distance to above well or building:

750 ft.

(U.S.G.S. Map, Utica East 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:

101-1,000 people. Ground water flows north from the site to the Mohawk River. The river acts as a discontinuity, beyond which contaminants can not migrate. Therefore, the only wells of concern are those located on the south side of the river. Approximately 75 private wells present. No community supply wells. (See attached map)

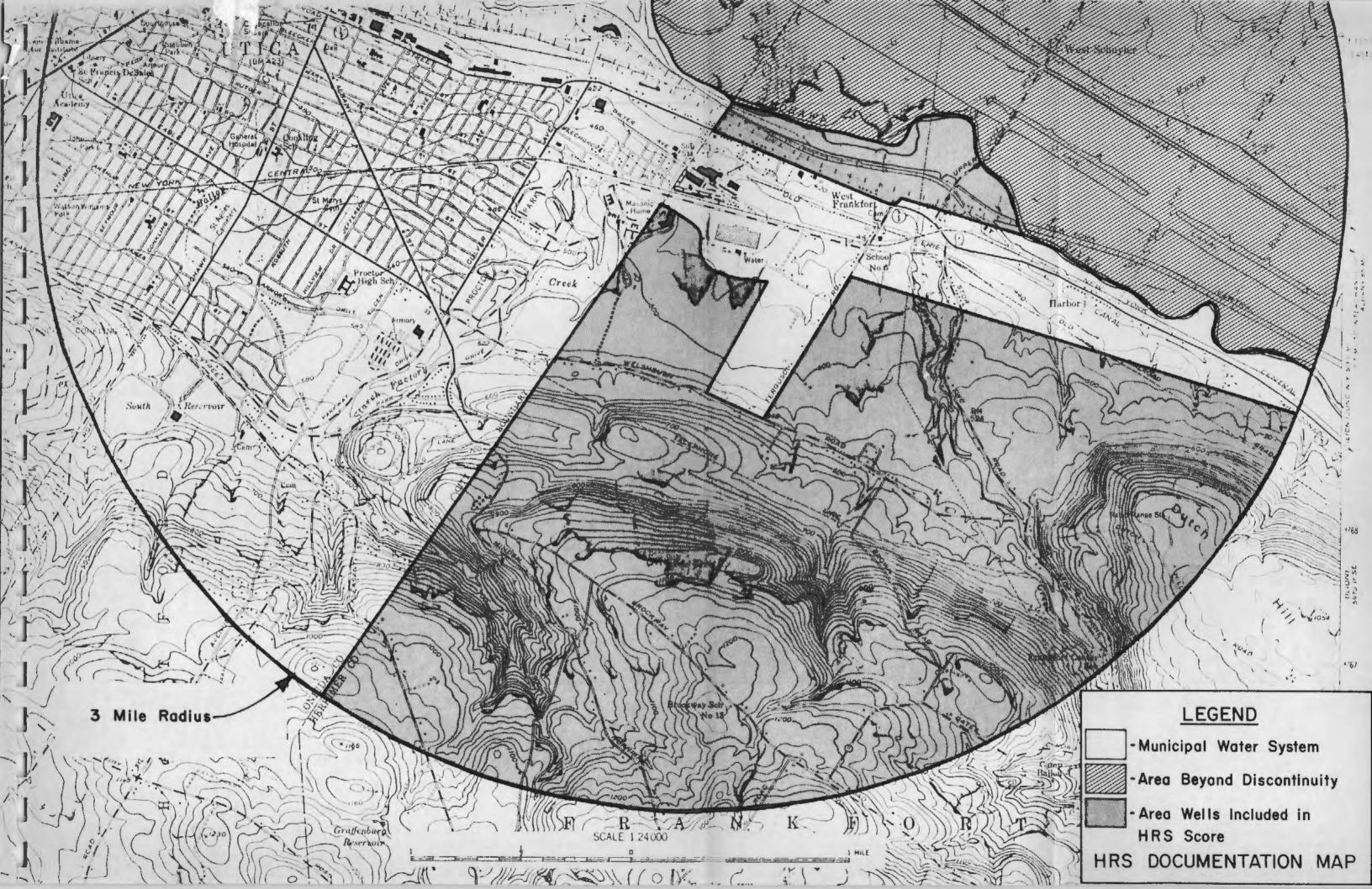
(NYSDEC Memorandums, July 12, 1984 and July 6, 1984)

(New York State Atlas of Community Water System Sources, 1982)
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):

Not Applicable

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

101-1,000 (see above)



#### SURFACE WATER ROUTE

 OBSERVED RELEASE Contaminants detected in surface water at the facility or downhill from it (5 maximum): trichlorethene lead t-1,2-dichloroethene DDT 2,4-dinitrohpenol Canal water eventually reaches the Mohawk River via artificial and natural conduits. (Surface Water Analysis; C&S, 1985) Rationale for attributing the contaminants to the facility: Sampling and analysis of canal water (C&S, 1985) ROUTE CHARACTERISTICS Facility Slope and Intervening Terrain Average slope of facility in percent: 0-1% Name/description of nearest downslope surface water: Ferguson Creek Average slope of terrain between facility and above-cited surface water body in percent: 0-1% Is the facility located either totally or partially in surface water?

Yes - Site is an abandoned canal.

Is the facility completely surrounded by areas of higher elevation? Yes 1-Year 24-Hour Rainfall in Inches Not Applicable Distance to Nearest Downslope Surface Water Old Erie Canal flows through outlet pipe into Mohawk River. Physical State of Waste Originally discharged as wastewater. Currently sediment. 3. CONTAINMENT <u>Containment</u> Method(s) of waste or leachate containment evaluated: Not Applicable Method with highest score: Not Applicable

### 4. WASTE CHARACTERISTICS

### Toxicity and Persistence

Compound(s) evaluated

Lead 2,4-dinitrophenol DDT

Compound with highest score:

Lead DDT

### Hazardous Waste Quantity

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

527 cuy

See ground-water route notes.

Basis of estimating and/or computing waste quantity:

See ground-water route notes.

5. TARGETS

### Surface Water Use

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

Commercial, industrial, recreation on Mohawk River.

Is there tidal influence?

No

### Distance to a Sensitive Environment

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

Not Applicable

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

0.5 Miles
(Site Inspection; Ecological Analysts, 1983)

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

None known

### Population Served by Surface Water

Location(s) of water-supply intake(s) within 3 miles (free-flowing bodies) or 1 mile (static water bodies) downstream of the hazardous substance and population served by each intake:

None (Phase I Investigation; Ecological Analysts, 1983)

### AIR ROUTE

OBSERVED RELEASE Contaminants detected: Not Applicable Date and location of detection of contaminants: Not Applicable Methods used to detect the contaminants: Not Applicable Rationale for attributing the contaminants to the site: Not Applicable 2. WASTE CHARACTERISTICS Reactivity and Incompatibility Most reactive compound: Not Applicable Most incompatible pair of compounds:

Not Applicable

### <u>Toxicity</u>

Most toxic compound:

Not Applicable

### Hazardous Waste Quantity

Total quantity of hazardous waste:

Not Applicable

Basis of estimating and/or computing waste quantity:

Not Applicable

\* \*

#### 3. TARGETS

### Population Within 4-Mile Radius

Circle radius used, give population, and indicate how determined:

0 to 4 mi

o to 1 mi

O to ½ mi

O to 1 mi

Not Applicable

### Distance to a Sensitive Environment

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

Not Applicable

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

Not Applicable

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

Not Applicable

### Land Use

Distance to commercial/industrial area, if 1 mile or less:

Not Applicable

Distance to national or state park, forest, or wildlife reserve, if 2 miles or less:

Not Applicable

Distance to residential area, if 2 miles or less:

Not Applicable

Distance to agricultural land in production within past 5 years, if 1 mile or less:

Not Applicable

Distance to prime agricultural land in production within past 5 years, if 2 miles or less:

Not Applicable

Is a historic or landmark site (National Register or Historic Places and National Natural Landmarks) within the view of the site?

Not Applicable



### **Potential Hazardous Waste Site**

Site Inspection Report



## Site Inspection Report

**≎EPA** 

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

1. IDENTIFICATION
01 STATE | 02 SITE NUMBER | NY | D980768758

		E LOCATION AND	INSPE	CTION INFORM	MATION CARACTER	
IL SITE NAME AND LOC	The state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the s					·
01 SITE NAME (Legal, common, or				racuteno.com Surner Stre	PECIFIC LOCATION IDENTIFIER	· · · · · · · · · · · · · · · · · · ·
Old Erie Cana						
Frankfort			NY NY	05 ZIP COD€ 13340	Oneida/Herkimen	07COUNTY 08 CONG CODE DIST
9 COORDINATES 4 3 0 5 2 0	LONGITUDE 0 7 5 1 0 0 0.	10 TYPE OF OWNERSH  A. PRIVATE  F. OTHER	□ 8. F€		. C. STATE C D. COUNTY	
III. INSPECTION INFORM	ATION					
01 DATE OF INSPECTION  2 6 86	02 SITE STATUS  ACTIVE INACTIVE			j 1981 R ENDINGYEA	UNKNOWN	
04 AGENCY PERFORMING INSI	PECTION (Cheek of that apply)	) 653	NAME OF THE	H ENDING TEA	<u> </u>	
□ A EPA □ B. EPA C	ONTRACTOR		C. ML	INICIPAL 🔯 D. A	MUNICIPAL CONTRACTOR _ erinos & Spina, A	
DESTATE DF. STATE	CONTRACTOR	inter of firms	<b>2</b> 3 (3.0)	HER Caloce		Ingi <del>Mee's</del>
05 CHIEF INSPECTOR		Name of firm)			(Specify)	08 TELEPHONE NO.
	_				OT CHEANZATION Calocerinos	
Richard Klipp	pel	Industrial	. Wast	e Manager	& Spina	(315) 457-6711
Thomas Barba		Project Ch	nemist		Calocerinos &	(315) 457-6711
Martha Cullen		Environmen	ntal S	cientist	Calocerinos & Spina	(315) 457–6711
Mark Wilder		Geologist			Calocerínos & Spina	(315) 457-6711
						( )
				•		( ).
13 SITE REPRESENTATIVES IN		14 TITLE	1	5ADORESS		18 TELEPHONE NO
All information	n based on Phase			<del></del>		( )
II Investigatio	on					( )
						( )
						( )
						( )
						(
·						
17 ACCESS GAINED BY (Chect one)  PERMISSION WARRANT	18 TIME OF INSPECTION	19 WEATHER COND	MONS			
IV. INFORMATION AVAIL	ABLE FROM				· · · · · · · · · · · · · · · · · · ·	
on contact Richard Klippe	<u> </u>	02 OF (Agency/Organa Caloceri	rinos & Spina			03 TELEPHONE NO. (315) 457-6711
04 PERSON RESPONSIBLE FO	R SITE INSPECTION FORM	05 AGENCY		ANIZATION	07 TELEPHONE NO.	08 DATE
Richard Klippe	=1	see above		-		2 / 6 / 86
EDA EOOM 2070 +0 /7 44		<del></del>	<del></del>		***	



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

I, IDENTIFICATION					
O1 STATE	02 SITE NUMBER D90768758				
NV	nan768758				

IL WASTES	FATES, QUANTITIES, AN	ID CHARACTER	ISTICS				
01 PHYSICAL S	TATES (Check of that apply)	02 WASTE QUANT		03 WASTE CHARACT	EPISTICS (Check all their	appiy)	
□ A. SOLID	□ E. SLURRY	(Mangaron t must be	of weste quantities independent;	à A TOXOC	□ E.SQU	ABLE I, HIGHLY	VOLATRLE
☐ B. POWDE	R, FINES   F. LIQUID	TONS .		☐ 8. CORRO			
CC. SLUDGE	□ GL GAS	CURIC YARDS	527	D. D. PERSK		ABLE LINCOM	PATIBLE
D. OTHER	(Space)	NO. OF DRUMS				☐ M., NOT A	PLICABLE
IIL WASTE T	YPE		•	-		· · · · ·	
CATEGORY	SUBSTANCE N	AME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS		
SUJ	SLUDGE		15500	cuy	sediment	at canal bott	om
OLW	OILY WASTE	<u> </u>					
SOL	SOLVENTS						
PSD	PESTICIDES						· · · · · · · · · · · · · · · · · · ·
occ	OTHER ORGANIC CA	HEMICALS	1				
10C	INORGANIC CHEMIC	ALS	<del>                                     </del>				
ACD	ACIDS						
BAS	BASES						
MES	HEAVY METALS		<del>†</del>	1			
IV. HAZARD	OUS SUBSTANCES	oceanie in ment frames	dy chad CAS Numberal				
01 CATEGORY	02 SUBSTANCE N		03 CAS NUMBER	04 STORAGE/DIS	POSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
OCC	Arochlor 1254	- · · · · · · · · · · · · · · · · · · ·	11097-69-1	SI with ou	tlet	3100	mg/kg
OCC	Fluoranthene		206-44-0	SI with outlet 2300		2300	mg/kg
OCC	Phenanthrene		85-01-8	SI with ou	tlet	1600	mg/kg
occ	Other PAH's		999	SI with ou	tlet	variable	mg/kg
MES	Lead	<del></del>	7439-92-1	SI with ou		4100	mg/kg
			7440-50-8	SI with outlet		6800	mg/kg
MES	Copper		V440-66-6	SI with ou		890	mg/kg
MES	Zinc		999	SI with ou		variable	
MES	Other Metals		999	SI with ou		2/	<del> </del>
IOC	Cyanide			JI WIEN OU	CIGC.,	27	<del>.</del>
				ļ		. <u> </u>	
·							
							ļ
				<u></u>			
			4				
						<u> </u>	
V. FEEDSTO	CKS (See Appendix for CAS Mumb	eraj		-			<u> </u>
CATEGORY	····-		02 CAS NUMBER	CATEGORY	O1 FEEDS	OCK NAME	02 CAS NUMBER
FDS				FDS		_	· · · · · · · · · · · · · · · · · · ·
FDS			1	FD\$			
FDS				FDS			
FDS				FD\$			· · · · · · · · · · · · · · · · · · ·
VL SOURCE	S OF INFORMATION (CI-	apacific references, e.g	., sisto flos, sample analysis,	reports)			
					-		
Sample	Analysis; C&S,	1985					
22		_					
l							

### **POTENTIAL HAZARDOUS WASTE SITE**

I. IDENTIFICATION Q1-STATE 02 SITE NUMBER

☐ POTENTIAL

□ ALLEGED

□ ALLEGED

	ZARDOUS CONDITIONS AND INCIDENTS	MI	D980/68/38
	COLUMNIA MANAGER		
IL HAZARDOUS CONDITIONS AND INCIDENTS	AND ADDERWED OATE.	POTENTIAL	☐ ALLEGED
Samples showed no significant increa	<b>04 мангатие Description</b> ase of contamination between up	pgradien	t and
downgradient wells. However, there site. (C&S, 1985)	are some private wells downgra	adient o	f the
01 2 B. SURFACE WATER CONTAMINATION 0 03 POPULATION POTENTIALLY AFFECTED:	02*EI OBSERVED (DATE: 9/85 ) III O4 NARRATIVE DESCRIPTION	POTENTIAL	() ALLEGED
Some contaminants found in canal wat	ter samples. (C&S, 1985)		
	02 □ OBSERVED (DATE:) □ 04 NAPIRATIVE DESCRIPTION	POTENTIAL	() ALLEGED
01 D. FRE/EXPLOSIVE CONDITIONS	02	POTENTIAL	☐ ALLEGED
	04 NARRATIVE DESCRIPTION		
	02 OBSERVED (DATE:)  04 NARRATIVE DESCRIPTION	POTENTIAL	☐ ALLEGED
01 & F. CONTAMINATION OF SOIL 03 AREA POTENTIALLY AFFECTED: less than 1	02:0 OBSERVED (DATE: 9/85 )	POTENTIAL.	ii Alleged
Some contaminants found in subsurface			
01 EX.G. DRINKING WATER CONTAMINATION 03 POPULATION POTENTIALLY AFFECTED: 101-1,000	02 □ OBSERVED (DATE:)  © O4 NARRATIVE DESCRIPTION	POTENTIAL	☐ ALLEGED
Some private wells downgradient of	site, samples taken showed no	contami	ination

02 (I OBSERVED (DATE: .

02 COBSERVED (DATE: \_

04 NARRATIVE DESCRIPTION

(Department of Health, 1983)

01 | H. WORKER EXPOSURE/INJURY

03 WORKERS POTENTIALLY AFFECTED:

01 🗋 I. POPULATION EXPOSURE/INJURY

**ŞEPA** 

### POTENTIAL HAZARDOUS WASTE SITE SITE INSPECTION REPORT

I. IDENTIFICATION

01 STATE 02 SITE NUMBER

NY D980768758

PART 3 - DESCRIPTION OF HA	ZARDOUS CONDITIONS AND INCIDENTS	NI E	1900700736
IL HAZARDOUS CONDITIONS AND INCIDENTS (Continued)	······································		
01 □ J. DAMAGE TO FLORA 04 NARRATIVE DESCRIPTION	02 G OBSERVED (DATE:)	☐ POTENTIAL	□ ALLEGED
01   K. DAMAGE TO FAUNA 04 NARRATIVE DESCRIPTION (Include name(a) of apecies)	02 OBSERVED (DATE:)	□ POTENTIAL	□ ALLEGED
01   L CONTAMINATION OF FOOD CHAIN 04 NARRATIVE DESCRIPTION	02 G OBSERVED (DATE:)	□ POTENTIAL	C ALLEGED
01 DM. UNSTABLE CONTAINMENT OF WASTES (State/Accosts State) Associa, Leading decemb) 03 POPULATION POTENTIALLY AFFECTED:	02 □ OBSERVED (DATE:) 04 NARRATIVE DESCRIPTION	☐ POTENTIAL	□ ALLEGED
01   N. DAMAGE TO OFFSITE PROPERTY  O4 NARRATIVE DESCRIPTION	02   OBSERVED (DATE:)	□ POTENTIAL	□ ALLEGED
01   O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs  O4 NARRATIVE DESCRIPTION	02 (I OBSERVED (DATE:)	☐ POTENTIAL	□ ALLEGED
01 ☐ P. ILLEGAL/UNAUTHORIZED DUMPING 04 NARRATIVE DESCRIPTION	02 (DATE:)	☐ POTENTIAL	□ ALLEGED
05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEC	GED HAZARDS		
IIL TOTAL POPULATION POTENTIALLY AFFECTED:			
V. SOURCES OF INFORMATION (Cite specific references, 4, g., state flats, 2	ample ensiyals, reports;	<del></del>	·
Phase I and II Investigation Anal	ytical Reports.		
EPA FORM 2070-13 (7-81)			······································

	<b>,</b>	<b>—</b>
3		$\omega$
77		

### POTENTIAL HAZARDOUS WASTE SITE

I. IDENTIFICATION					
01 STATE	02 SITE NUMBER				
NY	D980768758				

SITE INSPECTION PART 4- PERMIT AND DESCRIPTIVE INFORMATION					NY D980768758
IL PERMIT INFORMATION	10011 7 10000	- Alle Gas	Office of the Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commercial Commerci		
01.TYPE OF PERMIT ISSUED	02 PERMIT NUMBER	03 DATE ISS	SUED 04 EXPIRATION DATE	05 COMMENTS	
(Check all the: apply)		1	<b>!</b>		
☐ A. NPOES ☐ B. UIC	+				<del></del>
□ S. OIC	-			<del> </del>	
D. RCRA		+			
□ E. RCRA INTERIM STATUS	+	+		<del>                                     </del>	
☐ F. SPCC PLAN		+		<b>———</b>	
G. STATE (Specify)		1	<u> </u>	<del> </del>	
H. LOCAL (Specify)		+			, , , <u>_</u>
C I. OTHER (Specify)		+		<del></del>	
J. NONE		1		<del> </del>	
IIL SITE DESCRIPTION				<u>+</u>	
	2 AMOUNT 03 UNIT 0	OF MEASURE	04 TREATMENT/Check all that ag	gg/y)	05 OTHER
Š A. SURFACE IMPOUNDMENT	15500 cuy		A INCÉNERATION		
C 8. PILES			B. UNCERGROUND INJE	FCTION	XX A. BUILDINGS ON SITE
C. DRUMS, ABOVE GROUND			C. CHEMICAL/PHYSICA		
D. TANK, ABOVE GROUND			D. BIOLOGICAL	_	
☐ E TANK, BELOW GROUND		1	☐ E. WASTE OIL PROCESS		OB AREA OF SITE
C F. LANDFILL		1	☐ F. SOLVENT RECOVERY	-	5
☐ G. LANDFARM			G. OTHER RECYCLING/RECOVERY		(Acres)
☐ I OTHER <u>* with ou</u>	tlet	— I	H. OTHER	ecity)	
(Specify) 07 COMMENTS		<u></u>			
	·				
IV. CONTAINMENT					
01 CONTAINMENT OF WASTES (Check time)					
☐ A. ADEQUATE, SECURE	E B. MODERATE	C. DA	ADEQUATE, POOR	C D. INSECU	IRE, UNSOUND, DANGEROUS
02 DESCRIPTION OF DRUMS, DIKING, LINERS, BA	ARIERS, ETC.				
The canal is bermed, b	ut under sever	e condit	tions it could 1	be breach	ed.
V. ACCESSIBILITY					
O1 WASTE EASILY ACCESSIBLE: TYPES	□ NO ~				
огсомыта Although not fenced, t	the camal is lo			property	and a major
	ple are likely				<u></u>
VL SOURCES OF INFORMATION (CRe-spec	dific references, a.g. state files, sem	pie analyzia, reports	될		
Phase II Site Investig	ation (C&S, 19;	85).			

### POTENTIAL HAZAROOUS WASTE SITE

LIDENT	TEICATION
01 STATE	02 SITE NUMBER
NV	D980768758

<b>ŞEPA</b>	SITE INSPECTION REPORT  PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA  O1 STATE O2 SITE NUMBER  NY D980768758							
IL DRINKING WATER SUPPLY								
01 TYPE OF DEBAGDIG SUPPLY (Check on sportments)		02 STATUS				03	DISTANCE TO SITE	
SURFACE	METT	ENDANGERE	D AFFE	CIED (	MONITORED		15	
COMMUNITY A. 🖸	8. 🗆	A. 🗆	8.		C. 🗆	<u>^</u>	D.	ni)
NON-COMMUNITY C	O. 🗵	D. 🗆	E		F. 🖸	В.		ni)
III. GROUNDWATER								
01 GROUNDWATER USE IN VICINITY (Check o	B. OFFINIONS (Other sources available)	DUSTRIAL JARIGATION		OMMERCIAL,	INCUSTRIAL, PERIGA Dec anglishi	ATION (	O. NOT USED, UNI	JSEARLE
02 POPULATION SERVED BY GROUND WAT	101-1,000	<u> </u>	03 DISTANC	E TO NEARES	IT OFFICING WATER	WEIL_	(/	mi)
04 DEPTH TO GROUNDWATER	05 DEFECTION OF GRO	NUNDWATER FLOW	OG DEPTH TO	AQUIFER	07 POTENTIAL YIE	3.0	08 SOLE SOURCE	AQUIFER
2-8	North	_	OF CONC		na		☐ YES	MO MO
(ft)	HOTEN			(ft)		(gpd)		
10 RECHARGE AREA	· · · · ·		11 DISCHAR	1				
哲 YES COMMENTS			X YES	COMMENT	rs			
_NO								
IV. SURFACE WATER								
01 SURFACE WATER USE (Check one)  A. RESERVOIR, RECREATION DRINKING WATER SOURCE		N, ECONOMICALLY IT RESOURCES	¥ <u>a</u> c. 0	COMMERCA	al, industrial	0	D. NOT CURRENT	LY USED
02 AFFECTED/POTENTIALLY AFFECTED BO	DES OF WATER	",				•		
NAME:					AFFECTE	D	DISTANCE TO S	MIE
Mohawk River					_		0.4	
	<del></del>					-		(mi)
		· ·						(mi)
								, ,
V. DEMOGRAPHIC AND PROPERT	TINFORMATION	· <u>·</u>		1~	DISTANCE TO NEA	DEST DANS	II ATION	<del></del>
O1 TOTAL POPULATION WITHIN  ONE (1) MILE OF SITE TW	O (2) MILES OF SITE	THACE (	3) MILES OF	1				
A, B	NO. OF PERSONS	c. —	O. OF PERSON	<del>-</del>	<del></del>	D. 1	(rrii)	
03 NUMBER OF BUILDINGS WITHIN TWO (2)	MALES OF SITE		04 DISTANC	E TO NEARE	ST OFF-SITE BUILDIN	IG.		
		·			_0.1		(mi)	
05 POPULATION WITHIN VICINITY OF SITE (	Provide nemitive description o	return of population within	vicinity of after 4.	g., rural, villaga,	deniegly populated urban	<b>6-06</b> )		
Industrial, resid	dential area							

EPA FORM 2070-13 (7-81)

### POTENTIAL HAZARDOUS WASTE ST

FUNTAKDOO MASIESIIE	IN IDENTIFICATION
INSPECTION REPORT	Q1 STATE 02 SITE NUM

I. IDENTIFICATION				
OI STATE	02 SVE NUMBER 758			

SEPA		TION REPORT IIC, AND ENVIRONMENTAL DATA	NY D980768758
VL ENVIRONMENTAL INFORM		<del></del>	
01 PERIMEABILITY OF UNSATURATED			
	) = 8 cm/sec	] C. 10 <sup>-4</sup> - 10 <sup>-3</sup> cm/sec □ D. GREATE	RTHAN 10-3 cm/sec
02 PERMEABILITY OF BEDROCK (Check	t one;		
A. IMPERI	MEABLE B. RELATIVELY IMPERIMEAB 10 <sup>-6</sup> crivesc) (10 <sup>-4</sup> - 10 <sup>-6</sup> crivesc)	LE C. RELATIVELY PERMEABLE D	D. VERY PERMEABLE (Greater flee 10 <sup>-2</sup> carries)
03 DEPTH TO BEDROCK	04 DEPTH OF CONTAMINATED SOIL ZONE	05 SOIL pH	
(ft)	(ft)		
06 NET PRECIPITATION	07 ONE YEAR 24 HOUR RAINFALL	OB SLOPE	
(in)	(in)	Basin Morth	SLOPE TERRAIN AVERAGE SLOPE  3-5  **
09 FLOOD POTENTIAL	10		
	OODPLAIN	ER ISLAND, COASTAL HIGH HAZARD ARE	A, RIVERINE FLOODWAY
11 DISTANCE TO WETLANDS (5 acre mine	main;	12 DISTANCE TO CRITICAL HABITAT (of endange	Wed species)
ESTUARINE	OTHER		(mi)
A(mi)	<b>B</b> , 0,5 (mi)	ENDANGERED SPECIES:	one known
13 LAND USE IN VICINITY	(112)	ENDANGERED SPECIES:	
DISTANCE TO:	RESIDENTIAL AREAS; NATION	NAL/STATE PARKS	RICULTURAL LANDS
COMMERCIAL/INDUSTR	RIAL FORESTS, OR WILDLIF		AND AG LAND
A(mi)	a. 0.1	(சாi) C	(mi)
14 DESCRIPTION OF SITE IN RELATION	TO SURROUNDING TOPOGRAPHY		<del></del>
Site is a basin, h	however, overall there is	a gentle northward slo	pe.
			•
•			
VIL SOURCES OF INFORMATION	N (Cite apecific references, e.g., state files, semple energies,	aportu)	
	estigation Test Borings,		<del> </del>
	3 ,	· -	
		•	

VERH	9	E	A
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#### POTENTIAL HAZARDOUS WASTE SITE SITE INSPECTION REPORT PART 6 - SAMPLE AND FIFLD INFORMATION

I. IDENTIFICATION
01 STATE 02 SITE NUMBER
NY D980768758

<u> </u>			ART 6-SAMPLE AND FIELD INFORMATION		
IL SAMPLES TAKE	N .				
SAMPLE TYPE		01 NUMBER OF SAMPLES TAKEN	02 SAMPLES SENT TO	O3 ESTIMATED DATE RESULTS AVAILABLE	
GROUNDWATER		4	C&S, CompuChem	12/85	
SURFACE WATER	l	4	C&S, CompuChem	12/85	
waste sedim	en t	_ 13	C&S, CompuChem	12/85	
AIR					
RUNOFF					
SPILL			·		
SOAL		3	C&S, CompuChem	12/85	
VEGETATION					
OTHER					
III. FIELD MEASUR	EMENTS TAI				
01 TYPE		02 COMMENTS			
Air-HNU		Zero conc	entration upwind and downwind of sit	.e _	
		<u> </u>			
			<u> </u>		
IV. PHOTOGRAPH		; 	02 IN CUSTODY OF		
03 MAPS	04 LOCATION	OF MAPS	(Hame of organization or individual)		
U YES					
V. OTHER FIELD DATA COLLECTED (Provide nerrative description)					
1. A LUICU LIEFA RY I W CAFFEO I ER MANAGEMENT CHEMINA					
•					
,			•		
VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)					
Phase II Site Investigation (C&S, 1985).					

	_	
		<b>-</b> 4
-	_	

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

L IDENTIFICATION
01 STATE 02 SITE NUMBER
NY D980768758

IL CURRENT OWNER(S)	·-·		DARGET GOLDANY		
·			PARENT COMPANY (# acptcable)		
oı NAME Niagara Mohawk		02 9+8 NUMBER	OB NĀME	·	09 O+8 NUMBER
300 Erie Blvd., We		04 SIC CODE 4911	10 STREET ADDRESS (P.O. Box. RFD #,	otc.j	11 SIC COD€
osciy Syracuse	OO STATE NY	<b>07 ZIP COO</b> E 13202	12 CTY	13 STATE	14 ZIP CODE
O1 NAME		02 D+B NUMBER	08 NAME		09 O+8 NUMBER
03 STREET ADDRESS (P.O. Box, RFO F, etc.)		04 SIC CODE	10 STREET ADDRESS (P.O. Son. RFD #,	esc.)	11 SIC CODE
05 CITY	06 STATE	07 ZIP GODE	12 CITY	13 STATE	14 ZIP CODE
01 NAME	•	02 D+8 NUMBER	OB NAME		09 O+8 NUMBER
O3 STREET ADDRESS (P.O. Box, RFD #, ato.)		04 SIC CODE	10 STREET ADDRESS (P.O. Box. RFD #,	e(C.)	11SIC CODE
05 CITY	OS STATE	07 ZIP CODE	12 CITY	13 STATE	14 ZIP CODE
01 NAME		02 D+8 NUMBER	OS NAME		09 D+8 NUMBER
03 STREET ADDRESS (P.O. Box, RFD P. Mc.)	,	04 SIC CODE	10 STREET ADDRESS (P.O. Box, RFD #,	e(C.)	1 † SIC CODE
05 CITY	06 STATE	07 ZIP CODE	12 (117)	13 STATE:	14 ZIP CODE
III. PREVIOUS OWNER(S):(List most /	recent first .		IV. REALTY OWNER(S) (# applica	bio: list most recent first)	
O1 NAME		02 D+B NUMBER	01 NAME		02 D+B NUMBER
03 STREET ADORESS (P.O. Box, AFD F, mis.)		04 SIC CODE	03 STREET ADDRESS (P.O. Box, AFO #	. etc.;	04 SIC CODE
OS CITY	OSTATE	07 ZIP CODE	05 CITY	06 STATE	07 ZIP CODE
O1 NAME		02 D+8 NUMBER	01 NAME		02 D+8 NUMBER
O3 STREET ADDRESS (P.O. Sox, RFD P. edc.)		04 SIC CODE	03 STREET ADDRESS (P.O. Box, APD #.	esc.)	04 SIC CODE
OS CITY	08 STATE	07 ZIP CODE	05 CITY	08 STATE	07 ZIP CODE
01 NAME	·····	02 D+B NUMBER	OT NAME		02 D+8 NUMBER
OS STREET ADDRESS (P.O. doz. RFD F, Ma.)		04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #,	etc.)	04 SIC CODE
овсту	06 STATE	07 ZP COOE	ов спу	08 STATE	07 ZIP CODE
V. SOURCES OF INFORMATION	(Cite specific references.	e.g., state Clay, semple analys	ia, reportal		
· · · · · · · · · · · · · · · · · · ·			· · · · · · · · · · · · · · · · · · ·		<del></del>
Tax Records.					

### POTENTIAL HAZARDOUS WASTE SITE

	TFICATION
01 STATE	02 SITE NUMBER
NY	D980768758

		TOR INFORMATION	NY D980768	758
(Provide il different frant (name)		OPERATOR'S PARENT COMPA	NY (# sophosble)	<del></del>
	02 D+8 NUMBER	TO NAME	11 D+8 NU	MBER
D ≠, e4t.)	04 SIC CODE	12 STREET ADDRESS (P.O. Box, RFD P, etc.	.j 13 SIC	CODE
06 STATE	07 ZIP CODE	14 CITY	15 STATE 16 ZIP COD	E
NAME OF OWNER				
S) (Let man reine feet provide o	air if different from outset)	PREVIOUS OPERATORS' PARE	ENT COMPANIES (Facotication	<u>.                                  </u>
	Q2 D+B NUMBER	10 NAME		MBER
0 €, etc.)	04 SIC CODE	12 STREET ADDRESS (P.O. Box, RFD F, and	.j 13 SIC	CODE
OS STATE	07 ZIP CODE	14 CTY	15 STATE 16 ZIP COO	Æ
NAME OF OWNER OURING TH	I NS PÉRIOD			
	02 0+8 NUMBER	10 NAME	11 D+8 NU	MBER
D.Ø. etc.)	04 SIC CODE	12 STREET ADDRESS (P.O. Box, RFO 4, etc.	) 13 SIC	CODE
06 STATE	07 ZIP CODE	14 CITY	15 STATE 16 ZIP COD	E
NAME OF OWNER DURING TH	HS PERIOD			
	02 D+8 NUMBER	TO NAME	11 D+BNU	MBER
2 f. etc.)	04 SIC CODE	12 STREET ADORESS (P.O. Box, RFD #, exa		CODE
OS STATE	07 ZIP CODE	14 CITY	15 STATE 18 ZIP COD	E
NAME OF OWNER DURING TH	IS PERIOC	<u> </u>		
ATION //				
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				
•				
·		•		
	D#, etc.)  O6 STATE  O6 STATE  O6 STATE  NAME OF OWNER DURING THE	(Provide of different from descrip)    0.2 D+8 NUMBER     0.4 SIG CODE     0.5 STATE   0.7 ZIP CODE     0.6 STATE   0.7 ZIP CODE     0.6 STATE   0.7 ZIP CODE     0.6 STATE   0.7 ZIP CODE     0.6 STATE   0.7 ZIP CODE     0.6 STATE   0.7 ZIP CODE     0.6 STATE   0.7 ZIP CODE     0.6 STATE   0.7 ZIP CODE     0.6 STATE   0.7 ZIP CODE     0.6 STATE   0.7 ZIP CODE     0.6 STATE   0.7 ZIP CODE     0.6 STATE   0.7 ZIP CODE     0.6 STATE   0.7 ZIP CODE     0.6 STATE   0.7 ZIP CODE     0.6 STATE   0.7 ZIP CODE     0.6 STATE   0.7 ZIP CODE     0.6 STATE   0.7 ZIP CODE     0.6 STATE   0.7 ZIP CODE     0.6 STATE   0.7 ZIP CODE     0.6 STATE   0.7 ZIP CODE     0.6 STATE   0.7 ZIP CODE     0.6 STATE   0.7 ZIP CODE     0.6 STATE   0.7 ZIP CODE     0.6 STATE   0.7 ZIP CODE     0.6 STATE   0.7 ZIP CODE     0.6 STATE   0.7 ZIP CODE     0.6 STATE   0.7 ZIP CODE     0.6 STATE   0.7 ZIP CODE	De , enc.)  O4 SIC CODE  12 STREET ADDRESS (P.O. Soc. RFO F. enc.  O5 STATE O7 ZIP CODE  14 CITY  PREVIOUS OPERATORS' PARE  O2 D+B NUMBER  10 NAME  O6 STATE O7 ZIP CODE  14 CITY  VAME OF OWNER DURING THIS PERIOD  O6 STATE O7 ZIP CODE  14 CITY  VAME OF OWNER DURING THIS PERIOD  O6 STATE O7 ZIP CODE  14 CITY  NAME OF OWNER DURING THIS PERIOD  O2 D+B NUMBER  10 NAME  11 NAME  12 STREET ADDRESS (P.O. Soc. RFO F. enc.  O3 STATE O7 ZIP CODE  14 CITY  NAME OF OWNER DURING THIS PERIOD  O2 D+B NUMBER  10 NAME  10 NAME  O4 SIC CODE  12 STREET ADDRESS (P.O. Soc. RFO F. enc.  O4 SIC CODE  14 CITY  NAME OF OWNER DURING THIS PERIOD  O4 SIC CODE  14 CITY  NAME OF OWNER DURING THIS PERIOD  O5 STATE O7 ZIP CODE  14 CITY  NAME OF OWNER DURING THIS PERIOD  O6 STATE O7 ZIP CODE  14 CITY  NAME OF OWNER DURING THIS PERIOD  ATION (CDe recode references, e.g. ratio fine, sensite embeds, records	OPERATOR'S PARENT COMPANY (# cochooling   11 D+6 NU   12 STREET ADDRESS (# 0. 80s, RPD #, vsc.)   13 SIGN   13 SIGN   14 CITY   15 STATE   16 ZIP CODE   1

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43		$\Box \Lambda$
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#### POTENTIAL HAZARDOUS WASTE SITE SITE INSPECTION REPORT PART 9 - GENERATOR/TRANSPORTER INFORMATION

I. IDENTIFICATION				
Q1 STATE	02 SITE NUMBER			
NY	D980768758			

		-	TOTAL STATE THE CHARACTER		
IL ON-SITE GENERATOR					
O1 NAME		02 D+B NUMBER	No waste curre	ntly being g	enerated.
03 STREET ADDRESS (P.O. Box. RPD P. etc.)	<del></del>	04 SIC CODE	7		•
05 CITY	06 STATE	07 ZIP CODE			
		L			
III. OFF-SITE GENERATOR(S)	_				
01 NAME		02 0+8 NUMBER	01 NAME		02 D+B NUMBER
Savage Arms Co			Sperry Univac		
03 STREET ADDRESS (P.O. Box, RFD F, etc.)		04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, ex	IC.)	04 SIC CODE
Turner St		3471	Turner St		3471
05 CTY	06 STATE	07 ZIP CODE	05 CITY	DE STATE	07 ZIP CODE
Utica	NY		Syracuse	NY	
01 NAME	· · · · · · · · · · · · · · · · · · ·	02 D+B NUMBER	01 NAME		02 D+8 NUMBER
Empire Circuits 3471		3471	Chicago Pneumatic		
03 STREET ADDRESS (P.O. Box, RFD F, etc.) Turner St		3679	03 STREET ADDRESS (P.O. BOX, RFD #. M	fa.)	04 SIC CODE 3471
<b>υτί</b> ca Utica	NY NY	07 ZIP CODE	OS CITY Syracuse	06 STATE NY	OŻ ZIP CODE
IV. TRANSPORTER(S)		<u> </u>		· · · · · · · · · · · · · · · · · · ·	<u>.</u>
O1 NAME		02 0+8 NUMBER	01 NAME		02 D+8 NUMBER
03 STREET ADDRESS (P.O. Box. AFD #, etc.)		04 SIC CODE	03 STREET ADDRESS (P.O. Sox, RFD #, ec	E.)	04 SIC CODE
05 CTY	08 STATE	07 ZIP CODE	05 CITY	06 STATE	07 ZIP CODE
OI NAME		02 D+8 NUMBER	Q1 NAME		02 D+8 NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, sec.) 04 SIC		04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, et	rc.)	04 SIC CODE
05 CITY	OG STATE	07 ZIP CODE	ов сту	06 STATE	07 ZIP CODE
V. SOURCES OF INFORMATION (C	To apacido references,	e.g., state flac, sample analysi	A, reported		

DEC Files.

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### POTENTIAL HAZARDOUS WASTE SITE SITE INSPECTION REPORT

I. IDEN	IFICATION
01 STATE	02 SITE NUMBER
NY	02 SITE NUMBER D980768758

PA	ART 10 - PAST RESPONSE ACTIVIT	ies ——	
AST RESPONSE ACTIVITIES			
01 A. WATER SUPPLY CLOSED	02 DATE	03 AGENCY	
04 DESCRIPTION			
01 [] B. TEMPORARY WATER SUPPLY PROVIDED	02 DATE	03 AGENCY	
01 LI 8. TEMPCRARY WATER SUPPLY PROVIDED OF DESCRIPTION			
01 C. PERMANENT WATER SUPPLY PROVIDED	AS DATE	03 AGENCY	
01 C. PERMANENT WATER SUPPLY PROVIDED 04 DESCRIPTION	V6 UATE	W 705701	
01 D. SPILLED MATERIAL REMOVED	02 DATE	03 AGENCY	
04 DESCRIPTION			
01 C E. CONTAMINATED SOIL REMOVED	02 DATE	O3 AGENCY	
04 DESCRIPTION			
01 ☐ F. WASTE REPACKAGED	O2 DATE	03 AGENCY	
04 DESCRIPTION	UZ UATE		
A C A MAGE SIGNADER EI CEMAEDE	02 DATE	O3 AGENCY	
01 [] G. WASTE DISPOSED ELSEWHERE 04 DESCRIPTION	UZ DATE	03 AGENCT	
MP Management to 1 tops t		·	
01 C H. ON SITE BURIAL	02 DATE	03 AGENCY	
04 DESCRIPTION			
01 D I. IN SITU CHEMICAL TREATMENT	02 DATE	03 AGENCY	
04 DESCRIPTION	MA Gray		
01 D J. IN SITU BIOLOGICAL TREATMENT	02 DATE	03 AGENCY	···
04 DESCRIPTION	V& V/11	Marine Age comments	
01   K. IN SITU PHYSICAL TREATMENT	O2 DATE	O3 AGENCY	·
04 DESCRIPTION	*		
01 CI L ENCAPSULATION	02 DATE	03 AGENCY	
04 DESCRIPTION	NE 001 10		
01 C M. EMERGENCY WASTE TREATMENT	ng DATE	03 AGENCY	
01 LI M. EMERGENCY WAS (E TREATMEN) 04 DESCRIPTION	V& White		
01 C N. CUTOFF WALLS	02 DATE	O3 AGENCY	
04 DESCRIPTION			
01 C O. EMERGENCY DIKING/SURFACE WATER DIVI	/ERSION 02 DATE	03 AGENCY	
04 DESCRIPTION			
01 C P. CUTOFF TRENCHES/SUMP	02 DATE	03 AGENCY	
04 DESCRIPTION	· ·		-
01 C. SUBSURFACE CUTOFF WALL	no hate	03 AGENCY	
04 DESCRIPTION	V4 UP 1		

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V	$\overline{}$

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

١,	IDEN	TIFICATION
01	STATE	02 SITE NUMBER
` `	777	<b>5</b> 000760756

•	ART 10 - PAST RESPONSE ACTIVI	IIES CONTRACTOR
ST RESPONSE ACTIVITIES (Continued)		
01 C. R. BARRIER WALLS CONSTRUCTED 04 DESCRIPTION	02 DATE	O3 AGENCY
01 (3. CAPPING/COVERING 04 DESCRIPTION	02 DATE	03 AGENCY
01   T. BULK TANKAGE REPAIRED 04 DESCRIPTION	OZ DATE	03 AGENCY
D1   U. GROUT CURTAIN CONSTRUCTED 04 DESCRIPTION	02 DATE	03 AGENCY
D1 [] V. BOTTOM SEALED D4 DESCRIPTION	O2 DATE	O3 AGENCY
D1 [] W. GAS CONTROL D4 DESCRIPTION	02 DATE	03 AGENCY
01   X. FIRE CONTROL 04 DESCRIPTION	O2 DATE	03 AGENCY
D1 D Y, LEACHATE TREATMENT 04 DESCRIPTION	02 DATE	O3 AGENCY
D1 D Z AREA EVACUATED D4 DESCRIPTION	02 DATE	03 AGENCY
01 [] 1. ACCESS TO SITE RESTRICTED 04 DESCRIPTION	O2 DATE	03 AGENCY
01 [ 2. POPULATION RELOCATED 04 DESCRIPTION	02 DATE	03 AGENCY
01   3. OTHER REMEDIAL ACTIVITIES 04 DESCRIPTION	O2 DATE	03 AGENCY

III. SOURCES OF INFORMATION (Cito specific references, e.g., state (fee, sample energets, reports)



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

I. IDENTIFICATION

02 STE NUMBER NY D980768758

**	-		INDEADLE A TION
ш		REFEREN	INFORMATION

01 PAST REGULATORY/ENFORCEMENT ACTION Q YES Q NO

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

III. SOURCES OF INFORMATION (Cite apacific miterances, e.g., state (fine, sample analysis, reports)

MAY . 3

Ronald Tramontano - Sureau of Public Water Sucely - Resign - 7372 RIGIONAL ANGIN

Jack Marsch - Syracuse Area Office

May 10, 1983

Old Erie Canal and Dyke Poad Herkimer County

On May 9, 1983, I collected samples for 601, 503.1, metals and physical chemical analysis from the following locations:

### \*Old Eris Canal (sketch attached)

- John Longeretta 25 foot well, 18" file casing, wall in basement, water level 6' below basement floor, no taste and odor problems reported, ground water seepage noted. Lived in house two years.
- 2. Jeanette Duffy trailer, no information on well, sulfur smell noted. Hived in house ten years.
- \*No answers in area, others homes in area served by Utica Board of Water Supply System.

### \*\*Dvke Road Lite (sketch attached)

- 1. Shirley Curtis drilled well, 60' deep, no reported problems with water.
- 2. Bill Curtis drilled well.
- 3. Kenneth Schmidt drilled well, 60' deep, sulfur smell noted.
- \*\*No sewers in area, no public water supply system in area, three homes no one home.

If you have any questions, please call (315) 796-5064.

Attachment

cc: Dr. Mohanka Mr. Meade V

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Some Some Some Some Some Some Some Some	Chenkin Wrld		AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY  AN JOY	MA 2 701 []		e de la company de la company de la company de la company de la company de la company de la company de la comp
Carain C		់ <b>ភ</b>				
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# TE OF NEW YORK THENT OF HEALTH



OFFICE OF PUBLIC HEALTH

SE AREA OFFICE

351 SOUTH WARREN STREET

SYRACUSE N. 12202 - 2054 / 3

GLENN E. HAJOHIE, N.O.

DAXELROD, M.D.

June 17, 1983

Mrs. Jeanette Duffy 422 Taft Ave Frankfort, NY 13340

Dear Mrs. Duffy:

Enclosed is the Laboratory report for the analysis of your drinking water from samples collected May 9, 1983.

The first set of results show that the water was free of contamination for the compounds included. I would like to explain some of the terminology used so that the report is more understandable to you. The units used to quantify each compound is MCG/L (micrograms per liter or parts per billion). The notation "<" means "less than". Each compound had a detection limit as noted in the result column. The detection limit is the lowest level that the instruments used in the lab can respond to. Different compounds respond differently and this gives rise to different detection limits.

Using chloromethane as an example, you will note that the result is "<1. MCG/L." This means that chloromethane was not present in your drinking water at a detection limit of 1.0 microgram per liter.

Copies of other sample analysis will be forwarded to you when completed.

If you have any questions, please call me at (315) 798-5064.

Very truly yours,

A'vin J. Marsch, P.E.

Regional Water Supply Engineer

Enc.

cc: Mr. Tramontano

Mr. Meade Dr. Mohanka

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RESULTS OF EXAMINATION
                                                                                                                                                FINAL REPORT
      ]ε ι
                                                           SAMPLE RECEIVED: 33/U5/10/12
  ÷.4258 TJ:
                                 31154
                                  IDDIBUREAU OF TOKIC SUBSTANCES ASSESSMENT
   HOGRAM:
 รุกขลวัย เก:
                                                         SRAINAGE BASIN:00
                                                                                                                   GAZETIEER CODE: 2153
LOUILITAL SUBDIVISION: FRANKFORT
                                                                                                                   COUNTY: BERKIMER
    AIIIJOE: 90 00 00.00 LONGITUDE: 00 00 00.00
                                                                                                               Z DIRECTION:
 JECREVARS : NCITACCA
 DESCRIPTION: BANFLE 45 JEANETTE OUFFY RES.
FOX:LAB FUR DRIANIC ANAUTICAL CHEMISTRY
SET PARTERY: VULCEPA METHOD 503.1 & F.R.METHOD 501
SAMPLE TYPE: 1721-814-173
▲ IME OF SAMPUING: 00/00/00 00:00 ID 83/05/A3 17:00
                                                                                                                           DATE PRINCED:83/D5/D9
                          PARAMETER
                                                                                                                       RESULT
          TS2009 CHUDRO IETHANE
                                                                                                                           < 1.4 403/6
                                                                                                                            < 1.5 KCS/L
          TELAPTICKTRE SCRIEN
          TAIDDA VINTO CHUDRIDE
          SWAHIBARCCORICGECONCOLECTO
          BYARTSCROOMS ROCETAINS
          IS1709 TRECHUDROPUUDRDMETHAME
          123479 DICHODROYEEHAVE
          ISSASS 1.1-DICHEDROSTRENE
          151909 1,1-01C460F0EF44XE
          T61209 TRANS-1, Z-DICHUSRDETHENE
          133009 THUDROFORM
          384F13CFC0F31C+511 6C8C61
                                                                                                                         < 1.405/6
          123539 1,1,1-TRICHUDRDETHAME
          GCIRCOPCARIO VCERACIORIDE
          TRANSPORT STOREST TO STORE FOR STOREST TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE TO STORE 
          T61309 1,2-DICHUGROPROPANE

161509 TRA45-1,3-DICHUGROPROPENE

141109 TRICHUGROETHYLENE
                                                                                                                           < 1. 405/6
          SKAHISHORGUHSCHOREIC GOVERN
                                                                                                                          < 1. 405/6
          161409 CIS-1,3-DICHURGPROPERE
          ISTTUS 1,1,2-TRICHURDEDHAWE
          151109 2-THUDROSTHYLVINYUTETHER
          142109 BRDMDFORM
          T51909 1,1,2,2-TETRACHUDRDETHANE
                                                                                                                          < 1. 403/6
          141209 TETRACHLORDETHENE
          TADADO CHUDROBENZENE
          149709 1,3-010HDB03E0ZEVE
                                                                                                                          < 1. 405/L
                                                                                                                          < 1.40G/6
          144109 1.2-DICHLORDSENZENE
           144209 1,4-01CHLDROBENZENS
                                                                                                                           < 1. 425/6
          134409 BENZEVE
                                                                                                                           < 1. 405/6
           139209 TUBUENE
                                                                                                                          < 1. 400/L
           IS1009 EINYLBENZENE
           185209 1-CHUDROCYCUDHEKENE-1
                                          **** CONTINUED ON NEXT PAGE: ****
        COPIES SENT TO: CO(1), RO(2), LPHE(2), FED( ), INFO-P( ), INFO-L( )
             REGIOVAL DIRECTOR OF BH ENGINEERING
             HIJAER 30 THEFTRAGED STATE ARALTH
```

351 SOUTH WARREN ST. SYRACUSE, N. 1. 13202

SUBMITTED BY: MARSCH

STATE OF NEW YORK DEPARTMENT OF HEALTH

Page 10/3 DEFICE OF PUBLIC

SYRACUSE AREA OFFICE

351 SOUTH WARREN STREET

SYRACUSE, N.Y 13202-2056

DAVID AXELROD, M.D. Commissioner

GLENN E. HAUGHIE, M.D. Director

June 17, 1983

Mr. John Longeretta Box 132, R.D. #2 Frankfort, NY 13340

Dear Mr. Longeretta;

Enclosed is the Laboratory report for the analysis of your drinking water from samples collected May 9, 1983.

The first set of results show that the water was free of contamination for the compounds included. I would like to explain some of the terminology used so that the report is more understandable to you. The units used to quantify each compound is MCG/L (micrograms per liter or parts per billion). The notation "<" means "less than". Each compound had a detection limit as noted in the result column. The detection limit is the lowest level that the instruments used in the lab can respond to. Different compounds respond differently and this gives rise to different detection limits.

Using chloromethane as an example, you will note that the result is "<1. MCG/L." This means that chloromethane was not present in your drinking water at a detection limit of 1.0 microgram per liter.

Copies of other sample analysis will be forwarded to you when completed.

If you have any questions, please call me at (315) 798-5064.

Very truly yours,

alvin J. Marsch Alvin J. Marsch, P.E.

Regional Water Supply Engineer

Enc.

cc: Mr. Tramontano

Mr. Meade

Dr. Mohanka

0637,

```
FIGAL REPORT
                            RESULTS OF EXAMINATION
SAMPLE ID: 31153 SAMPLE RECFIVED: 33705/10/12 PROGRAM: 106:00H BORENU OF TOXIC SUBSTANCES MANAGEMENT
  SOURCE 10:111112 DRAINAGE BASIH:00 GAZETTEER CODE:2153
LATITUDE:00000000 LUNGITUDE:00000000 2 DIRECTION:
LUCATION: FRANKFURE
  DESCRIPTION: SAMPLE 44 JOHA LUNGERLICA RES.
REPORTING DAB:

TOX: DAB FOR DRUGANIC ANALITICAL CHEMISTRY
TEST PAIRERS:

VULZ: EPA METHOD 503.1 & F.R.METHOD 601

SAMPLE TYPE:

120: MATER FROM DRIBLED WELD
                                                              DATE PRIMITO:83/05/27
$114E DF SAMPULAT: 63/05/07 17:00
               PAHAGELER
                                                             < 1. *CG/4
       T62009 CHEUND"ETHANE
                                                              < 1. KCG/L
       T61909 ERU/SHETSAVE
                                                              < 1. MCG/6
       141009 VIHYU CHUURIDE
                                                              < 1. MCG/6
       TIDEDA DICHUMBURDOIFBUDKMETHANE
                                                              < 1. MCG/L
       T61909 CHUUNDETHANE
                                                              < 1. 40G/6
       151709 TRICHBURGFLUDROAETHADE
       123839 DICHU HINRIBATE
       T50909 1,1-010860RDEIHENE
       151909 1,1-01CHD0XDEFHARE
                                                              < 1..400/6
       161209 IRANS-1, Z-DICHLORDETHENE
                                                             < 1. 403/u
                                                             < 1. 40G/U
       139009 0460907085
                                                              < 1. 40G/6
       150809 1,2-01CahDHDETHANE
                                                             < 1. YCG/6
       T23609 1,1,1+CRIC (LORDET dAME
                                                              < 1. 40G/6
       135509 CARBON TETRACHEURIDE
                                                            1. KCG/L
       133909 SROWDULCKLURDNOINANE
                                                             < 1. 40G/L
       T61309 1.2-DICHLORDPROPANE
                                                              < 1. 40676
       161809 TRAKS-1,3-010HUDROPROPENE
                                                             < 1. MCG/L
       141109 TRICHORDERBYLESE
                                                             < 1. 40076
       T44909 DIBROYDCHNORDYEIHANE
       151409 CIS-1, 3-01CHLUROPROPERE
                                                              < 1. YCG/L
       IS1709 1.1.2-IRICHLORUETHANE
                                                              < 1. 400/L
       IBI109 2-CHUDRDEINYLVINYL ETHER
                                                              < 1. MCG/L
       142109 BRD/DEDRA
                                                              < 1. 400/6
       ISIRD9 1,1,2,7-TETRACHLORDEIHANE
                                                              < 1. 40G/b
       T41209 PERFACAUDADENHENE
                                                              < 1. MCG/L
       3/35-3-CFC9F3 409CF1
                                                              < 1. 40G/L
       149739 1,3-310H6343454ZE4E
                                                              < 1. 40G/L
       144109 1.2-DICHLORDSENZENE
                                                              < 1. 42G/L
       144209 1,4-01ChLDROBE/ZENE
                                                              < 1. YCG/u
       131409 38.2575
                                                              < 1. 40G/6
       139209 [DUULY=
                                                              < 1. 40G/5
       151009 ETHYLSERZERE
                                                             c 1. MCG/L
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COPIES SEVE FO: CO(1), RO(2), LPHE(2), FED( ), IMFO-P( ), IMFO-L( )

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REGIONAL DIRECTOR OF THE ENGINEERING NEW YORK STATE DEPARTMENT OF HEALTH 351 SOUTH NARREN ST.
SYRACUSE, \*. Y. 13202

170409 PARA-XILENE

SUBRITIED BY: MARSCH

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